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Final Environmental Impact Statement

Finance Docket No. 34079

San Jacinto Rail Limited and The Burlington Northern and Santa Fe Railway Company

Construction and Operation of a Rail Line from the Bayport Loop in Harris County, Texas

L-47

Lead Agency:
Surface Transportation Board,
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U.S. Coast Guard

Federal Aviation Administration

National Aeronautics and Space Administration

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Section of Environmental Analysis

May 2, 2003

Re: STB Finance Docket No. 34079, San Jacinto Rail Limited – Construction Exemption – And The Burlington Northern and Santa Fe Railway Company – Operation Exemption – Build-Out to the Bayport Loop Near Houston, Harris County, Texas: Availability of Final Environmental Impact Statement

To All Interested Parties:

On August 30, 2001, San Jacinto Rail Limited (SJRL) and The Burlington Northern and Santa Fe Railway (BNSF) (collectively the Applicants) filed a petition with the Surface Transportation Board (Board) pursuant to 49 United States Code (U.S.C.) 10502 for authority for construction by SJRL and operation by BNSF of a new rail line near Houston, Harris County, Texas. In the petition, the Applicants proposed the construction of approximately 12.8 miles of new rail line to serve the petrochemical industries in the Bayport Loop.

The Section of Environmental Analysis (SEA) announces the availability of the Final Environmental Impact Statement (EIS) on the proposed Bayport Loop Build-Out. The Final EIS was prepared in cooperation with three Federal agencies: the Federal Aviation Administration (FAA), the National Aeronautics and Space Administration (NASA), and the U.S. Coast Guard. Except as otherwise noted, the Final EIS incorporates by reference the Draft EIS.

The Final EIS is based upon SEA's independent analysis, consultation with agencies, elected officials, organizations, and members of the public, and careful consideration of all the comments on the Draft EIS. For the reasons discussed in the Final EIS, SEA has not altered the conclusions described in the Draft EIS that the Proposed Action and Alternatives would have moderate impacts on surface water, wetlands, and plant communities and negligible to no impacts on all other environmental resource categories.

Given the similarity of most of the impacts associated with the Build Alternatives (the Proposed Action, Original Taylor Bayou Crossing, and Alternatives 1C, 2B, and 2D) and the moderate to negligible nature of potential impacts, no single alternative has emerged as markedly preferable. While the various Build Alternatives have different pros and cons, none of the differences stand out enough to persuade SEA that one of the Build Alternatives is measurably superior or inferior. SEA, if it were acting on its own, would designate the Applicants' Proposed Action as the preferred alternative.

While agreeing with SEA that there are no potentially significant environmental impacts, FAA indicated that, for the reasons discussed more fully in the Final EIS, FAA would prefer that SEA not designate the Applicants' Proposed Action as the preferred alternative. In light of FAA's concerns, and as discussed in detail in the Final EIS, SEA is designating Alternative 1C as the preferred alternative. Alternative 1C is a modification of the Proposed Action based on SEA's consultations with FAA and the City of Houston. However, as all of the various Build Alternatives would result in generally similar impacts, none of which would be significant, SEA recommends that the Board find that all the Build Alternatives are fully acceptable from an environmental standpoint and should be approved.

If the Board decides to grant final approval for this project, SEA recommends that the Board grant permission for the Applicants to construct and operate any one of the Build Alternatives analyzed in detail, and impose the 76 voluntary mitigation measures developed by the Applicants and the 4 additional mitigation measures that SEA developed in the Final EIS.

The U.S. Environmental Protection Agency (USEPA) Region 6 reviewed the Draft EIS and classified the Draft EIS and the Proposed Action as "lack of objections," which is USEPA's highest rating. USEPA stated that the Draft EIS "demonstrates the Proposed Action would have no significant impact on the human environment and would have negligible impacts in all other areas."

The Final EIS, which is organized consistent with the President's Council on Environment Quality (CEQ) regulations, is intended to be read in conjunction with the Draft EIS, which provides more detailed information on the Proposed Action and Alternatives to agency decision-makers and the public. The Draft EIS describes the project's purpose and need, the Proposed Action and Alternatives, the existing environment, and the potential environmental impacts associated with the Proposed Action and Alternatives. The Draft EIS also includes a glossary of terms and a list of acronyms and abbreviations. The Final EIS responds to public comments on the Draft EIS; makes some corrections, principally concerning environmental justice data, and some minor changes to information presented in the Draft EIS; discusses SEA's conclusions about the environmental analysis; and includes SEA's final environmental mitigation recommendations. Further, the Final EIS reflects additional work conducted by SEA since publication of the Draft EIS to confirm conclusions presented in the Draft EIS concerning vibration and wetlands impacts; complete consultation on Essential Fish Habitat; evaluate the Applicants' voluntary conservation sites to assess their potential to attract wildlife and birds that could become a hazard to aviation at Ellington Field; and develop appropriate mitigation measures.

In making its final decision on the proposed expansion project, the Board will consider the entire environmental record, including all public comments, the Draft EIS, the Final EIS, and SEA's final recommended environmental mitigation.

SEA anticipates that USEPA will publish a notice of the availability of the Final EIS in the *Federal Register* on May 9, 2003. The Board's vote on whether to give final approval to this

proposal will be made no earlier than the same day (i.e., May 9, 2003). The deadline for filing administrative appeals will be 30 days from the publication of the notice of the Final EIS, to and including June 9, 2003. Moreover, the Board's final decision will not become effective for 30 days (i.e., no earlier than June 9, 2003). This schedule will afford the public adequate time to pursue administrative review of all aspects of the Board's final decision and is consistent with the CEQ regulations at 40 CFR 1506.10(b). The Board will consider any administrative appeals in a subsequent decision.

The entire Final EIS has been mailed to key reviewing agencies, elected officials, and organizations, as well as the parties of record. It is also available to all interested persons for review in the reference section of public libraries in the project area where the Draft EIS is also available. For information on where to view a copy of the Final EIS or to receive a copy, call SEA's toll-free Environmental Hotline at 1-888-229-7857 (TDD for the hearing impaired 1-800-877-8339). The entire document is also available on the Board's website (http://www.stb.dot.gov), under "Environmental Issues," "Key Cases," and "Bayport Loop."

SEA appreciates the efforts of all interested parties who reviewed and commented on the Draft EIS. Thank you for your interest and participation in the environmental review process.

Sincerely,

Victoria Rutson

Victoria Rutson
Chief
Section of Environmental Analysis

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SURFACE TRANSPORTATION BOARD
(JUNTA DE TRANSPORTE DE SUPERFICIE)
Washington, DC 20423

Section of Environmental Analysis

Mayo 2, 2003

Asunto: Registro STB (STB Finance Docket) No. 34079, San Jacinto Rail Limited – Exención Administrativa para la Construcción – y Burlington Northern And Santa Fe Railway Company – Exención Administrativa para la Operación – Línea Férrea Tipo Build-Out al Bayport Loop Cerca de Houston, Condado de Harris, Texas: Aviso de Disponibilidad del Reporte de Impacto Ambiental (EIS)

A Todas las Partes Interesadas:

El 30 de agosto de 2001, los ferrocarriles San Jacinto Rail Limited (SJRL) y The Burlington Northern and Sante Fe Railway (BNSF) (en adelante denominados en conjunto como los Solicitantes), presentaron una solicitud ante la Junta de Transporte de Superficie (Surface Transportation Board, en adelante denominada la Junta), de acuerdo con lo establecido en el Titulo 49 Sección 10502 del Código de los Estados Unidos de América (U.S.C., por sus siglas en inglés), para obtener permiso para la construcción, por parte del SJRL, y permiso para la operación, por parte del BNSF, de una nueva línea férrea cercana a Houston, Condado de Harris, Texas. En su petición, los Solicitantes propusieron la construcción una nueva línea férrea de aproximadamente 12.8 millas de longitud para prestarle servicio a las industrias petroquímicas del Distrito Industrial de Bayport (Bayport Loop).

La Sección de Análisis Ambiental (SEA, por sus siglas en inglés) de la Junta anuncia la disponibilidad de la Versión Final del Reporte de Impacto Ambiental (EIS, por sus siglas en inglés) para el Proyecto Bayport Loop Build-Out propuesto. La Versión Final del EIS fue preparada en cooperación con tres agencias Federales: la Administración Federal de Aviación (FAA, por sus siglas en inglés), la Administración Nacional de Aeronáutica y del Espacio (NASA, por sus siglas en inglés) y la Guardia Costera de los E.U.A. (USCG, por sus siglas en inglés). Excepto donde se señale lo contrario, la Versión Final del EIS incorpora por referencia el Borrador del EIS.

La Versión Final del EIS está basada en el análisis independiente realizado por la SEA, en consultas realizadas con agencias gubernamentales, funcionarios de elección pública, organizaciones comunitarias y miembros del público, así como en una consideración cuidadosa de los comentarios presentados sobre el Borrador del EIS. Por las razones expresadas en la Versión Final del EIS, la SEA no ha modificado las conclusiones presentadas en el Borrador del EIS en cuanto a que la Acción Propuesta y sus Alternativas causarían impactos moderados sobre

humedales, aguas superficiales y recursos biológicos (comunidades vegetales) e impactos despreciables o nulos sobre las demás áreas consideradas.

Dada la similitud de la mayoría de los impactos asociados con las Alternativas de Construcción (la Acción Propuesta, el Cruce Original del Taylor Bayou y las Alternativas 1C, 2B y 2D) y dado el grado moderado o despreciable de los impactos potenciales, ninguna de las alternativas ha surgido como claramente preferible. Si bien las distintas Alternativas de Construcción presentan diferentes pros y contras, ninguna de las diferencias entre ellas es suficientemente notable como para persuadir a la SEA de que una de las Alternativas de Construcción es mensurablemente superior o inferior a las demás. La SEA, si estuviese actuando independientemente, designaría la Acción Propuesta de los Solicitantes como la alternativa preferida.

Si bien está de acuerdo con la SEA en cuanto a que no existen impactos ambientales potenciales significativos, la FAA ha señalado que, por razones discutidas en mayor detalle en la Versión Final del EIS, la FAA preferiría que la SEA no designe la Acción Propuesta de los Solicitantes como la alternativa preferida. En vista de la inquietudes planteadas por la FAA, y según se discute en detalle en la Versión Final del EIS, la SEA ha designado la Alternativa 1C como la alternativa preferida. La Alternativa 1C es una modificación de la Acción Propuesta basada en las consultas realizadas por la SEA con la FAA y con la Ciudad de Houston. Sin embargo, teniendo en cuenta que todas las distintas Alternativas de Construcción resultarían en impactos en general similares, ninguno de los cuales sería significativo, la SEA recomienda que la Junta establezca que todas las Alternativas de Construcción son completamente aceptables desde un punto de vista ambiental y deberían ser aprobadas.

Si la Junta decide otorgar aprobación definitiva a este proyecto, la SEA recomienda que la Junta otorgue permiso a los Solicitantes para construir y operar cualquiera de las Alternativas de Construcción analizadas en detalle y que la Junta imponga las 76 medidas de mitigación voluntarias desarrolladas por los Solicitantes y las 4 medidas de mitigación adicionales que la SEA desarrolló en la Versión Final del EIS.

La Región 6 de la Agencia de Protección Ambiental de los E.U.A. (USEPA, por sus siglas en inglés) revisó el Borrador del EIS y asignó al Borrador del EIS y a la Acción Propuesta la clasificación "carente de objeciones" ("lack of objections", en inglés), que es la clasificación más alta otorgada por la USEPA. La USEPA declaró que el Borrador del EIS "demuestra que la Acción Propuesta no causaría impactos significativos sobre el medio ambiente humano y causaría impactos despreciables en todas las demás áreas."

La Versión Final del EIS, la cual está organizada de acuerdo con los reglamentos del Concejo de Calidad Ambiental del Presidente (CEQ, por sus siglas en inglés) ha de ser leída en conjunto con el Borrador del EIS, el cual brinda información más detallada sobre la Acción Propuesta y sus Alternativas a los responsables de la toma de decisiones en agencias gubernamentales y a los miembros del público. El Borrador del EIS describe el propósito y la necesidad, la Acción Propuesta y sus Alternativas, el medio ambiente existente y los impactos

ambientales potenciales asociados con la Acción Propuesta y sus Alternativas. El Borrador del EIS también incluye un glosario de términos y una lista de siglas y abreviaturas. La Versión Final del EIS incluye respuestas a los comentarios presentados por el público sobre el Borrador del EIS, incluye correcciones - principalmente con respecto a datos sobre justicia ambiental, así como algunas correcciones menores a información presentada en el Borrador del EIS -, presenta una discusión sobre las conclusiones de la SEA en cuanto al análisis ambiental e incluye las recomendaciones de mitigación ambiental definitivas de las SEA. Adicionalmente, la Versión Final del EIS refleja el trabajo adicional realizado por la SEA desde la publicación del Borrador del EIS con el fin de confirmar las conclusiones presentadas en el Borrador del EIS en cuanto a impactos relacionados con vibración y con humedales, terminar el proceso de consulta en materia de hábitat esenciales para peces ("Essential Fish Habitat" en inglés), evaluar las áreas de conservación propuestas voluntariamente por los Solicitantes para determinar el potencial de dichas áreas para atraer vida silvestre y aves que pudiesen constituir un peligro para la aviación en Ellington Field y desarrollar medidas de mitigación apropiadas.

Como parte del proceso para tomar su decisión final, la Junta considerará la totalidad del expediente ambiental, incluyendo todos los comentarios del público, el Borrador del EIS, la Versión Final del EIS y las recomendaciones definitivas de la SEA sobre medidas de mitigación.

La SEA anticipa que la USEPA publicará una notificación de disponibilidad de la Versión Final del EIS en el *Federal Register* el 9 de mayo de 2003. La votación de la Junta en cuanto a si otorgará aprobación definitiva a esta propuesta ocurrirá no antes de ese mismo día (esto es, no antes del 9 de mayo de 2003). La fecha límite para interponer recursos administrativos ("administrative appeals" en inglés) será 30 días después de la publicación de la notificación sobre la Versión Final del EIS, incluyendo el día 9 de junio de 2003. Por otra parte, la decisión final de la Junta no se hará efectiva antes de 30 días (esto es, no antes del 9 de junio de 2003). Este calendario brindará al público tiempo suficiente para interponer recursos administrativos con miras a la revisión de todos los aspectos de la decisión definitiva de la Junta y es consistente con los reglamentos del CEQ establecidos en la parte 1506.10(b) del Título 40 del Código Federal de Reglamentos (40 CFR 1506.10(b)). La Junta tomará en consideración cualesquiera recursos administrativos en decisiones posteriores.

La totalidad de la Versión Final del EIS ha sido enviada por correo a las principales agencias gubernamentales encargadas de su revisión, a funcionarios de elección pública y a organizaciones comunitarias, así como a partes consignadas en el registro del proceso ("parties of record" en inglés). Además, el documento está disponible para su revisión por todas las personas interesadas en la sección de referencia de las bibliotecas públicas en el área del proyecto en las cuales está también disponible el Borrador del EIS. Para obtener información sobre los lugares en los cuales está disponible la Versión Final del EIS para su revisión o para solicitar una copia del documento se invita a las personas interesadas a llamar al número telefónico libre de cargo de la SEA (Environmental Hotline): 1-888-229-7857 (TDD para personas sin capacidad auditiva: 1-800-877-8339). La totalidad del documento también está disponible en el sitio de Internet de la Junta (http://www.stb.dot.gov - buscar bajo "Environmental Issues," luego "Key Cases," y finalmente "Bayport Loop").

La SEA aprecia los esfuerzos realizados por todas las partes interesadas que revisaron el Borrador del EIS y presentaron comentarios sobre el mismo. Gracias por su interés y su participación en el proceso de evaluación ambiental.

Sinceramente,

Victoria Rutson
Jefe
Sección de Análisis Ambiental

FINAL ENVIRONMENTAL IMPACT STATEMENT
Finance Docket No. 34079

San Jacinto Rail Limited and The Burlington Northern and Santa Fe Railway Company Construction and Operation of a Rail Line from the Bayport Loop in Harris County, Texas

Lead Agency: Surface Transportation Board; **Cooperating Agencies:** U.S. Coast Guard (USCG), Federal Aviation Administration (FAA), and National Aeronautics and Space Administration (NASA).

Proposed Action: Construction and operation of a new rail line from the Bayport Loop in Harris County, Texas.

Location: The proposed rail line would be located near Houston, in southeast Harris County, Texas. The proposed rail line would be constructed between the Bayport Loop and the former Galveston, Houston, and Henderson Railroad (GH&H) rail line, now owned by Union Pacific Railroad Company, near Ellington Field.

Abstract: On August 30, 2001, San Jacinto Rail Limited (SJRL) and The Burlington Northern and Santa Fe Railway (BNSF) (collectively the Applicants) filed a petition with the Surface Transportation Board (Board) pursuant to 49 United States Code (U.S.C.) 10502 for authority for construction by SJRL and operation by BNSF of a new rail line near Houston, Harris County, Texas. In the petition, the Applicants proposed the construction of approximately 12.8 miles of new rail line to serve the petrochemical industries in the Bayport Loop. The Board's Section of Environmental Analysis (SEA) and the cooperating agencies prepared a Draft Environmental Impact Statement (EIS) and this Final EIS to evaluate the potential environmental impacts of the Proposed Action and Alternatives, including the No-Action Alternative. Except as otherwise noted, this Final EIS incorporates by reference the Draft EIS. The Draft EIS concluded that the Proposed Action and Alternatives would not have a significant impact on the human environment. Following a careful review of comments on the Draft EIS, SEA has made some corrections, principally to the environmental justice analysis, and some minor changes to information presented in the Draft EIS. However, SEA has not altered the conclusions of the Draft EIS. The Build Alternatives, which involve construction, would have moderate wetland, surface water, and biological impacts. The Proposed Action and Alternatives would have negligible impacts on all other environmental resource categories. SEA recommends that the Board impose the Applicants' extensive proposed voluntary mitigation measures as a condition of petition approval and the four additional mitigation measures developed by SEA. The mitigation measures collectively address the moderate impacts as well as a range of issues of interest to the community.

The cooperating agencies' Federal actions include: USCG's decision to issue a bridge permit under the General Bridge Act of 1946 (applicable to all of the Build Alternatives); FAA's decision to grant a change in the Airport Layout Plan for Ellington Field and release airport property, if requested, for the Proposed Action pursuant to 49 U.S.C. 47151-47153, 49 U.S.C. 47107(c)(2)(B), and 49 U.S.C. 47107(a)(16); and NASA's decision to grant an easement across an access road for the Proposed Action or Alternative 1C.

Given the similarity of most of the impacts associated with the Build Alternatives and the moderate to negligible nature of potential impacts, no single alternative has emerged as markedly preferable. SEA, if it were acting on its own, would designate the Applicants' Proposed Action as the preferred alternative. While agreeing with SEA that there are no potentially significant environmental impacts, FAA indicated that, for the reasons discussed more fully in the Final EIS, FAA would prefer that SEA not designate the Applicants' Proposed Action as the preferred alternative. In light of FAA's concerns, and as discussed in detail in the Final EIS, SEA is designating Alternative 1C as the preferred alternative. However, as all of the various Build Alternatives would result in generally similar impacts, none of which would be significant, SEA recommends that the Board find that all the Build Alternatives are fully acceptable from an environmental standpoint and should be approved.

SEA anticipates that the U.S. Environmental Protection Agency will publish a notice of the availability of the Final EIS in the *Federal Register* on May 9, 2003. The Board's vote on whether to give final approval to his proposal will be made no earlier than on the same day (i.e., May 9, 2003). The deadline for filing administrative appeals will be 30 days from the publication of the notice of the Final EIS, to and including June 9, 2003. This schedule will afford the public adequate time to pursue administrative review of all aspects of the Board's final decision and is consistent with the regulations of the President's Council on Environmental Quality at 40 Code of Federal Regulations 1506.10(b). The Board will consider any administrative appeals in a subsequent decision.

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CHAPTER 1
INTRODUCTION

1.1 BACKGROUND

On August 30, 2001, San Jacinto Rail Limited (SJRL)[1] and The Burlington Northern and Santa Fe Railway Company (BNSF) (collectively the Applicants) filed a petition with the Surface Transportation Board (Board)[2] pursuant to 49 United States Code (U.S.C.) 10502, for authority for construction by SJRL and operation by BNSF of a new rail line near Houston, Harris County, Texas. In the petition, the Applicants proposed the construction of approximately 12.8 miles of new rail line to serve the petrochemical industries in the Bayport Industrial District (Bayport Loop).

The Board, pursuant to 49 U.S.C. 10901 and 10502[3], is the agency responsible for granting authority for the construction, operation, and maintenance of new rail line facilities. Accordingly, the Board, through its Section of Environmental Analysis (SEA), is the lead agency responsible under the National Environmental Policy Act (NEPA) for the preparation of this Environmental Impact Statement (EIS), which identifies and evaluates the potential environmental impacts associated with the Proposed Action and Alternatives. The U.S. Coast Guard (USCG), the Federal Aviation Administration (FAA), and the National Aeronautics and Space Administration (NASA) are cooperating agencies, pursuant to 40 Code of Federal Regulations (CFR) 1501.6. SEA and the cooperating agencies prepared this EIS in accordance with NEPA, the President's Council on Environmental Quality (CEQ) regulations, and the Board's environmental regulations (found at 49 CFR 1105) to provide the Board, the cooperating agencies, other Federal, state and local agencies, Native American Tribes, and the public with clear and concise information on the potential environmental impacts of the Proposed Action and reasonable and feasible Alternatives, including the No-Action Alternative. This EIS was also prepared in accordance with USCG COMDTINST M16475.1D, NEPA Implementing

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[1] SJRL is a partnership, based in Delaware, comprising BNSF, BayRail, LLC (wholly owned by BNSF), and affiliates of four plastics and chemical production companies located in the Bayport Loop. The four production companies are: ATOFINA Petro-chemicals, Inc., Basell USA, Inc., Equistar Chemicals, LP, and Lyondell Chemical Company. The affiliated limited partners of SJRL are Bay Junction, Inc. (wholly owned by ATOFINA), Basell Impact Holding Company, Equistar Bayport, LLC, and Lyondell Bayport, LLC.

[2] The Board is a bipartisan, decisionally independent adjudicatory body, organizationally housed within the U.S. Department of Transportation (USDOT). The Board assumed some of the regulatory functions that the Interstate Commerce Commission (ICC) administered when the Board was established by the ICC Termination Act of 1995 (49 U.S.C. 10101 *et seq.*; P.L. 104-88, December 29, 1995). The Board has jurisdiction over rail rates, railroad acquisitions and consolidations, rail constructions, and abandonments of rail service. Other functions of the ICC were either eliminated or transferred to different agencies within the USDOT.

[3] Under 49 U.S.C. 10901, the Board has exclusive licensing authority for the construction and operation of new rail lines. Under 49 U.S.C. 10502, the Board can issue an exemption from the prior approval requirements of 49 U.S.C. 10901 if the statutory standards of Section 10502 are met.

Procedures and Policy for Considering Environmental Impacts; FAA Order 5050.4A, Airport Environmental Handbook; FAA Order 1050.1D, Policies and Procedures for Considering Environmental Impacts; and NASA NPG 8580.1, Implementing NEPA.

Following scoping and public outreach, SEA issued the Draft EIS for public review and comment on December 6, 2002. More than 600 written and oral comments were received on the Draft EIS. In preparing the Final EIS, SEA carefully considered all comments received on the Draft EIS and has responded to all substantive comments in Chapter 4 of this document. The Final EIS sets forth SEA's final recommended environmental mitigation conditions, which include the 76 voluntary mitigation measures proposed by the Applicants. The Board will consider the entire environmental record, the Draft and Final EIS, all public and agency comments, and SEA's environmental recommendations in making its final decision on the application to construct and operate the proposed Bayport Loop Build-Out. The Board will decide whether to grant final approval, approval with conditions (which could include conditions designed to mitigate potential impacts to the environment), or deny the Applicants' petition. After the Board's final decision is issued, the USCG will decide whether to issue a bridge permit. If requested, the FAA will decide whether to approve a change to the Ellington Field Airport Layout Plan (ALP) to allow the Proposed Action to cross two edges of the airport and to release the affected airport property from surplus property restrictions and/or the airport owner's obligations under grant assurances contained in grant agreements. If requested by the Applicants, NASA will decide whether to grant an easement for the Proposed Action or Alternative 1C to cross NASA's access road between the Sonny Carter Training Facility (SCTF)[4] and Ellington Field.

This Final EIS, which is organized consistent with CEQ regulations, is intended to be read in conjunction with the Draft EIS, which provides more detailed information on the Proposed Action and Alternatives to agency decision-makers and the public. The Draft EIS describes the project's purpose and need, the Proposed Action and Alternatives, the existing environment, and the potential environmental impacts associated with the Proposed Action and Alternatives. The Draft EIS also includes a glossary of terms and a list of acronyms and abbreviations. The Final EIS responds to public comments on the Draft EIS; makes some corrections, principally concerning environmental justice data, and some minor changes to information presented in the Draft EIS; discusses SEA's[5] conclusions about the environmental analysis; and includes SEA's final environmental mitigation recommendations. Further, the Final EIS reflects additional work conducted by SEA since publication of the Draft EIS to confirm conclusions presented in the Draft EIS concerning vibration and wetlands impacts; complete consultation on Essential Fish Habitat (EFH); evaluate the Applicants' voluntary habitat conservation sites to assess their potential to attract wildlife and birds that could become a hazard to aviation at Ellington Field; and develop four additional appropriate mitigation measures.

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[4] The SCTF comprises NASA's Neutral Buoyancy Laboratory (NBL), Software Development and Integration Laboratory, and Light Manufacturing Facility. The SCTF is described on pages 3-65 and 3-66 of the Draft EIS.

[5] While much of the Final EIS for convenience generally refers only to SEA, the document reflects the input of the three cooperating agencies.

1.2 BOARD DECISIONS

On August 28, 2002 (August 2002 Decision), the Board found, subject to consideration of the environmental impacts, that the Applicants met the transportation-related standards of 49 U.S.C. 10502 to construct the Proposed Action. However, in its decision, the Board explained that the project could not receive final approval until the environmental review process required under NEPA and related laws is completed and the Board has the opportunity to fully assess the potential environmental effects of the project. The Board made clear in its decision that it would issue a final decision on the entire proposed project following completion of the EIS process and that no construction could begin until a final decision approving the construction is issued and has become effective. A copy of the Board's August 28, 2002, decision can be found in Appendix C of this Final EIS.

On August 6, 2002, the Applicants advised SEA that in response to concerns raised by the communities in and around New South Yard regarding existing congestion, they proposed to route the Bayport Loop traffic to the CMC Dayton Yard instead of New South Yard. On September 17, 2002, in response to this letter, the Galveston Bay Conservation and Preservation Association (GBCPA) filed various motions and related requests for relief. On October 8, 2002, the Applicants filed a reply. On October 11, 2002, GBCPA filed a motion to compel to obtain certain environmental materials supplied to Board staff by the Applicants.

On October 30, 2002, SEA wrote to GBCPA responding to the issues raised in GBCPA's filing stating that the reopening of the environmental review process was unwarranted and that the material requested by GBCPA was contained in the Board's public docket and would be included in the Draft EIS. A copy of the letter from SEA to GBCPA can be found in Appendix C of this Final EIS.

In a decision served on December 3, 2002 (December 2002 Decision), the Board found that GBCPA's various motions were groundless and denied them. The Board's review of the record led to the Board's conclusion that neither the Applicants nor any Board employees had engaged in any inappropriate communications or other misconduct with regard to the Applicants' letter. The Board explained that under NEPA, the environmental review process is necessarily informal and all-inclusive and depends on cooperative consultations with the railroad as well as other agencies and other parties with expertise, so that all possible environmental information, issues, and points of view will come before the agency.[6] The Board stated that the BNSF letter was not, as claimed by GBCPA, an ex parte communication but was instead environmental correspondence that merely proposed, in response to community concerns about potential congestion impacts near New South Yard, an alternative routing by which BNSF trains would move over the GH&H line and other existing lines. Moreover, because the communication was

[6] See City of Auburn v. United States, 154 F.3d 1025, 1033 (9th Cir. 1998), cert. denied, 527 U.S. 1022 (1999) (opportunity for public participation provides necessary checks and balances).

Indeed, the CEQ regulations implementing NEPA specifically anticipate the continuing involvement and participation of the applicant throughout the process, so long as the agency independently evaluates the information submitted and is responsible for its accuracy. See e.g., 40 CFR 1506.5(a)-(c). The Board's environmental rules also provide that the railroad may "participate in the preparation of environmental documents." 49 CFR 1105.4(j).

part of the environmental review process, the Applicants' letter was properly sent directly to SEA. The Board also found that SEA acted properly in accepting the letter, placing it in the public files in the Board's public reading room,[7] and bringing it to the Board's attention so that it could be mentioned in the August 2002 Decision. Finally, because the letter is environmental correspondence, the Board concluded that the Applicants were not required to serve it on other parties,[8] and consequently, there was no improper communication here or notice deficiency.

In the December 2002 Decision, the Board also found no basis to reopen the exemption proceeding. The Board explained that the Applicants' letter did not seek to revise the construction proposal itself and did not have any bearing whatsoever on the transportation-related issues addressed in the August 2002 Decision. The Board noted that GBCPA and other interested parties would have the opportunity to comment on the routing change after issuance of the Draft EIS that SEA was then preparing.

On January 21, 2003, GBCPA submitted a request for production of various documents and records by the Board. By letter sent to GBCPA on February 11, 2003, the Board's Secretary stated that, because the agency is not a party to this or any proceeding before it, discovery is not available from the Board. The letter also explained that much of the material sought was available either through the filing of a request under the Freedom of Information Act or was in the public docket. Copies of the Board's December 2002 Decision and the letter from the Board's Secretary to GBCPA can be found in Appendix C of this Final EIS.

1.3 30-DAY ADMINISTRATIVE APPEAL

CEQ regulations (40 CFR 1506.10(b)) provide that an agency shall not make a decision on a proposed action less than 30 days from publication of a notice of a Final EIS in the *Federal Register* unless the agency's decision is subject to a formal administrative review process after publication of the Final EIS. In such cases, the CEQ regulations provide that the period for appeal of the agency's decision and the 30-day period prescribed in 40 CFR 1506.10(b) may run concurrently.

The Board has an established administrative review process. Under the Board's rules, parties who wish to file an administrative appeal of the Board's final decision, including any environmental conditions that the Board might impose, may do so within 20 days of the service date of the Board's final decision, or within any further period (not to exceed 20 days), as the Board may authorize (49 CFR 1115.3(e)). Given the CEQ regulation at 40 CFR 1506.10(b), in this case, the Board will provide 30 days from the publication of the U.S. Environmental Protection Agency's (USEPA) notice of availability of the Final EIS in the *Federal Register,* for the filing of administrative appeals.

[7] Thus, the letter was made available to all interested parties and became part of the administrative record in this case.

[8] See 49 CFR 1105.10(e).

SEA anticipates that USEPA will publish a notice of the availability of the Final EIS in the *Federal Register* on May 9, 2003. The Board's vote on whether to give final approval to this proposal will be made no earlier than the same day (i.e., May 9, 2003). The deadline for filing administrative appeals will be 30 days from the publication of the notice of the Final EIS, to and including June 9, 2003. Moreover, the Board's final decision will not become effective for 30 days (i.e., no earlier than June 9, 2003). This schedule will afford the public adequate time to pursue administrative review of all aspects of the Board's final decision and is consistent with the CEQ regulations at 40 CFR 1506.10(b).[9] The Board will consider any administrative appeals in a subsequent decision.

1.4 PURPOSE AND NEED

The purpose of the proposed construction and operation of a new rail line into the Bayport Loop is to provide competitive rail service to the shippers located within the Loop. The shippers in the Bayport Loop are currently served solely by Union Pacific Railroad Company (UP). The Applicants have stated that the proposed new line would add capacity and infrastructure to the Houston area, would provide shippers with access to BNSF's extensive single line services, and would provide shippers with flexibility and alternative transportation routes in the event of future service disruptions. The Applicants have stated that the proposed new rail line is needed to alleviate the constraints currently experienced by shippers, due to the existence of only one rail service option, and to provide an effective replacement for competitive conditions that existed prior to the 1996 merger of UP with the Southern Pacific Rail Corporation (SP).

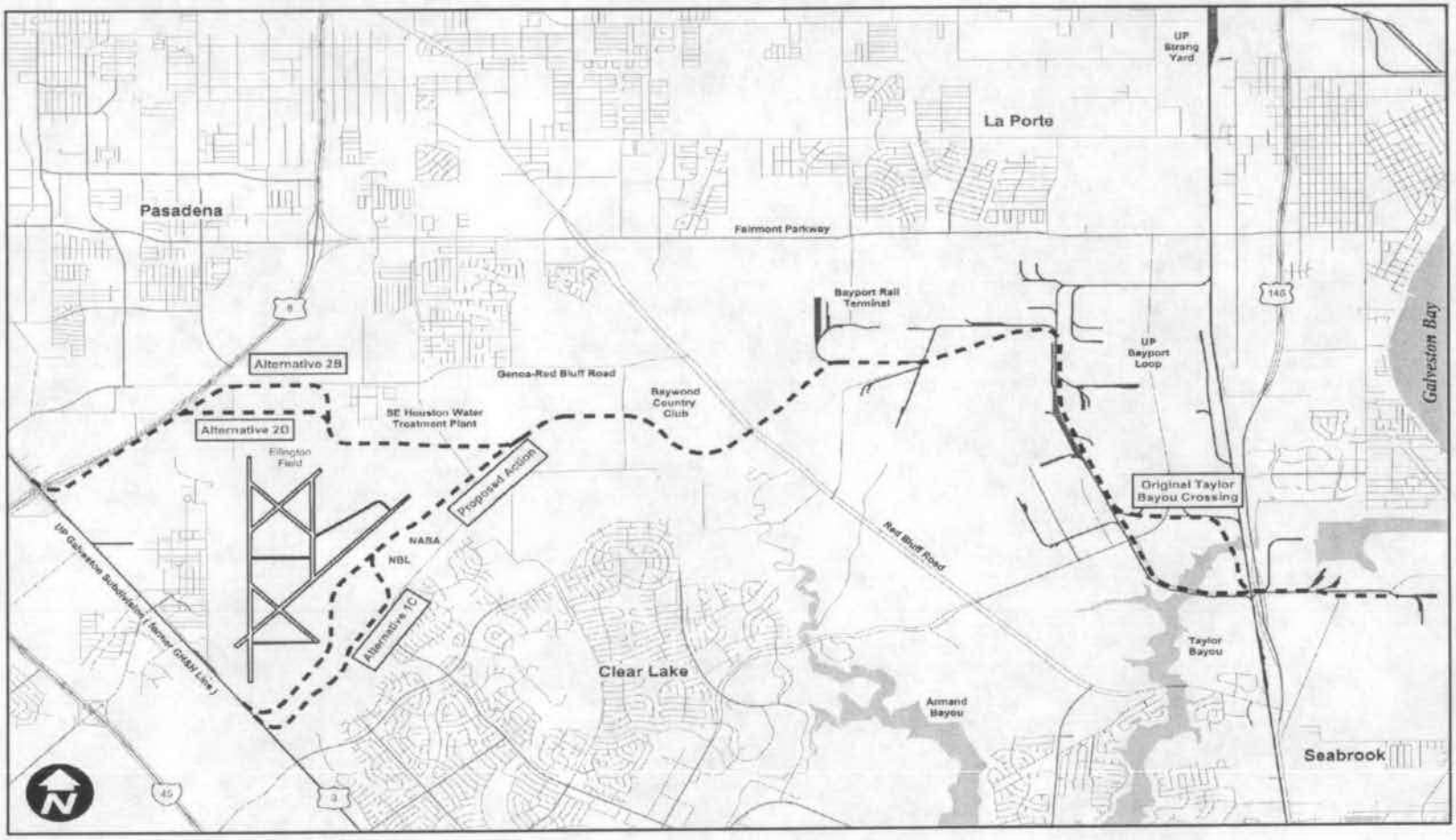
1.5 ALTERNATIVES CONSIDERED IN SEA'S ENVIRONMENTAL REVIEW

Build Alternatives. The Build Alternatives include the Proposed Action and other Alternatives that would require new rail line construction. The name of each Build Alternative (i.e., the Proposed Action, the Original Taylor Bayou Crossing, and Alternatives 1C, 2B, and 2D) is derived from the various proposed new rail alignments and each Alternative includes both the proposed new rail line segment and the use of trackage rights over UP lines that BNSF either has or can obtain under the UP/SP merger decision.[10] The segments of each Build Alternative that involve new rail line construction are referred to as the Build Segments of that Alternative. The Build Segments are shown in Figure 1.5-1.

[9] Interested parties and the general public will have more than 30 days to review the Final EIS. On May 2, 2003, SEA is filing the Final EIS with USEPA and issuing it to government agencies, elected officials, community groups, citizens, and parties of record. The entire document is also available on the Board's website (http://www.stb.dot.gov), under "Environmental Issues," "Key Cases," and "Bayport Loop." The Final EIS is also available to all interested persons for review in the reference section of public libraries in the project area where the Draft EIS is also available.

[10] The Board's UP/SP merger decision and its applicability to this case is described on page 1-2 of the Draft EIS.

Figure 1.5-1
Build Segments



Proposed Action. The Proposed Action is the Applicants' preferred route. The Proposed Action is shown in Figure 1.5-2. It involves the construction of a new rail line, approximately 12.8 miles long from the Bayport Loop to an existing rail line, that would allow the Applicants to provide competitive rail service to the petrochemical industries in the Bayport Loop. Implementation of the Proposed Action would result in rail operations to and from the new line over trackage rights on UP's Galveston, Houston, and Henderson Railroad (GH&H) line and UP's East Belt, Terminal, Lafayette, and Baytown Subdivisions to the storage yard operated by CMC Railroad at Dayton, approximately 30 miles northeast of Houston. The Applicants' original Proposed Action anticipated rail operations over the GH&H line and UP's Glidden Subdivision to BNSF's New South Yard. On August 6, 2002, the Applicants advised SEA that in response to concerns raised by the communities in and around New South Yard regarding existing congestion, they proposed to route the Bayport Loop traffic to the CMC Dayton Yard instead of New South Yard.

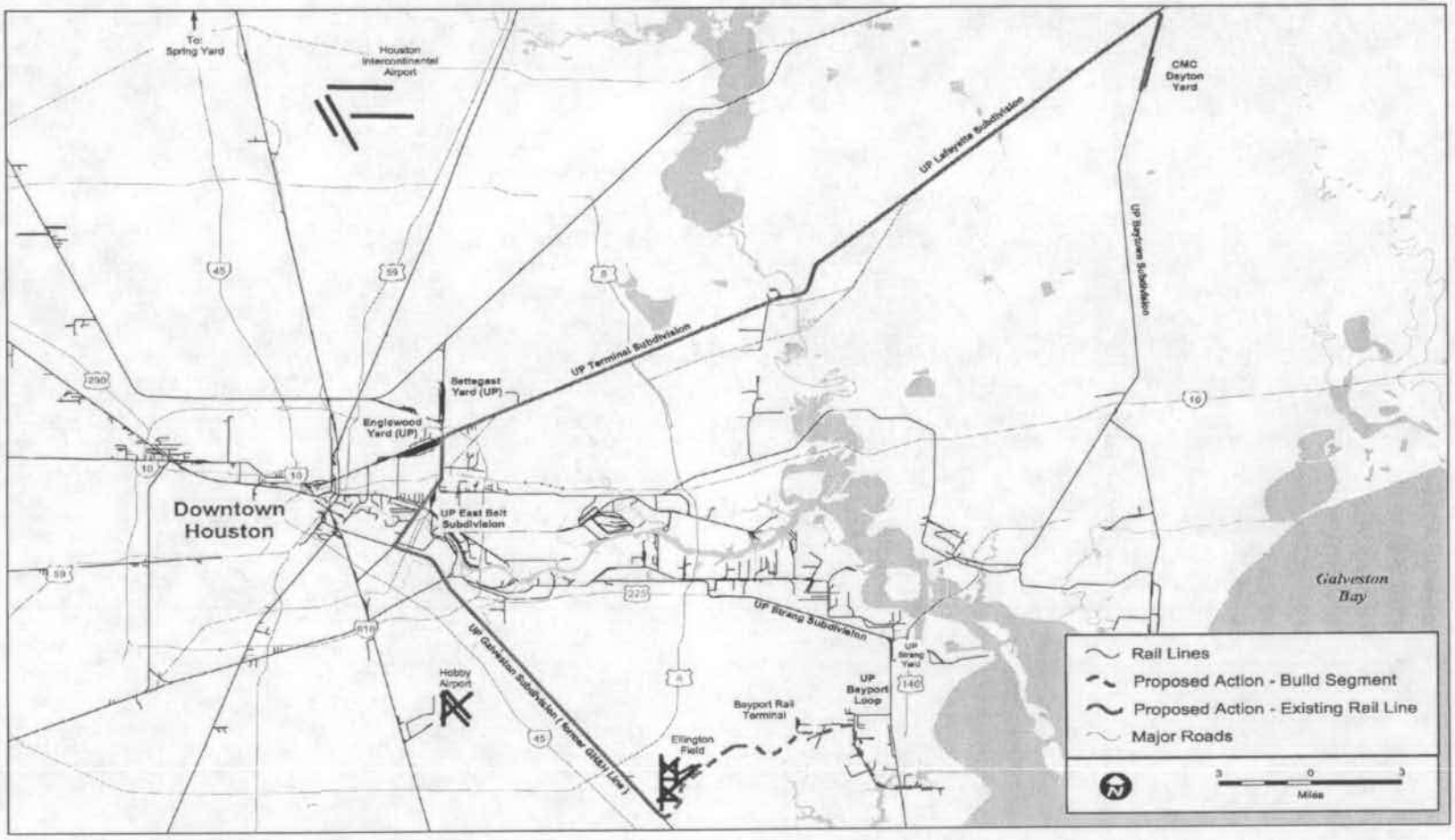
BNSF has explained in its application that it anticipates that it would run, on average, one train of approximately 36 to 66 cars per day in each direction (for a daily total of two trains and 72 to 132 rail cars). On an annual basis, a total of 13,000 to 24,000 carloads (loaded rail cars) and an equal number of empty rail cars would operate on the proposed line, representing approximately 28 to 51 percent of the rail traffic generated in the Bayport Loop. The majority of the shipments would consist of non-hazardous plastic pellets, transported in hopper cars. The remainder would consist of chemicals, transported in tank cars. At current BNSF estimates, approximately 1,500 to 7,000 carloads of hazardous materials would be transported over the line per year. Other miscellaneous inbound and outbound commodities are also likely to be transported. The Proposed Action is more fully described in Section 2.2.1 of the Draft EIS.

Original Taylor Bayou Crossing. The Applicants originally proposed to cross Taylor Bayou using Alternative 1, at a location that the National Marine Fisheries Service (NMFS) later identified as containing EFH. The original Taylor Bayou crossing was replaced as the Applicants' preferred crossing by Alternative 1B, which would affect a much smaller amount of EFH. The Original Taylor Bayou Crossing is described on page 2-11 of the Draft EIS.

Alternative 1C. After consulting with the FAA and the City of Houston, SEA requested that the Applicants develop Alternative 1C to address two issues associated with Ellington Field. The Proposed Action passes through Ellington Field's Runway Protection Zone (RPZ) and it would run between 240 acres of adjacent land owned by the City of Houston and the airport. Alternative 1C avoids these issues and consists of a two-mile modification of the Proposed Action from its turnout on the GH&H line to the Boeing and NASA facilities on Space Center Boulevard. Alternative 1C is more fully described on pages 2-11 and 2-14 of the Draft EIS.

Alternative 2B. The Applicants developed Alternative 2B, as a modification to Alternative 2 (which was eliminated from further study for the reasons described on page 2-19 of the Draft EIS), to avoid crossing land owned by the Deer Park School District and to move the rail line further away from a major residential neighborhood. Alternative 2B is more fully described on page 2-14 of the Draft EIS.

Figure 1.5-2
Proposed Action



Alternative 2D. The Applicants developed Alternative 2D for the same reasons they developed Alternative 2B and also to avoid businesses, residences, and churches along Genoa-Red Bluff Road, minimize conflicts with the proposed expansion of Genoa-Red Bluff Road, and avoid a water main and a gas main that parallel Genoa-Red Bluff Road. The Applicants have identified this Alternative as their Preferred Alignment between Alternatives 2B and 2D. Alternative 2D is more fully described on pages 2-14 and 2-17 of the Draft EIS.

No-Build Alternative. The No-Build Alternative requires no new rail line construction. It would involve BNSF using the same trackage rights over existing UP lines that BNSF would use for the Proposed Action, although BNSF would need trackage rights over a smaller portion of the GH&H line. However, the No-Build Alternative would require BNSF to obtain trackage rights from UP over the Strang Subdivision and the Bayport Loop Industrial Lead to access the Bayport Loop. BNSF cannot obtain trackage rights over the Strang Subdivision and the Bayport Loop Industrial Lead under the UP/SP merger decision. BNSF has approached UP about obtaining such trackage rights, but UP has stated publicly that it will not grant trackage rights unless BNSF provides full compensation for UP's lost revenue. To date, BNSF and UP have not reached an agreement on compensation and BNSF cannot operate over the Strang Subdivision. However, if UP and BNSF were to reach an agreement allowing BNSF to operate over the Strang Subdivision to access the Bayport Loop, there would be no need for the construction of any of the Build Alternatives. SEA analyzed this Alternative in response to several requests made during scoping. Also, despite the fact that the Board does not have the authority to force UP to permit BNSF to operate over the Strang Subdivision, CEQ regulations (40 CFR 1502.14(c)) indicate that agencies should include alternatives outside the agency's jurisdiction in their analyses. The No-Build Alternative is more fully described on page 2-17 of the Draft EIS.

No-Action Alternative. Under the No-Action Alternative, the Applicants would not provide competitive rail service to the Bayport Loop, either by new construction or trackage rights. The shippers in the Bayport Loop would continue to be served solely by UP. The rail operations on the rail lines to and from the Bayport Loop in the Houston area would remain as they are today. The No-Action Alternative is more fully described on pages 2-18 and 2-19 of the Draft EIS.

1.6 ALTERNATIVES ELIMINATED FROM DETAILED STUDY

SEA eliminated some Alternatives from detailed consideration in the Draft EIS because they were deemed unreasonable or infeasible. These included Alternatives 1A, 2, 2A, 2C, 3, and 4. SEA also considered and eliminated several Alternatives suggested in public comments. In accordance with the CEQ regulations at 40 CFR 1502.14(a), SEA discussed in Section 2.3 of the Draft EIS the reasons why these Alternatives were not considered in detail.

1.7 PUBLIC INVOLVEMENT

On October 1, 2001, SEA served and distributed the Notice of Intent to Prepare an EIS to approximately 489 citizens, elected officials, Federal, state, and local agencies, and interested organizations, and initiated a toll-free project hotline. On November 26, 2001, SEA served and distributed the Notice of Availability of Draft Scope of Study for the EIS, Notice of Scoping Meetings, and Request for Comments, to approximately 526 citizens, elected officials, Federal, state, and local agencies, and interested organizations. The distribution encompassed the

communities surrounding the Proposed Action and the communities along the UP lines connecting the Proposed Action to New South Yard. SEA placed notices of the scoping meetings in several community newspapers and the *Houston Chronicle*. SEA also provided public service announcements to several Spanish-speaking radio stations.

The scoping meetings were held in the afternoons and evenings of January 14 and 15, 2002. SEA used a workshop format to allow attendees to provide comments and ask questions. The 189 people who attended and signed in at the scoping meetings included citizens, members of organizations, elected officials, and officials from Federal, state, and local agencies.

At the request of public comments and several elected officials, SEA extended the scoping comment period for an additional 30 days to March 14, 2002, to provide the public sufficient opportunity to explore Alternatives to the proposed route and raise issues pertinent to scoping. SEA published a notice of the extension in the *Federal Register* on February 13, 2002, and distributed it to approximately 650 citizens, elected officials, Federal, state, and local agencies, and interested organizations. SEA conducted additional public involvement activities, including translating project information into Spanish and making it available to communities and community leaders who live along existing UP lines that would be used by rail traffic operating under the Proposed Action and Alternatives.

SEA published the Notice of Availability of Final Scope of Study for the EIS in the *Federal Register* on July 19, 2002. The Final Scope was translated into Spanish and both the English and Spanish versions were widely distributed in the project area. Due to a subsequent change in Proposed Action routing from New South Yard to the CMC Dayton Yard[11] that took place after the scoping meetings and publication of the Final Scope, SEA sent notification of the Proposed Action to Federal, state, and local officials who represent the communities along the modified route.

SEA published the Draft EIS and delivered it to USEPA on December 6, 2002. USEPA published the Notice of Availability of the Draft EIS in the *Federal Register* on December 13, 2002. SEA distributed the Draft EIS to elected officials, Federal, state, and local agencies, interested organizations, and citizens who had requested a copy. The Draft EIS was also made available for public review in the reference section of public libraries in the project area.

At the request of several elected officials and public comments, SEA extended the comment period for the Draft EIS from the original 45 days, for an additional 25 days to February 21, 2003, to provide the public additional time to review the document and submit comments. Notice of the comment period extension was distributed to elected officials, Federal, state, and local agencies, interested organizations, and citizens.

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[11] This route is a change from the route described in the Applicants' original petition and was brought to the Board's attention by the Applicants (See Appendix N of the Draft EIS, letter from the Applicants to SEA dated August 6, 2002). In response to community concerns about existing congestion near New South Yard, the Applicants proposed this route as voluntary mitigation to avoid New South Yard altogether. The Applicants stated in their letter that this change does not affect the proposed route for the new rail line construction.

SEA held two public meetings on the Draft EIS on January 14 and 15, 2003, at the Pasadena Convention Center and Cesar E. Chavez High School, respectively. At each meeting, SEA and the cooperating agencies gave a brief presentation and invited interested parties to make oral comments. SEA retained a transcriber to record the oral comments and also employed a Spanish translator. In addition, a Spanish speaker from SEA's third-party contractor team helped staff the sign-in/information table. Approximately 150 people signed in at the meeting held at the Pasadena Convention Center, although SEA estimated that approximately 250 people actually attended the meeting. Approximately 260 people signed in at the meeting held at Cesar E. Chavez High School, although SEA estimated that approximately 400 to 600 people attended the meeting. A mix of elected officials, people representing organizations and companies, and private citizens spoke at the meetings. A total of 115 oral comments were received at the two meetings (50 comments at the Pasadena Convention Center meeting and 65 comments at the Cesar E. Chavez High School meeting). SEA also encouraged attendees to submit written comments at the two meetings. Thirteen written comments were submitted at the Pasadena Convention Center meeting and 19 written comments at the Cesar E. Chavez High School meeting. The transcripts from the public meetings are contained in Appendix A of this Final EIS. At both meetings, SEA stressed that written comments would be considered equally with oral comments.

SEA received over 500 written comments during the Draft EIS comment period. SEA also accepted comments after the close of the comment period. Comments were received from elected officials, Federal, state, and local agencies, organizations, companies, and concerned citizens. The comment letters are contained in Appendix B of this Final EIS. The contents of the oral and written comments are summarized in Chapter 4 of this Final EIS, which also contains SEA's responses to those comments.

SEA published this Final EIS and delivered it to USEPA on May 2, 2003. SEA also distributed the Final EIS to elected officials, Federal, state, and local agencies, interested organizations, commenters who submitted substantive comments, and citizens who had requested a copy, as well as the parties of record. The Final EIS was made available at public libraries in the project area where the Draft EIS is also available. SEA mailed a letter (in both English and Spanish), announcing availability of the Final EIS and summarizing its conclusions, to over 1,800 interested parties. SEA also provided a press release announcing availability of the Final EIS to press organizations in the project area.

1.8 REGULATORY AGENCY COMMENTS ON THE DRAFT EIS

Four Federal and state regulatory agencies provided comments on the Draft EIS: USEPA Region 6, NMFS, Texas Commission on Environmental Quality (TCEQ), and the Texas Historical Commission (THC).

USEPA Region 6 reviewed the Draft EIS, in accordance with its responsibilities under Section 309 of the Clean Air Act, NEPA, and the CEQ regulations. The USEPA letter commenting on the Draft EIS, dated February 21, 2003, and included in Appendix B of this Final EIS, classified the Draft EIS and the Proposed Action as "lack of objections." The letter stated that the Draft EIS "demonstrates the Proposed Action would have no significant impact on the human environment and would have negligible impacts in all other areas."

NMFS commented on the Applicants' efforts to minimize the potential impacts to EFH and the Applicants' provision of mitigation as compensation for these unavoidable impacts. SEA worked with NMFS to complete consultation requirements under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). In a March 31, 2003 letter, NMFS provided its final conservation recommendations for EFH and associated fishery resources (see Appendix D). SEA has incorporated these recommendations into this Final EIS and has developed a new mitigation measure concerning EFH, which SEA recommends to the Board. This mitigation measure satisfies the requirements of the MSFCMA.

TCEQ commented on wetland impacts, water quality impacts, and mitigation measures and provided a number of comments relevant to the U.S. Army Corps of Engineers' (USACE) Section 404 permit process. TCEQ requested more information and SEA provided clarification to TCEQ.

THC determined that the Proposed Action and Alternatives would have no adverse effect on archaeological or architectural historic properties.

CHAPTER 2
MODIFICATIONS TO THE DRAFT EIS

SEA has reviewed the comments received on the Draft EIS. In response to the comments, SEA has made some corrections, principally to some of the environmental justice maps, and some minor changes to information presented in the Draft EIS, which are described below. However, SEA determined that no changes to the conclusions presented in the Draft EIS are required.

As explained in detail in Chapter 4 of this Final EIS, SEA received many comments on the inaccuracy of maps presented in the Draft EIS that illustrated the distribution of minority populations. In its environmental justice analysis, and despite SEA's conclusion that the Proposed Action and Alternatives would have negligible impacts on communities along the existing rail network, SEA made a good faith effort to disclose the environmental justice populations living in the project area. SEA's omission of portions of the Spanish/Hispanic/ Latino population in the minority population counts was the result of an unintentional error. The mapping error occurred because SEA accidentally selected the wrong data element in the U.S. Census data. Revised maps are presented in Chapter 5 of this Final EIS (Errata). However, the conclusion reached in the Draft EIS concerning impacts to environmental justice populations remains unchanged, i.e., the Proposed Action and Alternatives would result in negligible impacts on environmental justice populations.

Since publication of the Draft EIS, SEA has continued to evaluate the Proposed Action and Alternatives and has conducted two studies that confirm the conclusions stated in the Draft EIS. These studies were requested by the cooperating agencies and include a vibration study at NASA's SCTF and a wetlands assessment for the FAA to support FAA's compliance with EO 11990 on Protection of Wetlands. In addition, the FAA requested a study of the Applicants' proposed habitat conservation and wetland mitigation sites to assess their potential to attract wildlife and birds that could become a hazard to aviation at Ellington Field.

At the SCTF, SEA conducted additional specialized field tests in cooperation with NASA as an added confirmation of the conclusions reached in the Draft EIS, which were based on data from the literature concerning the potential effect of train activity on this facility. The field tests confirm the conclusions in the Draft EIS, namely, that trains operating over the Proposed Action or Alternative 1C would result in minimal, if any, noise or vibration impacts on the SCTF.

FAA requested the preparation of a wetland assessment as part of FAA's compliance requirements under EO 11990 on Protection of Wetlands. EO 11990 directs Federal agencies to consider alternatives to avoid adverse effects and incompatible development in wetlands. It also directs Federal agencies to avoid new construction in wetlands unless the agency finds that there is no practicable alternative to construction in the wetland and the proposed action incorporates all possible measures to limit harm to the wetlands.

The wetland assessment conducted by SEA[12] shows that the Proposed Action and Alternative 1C would impact the fewest wetland functions and values and that the Proposed Action would impact slightly fewer principle functions/values than Alternative 1C. The reduced impact to wetland functions and values and the smaller impact to jurisdictional wetlands from the Proposed Action relative to Alternative 1C offsets the slightly greater impact to wetland acreage by the Proposed Action. Therefore, the wetlands assessment concludes that there is no material difference between the wetland impacts of the Proposed Action and Alternative 1C.

The FAA Advisory Circular 150/5200-33, Hazardous Wildlife Attractants On or Near Airports, provides guidance on locating certain land uses having the potential to attract hazardous wildlife to or in the vicinity of public-use airports. FAA needed to determine whether the Applicants' proposed habitat conservation and wetland mitigation sites had the potential to attract wildlife and birds that could become a hazard to aviation at Ellington Field. At FAA's request and designation, a biologist from the Texas Wildlife Damage Management Service of the U.S. Department of Agriculture surveyed the affected sites, evaluated the proposed plan, and concluded in an April 11, 2003, memorandum that the affected sites do not pose a hazard to aviation using Ellington Field.

Errata includes SEA's changes and corrections to the Draft EIS. These changes resulted from either public comments, agency correspondence, or SEA's independent review. None of the changes affect the conclusions of the Draft EIS.

2.1 PREFERRED ALTERNATIVE

Section 1502.14(e) of the CEQ regulations requires that the Final EIS identify the preferred alternative, if one had not been identified in the Draft EIS. However, in making its final decision as to which, if any, alternative to approve, the agency is not limited to the environmentally preferred alternative, but may take into account other factors as well.[13]

SEA has conducted an extensive and detailed evaluation of the potential environmental impacts associated with the Proposed Action and Alternatives. This evaluation has demonstrated that all of the Alternatives, including the Build Alternatives, the No-Build Alternative, and the No-Action Alternative, would result in generally similar impacts, none of which would be significant.

As discussed in the Draft EIS, the Build Alternatives would each result in moderate impacts on surface water, wetlands, and plant communities. The Build Alternatives would have negligible or no impact on all other environmental resource categories. The No-Build Alternative (use of the UP Strang Subdivision) would have negligible or no impact on all the environmental resource categories, but it could not be implemented without UP's approval. The No-Action

[12] The wetland assessment was prepared following the protocol of The Highway Methodology Workbook – Wetland Functions and Values, A Descriptive Approach (USACE, 1999).

[13] 40 CFR 1505.2(b); CEQ, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, Question 4a and 6a, March 16, 1981; Friends of Yosemite Valley v. Norton, 194 F.Supp.2d 1066 (E.D. CA 2002).

Alternative would not result in any change to the impacts that currently occur. However, under the No-Action Alternative, the benefits of this project would not occur.

Given the similarity of most of the impacts associated with the Build Alternatives and the moderate to negligible nature of the potential impacts, no single Alternative is markedly preferable. While the various Build Alternatives have different pros and cons, none of the differences stand out enough to persuade SEA that one of the Build Alternatives is measurably superior or inferior. SEA, if it were acting on its own, would designate the Applicants' Proposed Action as the preferred alternative.[14]

While agreeing with SEA that there are no potentially significant environmental impacts, on April 17, 2003, FAA indicated in a letter to SEA that FAA recommends against selection of the Proposed Action as the preferred alternative due to potential adverse impacts on aviation. The letter (which is included in Appendix D) refers to the Surplus Property Act, recodified at 49 U.S.C. 47151-47153, and states that FAA has determined that, based on FAA's expertise, review of the City of Houston's comment letter on the Draft EIS (claiming that development of the southeast area of Ellington Field is "reasonably foreseeable for aviation-related industry"), and the FAA's aviation activity forecasts for Ellington Field, the surplus property to be crossed by the Proposed Action is "needed to protect and advance the civil aviation interests of the United States."

Based on its review of available information relevant to the potential future uses of the southeast area of Ellington Field, including the Draft Master Plan and the aviation activity forecast of no growth in traffic out to 2020, SEA believes that development of the southeast area of Ellington Field for aviation-related industry is speculative. Moreover, as stated in the Draft EIS, FAA could release the property at issue (which would allow the Proposed Action to be built) if the City of Houston requested that FAA change the Airport Layout Plan to accommodate construction of this route and the FAA determined that the requirements of 49 U.S.C. Section 47151 - 47153 had been met and decided to release the affected airport property from the City's grant obligations. Therefore, not withstanding FAA's current concerns, it is still possible that the Proposed Action could ultimately be approved and built.

In light of FAA's concerns regarding the Proposed Action and to satisfy the requirements of the CEQ regulations at 40 CFR 1502.14(e), SEA now designates Alternative 1C as the preferred alternative. As described in Chapter 2 of the Draft EIS, Alternative 1C is a modification of the Proposed Action based on SEA's consultations with the FAA and the City of Houston. SEA had

[14] CEQ guidance states that "Because the EIS is not the Record of Decision [ROD], but instead constitutes the information and analysis on which to base a decision, disagreements about conclusions to be drawn from the EIS need not inhibit agencies from issuing a joint document, or adopting another agency's EIS, if the analysis is adequate. Thus, if each agency has its own "preferred alternative," both can be identified in the EIS. Similarly, a cooperating agency with jurisdiction by law may determine in its own ROD that alternative A is the environmentally preferable action, even though the lead agency has decided in its separate ROD that Alternative B is environmentally preferable." CEQ, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, Question 14b, March 16, 1981.

requested that the Applicants develop Alternative 1C to address potential concerns associated with Ellington Field under the Proposed Action.

However, as all of the various Build Alternatives would result in generally similar impacts, none of which would be significant, SEA recommends that the Board find that all the other Build Alternatives - the Proposed Action, Alternatives 2B, 2D, the Original Taylor Bayou Crossing - are fully acceptable from an environmental standpoint, and should also be approved.

During the environmental review process, the City of Houston and others expressed concern about the proximity of the new rail line under Alternatives 2B and 2D to the City's Southeast Water Treatment Plant. Specifically, the City expressed concern that Alternatives 2B and 2D would create a risk of hazardous materials release adjacent to the Water Treatment Plant, cause vibration impacts, and impede plant expansion. After carefully considering the matter in the Final EIS, SEA has concluded that construction and operation of either Alternative 2B or 2D would not impede the City's expansion plans, cause adverse vibration impacts or create an unacceptable risk.

SEA's analysis in the EIS also revealed that there are some factors which demonstrate that Alternative 2D would be preferable to Alternative 2B. Specifically, Alternative 2B would require the taking of some businesses along Genoa-Red Bluff Road, would be somewhat closer to other businesses, churches, and residences, and would potentially affect Harris County's proposed expansion of Genoa-Red Bluff Road. The Applicants have stated their preference for Alterative 2D over Alternative 2B.

Finally, the Original Taylor Bayou Crossing, would have certain engineering advantages, but would affect more Essential Fish Habitat than the other Build Alternatives.

In sum, SEA designates Alternative 1C as the Preferred Alternative, but recommends that the Board approve all of the other Build Alternatives, as well, thereby permitting Applicants to build any one of these routes.

2.2 ADDITIONAL MITIGATION MEASURES

The Draft EIS presented the Applicants' proposed voluntary mitigation, which included an extensive and comprehensive list of 76 mitigation measures. The Applicants have provided SEA with additional information regarding their voluntary mitigation. The additional information, in the form of a letter to Dana White dated April 10, 2003, clarifies several voluntary mitigation measures. The clarifying information is described in Chapter 3 of this Final EIS. The April 10, 2003 letter is included in Appendix D. The Applicants' 76 voluntary mitigation measures go beyond the mitigation that SEA would normally recommend to the Board, given the low level of potential impacts associated with the Proposed Action and Alternatives. The Board would only impose mitigation that is related to the impacts of the project and it is the Board's practice to mitigate impacts that result directly from a project. Therefore, SEA does not believe that extensive additional mitigation measures are required, in this case.

Since publication of the Draft EIS, SEA has identified four additional mitigation measures in response to comments received on the Draft EIS and developed during SEA's independent

environmental review. SEA recommends that the Board impose these measures along with the Applicants' voluntary mitigation measures, presented in full in Chapter 3 of this Final EIS. The additional mitigation measures include an arrangement between the Port of Houston Authority (PHA) and the Applicants with respect to rail operations along Port Road in the event that both the Bayport Loop Build-Out and the Bayport Channel Container/Cruise Terminal (Bayport Terminal) projects are approved and constructed. In response to concerns raised by Congressman Green and others regarding Houston's East End, a second mitigation measure augments the Applicants' VMM #38 and requires the Applicants' community liaison to be fluent in Spanish to facilitate communication with Spanish-speaking citizens. The third mitigation measure requires the Applicants to retain a third-party contractor to assist SEA in reviewing the Applicants' submittals under VMM #76 regarding habitat restoration, and as necessary, during implementation of this project, should the Board grant final approval. The fourth measure requires the Applicants to consult and work with the Galveston, Texas office of the NMFS to successfully create a 0.4-acre fringe of intertidal marsh along Taylor Bayou shoreline.

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CHAPTER 3
FINAL RECOMMENDED MITIGATION

This chapter presents SEA's final recommended environmental mitigation, which includes the Applicants' voluntary mitigation. These mitigation measures were developed after consultations with appropriate agencies, extensive environmental analysis, and consideration of mitigation suggested during the comment period on the Draft EIS. The mitigation measures address the environmental impacts of the proposed construction, operation, and maintenance of the Proposed Action and Alternatives, and would apply to any of the Build Alternatives. SEA recommends to the Board that it impose SEA's four mitigation measures and all of the Applicants' voluntary mitigation measures (VMMs) as conditions in the Board's final decision, if the Board gives final approval for the project.

3.1 SEA'S ADDITIONAL MITIGATION MEASURES

Since publication of the Draft EIS, SEA has identified four additional mitigation measures that SEA recommends to the Board. The first mitigation measure was developed by PHA in consultation with BNSF. The second mitigation measure augments the Applicants' VMM #38. The third mitigation measure ensures that SEA will continue to receive assistance from a third-party-contractor, if the Board grants final approval for the project. The fourth mitigation measure implements the NMFS's conservation recommendations for EFH and associated fishery resources.

SEA's new mitigation measures include the following:

1. In the event the Bayport Terminal project is approved and constructed, at the point in time that the average daily traffic (ADT) on Port Road east of SH 146 exceeds 7,000 vehicles per day, the Applicants will consult with the PHA to develop an operating plan to minimize interference with roadway traffic at the Port Road grade crossing during Port daytime operating hours. Pending consultation of the parties, the operating plan would to the extent consistent with BNSF's common carrier obligations, restrict rail operations across the Port Road grade crossing during Port operating hours (7:00 a.m. to 6:00 p.m.), except in unusual situations, such as derailments, severe weather, unusual customer needs, or in the event volume swings during peak demand periods cannot be accommodated during non-Port operating hours, in which case BNSF will provide advance notice to PHA and work with PHA to minimize adverse impacts. Notwithstanding the foregoing, in the event the operating plan causes BNSF service to become noncompetitive with other rail service on the Bayport Loop or otherwise results in unreasonable interference with BNSF's joint operations with UP in the Bayport Loop area (i.e., crossings of UP right-of-way), BNSF may on advance notice to and coordination with PHA, revise its operating plan to the extent necessary.

2. In response to concerns raised by Congressman Gene Green and others, the Applicants' community liaison, to be established in accord with VMM #38, shall be fluent in Spanish to facilitate communication with Spanish-speaking citizens in the project area, particularly Houston's East End.

3. Should the Board grant final approval for this project, the Applicants will retain an independent third-party contractor to assist SEA in reviewing the Applicants' submittals under VMM #76 regarding habitat conservation and wetland mitigation site reporting, and as necessary, during implementation of this project.

4. To offset adverse project impacts to EFH, the Applicants will successfully create a 0.4-acre fringe of intertidal marsh along Taylor Bayou shoreline utilizing the same mitigation plan as proposed in the USACE Permit Application 22823. The Wetland Mitigation Monitoring and Success Parameters and figures depicting this plan are included in Appendix D of this Final EIS.

3.2 APPLICANTS' VOLUNTARY MITIGATION MEASURES

Since publication of the Draft EIS, the Applicants have provided additional information clarifying some of the voluntary mitigation measures that were presented in the Draft EIS. The Applicants have not changed the text of any of the voluntary mitigation measures that were presented in Chapter 6 of the Draft EIS. In the material presented by the Applicants, they refer to themselves as the Petitioners. However, in order to be consistent with this document, "Petitioners" has been changed to "Applicants."

The Applicants' clarification of VMM #3, VMM #12, VMM #38, VMM #61, and VMM #62 is presented in full below. The Applicants' letter to Dana White, dated April 10, 2003, which discusses this clarification, appears in Appendix D of this Final EIS.

VMM #3 – Emergency Response. It is BNSF's customary practice on its system network to provide a toll-free number that is staffed seven days a week, twenty-four hours a day to respond to emergencies. That emergency number is typically posted at grade-crossings and will be available to area residents and emergency-service providers in the event of an emergency. In addition to that emergency number, Applicants also included in this VMM an additional resource to the community – a contact, also available via a toll-free number, to provide information about project construction and operation as may be needed by emergency-service providers. This resource is not intended to supplant the emergency number, but rather to provide a non-emergency contact to facilitate the flow of information about project construction and operation.

VMM #12 – Coastal prairie habitat site. Applicants recently acquired this 24-acre site, and are negotiating with interested local stakeholders on the long-term management and maintenance of the site. Applicants anticipate that the property deed for this site will be restricted so as to preserve its conservation in perpetuity.

VMM #38 – Community Liaison. Applicants would like to clarify that staffing of the community liaison position will change depending upon whether the proposed rail line is under construction or during operations after the line is constructed. During construction, the community liaison will be either the project engineer or his designee as such individual will be able to address issues related to construction activities. Upon completion of the construction of new rail line, the community liaison will be either the General Manager of the Gulf Division or his designee as such individual will be able to address issues related to rail operations.

VMM #61 and 62 – Connection to the GH&H. Applicants intend to install a No. 15 power operated turnout on to the new rail line. In the case of Alignment 1, Applicants will replace the existing turnout to Graham siding with a power operated turnout. The new power operated turnouts will allow trains heading south on the GH&H to continue to move at track speed onto the new line without stopping. This will eliminate the need for the train to stop before the turnout, reducing the amount of time that any crossing of the GH&H near the turnout is blocked.

Below is the full list of the Applicants' voluntary mitigation measures, which also appeared in Chapter 6 of the Draft EIS. The Exhibits referenced in the voluntary mitigation measures below are available in Chapter 6 of the Draft EIS.

SAFETY

Grade-Crossing and Speed

1. Applicants shall consult with appropriate Federal, State, and local transportation agencies to determine the final design and other details of the grade-crossing warning devices. Implementation of all grade-crossing warning devices on public roadways shall be subject to the review and approval of the Texas Department of Transportation (TxDOT) and Harris County (see Table 1). Applicants shall consult with appropriate Federal, State, and local transportation agencies to determine the final design of grade separations on the new rail line.

Table 1 – Proposed Highway/Rail Grade-Crossing Mitigation

Roadway	Type of Crossing	Warning Device
Space Center Boulevard	Grade-Separated	N/A
Red Bluff Road	Grade-Separated	N/A
Bay Area Boulevard	At-Grade	Active Warning Devices
SH 146 accesses (2)	At-Grade	Active Warning Devices
SH 146	Grade-Separated (existing)	N/A
Port Road	At-Grade	Active Warning Devices
Old SH 146	At-Grade	Active Warning Devices

2. Applicants will limit the speed of the trains on the new line to 20 miles per hour.

Emergency Response

3. At least one month prior to initiation of construction activities in the area, Applicants shall provide the information described below regarding project-related construction of the new rail line, as well as any additional information, as appropriate, to fire departments and the Local Emergency Planning Commissions (LEPCs) for communities within the project area.

    - The schedule for construction throughout the project area, including the sequence of construction of public grade crossings and approximate schedule for these activities at each crossing.

- A toll-free number for Applicants' contact, who shall be available to answer questions or attend meetings for the purpose of informing emergency-service providers about the project construction and operation.

- Revisions to this information, including changes in construction schedule, as appropriate.

4. Before the start of operations, Applicants shall contact the LEPCs to provide them with information concerning the proposed operations to allow the LEPCs to incorporate the information into local response plans.

5. For each of the public grade crossings on the new and existing rail line, Applicants shall provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Regulations (23 CFR Part 655). The toll-free number shall be answered 24 hours per day by Applicants' personnel. At the Bay Area Boulevard crossing and the crossing of the northbound on-ramp to SH 146, where Applicants' right-of-way (ROW) is close to another rail carrier's crossing, Applicants shall coordinate with the other rail carrier to establish a procedure regarding reported accidents and grade-crossing device malfunctions.

Hazardous Materials Handling Issues

6. Prior to initiating any project-related construction activities, Applicants shall develop a spill prevention plan for petroleum products or other hazardous materials during construction activities. At a minimum, the spill prevention plan shall address the following:

   - Definition of what constitutes a reportable spill.
   - Requirements and procedures for reporting spills to appropriate government agencies.
   - Methods of containing, recovering, and cleaning up spilled material.
   - Equipment available to respond to spills and location of such equipment.
   - List of government agencies and Applicants' management personnel to be contacted in the event of a spill.

   In the event of a reportable spill, Applicants shall comply with their spill prevention plan and applicable Federal, state, and local regulations pertaining to spill containment and appropriate clean-up.

7. Applicants shall incorporate the new rail line into the existing BNSF Emergency Response Process.

8. Applicants shall continue the ongoing efforts with community officials to identify the public emergency response teams located in the project area and shall provide, upon request, hazardous material training.

9. Applicants shall continue ongoing efforts with NASA to facilitate emergency response plans for NASA facilities located in the vicinity of the new rail line.

10. In accordance with Applicants' System Emergency Response Plan, Applicants shall make the required notifications to the appropriate Federal and state environmental agencies in the event of a reportable hazardous materials release. Applicants shall work with the appropriate agencies such as the USFWS, TPW, and the TCEQ to respond to and remediate releases with the potential to affect wetlands or wildlife habitat(s), particularly those of Federally threatened or endangered species.

NATURAL/BIOLOGICAL RESOURCES

11. Subject to coordination with the USACE, TPW, and other appropriate Federal and state agencies, Applicants shall negotiate for the purchase of approximately 24 acres of bottomland hardwood habitat for conservation. This habitat will be acquired to mitigate for the impacts to riparian habitats of Armand Bayou and Big Island Slough at a ratio of 2 to 1 for the approximately 12 acres of bottomland hardwoods, and a ratio of 3 to 1 for the approximately 0.5 acres of gilgai wetland depressions.

12. To compensate for impacts to non-jurisdictional isolated wetlands associated with remnant coastal prairie habitat along the new line, Applicants shall purchase 24 acres of coastal prairie habitat including five to six acres of isolated wetlands for conservation and open space.

    Potential isolated prairie wetland impacts vary between approximately one acre for Alignments 1 and 1C to six acres for Alignments 2B and 2D. This mitigation will also serve to protect the remnant coastal prairie habitat and Texas prairie dawn (*Hymenoxys texana*) populations identified by the Applicants (see Exhibit 1).

13. Applicants have modified Alignments 1/1C and 2B/2D in the west portion of the project area to avoid all known populations of the Texas prairie dawn. Before construction, Applicants shall temporarily fence the Texas prairie dawn sites to prevent construction-related impacts.

14. If either Alignment 2B or 2D is selected for construction, Applicants will survey the route to determine if the northern caracará (*Caracara cheriway*) is nesting along the ROW. Should a northern caracara nest be located, Applicants will implement appropriate measures to reduce impacts prior to new rail line construction or the nest site will be removed during the non-nesting period.

15. Applicants will implement the current BNSF noxious weed control program during construction and operation of the new line. All herbicides used by BNSF shall have been approved by the Environmental Protection Agency (EPA).

16. During construction, temporary barricades, fencing, and/or flagging will be used in sensitive habitats and potential Texas prairie dawn habitat, as identified in Exhibit 2, to contain project-related impacts to the area within the construction ROW. Staging areas will be

located in previously disturbed sites and not in sensitive habitat areas such as bottomland hardwood or remnant coastal prairie (see Exhibit 2).

17. If any new populations of Texas prairie dawn are identified within the construction area, Applicants shall consult with USFWS and TPW.

18. Applicants shall, to the extent practicable, revegetate the bottom and sides of the drainage ditches using natural recruitment from the native seed sources in the stockpiled topsoil.

WATER RESOURCES/WETLANDS

19. To minimize impacts to Taylor Bayou, Applicants have changed the preferred alignment from Alignment 1 near SH 146 to Alignment 1B at Port Road in order to avoid impacts to 1.4 acres of tidal wetlands associated with Taylor Bayou (see Exhibit 2).

20. Subject to coordination with the USACE, Harris County, Armand Bayou Nature Center, TPW, and National Marine Fisheries Service (NMFS), Applicants shall address slope conditions and perform clean-up of areas impacted by debris historically dumped. This proposed effort will develop 0.4 acres of marsh wetlands east of Taylor Bayou to mitigate for impacts to approximately 0.35 acres of essential fish habitat adjacent to Taylor Bayou (see Exhibits 3A and 3B).

21. In the case where there is a potential for the railroad drainage ditch to influence wetland hydrology, Applicants shall construct low permeability clay berms (wetland berms as depicted in Exhibit 4) adjacent to the drainage channels that would be proximal to the isolated wetlands and the Texas prairie dawn populations. These berms would minimize the impact to surface water drainage from the proposed drainage ditch (see Exhibit 4).

22. Applicants shall install permanent rock check dams within their parallel drainage ditches within 1,000 feet of perennial waters to provide stormwater retention and filtration. Applicants shall maintain drainage ditches as permanent vegetated swales to provide stormwater retention and treatment. Removal of accumulated sediments shall be conducted only as necessary to maintain stormwater retention capacity and function (see Exhibit 5).

23. To minimize sedimentation into streams and waterways during construction, Applicants shall use best management practices, such as silt screens and straw bale dikes, to minimize soil erosion, sedimentation, runoff, and surface instability during project-related construction activities. Applicants shall disturb the smallest area possible around any streams and shall conduct reseeding efforts to ensure proper revegetation of disturbed areas as soon as practicable following project-related construction activities.

24. In order to control erosion, Applicants shall establish staging and lay down areas for project-related construction material and equipment at least 300 feet from jurisdictional waters and in areas that are not environmentally sensitive. Applicants shall not clear any vegetation between the staging area and the waterway or wetlands. To the extent practicable, areas with non-jurisdictional isolated waters will not be used for staging and lay down and will only be impacted when necessary for construction. When project-related

construction activities, such as culvert and bridgework, require work in streambeds, Applicants shall conduct these activities, to the extent practicable, during low-flow conditions.

25. During construction, Applicants shall require all contractors to conduct daily inspections of all equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, Applicants shall require the contractor to immediately remove the equipment from service and repair or replace it.

26. Applicants shall design all project-related drainage crossing structures to pass a 100-year flood. Applicants shall construct the new rail line in such a way as to maintain current drainage patterns to the extent practicable and not result in new drainage of wetlands.

27. Applicants shall coordinate with the TPW and Harris County to establish a mowing and maintenance plan for the railroad drainage ditches which will balance water quality benefits with the storm water flow characteristics of the ditches.

28. Applicants shall employ best management practices to control turbidity and disturbance to bottom sediments during project-related construction of Applicants' bridge over Taylor Bayou.

29. Applicants shall ensure that any herbicides used in ROW maintenance to control vegetation are approved by the EPA and are applied by licensed individuals who shall limit application to the extent necessary for rail operations. Herbicides shall be applied so as to prevent or minimize drift off of the ROW onto adjacent areas.

30. Applicants shall coordinate with the local Floodplain Administrators (City of Houston, City of Pasadena, and Harris County Flood Control District) to ensure that new project-related stream and floodplain crossings are appropriately designed to minimize impacts.

31. During construction, Applicants shall prohibit project-related construction vehicles from driving in or crossing streams at other than established crossing points.

32. Applicants shall, to the extent practicable, ensure that any fill placed below the ordinary high water line of wetlands and streams is appropriate material selected to minimize impacts to the wetlands and streams. All stream crossing points shall be returned to their pre-construction contours to the extent practicable and the crossing banks will be reseeded or replanted with native species immediately following project-related construction.

33. Applicants shall obtain all Federal permits, including the Clean Water Act Section 404 and Rivers and Harbors Act of 1899 Section 10 permits, required by the USACE for project-related encroachment of jurisdictional waters of the U.S., including wetlands, prior to initiation of any project-related construction.

34. Applicants shall obtain a National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit from EPA for project-related construction activities.

35. Applicants shall obtain a Section 9 Bridge Permit from the U.S. Coast Guard for any project-related activities for construction of new rail bridges over Armand Bayou and Taylor Bayou.

LAND USE

General Land Use

36. Land areas that are directly disturbed by Applicants' project-related construction and are not owned by the Applicants (such as access roads, haul roads, and crane pads) shall be restored to their original condition, as may be reasonably practicable, upon completion of project-related construction.

37. Applicants shall require contractors to dispose of waste generated during project-related construction activities in accordance with all applicable Federal, State, and local regulations.

Community Outreach

38. Prior to initiation of construction activities related to this project, Applicants shall establish a Community Liaison to consult with affected communities, businesses, and agencies; develop cooperative solutions to local concerns; be available for public meetings; and conduct periodic public outreach. Applicants shall establish a Community Liaison to consult with businesses and agencies for a period of one year following start-up of operations on the new rail line. Applicants shall provide the name and phone number of the Community Liaison to mayors and other appropriate local officials in each community through which the new rail line passes.

39. Applicants shall continue their ongoing community outreach efforts by maintaining, throughout the period of construction of the new line, a website about the project.

Residential

40. Applicants' project-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties without the permission of the property owners.

41. In the unlikely event of any inadvertent damage, Applicants shall work with affected landowners to appropriately redress any damage to each landowner's property caused by Applicants' project-related construction activities.

Business and Industrial

42. Applicants' project-related construction vehicles, equipment, and workers shall not access work areas by crossing business or industrial areas, including parking areas or driveways, without advance notice to the business owner.

43. In business and industrial areas, Applicants' project-related equipment and materials shall be stored in established storage areas or on Applicants' property. Parking of Applicants' equipment or vehicles, or storage of materials along driveways or in parking lots, is prohibited unless agreed to by the property owner.

44. Applicants shall work with affected businesses or industries to appropriately redress project-related construction activity issues affecting any business or industry.

45. To the extent practicable, Applicants shall ensure that entrances and exits for businesses are not obstructed by project-related construction activities, except as required to move equipment.

State Lands

46. Applicants shall consult with the General Land Office (GLO) of Texas and TPW to coordinate an Easement Agreement for crossing State-owned waters, including Armand Bayou Coastal Preserve and Taylor Bayou.

Federal Lands

47. Applicants shall coordinate with NASA on an appropriate design for crossing NASA's private roadway leading to Ellington Field to ensure large, oversized objects may cross the rail line without unreasonable interference.

Utility Corridors

48. Applicants shall make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the proposed construction within its existing ROW or that cross its existing ROW. Applicants shall notify the owner of each such utility identified prior to project-related construction activities and coordinate with the owner to minimize damage to utilities. Applicants shall also consult with utility owners to design the rail line so that utilities are protected during project-related construction activities.

49. Applicants will use the services of a qualified pipeline engineering firm that is familiar with the project area to assist in the identification of the various pipeline crossings and to assist in the design of crossings as necessary for project-related construction activities.

GEOLOGY AND SOILS

50. Applicants shall limit ground disturbance to only the areas necessary for project-related construction activities.

51. During project-related earthmoving activities, Applicants shall remove topsoil and segregate it from subsoil. Applicants shall also stockpile topsoil for later application during reclamation of disturbed areas along the ROW. Applicants shall place the topsoil stockpiles in areas that would minimize the potential for erosion and use appropriate erosion control measures around all stockpiles to prevent erosion.

52. Applicants shall commence reclamation of disturbed areas as soon as practicable after project-related construction ends along a particular stretch of rail line. The goal of reclamation shall be the rapid and permanent reestablishment of native ground cover on disturbed areas. If weather or season precludes the prompt reestablishment of vegetation, Applicants shall use measures such as mulching or erosion control blankets to prevent erosion until reseeding can be completed.

53. Prior to initiating project-related construction activities, Applicants shall consult with the local offices of the Natural Resource Conservation Service (NRCS), TPW, and TxDOT to develop an appropriate plan for restoration and revegetation of the disturbed areas (including appropriate seed mix specifications).

54. During construction activity, Applicants shall take reasonable steps to ensure contractors use fill material appropriate for the project area.

RECREATION

55. Applicants shall coordinate with the U.S. Coast Guard and TPW to provide adequate clearances for navigation of recreational boats on the Armand Bayou and Taylor Bayou at the location of any project-related construction of the Applicants' bridge across the bayous.

56. During construction, Applicants shall install warning devices to notify boaters of project-related bridge construction activities and the location of an Alternative navigation route.

57. To minimize impacts where the new San Jacinto Rail Limited (SJRL) line crosses a proposed bike trail at Red Bluff Road, Applicants shall coordinate with the City of Pasadena to modify the bike trail either by rerouting it under the Armand Bayou bridge or by building a crossing for the bike trail as part of the Red Bluff overpass.

58. If Applicants build any variations of Alignment 2, Applicants will work with the City of Pasadena to design and construct a new entrance to Pasadena's Golf Course to improve the ingress and egress of the entrance (see Exhibit 6).

TRANSPORTATION

59. To the extent practicable, Applicants shall confine all project-related construction traffic to a temporary access road within the ROW or established public roads. Where traffic cannot be confined to temporary access roads or established public roads, Applicants shall make necessary arrangements with landowners to gain access from private roadways. The temporary access roads shall be used only during project-related construction. Any temporary access roads constructed outside the rail line ROW shall be removed and restored upon completion of construction unless otherwise agreed to with the landowners.

60. Applicants shall work with Harris County to build grade-separated crossings at Space Center Boulevard and Red Bluff Road. The Space Center Boulevard grade separation is contingent upon approval of the FAA.

61. If Applicants build any variation of Alignment 1, Applicants shall install power switches at Graham Siding to minimize traffic congestion on the existing Union Pacific Railroad (UP) track (GH&H) and major highway intersections, especially around Ellington Field.

62. If Applicants build any variation of Alignment 2, Applicants shall install a power switch at the turnout on the GH&H to minimize traffic congestion on the existing UP track and major highway intersections.

63. Subject to the acquisition of trackage rights or trackage rights modifications that may be needed, BNSF will revise its routing for Bayport traffic flows between Bayport Rail Terminal through the City of Houston's East End in order to:

    - Bypass and avoid use of New South Yard;

    - Avoid reverse movements of Bayport traffic into and at T&NO Junction which affect local traffic at the intersection of Griggs and Mykawa Roads; and

    - Divert Bayport traffic away from a concentrated area of at-grade crossings on the East Belt between New South Yard and Polk Street (including avoidance of East Belt road crossings at Telephone Road, Lawndale, Pease, Leland, Bell, Clay and Polk Streets). Outbound trains containing Bayport traffic would run from the Bayport Rail Terminal to the GH&H line, interchanging to the East Belt trackage near Tower 85, for movement to Dayton Yard. Inbound trains destined to the Bayport Rail Terminal from Dayton Yard would operate over the same route.

AIR QUALITY

64. To minimize fugitive dust emissions created during project-related construction activities, Applicants shall implement appropriate fugitive dust suppression controls, such as spraying water or other approved measures. Applicants shall also regularly operate water trucks on haul roads to reduce dust.

65. Applicants shall continue to remain a party to and continue participation under Statement of Principles – Houston Galveston Ozone Non-attainment Area Railroad Program, December 4, 2000, addressing air emissions from train operations.

66. Applicants shall work with their contractors to make sure that construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.

NOISE AND VIBRATION

67. Applicants shall work with their construction contractors to minimize, to the extent practicable, construction-related noise disturbances near any residential areas.

68. Applicants shall use continuously welded rail (CWR) and rail lubricants, as appropriate, on the newly constructed line in order to reduce wheel/rail wayside noise.

69. Applicants shall work with the community and Harris County to install quad gates, or other supplementary safety measures, in order to provide the level of warning necessary to allow the community to request a waiver from Federal Railroad Administration (FRA) of the requirement to sound the horn if the crossing of Space Center Boulevard cannot be grade separated.

70. Applicants shall maintain project-related construction and maintenance vehicles in good working order with properly functioning mufflers to control noise.

CULTURAL/PALEONTOLOGICAL RESOURCES

71. Although no significant impacts should occur to cultural resources based on pedestrian surveys, the Applicants shall inform construction supervisors of the importance of protecting archaeological resources, graves, and other cultural resources and how to recognize and treat the resources.

ENVIRONMENTAL JUSTICE

72. Applicants shall continue to participate as a member of the East End Mobility Task Force to review transportation impacts on East End neighborhoods.

73. Applicants shall continue ongoing efforts with community officials to identify elementary, middle, and high schools within 0.5 miles of the rail line over which BNSF will operate between the Bayport Industrial District and Tower 30. Applicants shall provide, upon request, informational materials concerning railroad safety to such identified schools.

MISCELLANEOUS

74. During project-related construction of at-grade crossings, when practicable, Applicants shall provide for detours and associated signage, as appropriate, or maintain at least one open lane of traffic at all times to allow for the quick passage of emergency and other vehicles.

75. In undertaking project-related construction activities, Applicants shall use practices recommended by American Railway Engineering and Maintenance of Way Association (AREMA) and recommended standards for track construction in the AREMA Manual for Railway Engineering. Applicants shall maintain the track and provide for track inspection in compliance with FRA requirements under 49 CFR Part 213.

MONITORING AND ENFORCEMENT

76. With respect to the habitat restoration discussed in conditions 11, 12, and 20, Applicants shall submit to the Section for Environmental Analysis annual reports on the status of its mitigation during the period of construction through the first three growing seasons or until satisfactory restoration has occurred.

CHAPTER 4
COMMENT SUMMARIES AND RESPONSES

This chapter responds to comments on the Draft EIS and identifies where those comments led to any changes in the Draft EIS. Although the responses refer to SEA, the cooperating agencies participated in reviewing, summarizing, and responding to comments. SEA prepared the comment responses in accordance with CEQ guidance. CEQ guidance states that "an agency is not under an obligation to issue a lengthy reiteration of its methodology for any portion of an EIS if the only comment addressing the methodology is a simple complaint that the EIS methodology is inadequate. But agencies must respond to comments, however brief, which are specific in their criticism of agency methodology."[15] The guidance goes on to state that "if a number of comments are identical or very similar, agencies may group the comments and prepare a single answer for each group. Comments may be summarized if they are especially voluminous."[16]

SEA's responses clarify or correct information presented in the Draft EIS, explain and communicate government policy or regulations, direct commenters to information in the Draft EIS, or answer technical questions. Comments did not provide any data or analysis that alters the findings of the Draft EIS and SEA has not altered any of the conclusions in the Draft EIS in response to the comments.

Under each subject heading, an introductory summary describes in general terms the comments received on the Draft EIS for that subject. Commenters frequently submitted comments that addressed similar or identical topics. SEA grouped such comments together and for each subject either provides a summary of the comment or a series of direct quotes to illustrate the commenters' concerns. Each summary or series of quotes is followed by SEA's response. If the comment resulted in a change in the Draft EIS, an indication is provided at the end of SEA's response. Please note that no substantive comments were submitted addressing the sections of the Draft EIS on Energy, Navigation, and the Section 4(f)[17] analysis; therefore, discussion of these issues is not included in this chapter.

COMMENT HIGHLIGHTS

- Environmental Justice. SEA received many comments on environmental justice that focused on a mapping error in the Draft EIS. These comments alerted SEA to a mistake in the maps illustrating minority populations in the project area and corrected maps are presented in Errata. The error in presenting minority population data did not affect the conclusion of the Draft EIS, which was that the Proposed Action and Alternatives would

[15] CEQ, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, March 16, 1981. (46 *FR* 18026, March 23, 1981, as amended in 51 *FR* 15618, April 25, 1986)

[16] Ibid.

[17] Section 4(f) of the USDOT Act of 1966 (re-codified at 49 U.S.C. Section 303) provides for the protection of publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic sites.

have a negligible impact on environmental justice populations. In addition, while the mapping error caused maps in the Draft EIS to show the proportion of the population that is minority to be lower than is reported in the underlying Census data, the narrative in the Draft EIS clearly and correctly stated that the existing rail lines that the Proposed Action and Alternatives would use traverse minority and low income areas.

- Existing Conditions. SEA recognizes that many citizens have concerns about existing rail operations and grade crossing delay. Under NEPA, the Board is required to analyze and, if appropriate, develop mitigation to address the potential impacts of the Proposed Action and Alternatives. NEPA does not require a Federal agency to resolve community concerns regarding pre-existing conditions that are not a direct result of the Proposed Action and Alternatives.

- Indiana and Ohio Case. SEA received comments stating that the Board should deny the Applicants' petition based on a 1993 decision by the ICC, the Board's predecessor agency, concerning an application by the Indiana and Ohio Railway Company (I&O) to construct and operate a rail line in Ohio. The comments noted the ICC's denial of authority to construct a rail line because of significant safety impacts that could not be adequately mitigated. However, the Bayport Loop Build-Out case does not raise the type of safety concerns as the I&O case, and in the Bayport Loop Build-Out case SEA's final recommended mitigation is more than adequate to address the environmental concerns that have been raised.

- Board Mandated Use of the Strang Subdivision. Many comments suggested that if BNSF and UP cannot reach an agreement to allow BNSF to operate over UP's Strang Subdivision and Bayport Loop Industrial Lead to access the Bayport Loop, then the Board should force UP to allow BNSF to operate over these UP rail lines. More specifically, comments stated that the Board should use its terminal trackage rights authority in 49 U.S.C. 11102 to allow BNSF access to the Bayport Loop over UP's Strang Subdivision. However, the Draft EIS correctly explained that in this proceeding, the Board does not have the authority to grant trackage rights over the UP lines into the Bayport Loop or to force BNSF and UP to negotiate trackage rights. It is well settled that terminal trackage rights, under 49 U.S.C. 11102, are remedies only for anti-competitive practices, not just to restructure rail lines to achieve perfect competition (Midtec Paper Corp. v. United States, 857 F.2d 1487 (D.C. Cir. 1988)). Here there has been no showing of anti-competitive behavior on the part of UP. Thus it would be inconsistent with the Board's interpretation of its power to impose terminal trackage rights relief under section 11102 in this case. (See Midtec Paper Corp. v. CNW, 3 I.C.C.2d 171 (1986), aff'd by the court in Midtec, specifically applying the Board's new competitive access rules to requests for terminal trackage rights under 49 U.S.C. 11102.)

- Rail Traffic Volumes. SEA received comments stating that the current volume of rail traffic on existing rail lines is larger than indicated in the Draft EIS and that the volume of rail traffic over the proposed new rail line would be greater than the average of two trains per day stated in the Draft EIS. SEA reviewed the comments and concluded that the comments did not support the assertion that there is better or more appropriate information on current train traffic than the information SEA used in the Draft EIS. Similarly, the comments did

not support the assertion that two trains per day is not a reasonable estimate of foreseeable traffic on the proposed new rail line. Thus, nothing in the comments regarding rail traffic volumes leads SEA to alter the analysis or conclusions in the Draft EIS.

- Land Use. Many comments contended that the Build Alternatives would have an adverse effect on land use. Comments asserted that the Build Alternatives would conflict with future residential development north of Clear Lake City. Comments also speculated that the Build Alternatives would induce heavy industrial development. However, as the Draft EIS indicated, while there are no known plans for residential development north of Clear Lake City, and the oil and gas fields and 450-acre underground gas storage area have several years or more of useful life, homes (rather than industrial facilities) have been built in Clear Lake and other areas to the north and south adjacent to the GH&H line. Thus, SEA properly determined in the Draft EIS that heavy industrial development in the project area is not a foreseeable consequence of the Proposed Action based on the land development history in the area and development around railroads in general.

- Pipeline Safety. Comments on pipeline safety emphasized concern about possible pipeline accidents caused by rail construction and operation. Comments contended that there are many pipelines in the project area and that these pipelines could be easily damaged by construction or maintenance equipment or by derailments. In preparing the Draft EIS, and in further review of this issue in preparation of the Final EIS, SEA reviewed information on pipelines near the routes of all Alternatives and accident information available from the USDOT Office of Pipeline Safety (OPS), FRA, Railroad Commission of Texas (RRC), and other sources cited in the Draft EIS, and concluded that construction and operation of the Build Alternatives would have minimal impact on pipeline safety. Nothing in the comments leads SEA to alter that conclusion.

- Hazardous Materials and Security. Comments expressed security concerns and stated that the Draft EIS needed to address the potential for a hazardous materials release due to a terrorism event. Comments noted a variety of specific concerns, including the potential effects on residents and schools, Ellington Field, and the City of Houston Southeast Water Treatment Plant. Safety is a key consideration in the environmental review process for this proceeding, but there do not appear to be any security issues associated with the Proposed Action and Alternatives that are separate and distinct from security issues facing the railroad industry generally. The Draft EIS describes many actions to enhance rail security that have been and are being taken by Federal agencies with jurisdiction over interstate rail transportation safety, including FRA and Transportation Security Administration (TSA), and the railroads. In addition to being unpredictable, an act of terrorism or sabotage would not be a natural or inevitable byproduct of approving the Applicants' petition. Nevertheless, the Draft EIS did evaluate and describe the potential consequences of a catastrophic event, regardless of cause, in which the entire contents of a loaded rail car would be released. Therefore, the consequences assessed in the Draft EIS encompass those of a terrorist event.

- Hazardous Materials Transportation Safety. Comments expressed concern that the Draft EIS understated risks from hazardous materials transportation and asserted that the Proposed Action and Alternatives would result in unacceptable danger to children and other residents and facilities, such as schools, Ellington Field, and the City of Houston Southeast

Water Treatment Plant. The Draft EIS examined the likelihood and possible consequences of a release of hazardous materials during rail transportation resulting from the implementation of the Build Alternatives and the No-Build Alternative. As the Draft EIS concluded, none of the Alternatives would change the type or quantity of hazardous materials moved by rail in the project area, and the change in route would have negligible impacts on hazardous materials transportation safety.

- Other Comments. Other comments raised questions and concerns about the NEPA process, the Board's review process, and impacts of the Proposed Action and Alternatives on air quality, water and biological resources, grade crossing delay and safety, rail operations safety, geology and soils, mitigation measures, and cumulative impacts. SEA considered these comments and has responded to them below.

COMMENT SUMMARIES AND RESPONSES

4.1 NEPA PROCESS

Comments on the NEPA process raised a range of issues including the public involvement process, the allegation that SEA used false information in the Draft EIS, SEA's objectivity, the need for a Supplemental EIS, the scope of the EIS, the number of cooperating agencies, and combining the Bayport Loop Build-Out EIS and the Bayport Terminal EIS.

4.1.1 Request for Extension of the Comment Period on the Draft EIS

Summary
Comments requested that SEA extend the comment period for the Draft EIS by an additional 45 days to allow full study, analysis, and input from all interested parties.

Other comments requested that the Final EIS be delayed until the Texas A&M University's Texas Transportation Institute (TTI) can complete its study on rail operating conditions in the East End of Houston.

Response
In response to a number of written requests for an extension of the 45-day comment period, SEA extended the comment period by 25 days to allow the public additional time to review and comment on the Draft EIS.

The TTI Study, entitled "Inventory of Railroad Operating Conditions in the East End of Houston," was issued in February 2003. The Study characterizes current rail-highway and rail-neighborhood conditions in Houston's East End. The Houston East End Rail Task Force Committee initiated the Study and BNSF and UP paid for the Study. The scope of Phase 2 of the Study includes assessment of the most problematic locations and potential mitigation for those sites based on consensus regarding current grade crossing delay, mobility, and quality of life issues.

SEA thoroughly assessed the potential grade crossing delay and safety impacts (see Section 4.4 of the Draft EIS). SEA met with TxDOT, which has regulatory jurisdiction over grade

crossings, to discuss the Proposed Action and Alternatives and consulted with them several times during the preparation of the Draft EIS. SEA did not receive comments on the Draft EIS from TxDOT. SEA reviewed the TTI Study, which characterizes existing conditions, and did not find any information in the study that would change the conclusions of the Draft EIS. Phase 2 is planned to focus on possible mitigation for conditions that already exist today. The Proposed Action would result in an average of two trains per day, which is a small change in rail traffic that would have a negligible effect on existing grade crossing delay and safety conditions. SEA does not believe it would be appropriate to delay the Final EIS until the completion of Phase 2 of the TTI Study.

4.1.2 Public Involvement

Summary
Comments asserted that the public has not had adequate opportunity to participate:

> "From an inconclusive Draft EIS to inadequately brief comment periods, it seems evident that the STB has demonstrated an insufficient level of concern for public opinion, and thus the public well-being."

> "Since the creation of the STB in January of 1996, and my having been in Congress since 1993 -- in 1996, it seems like the STB has exhibited little or no value on the comments of ordinary citizens. There is overwhelming public opposition to this project and there has been no effort by the STB to move -- it's always been moving in an expedited manner. And that's why when Congress convenes again at the end of this month, I intend to introduce legislation that will require the giving of a greater weight to local concerns. So it will be part of the panel's interests."

> "Our bill would require that local public concerns be taken into greater consideration than in the past when considering the public convenience and necessity standard and would require the STB to use a higher standard in addressing public comments when a proposal is in a residential area."

> "The public hearing held in Pasadena last night was anything but a Public Hearing. Employees of the applicant companies garnered most of the time before 9 PM speaking in favor of this project. Of course their jobs could have been in jeopardy if they dared to speak against such a ludicrous rail line proposal."

Comments expressed frustration at the advance sign-in process for the public meetings:

> "To have an advance sign-in works nicely for the private sector, for the corporate leader, for the corporate representatives. But if you're a regular person, it makes it real hard. You don't have time to do these kind of things."

> "As one fellow resident put it, the industry representatives knew how to play the game and how to get their names at the top of the speakers' list. Many community residents were frustrated and left long before they could applaud the residents who genuinely spoke for them."

"I thought the purpose of the Public meeting was to comment upon the DEIS. Few, if any, of the rail representatives spoke on the DEIS but spoke of lost jobs and the competitive disadvantage of the industries being served because of the control of Union Pacific. That is the fault of the Surface Transportation Board for approval of the division of the rail system several years ago, not the impacted homeowners."

"At the same time, until it was brought to their attention, no one along an existing rail line that would take this train 30 miles further into Houston was notified. That was completely ignored."

Response
The Board considers the entire environmental record, including the Draft EIS, the Final EIS, and all public and agency comments received, when it makes its final decision on whether to grant or deny approval for a project. In considering the entire environmental record, the Board may impose environmental mitigation, as appropriate.

As explained in Section 1.7 of the Draft EIS and Section 1.5 of this Final EIS, SEA has undertaken an extensive scoping and public involvement effort since widely distributing the Notice of Intent to Prepare an EIS on October 1, 2001. This has included informing public agencies, organizations, the press, and the public of the proposed project over the entire affected area. Over the course of SEA's environmental review, agencies and the public have had ample time to review project information, including the Draft and Final Scopes of Study and the Draft EIS. SEA held four scoping meetings in January 2002 and extended the scoping comment period by an additional 30 days to provide the public adequate time to explore alternatives to the Proposed Action and raise scoping issues. Similarly, SEA extended the comment period on the Draft EIS by an additional 25 days above the mandated 45-day comment period. SEA received over 600 written and oral comments on the Draft EIS.

SEA held public meetings for the Draft EIS on January 14 and 15, 2003. SEA requested that speakers register before the meetings by calling a toll-free number that was published in the notice informing citizens of the extension of the comment period on the Draft EIS. This notice was distributed to agencies and citizens and appeared in the *Federal Register* on December 20, 2002. Registration to speak was open to all callers to the toll-free number. Citizens could also register at the meetings, at the sign-in desk near the front door. SEA allowed elected officials the courtesy of speaking first at the public meetings, followed by other speakers in the order in which they registered. SEA and the cooperating agencies stayed until everyone who wanted to speak had spoken. Those who could not stay could submit their comments in writing. The CEQ Regulations do not require these public meetings, but SEA held them to provide even more opportunity for comment. Thus, SEA sees no basis to the claims that opportunities for public involvement were inadequate.

Summary
Comments requested that a meeting be held in Clear Lake.

Response
SEA held two public meetings on the Draft EIS within the project area: one at Cesar Chavez High School in Houston's East End, the other at the Pasadena Convention Center, which is

located near the center of the Build Alternatives. The Pasadena Convention Center is easily accessible from Clear Lake.

Summary
Comments stated that the Hispanic population has not been informed of this proposed project:

> "Many of these people are very poorly educated. Many of them don't have any education. They may not even be able to read in Spanish, and that is not an insulting comment to them. It is to say to you that I think you have misused your time. You have misused your opportunity to do something for the public, and you have ignored the majority of the population."

Response
Section 1.7 of the Draft EIS describes SEA's public involvement activities in detail, including efforts to inform the Spanish-speaking population. SEA's activities included providing public service announcements to several Spanish-speaking radio stations, providing a toll-free project hotline in Spanish, translating project information into Spanish and distributing several hundred copies to community groups and community leaders, translating the Final Scope and Executive Summary of the Draft EIS into Spanish, and employing a Spanish translator for the public meetings on the Draft EIS.

4.1.3 USEPA Region 6 Review of the Draft EIS

Summary
In accordance with its responsibilities under Section 309 of the Clean Air Act, NEPA, and the CEQ regulations for implementing NEPA, the USEPA Region 6 office in Dallas, Texas, reviewed the Draft EIS. USEPA stated that "the DEIS demonstrates the proposed action would have no significant impact on the human environment and would have negligible impacts in all other areas." USEPA classified the Draft EIS and Proposed Action as "LO," i.e., EPA has "Lack of Objections" to the Proposed Action.

Response
Comment noted.

4.1.4 Need for a Supplemental EIS

Summary
Comments stated that SEA should prepare a Supplemental Draft EIS because the Applicants provided false information about the number of minorities living along the existing lines. Comments stated that if SEA corrects the misrepresentations, SEA will deny the Proposed Action and Alternatives based on public safety reasons.

Comments stated:

> "I urge a Supplemental Draft Environmental Impact Statement (DEIS) be completed for the proposed San Jacinto Rail Project. The DEIS is filled with false information and

leaves to many unanswered questions. The Surface Transportation Board (STB) cannot make such an important decision of whether or not to grant this application without having the whole truth. The STB must reinitiate the review process, allowing a full, complete, and accurate analysis of the project. When this is complete, according to its own mandates, the STB cannot approve this proposed rail line. This rail project is extremely complex and the EIS has additional flaws that need to be corrected."

Response
The CEQ Regulations (40 CFR 1502.9(c)) list the following reasons for supplementing a Draft or Final EIS:

"Agencies shall prepare supplements to either draft or final EIS if:
(i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns; or
(ii) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."

A Supreme Court case (Marsh v. Oregon Natural Resources Council, 490 U.S. 360 (1989)) found that a Supplemental Draft or Final Impact Statement is not required every time new information comes to light, but only where new information provides a seriously different picture of the environmental landscape. Additionally, courts have found that a Supplemental Impact Statement was not required when circumstances claimed to be new were adequately discussed in the draft or final EIS or the environmental impacts of the new circumstances were minor or not significant. Nothing in the comments on the Draft EIS or SEA's further review shows serious error in the analysis or indicates that any potentially significant environmental impacts would occur as a result of this project.

Aside from demographic data, comments have not supported the assertion that the Draft EIS used incorrect information. Also, comments have not supported the allegations that the Applicants intentionally provided inaccurate data. As explained in detail in the responses to comments on environmental justice, SEA collected and analyzed the demographic data as part of the environmental justice analysis. The Applicants did not provide any demographic data to SEA. Appendix N of the Draft EIS contains all of the correspondence between SEA and the Applicants and indicates what information SEA requested of the Applicants and what information the Applicants provided in response. The correspondence, which indicates that the Applicants did not provide SEA with demographic data, is available in the Board's public docket. The parties of record, which include several of the parties commenting on the Draft EIS, were aware of the availability of this information before the Board issued the Draft EIS (see Board's December 2002 Decision denying motion to compel to obtain certain environmental materials supplied to Board staff by the Applicants). The Board noted that the environmental materials supplied to Board staff by the Applicants "are already in the public docket for this proceeding and, therefore, are publicly available in the Board's reading room, either in paper copy or on microfiche." The decision stated that "all of this correspondence will be included as an addendum to the Draft EIS, so" that "all other interested parties will have adequate opportunity to review and comment on the information after the Draft EIS is issued."

Comments have not supported the assertions that the Draft EIS was deficient due to inaccuracies and inconsistencies. As required under NEPA, SEA fully assessed the potential environmental impacts of the proposed project and independently reviewed all information supplied by the Applicants. Regarding comments about the Board's mandates requiring disapproval of the Build Alternatives, the Board does not have any mandates that require disapproval. Similarly, NEPA does not mandate an outcome. NEPA requires that agencies consider the potential environmental impacts of proposed actions subject to their jurisdiction.

Summary
Comments contended that SEA should prepare a Supplemental Draft EIS because of inaccuracies regarding the number of minorities affected by the Proposed Action and Alternatives.

Response
While the narrative of the Executive Summary, and Chapters 2, 3, and 4 of the Draft EIS correctly and clearly indicate that the existing rail lines associated with the Proposed Action and Alternatives traverse environmental justice communities, the minority population maps in Section 4.16.2 (Figure 4.16-1 on page 4-84 and 4-85 and Figure 4.16-3 on page 4-87 and 4-88) did not properly include a subset of the Spanish/Hispanic/Latino population. SEA described the proper approach for considering minority populations in Section 3.16-1 (page 3-78) of the Draft EIS, but made a mistake in calculating the minority population. However, the mistake in the data displayed in the maps in the Draft EIS does not change the conclusions of the Draft EIS. The Draft EIS indicates that the impacts from the Proposed Action and Alternatives would not be high and adverse. Therefore, under the Executive Order (EO) on environmental justice, SEA was not required to assess disproportionate impacts on environmental justice communities. SEA has corrected the minority population maps and the associated portions of the narrative in this Final EIS (see Chapter 5). Since the correction does not constitute significant new information relevant to the impacts of the project, a Supplement to the Draft EIS is not necessary.

Summary
Comments asserted that SEA should prepare a Supplemental Draft EIS because of the failure to apply the I&O case or chose a preferred alternative. Comments argue that the Draft EIS contained a flawed analysis of pipeline accidents and failed to adequately consider the effects of the additional air pollution on the East End, which is already overburdened with carcinogenic gases and fumes.

Response
The I&O case is an inappropriate comparison and precedent for the reasons discussed in the response to comments on rail operations safety. The choice of alternatives is discussed in the response to comments on the Proposed Action and Alternatives. The analysis of pipeline accidents is discussed in the response to comments on pipelines. The failure to consider the effects of the additional air pollution is discussed in the response to comments on air quality. As responses indicate, there is no need to prepare a Supplemental Draft EIS based on the CEQ regulations at 40 CFR 1502.9(c). The CEQ regulations do not require an agency to identify a preferred alternative in the Draft EIS.

4.1.5 Inaccurate Information

Summary
Comments alleged that a substantial amount of the information supplied by the Applicants was "disingenuous, incomplete, outdated." Comments stated that the "first maps that were provided to the Surface Transportation Board were at least 20 years out of date." Comments asked that if SEA is relying solely on information provided by the Applicants, SEA should review that information again and balance it with information from "a more neutral source." Comments requested that SEA determine whether the Applicants initially submitted a map to SEA that misrepresented the population density of the project area to look "like a West Texas open area instead of the tens of thousands who would be impacted by" the Proposed Action and Alternatives.

According to one comment, the Applicants "have participated in an effort to cover up the potential danger of bringing this project through the densely populated areas of Clear Lake and through Southeast Harris County. Their own internal document has confirmed the danger, when combined with knowledge of pipeline routes and utilities. They have presented misleading information about the dangers of transporting hazardous chemicals such as ethylene oxide, and have misled the STB and the public about their own safety statistics. SJR should be denied the requested permit to build, based on failure to provide accurate data in Filings, which, had they been forthcoming, would assure denial." The comment stated that SEA has to ensure that the information that it is using is "complete and accurate," and stated that, "There are laws against knowingly putting the public safety at risk, and the members of the Surface Transportation Board will be violating those laws if this permit is granted."

Response
Comments have not supported the allegations that the Applicants intentionally provided SEA with misleading, disingenuous, incomplete, and outdated data. SEA properly requested information from the Applicants and the Applicants supplied all of the information requested. SEA independently reviewed and verified all information supplied by the Applicants. Appendix N of the Draft EIS contains all of the correspondence between SEA and the Applicants and indicates what information SEA requested of the Applicants and what information the Applicants provided in response. The correspondence has been publicly available in the Board's public docket. The parties of record, which include several of the parties commenting on the Draft EIS, were aware of the availability of this information before the Board issued the Draft EIS (see Board Decision, December 2, 2002, denying motion to compel to obtain certain environmental materials supplied to Board staff by the Applicants). The Board noted that the environmental materials supplied to Board staff by the Applicants "are already in the public docket for this proceeding and, therefore, are publicly available in the Board's reading room, either in paper copy or on microfiche." The decision stated that "all of this correspondence will be included as an addendum to the Draft EIS, so" that "all other interested parties will have adequate opportunity to review and comment on the information after the Draft EIS is issued."

SEA reviewed all of the maps that the Applicants submitted during the environmental review and none of the maps misrepresented any characteristics of the project area. All of those maps have been available in the Board's public docket for public review.

Summary
Comments highlighted a bill that Congressman Green has introduced in the U.S. House of Representatives that would "require the STB to investigate if there is false or material information that would require automatic denial of an application if the information was intentionally provided."

Response
Throughout the environmental review process, SEA has independently verified all information submitted by the Applicants and none of it has been shown to be false or misleading.

Summary
Comments asserted that the project would not be approved if the EIS were truthful and accurate. Comments asserted that when the facts are presented, the Board would deny the project because of public safety.

Response
One of the underlying tenets of NEPA is to improve agency decision-making by assuring that the agency takes into account potential impacts on the environment. One of the main purposes of an EIS is to disclose environmental impacts that may result from implementation of a proposed action. Here, the Draft EIS concluded that no significant impacts would result from implementation of the Proposed Action or any of the Alternatives. SEA has thoroughly reviewed the information and analyses used in the Draft EIS and the comments on it and concluded that the determinations in the Draft EIS are valid. The Draft EIS did contain an error in the maps representing minority populations. However, this presentation error did not affect the conclusion that no significant impacts would result from the Proposed Action or Alternatives. SEA has fully analyzed and presented the facts relating to the project. The Board will consider the entire environmental record, including the Draft EIS and Final EIS when making their final decisions on this project. NEPA is a procedural statute that does not mandate an outcome. NEPA requires only that agencies consider the potential environmental impacts of their proposals. As the EIS shows, SEA has taken the requisite hard look at the environmental issues here.

4.1.6 Independent and Objective Analysis

Summary
Comments questioned whether the Draft EIS had been written by the Applicants. Comments challenged the conclusions in the Draft EIS that the Proposed Action and Alternatives would have negligible impacts.

Response
The Draft EIS was not written by the Applicants. Rather, SEA, the cooperating agencies, and SEA's independent third-party contractor prepared the Draft EIS, and it represents the results of independent analysis into the potential affects of the Proposed Action and Alternatives. Under NEPA, the environmental review process is informal and all-inclusive and depends on cooperative consultations with the Applicants as well as other agencies and other interested parties with expertise. Furthermore, the public had the opportunity to raise concerns about Applicant information during the EIS process in this case.

Summary
Comments asserted that Applicants are trying to push SEA to rush the completion of the EIS and that SEA is not adequately analyzing the effects of the Proposed Action and Alternatives.

Comments expressed concern that SEA did not take the"hard look" that is required under NEPA and suggested that SEA "reevaluate the assumptions on which they developed the DEIS in response to comments on the DEIS so that the very real public safety concerns of Houston residents are given full weight."

Response
The thorough Draft EIS is the result of a year's in-depth analysis. CEQ has stated that under the "NEPA regulations even large complex energy projects would require only about 12 months for the completion of the entire EIS process."[18] The Draft EIS complies with NEPA because it takes a comprehensive look at the environmental consequences of the Proposed Action and Alternatives. The analysis presented in the Draft EIS is extensive, particularly given the low level of rail traffic. Comments fail to recognize that this case involves a low level of traffic. The Draft EIS fully addresses safety. Railroads currently transport substantially greater volumes of hazardous materials than the amount that would be transported here through the project area and across the country on a daily, routine basis and have been doing so for decades. In short, in this EIS, SEA has undertaken a careful analysis of potential impacts over both proposed new rail lines and the existing rail lines in the project area, which supports SEA's conclusion that no significant impacts would result from the Proposed Action or Alternatives.

SEA and the cooperating agencies have independently verified all information submitted by the Applicants. In addition, SEA collected its own information and utilized relevant safety statistics and FRA data in the preparation of the analyses presented in the Draft EIS. The Draft EIS properly concluded that the public safety impacts from the Proposed Action or Alternatives would be negligible.

Summary
One comment stated

> "In the Project Context in Chapter 1, the DEIS suggests that the 'public interest' and comments in opposition to the rail line were directly related to and caused by public opposition to the PHA's proposed Bayport Channel Container/Cruise Terminal (the 'Bayport Terminal'). The DEIS implies that the 'several hundred' comments that were submitted before the scoping period came from people organized in opposition to the Bayport Terminal. DEIS at 1-5, § 1.5. While it may be attractive for the Applicants to dismiss the opposition to the rail line as a ploy to stop the Bayport Terminal ('Stop the Train, Stop the Port'), it is not the reality. The City is a case-in-point. The City supports the Bayport Terminal project, but has passed a unanimous resolution in opposition to the routes currently being proposed for the rail line. We are not using one

[18] CEQ, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, March 16, 1981.

project to defeat the other. Surely by now, after the testimony at the two public hearings, SEA realizes that opposition to the rail line stands on its own."

Response
The Draft EIS indicated that controversy over the nearby proposed Bayport Terminal already existed, and that this appeared to have generated more public interest than would normally be expected at that early stage in the NEPA process. Similarly, the Houston City Council passed the unanimous resolution opposing the Bayport Loop Build-Out without the benefit of having reviewed the analyses in the Draft EIS. Section 1.5 of the Draft EIS did not state that the Bayport Terminal proposal was the sole reason for opposition to the Bayport Loop Build-Out. Based on the concerns raised in the pre-scoping letters and other factors, SEA decided to prepare an EIS in this case, rather than a more limited Environmental Assessment.

Summary
Comments expressed concern over SEA's view of existing conditions in Harris County. One comment stated:

> "The DEIS correctly characterizes Harris County as 'at the center of one of the largest concentrations of plastics and chemical manufacturers in the U.S.' DEIS at ES-8. Houston is also accurately described as 'an important railroad center and . . . hub for freight traffic.' id. Indeed, the City seal on the letterhead under which these comments are presented prominently displays a locomotive. The attitude that underlies the DEIS and the analysis of impacts, however, appears to be that the Houston area is already so impacted by hazardous materials and rail lines that 'a little more won't hurt them.'"

The comment also suggested that SEA's analysis was subjective and that "to imply that another increment will not have an adverse environmental consequence on Houston surely constitutes 'piling on.'"

Response
Comments have not supported the assertion that the Proposed Action and Alternatives would have greater impacts than the Draft EIS determined. The Draft EIS is the result of SEA's independent analysis. The analysis presented in the Draft EIS is thorough and more far reaching than SEA has ever done before in a case involving a proposal with such a low level of potential rail traffic. SEA has undertaken a rigorous attempt to objectively analyze potential impacts, including cumulative impacts, over both proposed new rail lines and the existing rail lines in the project area. SEA's rigorous analysis concludes that no significant impacts would result from the Proposed Action or Alternatives.

4.1.7 Unbiased Decision

Summary
Comments questioned whether the Board would make an unbiased decision. As one comment stated:

> "The proposed additional line will cost $80 million to build, and this has been stated to produce 500 million in one year. That was published in the local press. Can we trust

that the decision will be made in an unbiased manner without the temptation of seeing profit motives or prosperity for the city, even if they pay -- the city pays the price of having safety and health risks for the population?"

Response
The Board is an independent, adjudicatory body with jurisdiction over certain surface transportation economic regulatory matters. The Board's decisions are unbiased because decisions are reached following an open process that allows all interested parties to present their views. The Board presides over a multitude of small and large cases, but does not benefit from the outcome of those cases.

4.1.8 Scope and Agency Involvement

Summary
Comments suggested that the scope of the Draft EIS was too narrow and stated that "it's almost as if the concerns that were raised by folks relative to the scope had really not been taken into consideration because the document didn't go out and reevaluate a lot of things that people said, especially the City, that we thought you should adjust the scope to consider."

Response
Comments did not provide any examples of issues raised during scoping that the Draft EIS did not address. SEA considered all comments submitted during the scoping comment period and the extension of the comment period in its preparation of the Final Scope of Study for the EIS (published in the *Federal Register* on July 19, 2002). This consideration included comments submitted by the City of Houston. The analysis in the Draft EIS includes all appropriate areas of concern raised during scoping, including the City's concerns. Furthermore, ample opportunity for public comment on all aspects of the Draft EIS was provided and this Final EIS considers and responds to the comments that SEA received.

Summary
Comments suggested that additional Federal agencies be included as cooperating agencies and expressed concern that the scope of the cooperating agencies' study is very limited:

"While the U.S. Coast Guard, FAA, and NASA are cooperating agencies and actions considered in the Draft EIS will or may include decisions by the Board and each of the three cooperating agencies, I respectfully request that the Board take action to include additional Federal agencies in assessing the proposed action and alternatives."

Response
Comments appear to be referring to the agency action descriptions in Section 1.6.2 of the Draft EIS, which make it clear that, while the Board is the lead agency in an environmental review of a rail construction project, other agencies with a role to play have the option of participating as a cooperating agency and using the Board's EIS to address their need for NEPA documentation. In this case, USCG, FAA, and NASA are acting as cooperating agencies, but SEA has also actively consulted with numerous other agencies during the EIS process. A list of these agencies is presented on page 10-1 of the Draft EIS.

4.1.9 Combine Bayport Loop EIS with Bayport Terminal EIS

Summary
Comments stated that a joint EIS should be prepared to address both the proposed Bayport Loop Build-Out and the proposed Bayport Terminal. Some comments stated:

> "This EIS has to be combined with the Bayport EIS. The cumulative impacts should be studied under the Council on Environmental Quality. Section 40, CFR, Subsection 1508.25 says that they have to be studied together because they are multiple pending proposals with cumulatively significant impacts adjacent to each other going on at the same time."

Other comments asserted that the Draft EIS "does not lawfully disclose the obvious potential future use of this rail line as a conduit for significant numbers of container cargo trains transiting to and from the Bayport area."

Response
As described in more detail in the response to comments on the Proposed Action, Section 2.2.1.2 (pages 2-9 to 2-10) of the Draft EIS describes why the Bayport Loop Build-Out and Bayport Terminal projects are not connected. SEA and the USACE, which prepared the Draft EIS for the proposed Bayport Terminal, consider the two projects to be independent of each other. In addition, the Applicants have submitted a verified statement that there are no plans to use the Proposed Action to provide rail service to the proposed port facility.

The cumulative impacts analysis, presented in Chapter 5 of the Draft EIS, analyzes the potential cumulative impacts from the Bayport Loop Build-Out and several planned or reasonably foreseeable projects in the area. SEA's cumulative impacts analysis in Chapter 5 of the Draft EIS considers the potential rail operations of the Bayport Terminal and reflects PHA's rail traffic projections. As SEA explained in the Draft EIS, it appears that there would be no significant cumulative impacts resulting from the proposed Bayport Loop Build-Out and these other projects, including the Bayport Terminal.

4.1.10 Board's Conditional Approval

Summary
Comments expressed concern that the Board was informed in writing and at hearings of problems associated with the project and yet, "in spite of this, they chose to give conditional approval to the project, stating that these problems would have 'minimal impact' on the area."

Response
The Board's practice in rail line construction cases is to consider the transportation aspects of the case in advance of completion of the environmental review and then to issue a final decision after the environmental review process is completed. The Board, following that practice here, granted preliminary approval for the project on August 28, 2002. As stated in the Board's decision, "the proposed exemption meets the statutory standards of 49 U.S.C. 10502. Following our practice in rail construction cases, this is a preliminary decision addressing transportation-related issues. We will not make a final determination, the exemption will not be effective, and

construction cannot begin, until after we have considered the potential environmental impacts associated with this proposal. We will make the exemption authority effective at that time, if appropriate, subject to any necessary mitigation conditions."

4.1.11 Board Conditions and Authority

Summary
Comments questioned whether the Board could guarantee the number of trains. "Can the STB guarantee that there will only be 2 trains a day on these tracks forever? Of course not."

Response
SEA extensively analyzed the levels of rail traffic produced by the shippers in the Bayport Loop to verify the Applicants' traffic projections. This analysis, discussed in Section 2.2.1.2 and in detail in Appendix C of the Draft EIS, included inspecting the Board's Waybill Sample and consulting UP on the numbers of rail cars and trains it operates each day in the Loop. SEA is satisfied that the Applicants' projection of an average of two trains per day is reasonable.

Summary
Comments suggested that the Board include a condition in its final decision that would deny access to the Bayport Terminal. "The Board concludes in the Project Context section of the Executive Summary that the Bayport Terminal and this project are not connected. That may be the case today, but is perceived to not be the case in the future. One can envision that once the line is built that additional business could be gained by extending the line to gain access to the Bayport Terminal. This project can be viewed as a stepping stone to the Bayport Terminal. It is suggested that the Board use it's authority to mandate in the final decision that access to the Bayport Terminal be forever denied. This decision would be similar to the Board's approval of the UP and SP merger that disallowed obtaining trackage rights over the Strang Subdivision. If the Board had the authority to approve this provision of the UP and SP merger, then the requirement that transportation from the Bayport Terminal cannot occur over the SJRL Build-Out to the Bayport Loop is certainly within the Board's authority."

Response
As described in more detail in the response to comments on the Proposed Action, Section 2.2.1.2 (pages 2-9 and 2-10) of the Draft EIS discusses SEA's analysis indicating that there are no plans to carry rail traffic from the proposed Bayport Terminal under the proposed Build Alternatives and it is unlikely to occur. PHA has plans to construct a rail line in UP's ROW alongside SH 146, to access the PTRA rail lines in the SH 225 corridor. Moving container traffic through the Bayport Loop would interfere with UP's current operations and BNSF's potential future operations. Nothing in the comments lead SEA to change that determination in the Final EIS.

If it were reasonably foreseeable that BNSF would serve Bayport Terminal through the Bayport Loop, SEA would have addressed those operations in the environmental review. However, SEA would not recommend that the Board permanently deny access in that situation because the Board does not have that authority.

Summary
Comments questioned the nature of the Board's consideration of opposition from elected officials and the public.

> "The STB is treating this project as a popularity contest, with the apparent winner being the group with the most money. Thus far, the Hearings and comments from the public, elected officials and affected cities have elicited nothing but opposition. Elected officials and cities do not oppose such projects, unless there is a substantial reason. The fact that SJR has been unsuccessful in ongoing efforts to get the support of elected officials should be a red flag to the STB. Elected officials have better things to do, than write letters and comments repeatedly, listen to constituents, and appear at Hearings. It is beyond comprehension that the STB can ignore City Council Members, Mayors, State Representatives, State Senators, and U.S. Congressional Representatives, who share the same message of opposition. What right does the STB or any organization have, to bend to the will of 4 companies, while ignoring the voices of many elected leaders and thousands of community members?"

The same commenter expressed the following opinion:

> "This most egregious abuse of power by the STB in the SJR DEIS, has forced the Congressman to begin efforts to enact legislation to project the neighborhoods being ignored by the STB."

Response
Neither SEA nor the Board have ignored the comments and concerns raised by elected officials and the public. SEA has given careful consideration to all comments received during the scoping process and during the comment period on the Draft EIS, as well as the concerns raised at the public meetings. In issuing its final decision, the Board will consider the entire record, including the Draft EIS, the Final EIS, and all public and agency comments received.

Summary
Comments referenced and attached a copy of the proposed Surface Transportation Board Reauthorization Act of 1999 and suggested that the Board could use its authority to resolve issues of excessive rates and competition and stated that "there are many laws the STB could use" to accomplish this goal. The comment continued by stating that the Board "should know or should find out the full breadth of its legal oversight capability. If the STB believes its function is to simply rubber stamp requests by railroads, they should resign, because putting public safety last is not what the STB was designed to do."

Response
The attachment provided by the commenter is draft legislation introduced in 1999. The draft legislation never passed and, therefore, has no effect on the Board's actions and activities. The proposed legislation would have altered the Board's authority over anti-competitive practices and anti-trust protections for rail carriers. Anti-competitive practices would not have to be proved for the Board to order rail carriers to enter into reciprocal switching agreements if they are necessary for competitive rail service. New exposure to anti-trust laws and Federal Trade Commission enforcement would further ensure competitive actions by rail carriers.

4.1.12 Need for Cost-Benefit Analysis

Summary
Other comments called for a cost-benefit analysis of the proposed rail line.

Response
NEPA does not require agencies to prepare a cost-benefit analysis for a proposed project. The CEQ regulations (40 CFR 1502.23) state:

> "For the purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations."

4.2 PURPOSE AND NEED

4.2.1 Current Costs of Shipping

Summary
Comments contended that the argument that the rail line will lower costs is an unconvincing reason to build the proposed rail line, and suggested that the Bayport Loop chemical companies have been profitable under the present cost structure for many years.

Comments supported the proposed rail line, and suggested that the competitive rail service would significantly reduce the cost of shipping.

Comments stated that competing chemical companies have joined with each other and BNSF to bring rail competition to the Bayport Loop because the current rail transportation rates are excessively high and often twice as much as plants with competitive rail options. The comments stated that "these are particularly difficult times for chemical manufacturers. Increasing costs and weak demand over the past several years have led to significant changes in how" plants are run. The Partners have cut costs in many ways, and the only area remaining is rail transportation costs. "Decades of negotiations have not changed the reality that captive shippers are charged rates far in excess of shippers who have competitive alternatives." The Partners "would not have proceeded with this costly and controversial decision if other options existed..."

Comments noted that a chemical company with facilities that were captive to UP rail service almost built a railroad, but did not do so because UP lowered their rates.

Comments stated that there is no reason UP will agree to lower its rates until there is a viable alternative like the Bayport Loop Build-Out. The Partners "have tried numerous times to get better rates from UP to no avail."

Response
Chapter 1 of the Draft EIS discussed the purpose and need for the Applicants' proposed project. The purpose is to provide competitive rail access to shippers located within the Bayport Loop and the Applicants have stated the need for lower rates.

4.2.2 Effect on Competition

Summary
Comments stated that the basis for this project goes back to the 1996 CMA agreement, which was designed to preserve competition. (CMA was the Chemical Manufacturers Association which was recently named the American Chemistry Council (ACC).) The proposed Bayport Loop Build-Out is the kind of project envisioned by the CMA agreement, which was drafted when SP was the only railroad serving the Bayport Loop and was merging with UP. CMA was concerned that the merger would eliminate the opportunity for another railroad to construct a line to serve the captive plants. BNSF signed the CMA agreement, and the Board made the agreement a permanent condition of the UP/SP merger.

Response
As indicated in Section 1.1.2 (page 1-2) of the Draft EIS, the Board's final decision in the 1996 UP/SP merger stated that as a condition of the merger approval, the Board used its authority to grant BNSF trackage rights over certain UP and SP rail lines to the extent required to replicate the competition that was lost when SP was absorbed into UP in the merger. The Board's decision included a provision that trackage rights would be granted to BNSF to ensure access to a competitive build-in or build-out.

Summary
One comment stated that it seems that BNSF shippers will still be "captive" to the UP for trackage rights and transportation rates to the Dayton Yard once the BNSF trains leave the proposed Bayport Loop Build-Out. "Will that alleviate constraints, open competition and address the 'one rail' service option?"

Response
BNSF already has trackage rights on some of those lines and the UP/SP merger decision contained provisions for trackage rights for the purpose of reaching a build-out or build-in to provide competition. The Board regulates the provision of trackage rights and there are statutory mechanisms in place to ensure reasonable rates.

Summary
Comments stated that the Applicants would not invest $80 million building a new rail line for only two trains per day.

Other comments explained that the projected $80 million cost is more than justified assuming projected traffic levels of two trains per day on average. "Based on BNSF's experience in marketing this type of traffic in competition with the UP, BNSF is confident that along with the shared investment of the Partners' contribution to the project, the proposed $80 million in capital is more than justified assuming their traffic levels."

Response
As indicated in Section 1.1.2 (page 1-2) of the Draft EIS, in the UP/SP merger decision the Board explained that a shipper need not demonstrate economic feasibility of a build-in or build-out proposal. In addition, Section 2.2.1.2 (page 2-9) of the Draft EIS explains how much rail traffic the Bayport Loop shippers generate. With two railroads competing for the traffic, two

BNSF trains per day is reasonable. The Applicants had to determine whether that volume of traffic justified the investment in a new rail line, and concluded that it did.

4.3 PROPOSED ACTION AND ALTERNATIVES

Many comments addressed the Proposed Action and Alternatives. Comments contended that the Applicants should pursue shared trackage rights, rather than build a new rail line. Other comments expressed concern that more than two trains per day will run on the newly constructed rail line, adding that the Applicants have provided no guarantee that will limit the number of trains. Other comments requested that the Final EIS consider safer and less disruptive routes, without providing any specific suggestions for alternatives. Several comments expressed opposition to specific alternatives, without providing substantiation or specific details.

Summary
Comments requested that the Board deny the request to build the proposed rail line and, if it is not denied, adopt Alignment 1 or 1C because it diverts the rail line from some of the Pasadena schools.

Response
The Board will consider all of the Alternatives, including the No-Action Alternative. As stated in Section 4.2 of the Draft EIS, SEA determined that the Proposed Action and Alternatives would pose a low risk to nearby communities for a hazardous materials release. As stated in Section 4.5 of the Draft EIS, there would be no adverse noise impact to the schools. As indicated in Section 2.1, SEA has designated Alternative 1C as the Preferred Alternative.

Summary
Comments stated that the Applicants worked to avoid and minimize adverse impacts through early planning and comprehensive site investigations. "Track alignments were selected to reduce impacts by using areas along existing utility corridors where land had previously been disturbed. Based on extensive field work, alignments were able to be modified to avoid many impacts."

Response
Comment noted.

4.3.1 Range of Reasonable Alternatives

Summary
Comments contended that the Applicants have refused to compromise or consider alternative plans.

Response
Chapter 2 of the Draft EIS, Proposed Action and Alternatives, indicates that the Applicants have considered a number of alternative alignments. As stated in Section 2.2.6 (page 2-17) of the Draft EIS, BNSF has approached UP regarding use of the Strang Subdivision. As the Applicants have indicated (Douglas Mathera, Lyondell, January 14, 2003 Public Meeting on the Draft EIS),

it is quite unusual for competing shippers to join with a railroad to propose a new rail line, and the Partners may not have proposed this expensive rail line if they had been able to negotiate better rates with UP.

Summary
Comments contended that if monopoly of commerce is the problem, it could be solved without building a new rail line. Comments asserted that the Board should force competitive rail service so that other railroads may use UP's existing tracks. Comments stated that the Board should compel UP to negotiate lower shipping rates with the Bayport Loop chemical companies. Comments recommended that an alternate route be selected that would connect to the existing UP track along Highway 146. The connection would be at the same transportation rates that are being established for the connection to the UP tracks along Highway 3. Building track 12 miles to the west to connect to UP track is not necessary when track could be built one half mile to the east to connect to the UP track.

Response
Competitive access to the Bayport Loop is governed by the Board's UP/SP merger decision. Section 2.2.6 (page 2-17) of the Draft EIS states that the UP/SP merger decision did not grant trackage rights to BNSF over UP's lines into the Bayport Loop (i.e., the Strang Subdivision and the Bayport Industrial Lead) or over the Bayport Loop itself. In this proceeding, the Board does not have the authority to grant new trackage rights over these lines or to force BNSF and UP to negotiate trackage rights. Moreover, while the Board does have the authority to impose terminal trackage rights when appropriate under 49 U.S.C. 11102, it is well settled that terminal trackage rights are remedies only for anticompetitive practices, not just to restructure rail lines to achieve perfect competition (Midtec Paper Corp. v. United States, 857 F.2d 1487 (D.C. Cir. 1988)). Here there has been no showing of anticompetitive behavior on the part of UP. Thus it would be inconsistent with the Board's interpretation of its power to impose terminal trackage rights relief under section 11102 in this case. (See Midtec Paper Corp. v. CNW, 3 I.C.C.2d 171 (1986), aff'd by the court in Midtec, specifically applying the Board's new competitive access rules to requests for terminal trackage rights under 49 U.S.C. 11102.)

Summary
Comments contended that the Board should permit construction of a competitive rail line parallel to the existing UP line or in the same corridor.

Response
As indicated in Section 2.3.7 (page 2-22) of the Draft EIS, the Applicants had previously considered an alignment along SH 225, near the existing UP Strang Subdivision ROW, but were unable to develop a reasonable and feasible route because a combination of engineering constraints and lack of ROW make the construction of such an alignment infeasible. SEA studied the area to independently verify the Applicants' determination and concluded that a reasonable and feasible route did not exist.

Summary
Comments asked that the proposed rail line be diverted from people and children.

Response
As explained in Chapter 2 of the Draft EIS, SEA has considered a reasonable range of alternatives, considering the existing rail network and potential environmental impacts.

Summary
Comments contended that the Applicants should build a bridge so the proposed rail line could be routed across the ship channel.

Response
The suggested route has not been presented in sufficient detail for SEA to determine whether it would be reasonable and feasible.

4.3.2 Proposed Action

Train Traffic Volume

Summary
Comments expressed general concern that there will be an increase in traffic volume from the current projection of two trains per day. Comments contended that the Draft EIS is able to conclude that the environmental impacts of virtually all of the Build Alternatives are negligible only by refusing to analyze the impacts of more than two trains per day. Comments asserted that neither the Applicants nor SEA have adequately demonstrated that this is a realistic estimate. Comments contended that in a year or two another two or three trains will have to be added, and in five years there will be 10 or 15 more trains. Comments asserted that the project is expected to double in five years. Comments contended that the Proposed Action involves two trains per day going out and two returning, which amounts to 48,180 cars per year, including 14,454 cars of hazardous materials. Comments asserted that the number will double in five years, totaling 96,000 additional cars per year. Comments stated that the Draft EIS indicates that Highway 3 rail traffic would increase by at least 66 percent and could eventually rise to more than 300 percent of current levels. Comments expressed concern that the potential increase in train traffic was not evaluated in the Draft EIS; therefore the impacts are understated.

Comments asserted that the traffic volume estimates are reasonable. Comments stated that BNSF estimates handling 33 to 66 loaded cars per day and an equal number of empty returning cars, which equates to two trains per day. Comments asserted that the total volume of traffic for all Bayport rail shippers, not just the Partners, is approximately 300 cars per day, or three to four trains per day. Comments contend that UP's traffic counts and the Board's public data confirm these numbers. Comments stated that BNSF's volume projections assume that BNSF would capture half of the traffic at Bayport, based on aggressive marketing actions. Comments explain that the length of trains may vary with volume swings, but the train count should not exceed two. Comments stated that the operating plans for the Bayport Terminal, which would handle the Applicants' trains at the Bayport Loop, do not exceed the daily average of one inbound and one outbound train. (As stated in Section 2.2.1.2 (page 2-8) of the Draft EIS, the Bayport Rail Terminal is a locally owned and operated rail enterprise storage yard west of the Bayport Loop that is unaffiliated with SJRL or BNSF.)

Response
As indicated in Section 2.2.1.2 (pages 2-8 and 2-9) of the Draft EIS, SEA determined that the estimate of two trains per day on average is reasonable. There are several sources supporting this conclusion. First, the Applicants' projection of capturing between 36 and 66 carloads per day equates to between 28 and 51 percent of total Bayport Loop traffic, based on the Board's Waybill Sample data (258 cars per day on average). Second, Appendix C (page C-1) of the Draft EIS explains that even if SEA used UP's 300 car per day average instead of the Board's Waybill Sample 258 car per day average, the Applicants could still handle the traffic with two trains per day on average. Third, the Applicants have indicated in information provided to SEA (see Appendix N of the Draft EIS, letter from the Applicants to SEA dated February 1, 2002) that the new rail line could not physically access all of the chemical plants that UP can access in the Bayport Loop. Fourth, the Applicants have indicated that even if BNSF could capture two-thirds of the market as UP suggested (see Appendix N of the Draft EIS, letter from the Applicants to SEA dated February 1, 2002, including an enclosure of the testimony of Joe Adams, UP Representative), that would equal 200 cars, and BNSF could handle that with two, 100-car trains. SEA did not analyze the impacts from 100-car trains because it is not reasonably foreseeable that on average BNSF could capture two-thirds of the traffic. The operation of 100-car trains would have similar impacts to 66-car trains. The main difference would be a slight, but negligible increase in delay at grade crossings.

Summary
Comments asserted that the number of trains and rail cars, and the percentage of which contain hazardous materials, is underestimated because the Draft EIS relies on erroneous assumptions. Comments asserted that even though SEA chose to do a more extensive analysis than the Board's regulations require, Applicants have an interest in minimizing the number of trains to avoid triggering the Board's environmental review thresholds. Therefore, SEA should have conducted more independent analysis. Comments contended that the Draft EIS's discussion of an increase in rail traffic capacity implicitly conflicts with the Draft EIS's conclusion that the effect of the increase in rail traffic is negligible.

Response
There is no conflict between the Draft EIS's statement that the proposed project would increase capacity in the Houston area, and the statement that an increase of two trains per day on average "would have little impact upon rail operations." As discussed above in a previous response, SEA used various sources to determine that the Applicants' train traffic estimates are reasonable.

Summary
Comments stated that the Draft EIS ignores the data provided by UP (See Appendix C of the Draft EIS, letter from UP to SEA dated November 7, 2002). Comments stated that the letter indicates the number of loaded and unloaded rail cars in the Bayport Loop averaged around 300 cars per day. Comments contended that the letter from UP stated BNSF has two-thirds of the business for chemical rail traffic along the Ship Channel (See Appendix N of the Draft EIS, letter from the Applicants to SEA dated February 1, 2002, including an enclosure of the testimony of Joe Adams, UP representative). Comments expressed concern that applying a hypothetical two-thirds proportion to the rail traffic in the Bayport Loop results in an average of 200 cars per day.

Comments stated that UP indicated peak traffic (400 rail cars) occurs approximately 25 percent of the time. Comments expressed concern that applying the two-thirds proportion to 400 rail cars would result in 268 cars per day of BNSF rail traffic. Comments asserted that 268 rail cars exceeds the 100 rail car capacity that the Applicants stated one train could carry (See Appendix N, letter from the Applicants to SEA dated February 1, 2002). Comments contended that SEA unreasonably disregarded the information and relied upon the Applicants' information, which is designed to avoid all regulatory triggers (See Appendix N of the Draft EIS, letter from the Applicants to ICF Consulting dated October 26, 2001).

Response
SEA did not ignore the November 7, 2002 letter from UP. In Section 3.1.2.2 (page 3-6) of the Draft EIS, the data supplied by UP is referenced; furthermore, Appendix C of the Draft EIS discusses SEA's review of UP's letter. In Appendix C (page C-1) of the Draft EIS, SEA explains that even if UP's 300 car per day average was used instead of the Board's Waybill Sample of 258 car per day average, the Applicants could still operate an average of two trains per day. The UP letter simply illustrates averaging. On some days there is much less traffic than the average and on other days there is much more. SEA's analyses are based on the average number of trains per day. Just as UP's traffic fluctuates over the course of a week, the Applicants would likely have days when no trains are operated and days when more than two trains are operated. However, based on the average daily traffic (ADT) in the Bayport Loop, the average of two trains per day is reasonable. The example of BNSF having two-thirds of the petrochemical traffic along the ship channel where BNSF competes with UP does not indicate that BNSF would likely capture the same ratio of traffic in the Bayport Loop. The amount of traffic that BNSF captures depends on negotiations with individual shippers, the rail lines in the Bayport Loop are configured differently than along the Ship Channel, and several railroads access the shippers along the ship channel (UP, BNSF, Tex Mex, and PTRA).

Effect of Train Counts on Analysis of Impacts

Summary
Comments contended that the approach in the Draft EIS is inconsistent with SEA's assertion that it focused on "worst case consequences," referring to Section 4.2.2.2 (page 4-13) of the Draft EIS. Comments asserted that instead of using "peak, short-term traffic loads, ultimate rail line capacity, and market and industry growth potential in the Bayport Loop and along the Build Alternatives," SEA used the "lowest possible estimate of traffic for the shortest period of time," which prevented the Draft EIS from "fulfilling its NEPA-mandated purpose of clearly articulating the impacts of the Proposed Action."

Response
Section 4.2.2.2 of the Draft EIS analyzes the worst case consequences from a release of hazardous materials. The estimated number of trains per day relates to accident frequencies, not consequences. Therefore, even if SEA had used a higher number of trains per day, it would not affect the worst case consequences. Nevertheless, SEA notes again that it used a reasonable estimate of ADT rather than the lowest possible estimate for the shortest period of time.

Logic of Train Count Calculations

Summary
Comments stated that even if the data SEA used are correct, the calculation of the number of trains is based on faulty logic. Comments stated that according to the Draft EIS, 258 cars currently pass through the Bayport Loop each day and the Applicants' projection of 36 to 66 carloads per day is reasonable because that would equate to between 28 and 51 percent of the total Bayport Loop traffic. Comments contend that the appropriate reasoning would be to state that the Applicants' estimate of capturing between 28 and 51 percent of the Bayport Loop traffic is reasonable, and therefore, the Applicants' projection of 36 to 66 cars per day is reasonable.

Comments state:

> "Nothing in the DEIS, however, including Appendices C and N, explains where the 28 and 51 percent figures come from. The DEIS does not provide (1) the data Applicants relied on to make this estimate; or (2) the analysis SEA applied to determine the reasonableness of the estimate. Thus, the conclusion that 36-66 cars per day are reasonable is completely without support. At a minimum, the baseline for this inquiry should include the current number of daily carloads from the four partners in the rail line expressed as a percentage of daily traffic. Because everything in the DEIS turns on the number of trains, it is inconceivable that more attention was not paid to this assumption."

Response
The comments are restating information contained in the Draft EIS, from the narrative and the submission of information from the Applicants (see Appendix N of the Draft EIS). The Applicants anticipate running an average of two trains per day, ranging between 36 and 66 cars per train. As Section 2.2.1.2 (page 2-9) of the Draft EIS describes, capturing between 36 and 66 carloads per day is reasonable because that would equate to between 28 and 51 percent of total Bayport Loop traffic. The data that the Applicants relied on to estimate the traffic is proprietary marketing information. The current number of daily carloads from the four Partners is also proprietary. However, twenty-eight percent of the traffic is reasonable because BNSF initially would serve the four Partners. Service also would be offered to other facilities in the Bayport Loop that could access the proposed new rail line. BNSF would not have access to all of the Bayport Loop chemical plants. For all of these reasons, BNSF expects to gradually increase its share of the Bayport Loop traffic and, over time, a market with two competitors would be split evenly, on average. The average number of trains per day would remain at two, even if the percentage of the market served by BNSF exceeds 51 percent, however, because each train can operate with up to 100 cars.

Summary
Comments stated that "the estimate of the number of cars per day either relies on faulty or 'fuzzy' math or is deliberately misleading" because it "unnecessarily flips between loaded cars (carloads) and cars." Comments contended that the math is faulty if the percentage is applied to the total number of cars (e.g., 129 instead of 258). Comments asserted that "the reality for the residents of Houston who will be impacted by this project is that this project proposes at a minimum between 72 and 132 cars per day on the rail line, not 36 to 66." (See Appendix N of

the Draft EIS, letter from the Applicants to the Board dated February 1, 2002, acknowledging the possibility of 100 cars per train. See also Table F.1-2 of the Draft EIS, showing 12.5 trains per day at the new grade crossing with Bay Area Boulevard.)

Response
The Draft EIS contains a sentence indicating that 258 cars is the total number of cars per day that the Bayport Loop generates. Whether the Draft EIS used the Applicants' carloads as a percentage of total carloads, or the Applicants' cars as a percentage of total cars, the percentages are the same. That is, 72 and 132 cars per day equate to 28 and 51 percent of 258. Section 2.2.1.2 (page 2-8) of the Draft EIS provides details on the volume of rail traffic. It states that the Proposed Action "would consist of one train in each direction with approximately 36 to 66 rail cars per train. The outbound train from the Bayport Rail Terminal would consist of an estimated two line-haul locomotives with 36 to 66 carloads (loaded rail cars) from the Bayport Loop. The inbound train would consist of an estimated two line-haul locomotives with approximately 36 to 66 mostly empty rail cars, with some carloads containing miscellaneous commodities for the industries in the Bayport Loop." The February 1, 2002, letter from the Applicants to the Board does not contain any language "acknowledging the possibility of 100 cars per train." That letter states that UP indicated that BNSF has two-thirds of the petrochemical traffic around the ship channel where BNSF competes with UP, which if applied to the Bayport Loop traffic of the 300 car per day average that UP attributes to the Bayport Loop, would equal an average of 200 cars per day for BNSF. The letter states that BNSF could handle that amount of rail cars with two, 100-car trains. Table F.1-2 in the Draft EIS, which shows 12.5 trains per day at the new grade crossing with Bay Area Boulevard, is a clerical error. The table indicates that all of the other new crossings would have two new trains per day. The Final EIS reflects the correct number of trains that would occur at that crossing which would be two new trains per day, instead of 12.5.

Influence of Outside Factors on Train Counts

Summary
Comments contended that the Draft EIS "fails to account for recognized planning principles in determining the number of trains." Comments asserted that an industrial area in proximity to a rail line is likely to generate rail traffic for transporting raw materials and product. Comments stated that a more appropriate analysis of the number of trains would take into account factors outside the Bayport Loop as well as the actual capacity of the rail line at ultimate build-out of the project.

Response
As discussed in the responses to the land use comments, building a new rail line does not automatically trigger industrial development. Given the substantial amount of vacant land adjacent to rail spurs in the project area and economic factors, it would have been speculative for SEA to develop train projections based on possible industrial development along the new line. This is particularly true because of the historical, as well as recent, residential developments along the GH&H rail line.

Factors Leading to Additional Traffic

Summary
Comments asserted that the Draft EIS should have considered 6 to 12 (or more) trains per day when analyzing the impacts of the proposed rail line. Comments contended that a second, lower cost carrier should be able to capture 50 to 75 percent of the current three to four trains per day, resulting in two to three trains per day. Comments expressed concern that "the number of plants located in the Bayport Loop has been expanding at nearly 20 percent per year." Comments contended that "additional traffic associated with the proposed Bayport Container Terminal must be considered."

Response
The comments did not provide SEA with substantive data indicating that the number of trains per day would be higher than two trains per day. Section 2.2.1.2 (page 2-9) of the Draft EIS indicates that the estimate of two trains per day on average is reasonable. Even at a higher market capture of between 50 and 75 percent of the Bayport Loop traffic, BNSF could still handle the traffic with an average of two trains per day. SEA is not aware of any information indicating that the number of plants located in the Bayport Loop has been expanding at nearly 20 percent per year. If the growth in the number of plants was 20 percent annually, SEA would have been able to verify new plant construction over the past eighteen months since preparation of the Draft EIS began. But no such plant construction has occurred.

Summary
Comments contended that there is no guarantee that two trains will be the limit; it could be many more. Comments expressed concern that the amount of train traffic might double in five years. Comments asserted that the potential impacts should be evaluated based on the capacity of the line, "rather than on a number for trains and cars that has been extrapolated out of a set of limited data by the application of tenuous assumptions." Comments expressed concern that "it will be too late to decide that the risks of hazardous chemical release are significant after the rail line is built when there are 15,000 to 70,000 cars of hazardous materials per year rather than the 1,500 to 7,000 included in the analysis."

Response
In reviewing the potential impacts of proposed actions, SEA undertakes careful analysis to ensure that it is using reasonable estimates of train traffic, including reasonably foreseeable increases in traffic. Comments do not support the assertion that the amount of train traffic would "double in five years." Further, it is not possible that BNSF could run "many more" trains out of the Bayport Loop because the Bayport Loop generates a limited amount of train traffic per day. To increase projected train traffic, BNSF would have to capture all of the rail traffic from UP (or develop significant additional sources of train traffic). Neither outcome is likely given this competitive market. Moreover, all of the existing affected rail lines are currently operating below capacity and have varying amounts of excess capacity. For example, Section 4.1.2.1 (page 4-2) of the Draft EIS indicates that the GH&H currently handles an average of 3.4 trains per day south of Tower 30 and an average of five trains per day between Tower 30 and Tower 85. Although the portion of the GH&H line between Tower 85 and Graham Siding is capable of handling at least 15 to 16 trains per day, the Bayport Loop does not generate that much traffic. Regarding the comment about 15,000 to 70,000 cars of hazardous materials rather than 1,500 to

7,000, Section 2.2.1.2 (page 2-9) of the Draft EIS indicates that the Board's Waybill Sample shows that an annual average of 9,350 hazardous materials carloads originated or terminated in the Bayport Loop in 1999 and 2000. Comments did not present any information to support what would cause such a dramatic increase in hazardous materials shipments. SEA properly relied on the Board's Waybill Sample as the best data available.

Accuracy of Hazardous Materials Estimates

Summary
Comments expressed concern that the percentage of hazardous materials will increase from the current proposed action (15 percent).

Response
Section 4.2.2.1 (page 4-8) of the Draft EIS explains that 15 percent represents the upper range (7,000 carloads) of what the Applicants estimate they can capture of the Bayport Loop hazardous materials traffic out of the total number of carloads that they would carry. Seven thousand carloads is 48 percent of the Bayport Loop hazardous materials shipments. Capturing approximately half of the market is a reasonable estimate for a market with two competitors.

Impact of Bayport Terminal

Summary
Comments contended that there will be an increase in train traffic due to the proposed Bayport Terminal.

Response
As indicated in Section 2.2.1.2 (pages 2-9 to 2-10) of the Draft EIS, SEA determined that there are no plans to connect with the proposed Bayport Terminal. PHA estimates that rail service would not occur until after 2012. The USACE, which prepared the Draft EIS for the proposed Bayport Terminal, considers the Bayport Loop Build-Out and the proposed Bayport Terminal to be two unconnected projects that have independent utility (i.e., they do not depend on each other for their feasibility). The Applicants have submitted a verified statement that there are no plans to connect the proposed rail line with the proposed Bayport Terminal and have made no commitment to provide rail service to the proposed port facility. The Applicants also have stated that their proposed rail line is designed for the movement and interchange activities of short chemical and hopper cars from the shippers in the Bayport Loop and that the proposed rail line would be incompatible with the movement of long double-stack container cars, which would likely be generated by the Bayport Terminal. The traffic coming out of the Bayport Terminal would not generate enough rail traffic to send full trains to the Ports of Los Angeles and Long Beach; therefore, PTRA would haul the Bayport Terminal intermodal cars north to Barbours Cut to pick enough cars to create a full train. BNSF would have no incentive to operate intermodal trains through the Bayport Loop, because such traffic would interfere with the movement of more lucrative[19] petrochemical traffic. BNSF would likely use the PTRA line to access the

[19] As the Applicants have indicated in information provided to SEA (see Appendix N of the Draft (continued...)

proposed Bayport Terminal more efficiently. Furthermore, with UP currently operating approximately ten trains per day inside the Bayport Loop and conducting switching operations at petrochemical plants, and the Applicants proposing to run switching operations through the Bayport Loop as well, moving even some of the proposed eight intermodal trains from the Bayport Terminal per day through the Bayport Loop would delay existing and proposed operations and likely lower the level of service (LOS) provided to the petrochemical shippers.

In addition, the PHA has indicated that it does not plan to connect the Bayport Terminal to the new PTRA line where the Bayport Loop Build-Out would cross the new PTRA line (at Port Road). To avoid the congestion issues discussed above, the connection would occur further south near Red Bluff Road. PHA has indicated that it has been considering the rail access for the proposed Bayport Terminal for a number of years and plans to access the Bayport Terminal by utilizing new tracks to be constructed in UP's ROW along SH 146. For all of these reasons, it is unlikely that there would be an increase in train traffic beyond the average of two trains per day projected for this project as a result of the Bayport Terminal project.

Summary
Comments expressed concern that competitive rail service and a new rail line would allow the shippers in the Bayport Loop to increase their production and would induce more companies to use rail as their method of transport, thereby increasing rail traffic. Comments stated that the Final EIS should address the impact of the numerous trains that will result from the Applicants aggressively pursuing additional business.

Response
The petrochemical industry is complex and predicting an increase in production or induced use of the new line is speculative. Three factors provide the best indicators of growth: the price of natural gas (which changes daily), which is a feedstock, i.e., a raw material for the petrochemical industry; the price of oil (which changes daily), which is also a feedstock; and the rate of global economic growth (also somewhat unpredictable). The petrochemical industry currently faces increasing pressure due to high natural gas prices ($5 per million BTU, which is a 33 percent gain in December 2002 alone), rising oil prices ($30 to $40 per barrel recently), and global economic slowdown. In some regions of the U.S., chemical plants are being shut down and capital expansions have been postponed (The Houston Chronicle February 28, 2003, "Natural Gas Prices Hit Residents, Firms Hard; No Relief Expected Amid Low Supplies, Cold Winter Weather;" Business Wire February 11, 2003, Houston, "IIR Industry Alert: Grassroot Chemical

[19] (...continued)
EIS, letter from the Applicants to SEA dated December 21, 2001), ICC and Board analyses indicate that chemical and plastics rail traffic is substantially more profitable than intermodal traffic. "The Structure and Scope of Railroad Maximum Rate Regulation" (ICC Feb. 1995) indicates that over 50 percent of chemical traffic, including plastics, has a Revenue/Variable Cost ratio in excess of 180 percent for traffic originating and terminating in Texas. "Rail Rates Continue Multi-Year Decline" (STB Feb. 1998) indicates that from 1982 to 1996, the Revenue per Ton-Mile (nominal) for chemicals increased by 1.1 percent. On the other hand, according to "The Structure and Scope of Railroad Maximum Rate Regulation" (ICC Feb. 1995), intermodal traffic had an average Revenue/Variable Cost ratio of less than 75 percent. "Rail Rates Continue Multi-Year Decline" (STB Feb. 1998) indicates that from 1982 to 1996, the Revenue per Ton-Mile (nominal) for intermodal decreased by 18.3 percent.

Plant Construction Forecast Slows Down,"). Because petrochemicals are used in such a large number of consumer products, their market is directly affected by overall global growth patterns. The growth scenario for petrochemicals is expected to improve by mid 2003. However, it is difficult to assess the overall petrochemicals market, because each chemical is in its own distinct market. Therefore, it is speculative to attribute increased production at existing Bayport Loop plants or construction of new plants to the Proposed Action and Alternatives.

As Section 2.2.1.2 (page 2-8) of the Draft EIS states, BNSF has indicated that they would aggressively pursue new business within the Bayport Loop and their projections of 36 to 66 cars per day account for traffic that they hope to capture in addition to the traffic generated by the Partners.

Summary
Comments contended that SEA should calculate the train traffic associated with the Proposed Action and Alternatives as two trains per day in each direction with 36 cars per train for a total of 144 rail cars per day. This equates to 51,840 rail cars per year. Thirty percent of 51,840 rail cars equals 15, 552 chemical cars each year. Within 5 years, using 66 cars per train equates to 264 rail cars per day. This equates to 95,040 rail cars per year. Thirty percent of 95,040 rail cars equals 28, 512 chemical cars each year. Comments assert that these train traffic numbers are limited to the Partner chemical plants and "partners acknowledge the potential for 20+ additional client chemical plants."

Response
As Section 2.2.1.2 (page 2-9) of the Draft EIS indicates, the Applicants have estimated that they would operate an average of one train in each direction per day, not two. The Applicants' estimates include the Partners' plants and additional plants. Therefore the comments have doubled the predicted level of rail traffic that would occur as a result of the proposal.

Summary
Comments asked that the Final EIS take into consideration the trains traveling to both New South Yard and the CMC Dayton Yard, not New South Yard.

Response
The Applicants modified their proposal and would route trains moving to and from the Bayport Loop only to the CMC Dayton Yard.

4.3.3 Alternative 1C

Summary
Comments contended that Baypoint is the closest neighborhood to Alternative 1C, with the proposed rail line coming within 200 feet of the Baypoint fence line. Comments stated that "Baypoint, which has 561 homes and several commercial sites, opposes Alternative 1C for the following reasons: public safety, noise, vibration, quality of life, and, of course, property values." Comments asserted that, in the I&O decision served July 23, 1993 (Finance Docket 31320), the ICC denied a proposed rail line construction and operation on the grounds of public safety, where "one of the findings in the decision stated that the rail line would pass within a

thousand feet of 470 homes and 220 mobile homes." Comments contended that the Board "should not even consider proposal 1C when precedents have been set back in 1993."

Response
Section 3.10.2.1 (page 3-68) of the Draft EIS states that Alternative 1C would come within approximately 550 feet of residences in Clear Lake City. As discussed in detail in the responses to rail operations safety comments in Section 4.4.4 of this Final EIS, there are several facts that distinguish the I&O proceeding from the proceeding under review here. One difference is that the decision in the I&O case was based on the extremely close proximity of the proposed rail line to homes (i.e., 25 feet), far closer than the 550 feet between Alternative 1C and Clear Lake City.

4.3.4 Alternative 2D

Summary
Comments asserted that the Applicants initially stated that they could not build proposed rail line north of Ellington Field because of the location of the City of Houston's Southeast Water Treatment Plant. Comments asserted that the Applicants recently asked the Houston City Council to sell land so that the rail line could be built north of Ellington. Comments contended that the Draft EIS does not adequately address where the rail line is going to be built.

Response
Comments suggesting that the Applicants prefer a northern route are not correct. The Applicants developed alternatives north of Ellington Field prior to and during the scoping process, and SEA analyzed two of those alternatives in detail. At the December 17, 2002 meeting of the Houston City Council Transportation, Technology and Infrastructure Committee, the Applicants indicated that if the City would cooperate, the Applicants would pursue Alternative 2D, which, along with Alternative 2B, runs north of Ellington Field. The Applicants have not changed their designated Preferred Alternative (i.e., the Proposed Action as described in the Draft EIS). Chapter 2 of the Draft EIS explains the development of the Alternatives in detail.

4.3.5 No-Build Alternative

Summary
Comments stated that if the existing UP Strang Subdivision has the capacity to handle the Bayport Loop traffic, there is no need to build a new rail line because BNSF could use that line. Comments urged BNSF and UP to develop an arrangement that avoids constructing a new rail line that would go near or through neighborhoods, businesses, parks and other vital facilities. Comments stated that UP "should be encouraged to allow - with proper and realistic compensation - BNSF the use of portions of UP's existing tracks and rights-of-way."

Comments stated that BNSF should use the rail corridor near SH 146 where UP has existing track because UP and BNSF are both members of the Port Terminal Railway Association (PTRA), a rail ownership association. Comments contended that this would allow neutral shipping to be "economically and safely" provided to all rail shippers. Comments asserted that BNSF should be allowed to use the PTRA rail line to the Strang Yard and subdivision because BNSF is a member of the PTRA. Comments expressed concern that "substantial taxpayer

money has already been spent (and will continue to be spent) to upgrade rail facilities along the LaPorte/Barbours Cut line to Strang by TxDOT, Harris County, and the Port of Houston Authority." Comments stated that "using the existing lines takes the traffic and hazardous chemicals along routes already established through neighborhoods that grew around the railways, not the other way around."

Response
The Draft EIS does consider the No-Build Alternative. The No-Build Alternative is described in Section 2.2.6 (page 2-17) of the Draft EIS and is analyzed throughout the Draft EIS. Section 2.3.5 (page 2-21) of the Draft EIS explains that while BNSF is a member of PTRA, legal agreements prevent BNSF from using the PTRA tracks to access the Bayport Loop. Similarly, PTRA cannot provide neutral shipping for UP and BNSF out of the Bayport Loop. Regarding the comment about the taxpayer money spent on rail facilities, the rail line funded with tax revenue is intended to reduce truck traffic by providing rail service to Barbours Cut. The legal agreements referenced above prevent BNSF from using that line to access the Bayport Loop. Regarding the comment that the existing Strang Subdivision is adjacent to neighborhoods that were developed after the rail was in place, the Proposed Action and Alternatives traverse areas that developed along the GH&H rail line (e.g., Clear Lake City and the other neighborhoods along State Highway 3), which carries hazardous materials from Texas City refineries.

4.3.6 Alternatives Eliminated From Further Study

Summary
The Draft EIS stated, "The STB cannot force UP to allow BNSF to operate over the Strang Subdivision." Comments responded with the following statement:

> "Although this may be true at this point, there are other avenues that the STB (the Board) can take to make a resolution occur to allow BNSF to travel over the Strang Subdivision that has not been discovered and in the next EIS, the STB should list some of those alternatives. It is stated in the 'ALTERNATIVES ELIMINATED FROM DETAILED STUDY' that 225 (SH 225) corridor routes were considered but they were unable to come up with a feasible alignment. It would be in the best interest of the community to know what those alignments were."

Response
Section 2.3.5 (page 2-21) of the Draft EIS describes the potential alignment along SH 225. Section 2.2.6 (page 2-17) of the Draft EIS explains that in this proceeding the Board does not have the authority to grant trackage rights over these lines or to force BNSF and UP to negotiate trackage rights.

4.3.7 Board Mandated Use of the UP Strang Line

Summary
Comments suggested that if an agreement cannot be reached between UP and BNSF to allow BNSF to use UP's Strang Subdivision and Bayport Loop Industrial Lead, the Board should force UP to allow a competitive rail service to use UP's existing trackage. Comments suggested that

the Board encourage an agreement between UP and BNSF that would involve sharing the existing rail corridor.

More specifically, comments stated that the Board ignores the power it has to solve the problem without building additional rail, citing Title 49, Chapter 111, Section 111.02 of the U.S. Code:

> "The Board may require terminal facilities, including main line tracks for a reasonable distance outside of a terminal owned by a rail carrier providing transportation subject to the jurisdiction of the Board under this part, to be used by another rail carrier if the Board finds its use to be practicable and in the public interest."

Comments contended that the law clearly gives the Board the "authority to force a negotiated settlement to end a monopoly when it is in the public interest to do so."

Response
Section 2.2.6 (page 2-17) of the Draft EIS explains that in this proceeding the Board does not have the authority to grant trackage rights over these lines or to force BNSF and UP to negotiate trackage rights. With respect to the request in the comments for terminal trackage rights under 49 U.S.C. 11102, it is well settled that terminal trackage rights are remedies only for anticompetitive practices, not just to restructure rail lines to achieve perfect competition (Midtec Paper Corp. v. United States, 857 F.2d 1487 (D.C. Cir. 1988)). Here there has been no showing of anticompetitive behavior on the part of UP. Thus it would be inconsistent with the Board's interpretation of its power to impose terminal trackage rights relief under section 11102 in this case. (See Midtec Paper Corp. v. CNW, 3 I.C.C.2d 171 (1986) aff'd by the court in Midtec, specifically applying the Board's new competitive access rules to requests for terminal trackage rights under 49 U.S.C. 11102.)

4.4 RAIL OPERATIONS AND RAIL OPERATIONS SAFETY

Several comments stated the belief that there already exists a significant amount of rail traffic, which will substantially increase with the operation of the Bayport Loop. Comments contended that operation of the rail line would result in negative safety impacts. Several comments expressed concern that the rail line would put children and the community at risk, without describing specific impacts. Other comments expressed concern about the possibility and safety impacts of derailments.

4.4.1 Rail Operations Existing Conditions

Summary
Comments highlighted BNSF's efforts to improve rail operations in the East End:

> "Lately we have been investing tens of millions of dollars to improve operations and capacity for the benefit of Houston terminal including the East End. One specific project in the Houston area worth noting is one that we completed last February. We invested $3 million to improve the tracks in our New South Yard, which is located near the corner of Griggs and Mykawa. This project along with some improvements Union Pacific has made on an adjacent track allows BNSF trains to get off the heavily used

East Belt without slowing down for through trains that previously had to wait their turn entering or leaving New South Yard. Trains now move more efficiently through the area, as evidenced by the reduction in the number of blocked grade crossings and the amount of time a road crossing is blocked."

Response
Track improvements have indeed been made by both BNSF and UP in the vicinity of New South Yard. The improvements allow trains to move more efficiently in the New South Yard area which, in turn, should reduce the number of times when trains will need to be held across the crossings on lines radiating into and out of the area.

Summary
Comments praised SEA's efforts to analyze baseline rail traffic in the Houston area:

"During scoping and the public meetings, commenters have raised questions about the accuracy of projected traffic levels on the new rail line. SEA conducted an exhaustive, independent analysis of baseline rail traffic and projected levels, gathering and comparing data from numerous third party sources, including from Applicants, the UP, the Board's Waybill Sample, direct field observations, and the TxDOT. After conducting this thorough research and technical comparison of data, which far exceeded the level of study normally conducted during NEPA reviews where the projected traffic does not exceed the Board's threshold, SEA concluded that '[t]he Applicants' proposal to operate two trains per day, on average, over the build segments of the Build Alternatives would have little impact on rail operations or rail operations safety because only one train would operate at a time.' Bayport DEIS at ES-10. The DEIS also observed the low risk associated with such traffic, given the small amount of hazardous materials (with the large majority of the partners' traffic being plastic pellets) and the low train speed of 20 mph. Bayport DEIS at ES-10. We fully concur with SEA's findings on all these issues and believe such findings are fully supported by the extensive environmental record in this proceeding."

Response
Comment noted.

Summary
Other comments suggested that SEA did not properly characterize the existing rail traffic in the area and stated that the TTI Study corrects misinformation used by the Board in determining the number of trains traveling through the East End area. "In its Draft Environmental Impact Statement, the STB only considers through traffic in determining the ADT count. The TTI study considers local moves, switching moves, and through traffic and subsequently, the average number of trains moving through these rail lines is much higher. The STB needs to consider this more accurate method of counting the number of trains."

Response
The train counts in the TTI Study are higher than the train counts in the Draft EIS. However, the Draft EIS train counts did include local moves, switching moves, and through traffic as well as light engine moves, i.e., locomotive moves without trains (see the UP letter to SEA dated

November 7, 2002, which included train counts and is included in Appendix C of the Draft EIS).[20] While the TTI Study does not indicate the type of trains that comprise the counts in the Study or the source of the train counts, the train counts that appear in Figure 16 of the Study come from the grade crossing table in Appendix C of the Study. Some of the counts match TxDOT train counts that SEA reviewed during the preparation of the Draft EIS. The UP letter to SEA, dated November 7, 2002, which UP copied to TTI, indicates that the TxDOT and FRA data tend to be based on the maximum number of movements over a segment and are, therefore, higher than the average daily train counts that UP provided to SEA. Section 3.1.2.2 and Appendix C of the Draft EIS explain that SEA reviewed various sources of operations data, including train count data that SEA requested from UP. While the TTI train counts appear to be based on TxDOT data that SEA also reviewed, the train counts that SEA used in the Draft EIS are based on consultations with UP, BNSF, and PTRA. UP stated that the data represented average daily operations and provided documentation in its November 7, 2002 letter to explain how it developed the train counts. SEA consulted with UP regarding these train counts, and confirmed the train counts with BNSF and PTRA for the UP lines that those railroads operate over. Therefore, SEA believes that UP's data are appropriate.

4.4.2 Rail Operations Impacts

Summary
Comments asserted that SEA had underestimated the number of trains using the GH&H line and that the line would reach capacity when the Bayport Loop and projected Shoal Point Container Terminal traffic are added.

> "My own personal experience tells me there are more than 3.4 trains a day. This is backed up by Texas A&M University's Texas Transportation Institute in a recent study that was presented to Congressman Gene Green this month. They have counted an average of 7 trains per day on the GH&H line. Even your Final Scope document (H32892) shows no fewer than 4 UP trains per day and up to 9 during 5 days of counting. Adding the projected Bayport Loop project (2) and the Shoal Point project (4) gives an estimated cumulative total of 13 trains per day on the GH&H line. This seems very close to your stated capacity of the GH&H line of 15-16 trains per day. If either project exceeds its projections, the capacity will be reached."

Response
As described above, SEA investigated average train numbers on all the rail lines that would be affected by the Proposed Action and Alternatives. This investigation involved conducting field surveys, researching the Board's Waybill Sample data, and consulting with UP, BNSF, PTRA, and TxDOT to determine average number of trains per day on each line. SEA believes that the train counts are based on the best available data and that Proposed Action and Alternatives would have a negligible effect on the capacity of the GH&H.

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[20] For the GH&H line, the TTI Study indicates seven trains per day on the GH&H and the Draft EIS indicates 3.4; for the GH&H between Tower 30 and Tower 85, the TTI Study indicates ten trains and the Draft EIS indicates five; for the East Belt between Tower 85 and Tower 87, and the TTI Study indicates 30 trains and the Draft EIS indicates 22.5.

In addition, SEA notes that trains over the GH&H have always been dependent upon seasonal traffic and the Port of Galveston. The average of 3.4 trains is an average over a year. Some days may experience nine or ten trains (such as during grain shipping season) while other days may experience only one or two trains. In addition, rail traffic to and from Galveston has recently been less than in some previous years.

4.4.3 Rail Operations Safety Existing Conditions

Summary
Comments questioned BNSF's safety record, stating that the DEIS depicts a low BNSF accident rate in terms of accidents/million train miles. "However, data indicates that the BNSF incurred $65.9 million in damages in the year 2000 and in the last six years have had over $300 million in damages."

Comments conceded that trains have fewer accidents per mile traveled than trucks, but alluded to FRA statistics that "show that hundreds of millions of dollars are spent each year on rail accidents, and that damages caused by BNSF wrecks, derailments, incidents are many millions of dollars each year, and are rising, not going down." Comments suggested that BNSF is "an accident waiting to happen" and that SEA's conclusion of a negligible rail operations safety impact "could not be further from the truth."

Comments also cited government studies that "confirm that rail accidents cause enormous damage, and hazardous cargo incidents (which are frequent) cause damages of catastrophic proportions."

Response
As described in Section 3.1.2.2 (pages 3-5 and 3-6) of the Draft EIS, the monetary reporting threshold for train accidents and collisions is $6,700 of damage. Very minor rail collisions, such as those which can occur in a rail yard, can generate $6,700 of damage. This low dollar figure ensures that a variety of accidents are reported to the FRA, ranging from the very minor to the very large. The related costs of these accidents are accumulated into annual totals. However, the metric that the FRA, (which is the Federal agency responsible for rail safety) uses to indicate the safety record of railroads is accidents per million train miles.

Reportable damage includes labor costs and all other costs to repair or replace damaged on-track equipment, signal systems, track structures, or roadbed. Very large accidents often involve the replacement or repair of numbers of locomotives and cars, and large segments of signal systems and track. The replacement costs are approximately $2,000,000 and $50,000 respectively for locomotives and freight cars. Replacement of signal systems and track could range up to $1 million per mile depending on the type of signal system and track originally installed. These large cost items in addition to the labor costs could quickly add up to significant amounts of reportable costs for accidents with considerable damage. For example, in Calendar Year 2000, BNSF reported over $23 million in damages for 13 reportable accidents that resulted in over $1 million costs per accident.

Given the range of reportable costs for train accidents and the fact that damage reported only covers railroad property, the FRA considers the number of accidents per million train miles to be a more accurate and appropriate measure of railroad safety.

Summary
Comments opposed the rail project because of perceived dangers to the community. The comments mentioned the presence of schools, including Cesar Chavez High School, near the existing rail lines. The comments stated that the school is sited "in a terrible location, where it's in harm's way for all the children."

Response
Appendix D of the Draft EIS provided an extensive analysis concerning the potential of a train accident and the likelihood of a hazardous materials release as a result of the proposed project. On a segment-by-segment basis, for the existing and Proposed Action and Alternatives, the potential consequences are described. In general, the increase in risk due to the proposed project and its alternatives is low for the potentially affected population and schools.

4.4.4 Rail Operations Safety Impacts

Indiana and Ohio Railway Construction and Operation

Summary
Several comments relied on a 1993 case before the ICC, the Board's predecessor agency, concerning an application by the Indiana and Ohio Railway.[21] Comments noted the ICC's denial of authority to build a new 2.9-mile line in that case because of significant safety and environmental impacts that could not be adequately mitigated, and suggested that the facts of the Bayport Loop Build-Out are similar to those presented in the I&O case.

Some comments pointed out that the ICC's decision was based on safety hazards to the community and questioned why similar concerns should not lead to the same result in Houston. Comments concluded that "if the location of the proposed railway is found to pose a threat to pubic safety that cannot be adequately mitigated, then the adverse public safety concerns must outweigh the transportation benefits of the proposed line," and the Board "should deny the request for construction of this line and follow the precedent that was laid out in Ohio."

Comments further stated that in the I&O case, "there were only a thousand people living within a thousand feet of the rail line," and compared it to the Bayport Loop Build-Out where, "we have over 20,000 people living within 1,320 feet of this proposed line, not to mention the 23 schools nearby that are much closer." Other comments provided a different estimation of the number of people living near the proposed Bayport Loop Build-Out:

> "based on 2000 U.S. Census data, over 1,600 people live within 1/4 mile (1,100 feet) of the proposed construction in this proceeding, and over 4,400 live within ½ mile. In

[21] Indiana & Ohio Ry. - Construction and Operation - Butler, Warren & Hamilton Counties, OH, 9 I.C.C.2d 783 (1993)

> Harris County, 43,153 people live within 1/4 mile of the existing tracks the proposal would operate over."

Comments asserted that SEA "did not analyze the proximity of persons and residences to the proposed route."

Other comments noted the differences between the I&O case and the Bayport Loop Build-Out case, (i.e., the fact that the Bayport Loop Building-Out is primarily industrial, that the potential environmental impacts associated with this project are expected to be minor, and that the moderate impacts can be effectively mitigated), and stated that SEA had adequately analyzed public safety and rightly concluded that there would be negligible impacts.

Comments highlighted other aspects of the I&O case:

> "there are some major differences between the proposed San Jacinto rail line and the Ohio rail line. First, in Ohio, there were 840 single-family homes and 320 mobile homes in the vicinity of the proposed line. The Ohio line would have passed within 1,000 feet of 470 single-family homes and 220 mobile homes which housed 2,100 people."

Other comments mentioned that I&O "was going to transport lumber, tires, and plastic," whereas the proposed Bayport Loop Build-Out "will carry hazardous materials."

Response

There are important differences between the I&O case and the Bayport Loop Build-Out case. The first and most important difference is in the level of environmental impact found for each project and the ability (or inability) to provide adequate mitigation. In the Bayport Loop Build-Out case, the EIS shows that each of the Build Alternatives would cause only moderate wetland, surface water, and biological impacts - all of which would be effectively mitigated by the railroad's proposed voluntary mitigation - and negligible effects on all other impact areas. In marked contrast, in the I&O case, the ICC denied the railroad's application because it found that the location of the new line "would create a threat to public safety that cannot be adequately mitigated."[22] Thus, the I&O case is markedly different from the Bayport Loop case.

Comments that focused on the number of persons within a given distance of the proposed line in Bayport, comparing it to similar figures in the I&O case, misinterpret the I&O decision. In that case, the area surrounding the proposed line had developed from a primarily rural landscape to a suburban community outside Cincinnati. The ICC's decision in the I&O case - that there was no way to effectively mitigate the potential safety impacts - was based on the extremely close proximity (i.e., as close as 25 feet) of the construction of the proposed new rail line to homes.

In contrast, for the Bayport Loop Build-Out, the Draft EIS explains that land uses along both the Proposed Action Alternatives and the No-Action Alternative include residential, agricultural, commercial, institutional, and industrial uses. Indeed, the new construction here traverses an

[22] See 9 I.C.C.2d at 783, 789-91.

undeveloped, nonresidential area and the only impacts to residential areas similar to those that occurred in I&O would occur on the GH&H line, over which BNSF already has trackage rights. In fact, the area surrounding both the new rail line construction and the existing GH&H rail line contains one of the largest concentrations of the chemical industry in the U.S., with chemical plants handling a wide range of chemicals, including hazardous materials, which are routinely shipped from these facilities by pipeline, rail, truck, and barge or ship. Given existing exposures in the project area to hazardous materials, pipelines, noise and vibration, and grade crossing delay and safety, SEA determined in the Draft EIS, that the proposed railroad line would have negligible environmental impacts.

Moreover, Congress has made changes to the Board's governing statute since the I&O decision. Under 49 U.S.C. 10901(c) as it exists today, the Board must authorize a rail construction "unless the Board finds that such activities are inconsistent with the public convenience and necessity." This permissive licensing policy establishes a Congressional presumption that a rail construction proposal is to be approved, thus conforming the rail licensing policy to the broader Congressional policy to promote "effective competition among rail carriers " and "reduce barriers to entry into . . . the industry." 49 U.S.C. 10101 (4), (7). Prior to 1996, 49 U.S.C. 10901 was less permissive and provided that the ICC needed to find that the public convenience and necessity permitted the construction of a proposed line.

Track Maintenance

Summary
Comments suggested that track maintenance costs would be cut, leading to an increased risk of derailment. The comment asked how track maintenance could be guaranteed.

Response
Section 3.1.1 of the Draft EIS describes the railroad safety regulations that the FRA enforces for common carrier railroads. It describes the railroad track safety standards (49 Part CFR Part 213) that BNSF is required to adhere to for the maintenance of the tracks within the project. FRA compliance requires that, track that permits freight train operations up to 40 miles per hour, must be inspected weekly, with at least a three calendar day interval between inspections. FRA conducts occasional unannounced inspections of track and at the same time reviews the carriers track inspection records to assure compliance with FRA track safety standards.

Rail Car Inspection

Summary
Comments expressed concern over the inspection of rail cars. Comments stated that FRA regulations require a designated inspector (a carman) to inspect cars when they are placed in a train in freight yards and terminals, but that the cars will be brought to freight yards from various locations within the project will have been inspected by train crews who are not qualified to inspect freight cars, not carmen.

Response
FRA regulations recognize that freight cars may be picked up at various locations where carmen are not assigned and on duty. To accommodate this possibility FRA regulations permit trained

train crews to inspect cars to a minimum set of standards that are enforced by FRA (49 CFR 215.13). These standards include inspection of various aspects of the car body, the possibility of an insecure coupling, overheated wheels or journal bearings, broken or extensively cracked wheels, brakes that fail to release, and other apparent safety hazards. Subsequently, when these cars are placed in trains, where carmen are on duty, the cars must be inspected to assure full compliance with the FRA railroad freight car safety standards.

General Safety Comments

Summary
Comments expressed concern over the proximity of the existing rail lines to homes and the dangers of children crossing under trains that are stopped at grade crossings.

Comments suggested that childrens' safety may be negatively impacted by any increase in any type of transportation traffic, whether it be car, truck, or rail.

Other comments suggested that locating a school near a rail line is safe:

> "This same train has been running for 26 years the other way. Pasadena just built a multimillion-dollar school where you can lean out the window and almost shake hands with the engineer. They must not be afraid of it. And I just can't understand why they're so afraid of this train when in 26 years, nobody has ever been hurt."

Response
Appendix F of the Draft EIS provides an analysis of the potential for highway rail grade crossing accidents along the proposed routes. Individuals who are casualties at crossings protected by gates, or other similar barriers that were closed when the individual went on the crossing or attempted to pass over, under, or between cars or locomotives of a train occupying the crossing were considered in that analysis. Also, law enforcement personnel and representatives of Operation Lifesaver, a volunteer rail safety association, usually cover the subject of risks regarding traffic, including grade crossings in school safety presentations. In general, the increase in risk of an accident is predicted to be low for this project.

Summary
Comments stated that a number of human factors were the cause of past accidents including engineer fatigue, training, literacy, and supervision of operation personnel.

Response
Human factor related accidents in the railroad industry, including BNSF, typically represent approximately one-third of all accidents that occur. Appendix D of the Draft EIS provided an extensive analysis of the potential of a train accident, from all causes, as a result of the proposed project. Although human factor accidents are the result of various circumstances and conditions, the FRA, through its oversight efforts, monitors and regulates this cause of train accidents as closely as the equipment and track caused accidents. In general, the analysis in Appendix D indicates a low potential for increased risk of an accident for all causes including human factor causes.

4.4.5 Rail Operations Safety Mitigation

Summary
Comments suggested limiting the times when trains can operate:

> "The Houston Independent School District is concerned for the safety of students and other citizens. Should this project be approved, it has recommended that every effort be made to ensure the safety of all who live in the affected area. It is also recommended that rail traffic occur at times other than when students are going to school or returning home from school."

Response
Comments did not provide any information to support the concern. SEA cannot consider mitigation for an issue without a basis for the analysis. An extensive analysis describing the potential for a train accident associated with the Proposed Action and Alternatives is located in Appendix D of the Draft EIS.

4.5 HAZARDOUS MATERIALS TRANSPORTATION SAFETY

Comments on hazardous materials transportation and safety centered on several topics. Comments stated opposition to hazardous materials rail cars moving through residential and school areas and expressed general concern about potential risks and health hazards caused by the presence and smell of hazardous materials. Comments expressed concern about the potential for derailments and subsequent chemical spills or explosions. Comments noted the proximity of the Water Treatment Plant, contending that a chemical spill would seriously threaten water supplies for the community. Comments also expressed concern that chemical spills of any size, even very small spills, could endanger plant and animal life. Further, comments expressed concern about terrorism. These comments stated that trains carrying hazardous chemicals could be bombed or hijacked by terrorists, thereby endangering schools, residential areas and Ellington Field.

4.5.1 Existing Conditions

Summary
Comments stated that the railcars used to transport ethylene oxide and propylene oxide are state of the art and are designed not to leak, regardless of whether they are being loaded, standing still, or moving along a rail line. Comments also noted that every railcar is rigorously inspected before it is loaded, while it is being loaded and again before it leaves the plant; and that similar inspections are conducted by the railroads along the route to the customers.

Response
Comment noted.

Summary
Comments stated that the GH&H line along SH 3 already carries hazardous materials just a short distance from seven schools, some less than two blocks from the rail line, including schools built

since 1999. Other comments noted that there are many schools in the area; many school children are within one mile of existing track; and that there are other schools near the Build Segments.

Response
Comment noted. Transportation of hazardous materials on the GH&H today is discussed in the Draft EIS (see for example Section 3.2.2.2 (page 3-14) of the Draft EIS). As noted in Section 3.2.1 (page 3-11) of the Draft EIS, there are no special regulatory requirements for rail lines to be a minimum distance from existing or proposed schools, and, as the comments note, these schools are already located near existing rail lines in the community.

Applicants' Historical Performance

Summary
Comments stated that more hazardous materials accidents occur in transit than during loading or unloading and suggested that trains should be required to take routes outside of the city. One comment claimed that improper loading causes many accidents to occur during transport and that the Partners were among the highest polluters in Harris County. Comments noted the position of the Partners on the Toxic Release Inventory for 2000, stating that their performance was alarming for a group that claims to be concerned about safety and the environment.

Comments stated that BNSF has a poor safety record with 485 train accidents in 2001, some including releases. Comments also requested a guarantee of their safety and stated the fact that the Partners have had no incidents since 1989 still represented an unacceptable safety record. Other comments stated that BNSF is one of the safest railroads in the U.S. with respect to the number of reportable derailments per million miles traveled.

Response
Information submitted with the comments that claimed most hazardous materials accidents occur in transit (as opposed to during loading/unloading or in temporary storage areas), actually show exactly the opposite, with only 13 percent of incidents occurring in transit in 2001. Consideration of hazardous materials shipment routing is beyond the scope of this EIS because it is a broad policy issue that does not result from the Proposed Action and Alternatives. As noted in Section 3.2.1 (page 3-11) of the Draft EIS, there are no Federal regulations on routing or setbacks.

As discussed Section 3.2.2 of the Draft EIS, the Toxics Release Inventory (TRI) provides information on existing conditions, such as the locations and types of hazardous materials production, use, and/or release to the environment. TRI data do not, however, help to describe the potential impacts of the Proposed Action and Alternatives. TRI emissions data include emissions from all sources, including permitted releases to air, surface water, injection wells, landfills, etc. As a result, the relationship between total emissions reported in TRI and emissions that might result from railroad operations is unknown.

Railcar contents, including hazardous materials, very rarely are involved as a cause of a rail accident. Rather, most rail incidents are caused by problems with the track, the signals and controls, human error, or the railcar itself and have nothing to do with the contents or loading of the railcar. (See FRA's "Railroad Accident and Incident Reporting System (RAIRS)" as noted in

Section D.3.1 of the Draft EIS.) Some so-called non-accident releases are related to overfilling or improperly sealing a railcar, but these are generally very small releases (leaks) that lead to very localized effects immediately along the tracks and usually do not result in any acute safety effects.

As extracted from the database on the FRA's Website, in 2001 BNSF had 623 accidents on all types of track nationwide, with 227 of these on main track. These accident statistics yield accident rates that were lower than the national average for railroad companies both for main track and all track. On a relative basis, BNSF would thus be considered to have a good safety record in the industry. (As a result, if SEA had used BNSF-specific accident data rather than national average accidents in the Draft EIS analysis, as shown in Table D.3-3 (page D-10) of the Draft EIS, the predicted numbers of accidents and releases would have been lower than those presented in the Draft EIS.)

Emergency Response Capabilities

Summary
Comments stated that the "railroads offer the City an agreement that they will not provide any HAZMAT equipment for a response to a hazardous chemical spill." Comments also claim that the Proposed Action proposes to shift the economic burdens of its impacts to the non-participants in the project.

Comments stated that there is only one HAZMAT unit in Houston and that the unit could not initiate a timely response and evacuation in the event of a hazardous materials incident. Other comments pointed out that there are existing HAZMAT and fire department capabilities in the project area. Comments questioned the adequacy of response time, including response involving spill clean-up or isolating water supplies and the ability of first responders to initiate proper notifications. Comments stated concern about confusion over which agency would take the lead in an emergency response situation. BNSF commented on its experience and success handling hazardous materials shipments and willingness to respond in the event of a release.

Comments stated that rail shipments should stay in the SH 146 corridor, which has existing emergency response capabilities, and stated that the emergency response requirements and the advantages of routing hazardous materials through existing industrial zones was not adequately considered.

Response
As discussed in Section 3.2 of the Draft EIS, a wide range of hazardous materials are produced, used and transported in Houston today. As discussed in Section 2.2 of the Draft EIS, the Proposed Action and Alternatives are not expected to change the types or quantity of hazardous materials transported by rail. The route would change, but the routes for all of the Alternatives evaluated, including the No-Action Alternative (i.e., existing conditions), would pass by the Houston Fire Department HAZMAT Response Units (located at Station No. 22 at 7825 Harrisburg near the intersection with 78th) on exactly the same rail line - the GH&H line. The comments did not provide data or analysis to support the contention that response times are inadequate.

As discussed in Section 3.2.3 of the Draft EIS, the capabilities for response to a hazardous materials incident in and around Houston are extensive. In addition to the Houston Fire Department capabilities, response capabilities include those of the East Harris County manufacturing facilities and fire departments, which are in close proximity to the Build Segments. In addition, as is standard practice for railroads and shippers, BNSF has stated that they are prepared to respond quickly with their staff and their contractors and that their shippers would also respond.

In addition, organizations responsible for emergency planning (e.g., Local Emergency Planning Committees (LEPCs), City of Houston Emergency Management Division, Harris County Office of Emergency Management) and response plans are in place to guide and coordinate hazardous materials response activities throughout the project area. For example, the Harris County Office of Emergency Management has issued a Basic Plan that includes descriptions of the responsibilities for various parties, including first responders. Duties described for first responders include:

> "The first local emergency responder to arrive at the scene of an emergency situation will serve as the Incident Commander until relieved by a more senior or more qualified individual. The Incident Commander will establish an ICP [Incident Command Post], provide an assessment of the situation to local officials, identify response resources required, and direct the on-scene response from the ICP."[23]

Additional responsibilities and coordination with other parties are also detailed should the emergency event involve numerous parties in the response or the establishment of an Emergency Operations Center.

The same document also includes an annex addressing hazardous materials.[24] Page Q-9 of that document states

> "The first firefighter or law enforcement officer on the scene should initiate the incident command system, establish an incident command post (ICP), and begin taking the actions listed in the General Hazmat Response Checklist in Appendix 1. If the situation requires immediate action to isolate the site and evacuate nearby residents, the first officer on the scene should advise Dispatch, or their Communications Center and begin such actions."

The annex also notes that Harris County and all the local fire departments contract with the Houston Fire Department for hazardous materials response capabilities. However, as noted, it is not necessary to wait for the City to respond to begin an evacuation if one is appropriate. If no hazardous materials railcars are involved in the derailment, there may not be a need to evacuate

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[23] Harris County Basic Plan, Annex N, Direction & Control, 9/30/2002 version, page N-4.

[24] Harris County Basic Plan, Annex Q, Hazardous Materials & Oil Spill Response, 9/30/2002 version.

the area, or there may be considerable time to initiate an evacuation prior to initiating work to remove derailed railcars or transferring product to other railcars or trucks.

Appendix 7 of the annex notes:

> "There are no identified maps of hazardous materials transportation routes identified within the unincorporated portion of Harris County. It is presumed all transportation routes within the unincorporated of Harris County are hazardous materials routes and all maps of Harris County depicting transportation routes are also depicting hazardous materials routes."

Given other statements in the plan about the number of hazardous materials facilities in the area, it is clear that the fire departments are well aware of the potential for hazardous materials incidents anywhere in their territories and of the actions to take to initiate an appropriate response. Further, SEA notes that the Applicants' voluntary mitigation includes a requirement that the Applicants work with local agencies to make adjustments to existing emergency response plans prior to construction and operation of the new rail line. Further, BNSF commented that last year they trained nearly 3,500 community responders on how to respond to hazardous materials incidents and offered to provide training to emergency response teams located in the project area, if requested (see VMM #8).

With regard to response time for clean up, SEA did not presume that clean up would happen instantly, but rather within days. Soil contamination is generally of greatest concern when it is undetected for a long period of time, perhaps long after any surface evidence is gone, such as may occur in the case of leaking underground tanks. The Draft EIS reasonably presumes only that the presence of a derailed railcar with material leaking out of it will be sufficient for the parties responding to identify that there has been a spill. In terms of water contamination, the concern is with isolating the spill and/or the water flow until the water quality is tested. Again, the presence of a derailed railcar with material leaking out of it has been presumed to be sufficient for identifying that a release has occurred.

4.5.2 Analysis Methodology

Hazards of Materials that Would Be Transported

Summary

Comments expressed concern about the basic hazards and proper handling of some of the chemicals that are expected to be transported on the Proposed Action or Alternatives, particularly ethylene oxide and propylene oxide, and that many releases occur without derailments "which proves that these tank cars do rupture." Comments stated that there have been a significant number of ethylene oxide and other hazardous materials transportation incidents. Other comments stated that there has not been a release of ethylene oxide or propylene oxide in rail transportation since the late 1980's. Comments noted the addition of ethylene oxide and propylene oxide to the cargo that is already carried. Comments noted the carcinogenic nature of the materials and the difficulty in detecting a release. Other issues raised in the comments include the improper exclusion of chronic effects if there was a release incident

on a population that may already have adverse chronic effects from chemical manufacturing and transportation operations (and where there may also be a language barrier).

Response
Both ethylene oxide and propylene oxide are commonly used and transported materials, and are transported today in the project area. As a result, the producers and consumers of the chemicals and the railroads have extensive experience that is reflected in railcar design and proper railcar inspection and maintenance procedures. Section 3.2.1 (page 3-11) of the Draft EIS describes a few of the regulations governing rail transportation of hazardous materials.

As noted in comments, there have been serious rail accidents involving hazardous materials in the past. As a result, data on the occurrence of such events were included in the hazardous materials transportation safety analysis (see Section D.3.3 of the Draft EIS). Specifically, such events were included in the information on the probability of a release. SEA notes, however, that the consequences of the past events experienced in the U.S. have been much less severe than the hypothetical worst cases mentioned in some comments.

Comments also noted that there have been releases from railcars without derailments. Such non-accident releases, as they are called, generally involve small releases or leaks, and not ruptures as asserted in the comments. As a result, the potential consequences of such non-accident releases are typically less severe than those for releases due to accidents. The Draft EIS included consideration of ruptures, however, as a potential consequence of an accident releases. (Section 4.2.2.2 of the Draft EIS describes the use of large accidents rather than small ones in SEA's analysis.)

The carcinogenic nature of a material is of concern when there is the potential for long-term exposure to the material, and is used to guide the selection of proper precautions in workplace settings. In the event of a rail accident involving a release, the immediate or acute hazards associated with potential for a fire or explosion or acute toxic exposure to high concentrations of the released chemical are the primary concern because long-term exposure is not expected to result from a rail accident. Therefore, the analyses of hazardous materials transportation safety in the Draft EIS focused on the consequences of immediate or acute hazards and acute toxic exposure. With respect to detection of releases, SEA notes that first responders are trained to assume that there is or could be a release associated with a transportation accident, so releases need not be visible to be detected in a timely manner.

With regard to the comment regarding the cumulative impacts of toxic exposures that might result from rail accidents in combination with prior exposures due to existing conditions as explained above, the potential for acute effects resulting from a hazardous materials release due to a rail accident far exceeds the potential for chronic effects. Further, SEA notes there is no established methodology for assessing the chronic effects of single acute toxic exposures resulting from rail or other transportation accidents for either previously exposed or previously unexposed populations.

Finally, SEA notes that potential "language barriers" would be no different for the proposed project than for current rail transportation of hazardous materials on existing rail lines. In addition, SEA notes that language barriers would be the same for events that might occur

involving trucks on nearby highways transporting hazardous materials and must be dealt with on a daily basis by emergency responders.

Selection of Accident Rate Data

Summary
Comments stated that use of aggregated national accident data in the Draft EIS was not a conservative approach for congested urban areas because it diluted the accident rates and therefore the chance of a release. Comments also stated that 2 years of the 4.5 years of aggregated national data used in the Draft EIS were estimated, not actual, data. Comments also indicated that local accident data for the Houston area are available from the FRA web site, and questioned why the local data were not used in the Draft EIS analyses.

One comment stated "In the methodology used in the DEIS, those odds are spread out over thousands of miles of rural track with virtually no risk, and then reapplied to the congested area traversed by the proposed San Jacinto Rail. As a result, the conclusion regarding haz mat accident release risk is artificially low when applied to the true risk involved with San Jacinto Rail." Comments went on to state that track or signal caused derailments and grade crossing accidents were not included in the hazardous materials analysis. Comments also stated that there was a potential for a collision at the intersection of the Build Segments with the GH&H line, and that this was not considered in the Draft EIS analysis.

Comments were also made about how the accident rate data selected for use in the Draft EIS analyses relate to the actual reported accident incidence experience along some of the lines that would be used for the Proposed Action, stating that the risks of accidents are underestimated in the Draft EIS. Comments stated:

> "Compare that with the highest accident frequency in the DEIS, on page D-16 for the future market capture on the East Belt. The DEIS projects 0.25 accidents per year, or 1 accident every 4 years, a totally unrealistic projection when compared to the actual accident data from Harris County and from BNSF."

Response
The use of national data does not bias the results as claimed in the comments. The comments imply that the accidents that have occurred have been distributed over all the miles of track in the national rail system to derive the accident rates used in the analysis, and thereby "dilute" them, which is not correct. Accident rates were derived based on the number of incidents reported in a given time period and the number of miles individual railcars and entire trains traveled in a given time period as described in Section D.3.1 of the Draft EIS. When multiplied by the traffic levels on different rail lines, this approach translates into higher estimated numbers of accidents on tracks with high volumes of train traffic, which is in total agreement with the point being raised in the comments. Furthermore, older urban tracks are also sometimes rated as lower class tracks reflecting a poorer track condition and lower speeds. As noted in Section D.3.1 (page D-10) of the Draft EIS, SEA assumed a lower track class for the Build Segments (commensurate with the planned train speeds) even though it would be brand new track with very low usage (load). The assumption of a lower track class meant that a higher accident rate

was used for the Draft EIS analysis than would be used in an analysis of major cross-country tracks. This also was a conservative assumption.

The Draft EIS used national data to ensure that both numerators (numbers of incidents) and denominators (total train miles and total railcar miles) were available for the determination of accident rates. Section D.3.1 of the Draft EIS describes the process of obtaining the required data for the analysis. Local (i.e., urban) data cannot be used for the accident analysis because the data set is not compatible with the methodology. The FRA data cited by the comments does not include denominator data, only numerator data. In other words, the FRA data can report the number of accidents or incidents in Harris County, but do not report the number of railcar miles and number of train miles traveled each year in Harris County. Therefore, the local data reported by FRA and cited by the comments could not be used for the accident analysis. No local incidents are excluded from the analysis just because national aggregate data were used; rather, all local incidents in all urban areas as well as rural areas are included. The national aggregate data used in the Draft EIS analysis also include grade crossing incidents and track and signal-caused derailments, as mentioned in Section D.3.1 (pages D-7 and D-8) of the Draft EIS.

The estimates (as opposed to actual values) referred to in some comments were not for the number of incidents (i.e., the numerator in the accident rate calculation), but rather for number of railcar and train miles traveled each year (i.e., the denominator in the accident rate calculation) (see Table D.3-1 (page D-9) of the Draft EIS). The railcar and train miles data are a critical part of the determination of accident rates and cannot be obtained as readily as the accident (incident) history. Estimates such as those used in the Draft EIS have proven to be quite reliable when the final data are ultimately released and are based on various reported statistics and trends.

The approach used throughout the Draft EIS is consistent with that applied in numerous rail industry risk assessments and determinations of accident rates and has been reviewed by FRA and the Board on other occasions. BNSF has had lower accident rates than the national average for the entire period 1999-2002, whether considering just main track or all types of track. If SEA had used BNSF-specific data rather than national averages, the predicted numbers of accidents and releases would have been lower than those presented in the Draft EIS. Given that more than one railroad operates on many of the existing lines, average rather than railroad-specific accident rates were considered more appropriate for use in the analysis.

The projected annual accident rates are much higher as reported in the Draft EIS than the comments cite. In one case, comments compare all the incidents in Houston for one railroad with the predicted risk for just one section of track, so there is understandably an apparent disparity. This comment cites the highest accident frequency as 0.25 per year (one accident every four years), however, the comment only considered one segment in Harris County, not all of the different segments (see Appendix D (pages D-15 through D-17) of the Draft EIS). The expected number of accidents on the individual segments should be added to get an understanding of the total number of incidents. Moreover, Section 4.2.2 (Table 4.2-3, page 4-14) of the Draft EIS gives an existing conditions total of 0.86 accidents per year on the No-Build Alternative which is just one of the existing lines in the area.

Grade crossing accidents, while often quite severe for the automobiles or trucks involved, are less likely to involve major train damage or derailment, and therefore many grade crossing

accidents do not meet the definition of a reportable train accident. However, based on the data for severe grade crossing accidents that are FRA reportable, the chance of a railcar derailing as a result of a grade crossing accident is incorporated in the overall accident rates that were used in the Draft EIS. As stated in Appendix D (page D-8) of the Draft EIS, grade crossing collisions reported as train accidents are included. (This is a small percentage of the overall number of grade crossing accidents, because most do not involve enough damage to the train to be reportable as a train accident.)

The potential for collisions at the intersection of the GH&H line with the Build Segments is accounted for in the risk calculations for that part of the GH&H line. The methodology looks at the overall chance of various types of events (e.g., accidents and releases) and does not look at the frequency of accidents at discrete locations, which would necessarily be lower than the total chance of accidents or releases.

Basic Data and Methodology Assumptions

Summary
Comments stated that the number of trains used in the Draft EIS analysis is too low and the number of railcars assumed to be carrying hazardous cargo is too low. Comments also contend that the Draft EIS analysis does not take into account the possibility "conceded by the Applicant" that each train could contain 100 railcars. Further, comments contended that the analysis should have assumed that at least 20 percent of the carloads hauled would be hazardous materials. Comments also assert that: (1) it is reasonable to assume that the cost of hauling hazardous materials is higher than bulk materials such as plastic pellets; (2) with competitive pricing industries will shift their highest cost transportation to the most competitive railroad; and (3) "given that, at the lowest estimate, the Bayport Loop generated an average of 129 carloads per day of hazardous materials in 2000, and BNSF anticipates from 72 to 132 railcars per day, it is well within the range of possibility that all of the railcars on the Build Alternatives will carry hazardous materials in a competitive market."

Response
The development of data on average train traffic (i.e., number of trains and number of railcars per train) is discussed in Appendix C of the Draft EIS and in the response to comments on the Proposed Action and Alternatives in this Final EIS. The comments have not substantiated the assertion that the numbers of trains and railcars per train used in the Draft EIS analysis are too low. The train traffic information used in the Draft EIS analysis, in contrast, is well documented (see Appendix C of the Draft EIS) and the best available. Further, SEA notes that while it is possible for an individual train to contain 100 railcars, the average train length is expected to be between 33 and 66 railcars (for the reasons explained in Section 2.2 and Appendix C of the Draft EIS).

SEA presumes that the comment that the analysis should have assumed that at least 20 percent of the carloads hauled would contain hazardous materials is based on the Board's Waybill Sample information shown in Table C-1 (page C-2) of the Draft EIS. In making this suggestion, the comments appear to overlook that the Proposed Action and Alternatives would not provide BNSF access to all of the shippers in the Bayport Loop (See Appendix N of the Draft EIS, letter from Applicants to SEA dated February 1, 2002). Thus, it is not reasonable to assume that the

percentage of railcars containing hazardous materials that BNSF would haul would be the same as the percentage for all Bayport Loop traffic. As explained in Section 4.2.2 (page 4-8) of the Draft EIS, SEA used the Applicants' estimates for the number of loaded hazardous materials railcars (and the percentage of total railcars) in the Draft EIS analysis. Section 2.2 (page 2-9) of the Draft EIS explains that the Applicants' estimates equate to 16 to 48 percent of the Bayport Loop hazardous materials traffic recorded in the Board's Waybill Sample. Based on the information available, SEA continues to believe that this estimate is reasonable in light of the fact that BNSF expects to serve the Partners initially and then expand service to include other, but not all, Bayport Loop industries. Similarly, SEA finds no merit in the argument that all of the projected traffic on the new rail line could potentially be hazardous materials. As presented in Appendix C (Table C-1, page C-2) of the Draft EIS, Bayport Loop traffic in 2000 included an average of 26 (not 129) hazardous materials carloads per day. Further, the comments do not support the assumption in the comments that BNSF pricing would cause shippers to preferentially shift hazardous materials railcars (relative to other types of railcars) from UP to BNSF.

Summary
Comments stated disbelief that SEA did not know all the hazardous materials that UP currently transports to and from the Bayport Loop, and questioned how SEA could conduct an impact analysis of the Proposed Action in the absence of this information.

Response
As discussed in Appendix D (page D-2) of the Draft EIS, SEA evaluated the potential consequences of a hazardous materials release using the characteristics of the chemicals that the Applicants expect to haul. As noted above, BNSF would not have access to all shippers in the Bayport Loop and so would be unlikely to haul all types of hazardous materials transported in and out of the Bayport Loop. Further, SEA notes that there are very few robust sources of data regarding hazardous materials shipments at either the local or national level. Periodic surveys are done on particular roadways or rail lines, national commodity flow surveys are conducted every few years, and summaries may be available from the Board's Waybill Sample. As a result, the information from the Applicants on what they project they would haul is more detailed than available data on the current traffic. In addition, SEA notes that data availability was a consideration in selecting an analysis methodology that calculated predicted accident release frequencies and then considered the potential consequences based on representative materials that BNSF expects to transport.

Summary
Comments noted that the analysis of consequences of a release in the Draft EIS does not recognize the potential for the release of more than one chemical in an incident, and therefore does not address the consequences of reactions among chemicals that can lead to unfortunate synergistic results.

Response
Reactions among chemicals depend on many different factors and in a rail accident would require that railcars containing incompatible materials were located near one another after the accident, that multiple railcars were releasing contents, and that their contents were able to mix. Given the segregation of products that is required when a train consist is assembled, the accident

configurations and railcar failures that would need to occur, and the small number of hazardous materials railcars carried on the trains, such an event was not considered reasonably foreseeable. Also, SEA notes that Risk Management Plans submitted to the EPA by companies using and storing significant quantities of hazardous materials also consider one chemical and one individual storage tank at a time, even if there are several materials or separate tanks near one another on the site.

4.5.3 Impacts

Release Consequences

Summary
Comments stated that the worst-case derailment scenario must be considered and that the public meeting for commenting on the Draft EIS was held in a worst-case scenario zone. Comments also stated that storage of the railcars should be included in the worst-case analysis.

Response
CEQ regulations and subsequent court case decisions clearly establish that a worst case analysis is not required in an EIS. The Draft EIS evaluates the consequences of the catastrophic loss of contents of a railcar of a very toxic material (see Section 4.2.2.2 of the Draft EIS) and refers to this as the "worst case" event included in the analysis. The Draft EIS considers the maximum number of people that might need to be evacuated in the event of a hazardous materials release for each of the Alternatives. In addition, SEA notes the rail yards are already handling the materials that would be transported by the Applicants and no material change in railcar storage practices is anticipated as a result of the Proposed Action and Alternatives.

Summary
Comments stated a concern that a derailment could result in a "flashback" to jet fuel sources given the proximity of the proposed rail line to Ellington Field.

Response
The only way for a release to "flashback" to the jet fuel sources is for the release to start at the jet fuel storage area due to a problem in the storage area, the vapor cloud to travel downwind some distance, be ignited, and then flashback. Such an event would be unrelated to the rail line.

In order for a rail accident and release event to involve the jet fuel sources in a fire, there would need to be a derailment nearby, a large release would have to result from the derailment, the product released would have to be both flammable and capable of dispersing over significant distances, the wind would need to be blowing directly from the rail accident site toward the jet fuel storage tanks, the release would not ignite as a result of the accident or any other ignition source prior to reaching the jet fuel tanks, there would be an ignition source near the jet fuel tanks, and the tanks or their vents would need to catch fire. While readily imagined, this particular scenario is not reasonably foreseeable. Further, SEA notes that a rail line used to haul hazardous materials currently exists adjacent to Ellington Field, so if such a derailment-related event involving jet fuel tanks at Ellington Field were reasonably foreseeable, it would be part of existing conditions that would change little if at all as a result of the proposed rail line.

Summary

Comments stated that SEA based the analysis of the potential consequences of a release on several assumptions, including that there would be an emergency response team promptly on-site, the team would be properly equipped, and the response would be effective in containing the spill. Comments also challenged the assumptions that a release would involve the volume of just one railcar; involve only a single chemical; affect a limited population; and disperse without regard to prevailing winds. Comments also questioned the assumptions that any hazardous materials release would be contained or cleaned up within a relatively short time and that the duration of a release is limited by the volume in the railcar.

Comments faulted the Draft EIS for not looking at a true worst-case release that affected several different city facilities, and stated that there was no information that suggested the impact area is a function of the size of the release. Comments also suggested that a "logical worst case" was near Sylvan Rodriguez Park.

Response

The safety consequences described in the Draft EIS do not assume prompt emergency response or containment of a release. Rather, these are factors that are described as further reducing the environmental consequences if a release occurs, as stated in Section D.4.3 (page D-24) of the Draft EIS:

> "This would minimize the potential for groundwater contamination, limit the extent of any soil contamination, and allow for the proper management of surface water contamination."

Response and containment is of concern for limiting environmental impacts, but in such cases rapid generally means hours or days, which is reasonable to expect in populated areas already possessing chemical facilities and response capabilities.

Historical data on numbers of railcars that release hazardous materials in the event of an accident that derails multiple hazardous materials railcars show that the chance of multiple railcars releasing is low unless there are many such railcars derailed and the derailment occurs at relatively high speeds.[25] Given the low (20 mph limit) speed on the Build Segments (see Section 6.3 (page 6-6) of the Draft EIS) and the relatively low number of hazardous materials carloads, the analysis emphasis was placed on single railcar releases. However, because the analysis assumes that the full contents of a railcar would be released, the analysis case also represents instances that might involve smaller volume releases from several railcars, which is what typically happens in the comparatively unlikely event of a multiple railcar release.[26] In general, multiple-car release incidents do not result in the instantaneous release of the total volume of every railcar involved in the incident. It should also be noted that if a fire or explosion of one railcar were to cause the failure of another railcar, the area affected would not be twice as large

[25] Association of American Railroad's analyses conducted as part of the development of "Risk Assessment for the Transportation of Hazardous Materials by Rail, Reference Manual," September 1996.

[26] Ibid.

as it would be if only one railcar were involved. In other words, the impacts of two incidents occurring sequentially at the same location are not strictly additive. As a result, rail risk analyses typically focus on single railcar releases.

By not considering the prevailing wind direction, the Draft EIS analysis overstated rather than understated the potential impact of a hazardous materials release. A release will generally travel with the wind in one direction away from the point of the release. Hazard and evacuation distances were applied in the Draft EIS assuming that the release travels in one distance, and then in drawing a circle with that distance as its radius in case there is any uncertainty in the actual wind direction. The total population within the circle was then included in the analysis, overestimating the number of people who might actually experience the adverse effects of a release (see Appendix D (pages D-14 and D-23) of the Draft EIS).

Vapor releases of toxic materials have impact areas that are directly related to the amount of material released and the rate of release, as can be found through any consequence modeling package or textbook. Precautionary measures, especially in the event of a fire impinging on a railcar, would be taken in anticipation of what the worst case event might be, realizing that the actual event has not yet occurred. The Draft EIS considers a worst case event and the associated evacuation distances, but cautions the reader to avoid assuming that the predicted likelihood of a release is equal to the likelihood of the worst case release (size and material) occurring in the worst case location. The likelihood of a worst case release size at the worst case location under the worst case weather conditions would be much lower than the likelihood of the worst case release occurring at any location along the route. (See Section 4.2.2.2 (pages 4-13 and 4-15) of the Draft EIS.) The consequences (environmental impacts) of such an event were considered and presented in the Draft EIS (see Section 4.2.2.2 (page 4-16 and Table 4.2-6 on page 4-17) of the Draft EIS).

Summary
Comments stated that empty hazardous materials railcars are more dangerous than full ones.

Response
While some empty (also known as residue) hazardous materials railcars may be subject to certain hazards if they are involved in a fire that heats the residual material in the tank, an accident that damages a derailed empty railcar cannot pose a risk of toxic or fire impacts comparable to those from a large release and, thus, the consequences are included within the scope of the analysis included in the Draft EIS. Accidents with empty railcars have occurred when, for example, workers have assumed a railcar is empty, opened the valves, and been exposed to a release of the vapors that have accumulated over time. An accident of this type, however, is not a transportation hazard or a public exposure risk.

Summary
Comments noted that in the event of a release incident it would be extremely difficult to evacuate all of Clear Lake at rush hour. Comments also expressed concern about needing to evacuate facilities at NASA or Ellington Field.

Response
The total number of people that might need to be evacuated in the event of a release incident is significantly less than the entire (approximately 200,000) population of Clear Lake. As noted in Section 4.2.2.2 (Table 4.2-6) of the Draft EIS, up to 30,000 people could potentially be evacuated under a worst-case scenario. As also shown, the maximum number of people who could potentially be evacuated under a worst-case scenario from areas along the Build Segments of the Proposed Action and Alternative 1C (which are the closest Alternatives to Clear Lake) is 8,600 or less. Local government emergency response and evacuation plans typically take into account the potential need to divert traffic at rush hour and other critical time periods if an accident were to occur and cause a release at the worst-case location and the worst time. Facilities such as NASA and Ellington Field have evacuation plans in place in case of fires, hurricanes, or other significant events and these can be enhanced to incorporate other events such as hazardous materials accidents from any type of transportation - air, rail, or road - if the plans do not already cover such events.

Level of Risk

Summary
Comments highlighted the relative increase in risk, as opposed to the increase in the absolute level of risk. Comments also stated that the risks were not fairly projected in the Draft EIS, particularly in areas where there is "no risk" today (the Build Segments), and that the risks outweigh the benefits and should not be added to these areas, including Ellington Field.

Further, comments stated that risks are additive and that the risks of all subsystems must be added. The comment then stated that the rail line risks must be added to the risks of Bayport in general.

Comments also stated that the Draft EIS denies that risks associated with transporting hazardous materials exist and that the analysis is incomplete and that management of risks should not assume that other parties beyond the Applicants would respond to any situations that occur.

Comments stated that if there were a derailment then hundreds of thousands of people (including school children) would be exposed to hazardous materials releases, including ethylene oxide and propylene oxide. One comment was concerned about the existence of any risk no matter how low for a school child. Comments also stated that risks may be negligible but the risks are not zero and, therefore, the proposed rail line should not be approved.

Response
Both relative and absolute risks are important in a risk analysis. As shown in Tables 4.2-1, 4.2-3, and 4.2-5 of the Draft EIS, the overall chances of a release are small. In addition, the estimated accident and release frequencies presented are for the entire length of each route, so the estimated frequencies at any one location along the 60-plus mile route would be only a fraction of that given in the tables. Thus, while the percentage increases in estimated accident and release frequencies may seem significant by themselves, the absolute increase is nevertheless low.

As stated on page 16 of the Final Scope for the EIS (published July 19, 2002), the analysis examined impacts for the entire project. Additionally, the chances of a release or derailment are explicitly calculated for the Build Segments and the analysis of consequences focuses on the populations newly at risk, as suggested in comments.

With regard to the additive nature of the risks, the relevant subsystem in this case is the existing traffic on the rail lines that would be used by the Proposed Action and Alternatives. The Draft EIS estimates of accident and release frequencies included the existing rail traffic to show how the Proposed Action and Alternatives would change the likelihood of accidents or releases. The chemical manufacturing operations and other transportation modes are not directly linked to this project, in that the project has been proposed to allow a redistribution of existing activities (for competition), not to expand capacity.

The Draft EIS includes over 40 pages on the subject of hazardous materials transportation safety and finds that the risk is low, not non-existent. The risks analyzed are not new or unusual to the general project area (in which production, use, and transportation of hazardous chemicals is routine), and represent more of a transfer of risk than a creation of new risk (e.g., construction of a new industrial facility). All hazardous materials transportation today assumes that if there is an incident the first responders will come from the location in which the event occurs, and the Proposed Action and Alternatives would not alter this arrangement. After that first response, the railroads and the shippers are almost always involved and provide the detailed expertise that may be required. Section 3.2.3.2 of the Draft EIS describes the capabilities and roles of the railroad in such situations.

The consequences described in the comments (hundreds of thousands of people exposed) do not consider the full sequence of events. According to accident data, most derailments do not result in any release. Also, ethylene oxide and propylene oxide constitute only some of the total hazardous materials railcars, and therefore even if there is a release it will not necessarily involve one of these materials. Furthermore, even in the event of a release, the volume of the release may not be large. Finally, even in the event of a large release of ethylene oxide or propylene oxide, not everyone along the route would be exposed to the release. These points are discussed in the Section 4.2.2.2 (pages 4-13 and 4-15) of the Draft EIS.

As discussed in more detail above, the increase in risk due to potential spills near Ellington Field or any other specific location would be very low, whether on the existing track or the Build Segments. Ellington Field is already subject to risks from the GH&H line, as well as other sources such as highways and local roads. Hazardous materials are handled and stored at the airport and small quantities are transported by air as well.

The existence of a non-zero impact is not a rationale for rejecting a proposed project under NEPA or the Board's regulations. NEPA requires that environmental impacts of reasonably foreseeable events be considered. NEPA does not state or imply that projects that pose risk must be denied or require that there be a zero level risk before a project can be approved. The statement in the Draft EIS that the risk is considered negligible is a means of comparison to other existing risk levels.

Water Treatment Plant

Summary

Comments expressed concern about the proximity of Alternatives 2B and 2D to the Water Treatment Plant and the potential vulnerability due to either accidents or terrorist events. Comments stated that 500,000 to 2 million people could be affected because the City drinking water supply serving 750,000 people and the surrounding water system serving 2 million people could become contaminated in the event of a release in the immediate vicinity of the Water Treatment Plant.

Comments noted that the proposed Alternatives 2B and 2D would cross the Water Treatment Plant property. The comment stated that the Draft EIS must address both potential contamination and disruption to service in the event of a release incident, and noted that it might be necessary as a result of an accident or terrorist event to evacuate and shut down the entire Water Treatment Plant.

Comments questioned why BNSF rejected the northern route in September 2001 because of its proximity to the water treatment facility but now allegedly they "prefer" the northern route.

Other comments stated that there is only a remote chance of an accident, let alone a large release, in the immediate proximity of the Water Treatment Plant. Comments also indicated that the existing berms around the plant would offer protection from any low speed derailment that might occur.

Response

Comments regarding terrorism are discussed separately under Hazardous Materials and Security; the discussion here focuses on concerns relating to potential rail-related accidents near the Water Treatment Plant.

The Draft EIS analyzed the risk of a hazardous materials release and concluded that the risk of a release is low. However, in the unlikely event of a hazardous materials release near the Water Treatment Plant, SEA notes that many safeguards are already in place to minimize the chance that a release would interfere with operation of the Water Treatment Plant or otherwise harm the water supply. For example, as stated in the City of Houston Southeast Water Purification Plant Risk Management Plan,[27] the emergency response program in place at the facility includes training for the facility staff and the Houston Fire Department Emergency Response Team. Standard operating procedures are in place to insure proper response in the event of any accidental release of hazardous materials (such as chlorine and ammonia, which are stored and used at the Water Treatment Plant). All members of the facility staff have been trained in the proper evacuation procedures for a hazardous materials release, and are aware of their role in the event of an emergency. The emergency response plan is reviewed on an annual basis and is revised if necessary. The resulting familiarity with evacuation procedures and hazardous materials would offer protection in the unlikely event of both a derailment and a release. In the

[27] RMP Executive Summary, City of Houston Southeast Water Purification Plant, Submission Receipt Date: 06/18/1999.

unlikely event of an accident that resulted in a release, the continuous operation and manning of the Water Treatment Plant should allow prompt isolation of the facility from the Houston water distribution system, if necessary. Further, SEA notes that the voluntary mitigation includes a requirement that the Applicants work with local agencies (the City of Houston would be an example) to make adjustments to existing emergency response plans (such as the Water Treatment Plant Risk Management Plan) prior to construction and operation of the new rail line.

In addition, SEA notes that the level of analysis should be commensurate with the impacts and that there was no need to include analysis of a potential service interruption or other site-specific impacts in the EIS because of the overall likelihood of a release is low and is even lower at a specific location, such as the Water Treatment Plant.

Comments suggesting that the Applicants prefer a northern route are not correct. The Applicants developed alternatives north of Ellington Field prior to and during the scoping process, and SEA analyzed two of those alternatives. At the December 17, 2002, meeting of the Houston City Council Transportation, Technology and Infrastructure Committee, the Applicants indicated that if the City would cooperate, the Applicants would pursue Alternative 2D, which, along with Alternative 2B, runs north of Ellington Field. The Applicants have not changed their designated Preferred Alternative (i.e., the Proposed Action as described in the Draft EIS). Chapter 2 of the Draft EIS explains the development of the Alternatives in detail.

Hazardous Materials and Security

Summary

Comments expressed general security and terrorism concerns as well as concerns about specific targets or threatened populations. Some specific security and terrorism-related comments indicated that the Draft EIS fails to address: (1) potential national security impacts; (2) security implications specifically for routes south of Ellington Field; (3) effects on schools and residents; (4) compromising Ellington Field's role as an essential national defense facility; and/or (5) effects on the Water Treatment Plant.

Other comments indicated that: (1) U.S. railroads have an antiterrorism plan which has been reviewed by the TSA; (2) the plan is fully implemented and is a series of increasing preventative activities based on threat levels; and (3) BNSF has its own police force commissioned in all the states in the U.S. that is closely tied in to the U.S. intelligence community.

Comments also stated that SEA cannot argue that NEPA and its implementing regulations do not require it to consider issues of homeland security in the EIS.

Response

In the Final Scope (published July 19, 2002), SEA indicated that while safety is a paramount concern in the environmental review process for this proceeding, FRA has primary authority to ensure railroad safety, and there do not appear to be any security issues associated with the Proposed Action and Alternatives that are separate and distinct from security issues facing the railroad industry generally. Here in the Final EIS, SEA explains further some of the security measures that are being taken.

Within the rail industry a number of plans have been developed that have resulted in both permanent security improvements and in specific actions that are taken at different threat levels to assure rail security industry-wide and within individual railroads, including BNSF. FRA and TSA have been reviewing the railroads' plans and providing feedback to the rail industry about the plans and ways in which they can be improved. This process of ongoing review and oversight is expected to continue in the future.

Other recent rail security activities include:

- The ACC has prepared and posted guidelines for both facility and transportation security on its web site. These guidelines address hazard and threat assessments, vulnerability assessments, emergency preparedness, and several other topics. ACC has also established a Chemical Sector Information Sharing and Analysis Center (ISAC) that provides a mechanism for intelligence information from several Federal agencies to be shared with industry in a timely manner. ACC has formed a task force with the Association of American Railroads (AAR) to identify additional ways of enhancing the security of rail transportation.

- BNSF and other railroads have worked with the AAR on the Rail Security Task Force and the development of both industry-wide and individual railroad security plans. The AAR has established the Surface Transportation Information Sharing and Analysis Center (ST ISAC), appointed an Executive Director of Railroad Security, and developed an industry-wide railroad security plan. The Rail Security Task Force has five teams, one of which is focused on hazardous materials transportation. AAR has also been very active in increasing communications and routine information sharing with the chemical industry; between hazardous materials staff of different railroads; and among railroad police.

- BNSF, UP, and CSX Transportation have joined as members of the U.S. Customs Service's Trade Partnership Against Terrorism (C-TPAT) program. This program encourages businesses to ensure the integrity of their security practices and communicate security guidelines to supply-chain business partners. The program requires participants to analyze all areas of their operations that pose potential security concerns, including document protection, protection of information systems, employee and contractor identification (ID), and ensuring the security of equipment and facilities.

Precisely because security is important, the inclusion of security-related information in the EIS is not advisable because it could increase the ease with which terrorists could obtain information on potential targets and any vulnerability. Further, the frequency (and type) of a terrorism or sabotage event cannot be predicted in advance. The likelihood of future acts of terrorism or sabotage on a particular rail line or at a particular location are not predictable, given the ever-changing nature of threats and desirability of various targets. The capabilities, motives, and identity of terrorist groups evolve in response to such factors as war, the political situation, government relations, public image, and economic conditions, as well as their access to critical

resources. In addition to being unpredictable, such an event would not be a natural or inevitable byproduct of approving (or disapproving) the Applicants' petition.[28]

SEA notes, however, that Section 4.2.2.2 of the Draft EIS does evaluate and describe the potential environmental impacts of a total release of cargo from a full railcar, regardless of what causes it – accidents or sabotage/terrorism. Similarly, the discussion of emergency response capabilities (see Section 3.2.3 of the Draft EIS) is applicable to consequences of both accidents and terrorist activities.

Finally, SEA notes that other agencies, including Nuclear Regulatory Commission (NRC) and Department of Energy, have excluded all discussion of terrorism from NEPA documents or only described potential consequences.

Other Comments

Summary
Several comments questioned who would pay for the costs of cleaning up a hazardous materials incident or an evacuation.

Response
The same process would be followed as for accidents and releases that could occur on all the other rail lines in the Houston area. Nothing unique is expected for the Proposed Action and Alternatives.

4.5.4 Mitigation

Summary
Comments stated that "because the DEIS does not recognize the significant adverse impacts of the rail line on the Drinking Water Plant, it presents no mitigation for these impacts. These impacts are significant and adverse and the DEIS should address their mitigation."

Response
The analysis presented in the Draft EIS indicates that the proposed project would not result in any significant impacts. Comments have not supported the assertion that construction or operation of Alternatives 2B or 2D (which would pass through the Water Treatment Plant) would cause significant adverse impacts to the Water Treatment Plant. As discussed in detail earlier, Section 4.2 of the Draft EIS concluded that the Water Treatment Plant would experience negligible impacts. Therefore, mitigation is not warranted. In addition, plans for the Water Treatment Plant, submitted in combination with comments, indicate the presence of existing rail lines within the Plant and plans for future rail access to the facility.

[28] Terrorism is a global issue, involving random criminal behavior, independent of a particular facility, including the proposed project. In contrast, the likelihood of an event such as an earthquake is closely liked to the natural environment of an area and is reasonably predictable based on geologic data for the region.

Summary
Comments stated that all of the existing rail lines that would be used as part of the proposed project are Key Routes and that full disclosure of the additional risks, compensation of the line owner, and special risk management is required. The comment states that the Draft EIS ignores this fact and does not include any analysis based on it.

Response
The comments are mistaken concerning the consequences of a Key Route designation. The Key Route concept is not a Federal regulatory requirement; rather, it is part of voluntary industry recommended practices for selected rail lines used for hazardous materials transportation that include suggested inspection practices, detection equipment placement, and other operating practices (see AAR Circular No. OT-55-E, July 30, 2002). A Key Route designation does not invoke special compensation, reporting, or risk management requirements, as claimed in the comments. Further, SEA notes that the comments offer no support for the claim that all of the existing rail lines that would be used as part of the proposed project are Key Routes or that such a designation would result in the alleged requirements. In any case, SEA notes that by examining the changes in risk on both the new rail line and the existing lines, the Draft EIS analyzed and disclosed the additional risks of accidents or releases that may be experienced on all the existing lines that would be part of the Proposed Action and Alternatives, not just the lines that might be defined as Key Routes.

4.6 PIPELINE SAFETY

Comments on pipeline safety emphasized concern about possible pipeline accidents caused by rail construction and operation. Comments contended that there are many pipelines in the project area and that they could be easily damaged by maintenance or construction equipment or by derailments.

4.6.1 Existing Conditions

Summary
Comments noted that "UP is a party to over 100,000 active pipeline agreements, the vast majority of which involve pipelines that cross UP's right of way," and that "hundreds of miles of UP's rail network are on right of way that includes or runs adjacent to pipelines. As the DEIS notes, UP's lines in the vicinity of the proposed construction, including the Bayport Loop itself, cross or run near dozens of pipelines and pipeline-related facilities." Based on this experience, the comments stated that "UP concurs with the conclusion of the DEIS that railroads and pipelines can safely co-exist. See Draft EIS, p. 3-20." Comments stated that "when appropriate care is taken in the construction, operation and maintenance of pipelines that cross or are near rail lines - as well as rail lines that cross or are near pipelines - damage to pipelines can be prevented and safety can be assured. When adequate safeguards are employed pipelines can be protected from damage due to derailments and the many other activities essential to the operation of railroads, such as use of excavating equipment to build and maintain railroad lines, the loadings associated with passing trains, and operation of vehicles by railroad employees who operate and maintain the railroad." Comments also explained that, "as the DEIS notes (at 3-17), the railroad industry, through the American Railway Engineering and Maintenance-of-Way Association (AREMA) and in coordination with the pipeline industry, has developed engineering

standards that address the safe design of railroad-pipeline crossings and pipelines that run parallel to rail lines." Comments stated that "AREMA standards are more tailored to the railroad operating environment than governmental regulations that apply to pipelines generally, such as the DOT/OPS regulations cited in the DEIS."

Response
Comments noted.

Summary
Comments stated that "the issue of pipeline safety and the co-existence of pipelines with rail operations is not at all new to BNSF, the STB, SEA or among members of the pipeline and rail carrier industries. BNSF alone estimates that it has in the range of 100,000 pipeline crossings or pipelines adjacent to its network. Other rail carriers throughout the U.S. similarly have considerable experience with pipelines being adjacent to or included within their rights-of-way." Comments also stated that, "as demonstrated in prior Board matters, SEA has recognized that pipeline companies and railroads handle crossings and other co-existence issues - whether the pipeline pre-exists the rail line or the rail line pre-exists the pipeline - through cooperative efforts." The comments stated that in conjunction with the proposed new rail line to serve shippers located in Geismar, Louisiana, for example, "SEA took extensive recognition of the pipeline safety practices observed in the industry and acknowledged the importance of achieving 'final solution at each particular crossing.' Geismar DEIS at IV - 43." The comments stated that as SEA explained in the DEIS, "pipeline safety practices typically involve a determination by the pipeline owner, in cooperation with the railroad, of a final engineering solution at each crossing according to the applicable industry codes, practice and design standards that govern the engineering design and installation or modification of pipeline facilities. Id. The codes that might be applicable to a particular crossing or proximity of rail and pipeline could include codes of the American Petroleum Institute, the AREMA, American Society for Testing and Materials (ASTM), OPS, American Society of Mechanical Engineers (ASME), and American Water Works Association (AWWA)." Comments also stated that "this is entirely consistent with BNSF's experience in working with pipeline companies as most recently reflected in the construction of the new rail line to the Dow Chemical facility at Seadrift, Texas, where multiple pipelines, telecommunications and utility lines were crossed."

Response
Comments noted.

Summary
Comments stated that the Draft EIS does not provide information on the number and type of pipelines that would be either parallel with or crossed by the project. Comments provided maps prepared by the RRC to illustrate the existing pipelines in the vicinity of the project. Comments also provided a list of pipelines compiled from the maps that cross or are adjacent to the proposed rail route. Comments stated that "before any further action is taken on this application, there should be a full and thorough accounting and public disclosure of all pipelines crossed or parallel to this proposed line," including chemicals or products carried by these pipelines.

Response
The information in the docket, which SEA considered in its analysis, provides the accounting and disclosure of pipelines and their contents that the comments request. As discussed in Appendix E of the Draft EIS, SEA considered both information that SEA collected and information that the Applicants provided (see Appendix N of the Draft EIS, letter from the Applicants to ICF Consulting dated August 1, 2002) on the location and contents of pipelines in the project area. Information developed by the Applicants as part of preliminary engineering activities and provided to SEA in response to SEA's request, which is far more detailed and specific to the Proposed Action and Alternatives than the maps and lists of pipeline companies provided in comments, is available through the public docket. CEQ regulations require that an EIS be "analytic rather than encyclopedic" (40 CFR 1500.4) and disclose environmental impacts for the benefit of decisionmakers and the public. SEA believes that it would be inconsistent with CEQ regulations and unnecessary to include in the Draft EIS the type of information requested by the comments, in light of the inclusion of such information in the docket. Further, inclusion of the information in the Draft EIS would not change the results of the Draft EIS analysis, which found that the impact of the Proposed Action and Alternatives on pipeline safety would be minimal.

Summary
Comments stated that "many of the pipeline easements in the Houston area date back many years and do not necessarily describe the corridor in which the pipeline is to be located." As an example, comments stated that "it is not uncommon for a property owner to have granted an oil and gas or pipeline company the right to lay a pipeline 'over and through' or 'over and across' a large tract of property." The comments provided a 1926 deed that allows The Texas Pipe Line Company to lay and maintain a pipeline "over and through" about 630 acres of land, "grantee selecting the route." Comments also stated that "while it is convenient to assume that the affected companies know where their pipelines are located, industry mergers, acquisitions, down-sizings and asset transfers make this less likely to be a reliable assumption."

Response
With approximately 100,000 locations throughout its rail system nationwide where pipelines cross or are near their rail lines, BNSF is well aware that pipeline easements may not always establish precise pipeline locations and that companies may not know the exact locations of their pipelines. Accordingly, as indicated in Section 6.3 (page 6-13) of the Draft EIS and in Chapter 3 of this Final EIS, the Applicants will use the services of a qualified pipeline engineering firm that is familiar with the project area to assist in the ID and location of the various pipeline crossings as necessary for project-related construction activities. Further, SEA notes that railroads have a substantial business incentive for preventing their operations from interfering with pipeline operations and pipelines have a similar incentive, both when pipelines are constructed under or near existing rail lines and when they construct a new rail line over existing pipelines (as would be the case for the Build Alternatives). This fact is demonstrated by the extremely low incidence of rail-caused pipeline accidents.

Summary
Comments stated that the Draft EIS contains "no mention of the depth of the pipelines in the areas affected by this project." Comments cited this as a shortcoming, stating that pipeline depth is a major theme of presentation materials developed by BNSF which state "that federal laws

require pipelines be at least three feet underground, but that AREMA recommends burying pipelines at least five feet underground," and "the safe and economic solution would be to install all pipelines a minimum of 10 ft. below natural ground."

Response
Many site-specific factors, including depth, affect the potential for a release from a pipeline and, thus, are relevant to consideration of the potential impacts of rail construction and operation on pipeline safety. The effects of all such factors (in combination) on releases from pipelines are included in the historical pipeline release and rail accident data that SEA used to evaluate potential impacts in Section 4.3 and Appendix E of the Draft EIS. The available data and analysis methodology used in the Draft EIS indicate that the likelihood of release when all factors are combined is low. For example, SEA estimated the likelihood of a hazardous gas pipeline construction accident to be approximately 0.00002, or one chance in 48,000 (see Section 4.3 (page 4-20) of the Draft EIS). As a result, an examination of depth separate from other site-specific factors is not warranted. Accordingly, SEA believes that there is no need to include such information in the Draft EIS. SEA notes, however, that it is standard railroad practice to field verify pipeline location information, including depth, for use in detailed design and prior to conducting construction activities. As indicated in Section 6.3 (page 6-13) of the Draft EIS, the Applicants will use the services of a qualified pipeline engineering firm that is familiar with the project area to assist in the ID and location of the various pipeline crossings as necessary for project-related construction activities.

Summary
Comments stated that pipelines in the area of the Build Alternatives are likely to be 50 years old or older and that "should suggest to SEA that they are more likely to be corroded or in a more degraded state than newer pipelines and therefore more subject to damage."

Response
SEA notes that the comments did not provide any data or analysis to support the statement that the pipelines in the area of the Build Alternatives are likely to be 50 years old or older or that such pipelines are more likely to be corroded or degraded than other pipelines. Many site-specific factors (including age) may contribute to the potential for a release from a pipeline and, thus, are relevant to consideration of the potential impacts of rail construction and operations on pipeline safety. The effects of all such factors (in combination) on releases from pipelines are included in the historical pipeline release and rail accident data, discussed in Appendices D and E of the Draft EIS, that SEA used to evaluate potential impacts. The available data and analysis methodology used in Section 4.3 of the Draft EIS indicate that the likelihood of release when all factors are combined is low, so there is no justification to examine age as a specific factor. SEA notes, however, that age information for gas pipelines is available in the public domain on the OPS web site.

4.6.2 Analysis Methodology

Summary
Comments stated that the Draft EIS describes three separate acts associated with the Texas One Call System and that "each one of these steps presents many opportunities for breakdown: the excavator gives the wrong location; the call center does not call all of the affected entities; the

call center has incorrect information; the affected company has incorrect information about the location of its pipeline or marks it incorrectly." Comments also stated that the "One Call system is a huge improvement in pipeline safety," but that the environmental analysis should not be based on the erroneous assumption that complying with the process will prevent all accidents. Comments further stated that there are "many examples of accidents that occurred because no one called a call center or because other mistakes were made in the process."

Response
SEA agrees that the environmental analysis should not be based on the assumption that the Texas One Call System will prevent all accidents. Accordingly, the analysis in the Draft EIS did not make this assumption. Rather, as discussed in Sections 3.3 and 3.4 and Appendix E of the Draft EIS, SEA used OPS accident data to establish a baseline for construction-related accidents. OPS is the Federal agency with jurisdiction over pipeline safety matters. Nationwide data for the period from 1985 through 2001 include an average of 78 incidents per year (1 per 19,000 miles of pipeline) of third-party damage to natural gas pipelines. As described in Section 3.3 (page 3-19) of the Draft EIS, in more than 60 percent of these incidents, the third-party excavator did not contact the "one call" notification service before conducting excavation activities. The remainder (approximately one-third) of the accidents included in the OPS data occurred in spite of the fact that a one call system was used.

Summary
Comments stated that "while the DEIS may have factored the pipeline crossings into the analysis, the analysis completely ignores the discrete risk associated with construction over a pipeline at each of the 300 locations where this activity could occur. Aggregating the cumulative length of 300 pipeline crossings into two segments for purpose of analysis is a flawed methodology that improperly minimizes the risk and is misleading to the reader. The appropriate risk analysis would have evaluated risk as a function of the number of pipeline crossings that each route would require in addition to the risks of constructing near (along the side of) a pipeline."

Response
As indicated in Section 4.3.1 of the Draft EIS, SEA considered estimating release frequency on a per-crossing basis (i.e., in terms of the number of incidents per 1,000 construction events), but data are not available to support this approach. Instead, SEA used pipeline miles as the basis for estimating release frequency. Specifically, as described in the Draft EIS, SEA estimated the likelihood of a pipeline accident during construction using OPS information on the historical number of accidents per mile per year in combination with information on the estimated length of pipelines near the Build Segments. SEA continues to believe that this approach used in the Draft EIS is appropriate because: (1) it is consistent with previous similar studies (see California State Fire Marshal, "Hazardous Liquid Pipeline Risk Assessment"); (2) it is consistent with the mileage-based approach commonly used by FRA (and used in the Draft EIS) for analyzing rail accidents; and (3) it is reasonable and feasible based on the available data.

Summary
Comments stated that the Draft EIS "fails to take into account the potential location of the risk of accident and the population likely to be affected." Comments indicated that "it would be more

appropriate to evaluate risk by comparing incidents that occurred in similarly populated areas than to dilute the effect by using incomparable national data."

Response
The OPS accident data, discussed and used in Appendix E of the DEIS, provides information on the frequency and consequences of accidents nationwide. To use these data in an impact analysis, they need to be expressed as accident rates, (e.g., accidents per mile). SEA continues to believe that the data used in the Draft EIS are the best available for evaluating the potential likelihood and consequences of a pipeline accident. The comments provide no support for the contention that use of national data dilutes the analysis. Furthermore, comments provide no suggestion for what denominator would be used to develop accident rates for populated areas from incident data, or whether the data necessary to do so would be available. In any event, there is no causal connection between population and accident frequency, except perhaps that construction of the type that typically results in pipeline damage (e.g., installation of other buried utilities) may occur most often in populated areas, which, if true, would be captured in the national data.

4.6.3 Impacts

Summary
Comments noted that "OPS administers DOT's national regulatory program to ensure the safe transportation of natural gas, petroleum and other hazardous materials by pipeline. OPS develops regulations and other approaches to risk management to assure safety in design, construction, testing, operation maintenance, and emergency response of pipeline facilities." Comments also stated that the Federal pipeline safety regulations, as described on OPS's web site:

> "(1) assure safety in design, construction, inspection, testing, operation, and maintenance of natural gas and hazardous liquid pipeline facilities and in the siting, construction, operation, and maintenance of LGN facilities; (2) set out parameters for administering the pipeline safety program; (3) require pipeline operators to implement and maintain anti-drug and alcohol misuse prevention programs for employees who perform safety-sensitive functions; and (4) delineate requirements for onshore oil pipeline response plans. See http://ops.dot.gov.init-htm."

Further, comments stated that "the regulations are written as minimum performance standards, setting the level of safety to be attained and allowing the pipeline operators discretion in achieving that level," and that "comprehensive compliance programs are conducted by OPS's Regional Offices."

Response
Comment noted.

Summary
Comments stated that the Draft EIS dismissed the issue of pipeline safety in a peremptory manner and that the Draft EIS conclusion that there is no major concern appears to be a false statement in light of presentation materials prepared by BNSF outside the context of this case

and provided to the commenter by UP. Comments also stated that these presentation materials, which show potential conflicts between utility lines and railroads, create a powerful case that pipelines and rails are not compatible. Further, comments stated that the BNSF presentation materials contain an analysis that is very different from the analysis in the Draft EIS. Comments stated that based on their independent research, they are of the opinion that the presentation materials prepared by BNSF are more accurate than the Draft EIS. Accordingly, comments requested that the pipeline safety analysis be redone and republished in a Supplemental Draft EIS that fully discloses the risk of rail operations on pipelines and fully discloses what is carried in the many pipelines crossed or adjacent to this proposed rail line.

Comments from UP stated that the "document that UP produced in response to a discovery request by the GBCPA (a PowerPoint presentation on 'Utility Easements' and 'Utility Lines v/s Railroads') was presented by a BNSF employee at the September 2002 Railroad Legislative Conference sponsored by the AAR State Relations Policy Committee." UP further stated that the document "does not purport to suggest that pipelines that cross railroads - or rail lines that cross pipelines - are inherently unsafe. Rather, as the cover note indicates, the document was intended for distribution to state legislative affairs personnel for their use in dissuading state legislators from enacting legislation that would threaten public safety. A few states have enacted legislation that allows pipelines to be built across railroad rights of way on an expedited basis, without requiring the pipelines to consult with railroads on design and installation or otherwise comply with the engineering standards and other safeguards imposed by railroads. Other states have been considering similar legislation. BNSF distributed the PowerPoint presentation to the railroads' state government affairs personnel to allow them to demonstrate to state legislators some of the risks that can arise when railroad safety standards are not followed. However, if appropriate safety standards are followed when pipelines cross railroads, or railroads cross pipelines, those consequences can be avoided."

Response

There is no need for a Supplemental Draft EIS because the Draft EIS included a thorough examination of pipeline safety and found that there is a very limited potential for the Proposed Action or any of the Alternatives to impact pipeline safety. Section 3.3 of the Draft EIS discusses the applicable requirements and industry standards that would apply to Build, No-Build, and No-Action Alternatives, as well as accident statistics available from OPS and estimated accident frequencies. Section 4.3 of the Draft EIS summarizes the impact analysis methodology and presents the estimated impacts. Appendix E of the Draft EIS describes the pipeline location information and accident information in further detail.

The comments do not provide any data or analysis to support the statement that pipelines and rails are not compatible. There are hundreds of thousands of locations throughout the U.S., including the routes currently used for rail traffic to and from the Bayport Loop (i.e., the No-Action Alternative), where rail lines co-exist with utilities, primarily pipelines. The BNSF presentation material referred to in the comments includes one, and only one, example of damage to a pipeline due to rail construction or operation. This one example (an August 28, 2002 derailment of a BNSF train at Elmo, CA), which occurred outside the date range used for the analysis in the Draft EIS (1985 through 2001) and after data collection for the Draft EIS had been completed, did result in damage to an aboveground 2" pressurized gas line (see http://www.co.kern.ca.us/fire/MIA/RTFs/0828_Hwy43.rtf). This single additional example,

which is similar to the 1998 Cox Landing, West Virginia derailment discussed in Section 4.3.2 (page 4-21) of the Draft EIS, however, does not alter the fact that such incidents are extremely rare. Addition of the Elmo, CA event to the data set used for analysis of potential impacts to pipelines would not alter this conclusion.

The contention that the BNSF presentation materials somehow reflect an "analysis" that is more accurate than the Draft EIS analysis is mistaken. As indicated in other comments, the presentation materials depict potential hazards that might result if current regulations and practices were to change to allow pipelines to be built across railroad rights-of-way on an expedited basis, without requiring pipeline companies to consult with railroads and otherwise comply with the engineering standards and other safeguards currently imposed by the railroads. (Section 3.3 (page 3-17) of the Draft EIS identifies applicable requirements and standards in place today.) It is in the context of existing conditions, rather than speculation about what might happen under different future conditions,[29] that SEA analyzed potential pipeline safety impacts. SEA continues to believe that its approach was thorough, correct, and appropriate, as it is based on OPS information on historical pipeline releases.

Finally, SEA believes that the presentation materials demonstrate the railroads' interest in ensuring that pipeline safety is ensured and not diminished. SEA continues to believe that this is most effectively and best accomplished through situation-specific agreements between railroads and pipeline owners prepared in accordance with the practices and standards of agencies and organizations with the responsibility of ensuring pipeline safety. Further, SEA notes that railroads have a substantial business incentive for preventing their operations from interfering with pipeline operations and pipelines have a similar incentive, both when pipelines are constructed under or near existing rail lines and when they construct a new rail line over existing pipelines (as would be the case for the Build Alternatives). This fact is demonstrated by the extremely low incidence of rail-caused pipeline accidents. For all of these reasons, the comments have not supported their argument that the analysis of pipeline safety in the Draft EIS is inadequate or that pipeline safety raises significant concerns in this case.

Summary
Comments stated that "BNSF and other major freight railroads bring to the attention of government officials, through the AAR, critical rail-related issues, whether at the federal, state or local level. In connection with AAR-related activities, BNSF and other freight railroads work together to develop strategies to address such matters of common interest. For example, in response to efforts of the pipeline industry last fall to enact state legislation in numerous jurisdictions that would have eased the ability of pipelines to cross railroad ROW without the consensus of the railroad being crossed, BNSF developed materials for use by AAR members to illustrate how important it is for the railroads and pipeline companies to address right of way crossings on a case-by-case basis through negotiated agreements."

[29] As noted above, the presentation materials include only one example of railroad-induced damage to a pipeline; the remaining materials speculate about what might happen if pipeline construction standards were changed.

Response
Comment noted.

Summary
Comments stated that possible derailment may have deleterious effects on pipelines. Comments also stated that "pipelines are often within a few feet of the land surface, leaving them vulnerable to the force of a derailed train." In addition, comments stated that "if a train derails and if a pipeline is within the area of derailment, the chances of toxic releases and/or explosions from the pipeline are very real."

Response
As discussed, primarily in Section 4.3 of the Draft EIS, SEA did analyze the potential for rail operations, including derailment, to impact pipeline safety, using data for the period from 1985 through 2001. SEA examined the estimated change in derailment frequency for the Proposed Action and Alternatives and the potential for derailment to impact pipelines (e.g., result in a release from a pipeline). SEA found that damage to pipelines from rail accidents, such as derailments, has occurred in a few instances (and, thus, is "real"), but is extremely rare in the context of the thousands of reported accidents that occurred during the period and the hundreds of thousands of locations nationwide, including the routes currently used for rail traffic to and from the Bayport Loop (i.e., the No-Action Alternative), where pipelines and rail lines co-exist. SEA did not identify a single instance in which a train derailment caused direct damage to an underground pipeline. The single additional example of derailment damage to a pipeline provided in comments does not alter the fact that such incidents are extremely rare and, similarly, does not alter the conclusion of the Draft EIS that the impact of the Proposed Action and Alternatives on pipeline safety would be minimal.

Summary
Comments stated that the Draft EIS "does not even discuss the pipelines along the existing rail line where no additional construction would be needed," and stated that this is a major flaw.

Response
This comment is incorrect. The Draft EIS analysis of the potential impacts of the Proposed Action and Alternatives on pipeline safety does include operations that would occur over the existing rail lines. For example, Section 4.3 (page 4-22) of the Draft EIS states that "[t]he estimated changes in accident frequencies shown in Table 4.3-1 apply to the entire length of each Alternative" which includes existing rail lines. Also, the discussion of pipeline location information in Appendix E clearly indicates that pipelines along the entire length of each Alternative were included in the Draft EIS analysis. Further, the Applicants' July 17, 2002, submittal to SEA that is included in Appendix N of the Draft EIS also clearly documents consideration of pipelines along existing rail lines (in this example, for rail lines included in the No-Build and No-Action Alternatives).

Summary
Comments stated that "the DEIS fails to address future maintenance of the rail line and the surrounding rights of ways. In the presentation given by BNSF, there are four slides that illustrate that one of the hazards of siting a rail line near a pipeline is the large maintenance equipment which is used to maintain the rail line and the right of ways. The maintenance

equipment is extremely heavy and causes the ground that covers the pipelines to erode. BNSF is fully aware of this issue, yet has declined to bring it up in the DEIS. The BNSF presentation confirms that maintenance of the lines plays a large role in assessing the potential for accidents from rail line operations, yet the issue was entirely left out of the DEIS."

Response
SEA disagrees, primarily for three reasons. First, as discussed in Section 4.3.2.1 and Appendix E of the Draft EIS, SEA used historical OPS accident data (which would include maintenance-related accidents) in conducting the impact analysis, and also searched for additional information on damage to pipelines resulting from rail construction and operation. SEA found five pipeline accidents in which direct or indirect rail-related damage was involved. SEA did not find any examples of damage resulting from maintenance activities. Second, the relatively low traffic levels (2 trains per day) on the Build Segments would result in reduced frequency of load-related maintenance activities, with a correspondingly lower chance for any maintenance-induced accident to occur. Third, as explained above in response to other comments, the BNSF presentation materials depict potential hazards that might result if current regulations and practices were to change such that pipelines would be allowed to be built across railroad rights-of-way on an expedited basis, without requiring the pipeline companies to consult with the railroads and otherwise comply with the engineering standards and other safeguards currently imposed by the railroads. (Section 3.3 (page 3-17) of the Draft EIS identifies applicable requirements and standards in place today.) It is in the context of these existing conditions and the available historical information (which includes no railroad maintenance-related accidents and hundreds of thousands of rail and pipeline crossings), and not speculation about what might happen under different future conditions, that SEA analyzed potential pipeline safety impacts. As a result, SEA continues to believe that it is appropriate to conclude that the impact of rail operations on pipeline safety would be minimal.

Summary
Comments stated that an "important issue included in BNSF's presentation is the delayed consequences of injuring pipelines. A pipeline may be dented or scratched by rail line construction or operations, but not immediately rupture and result in a release. The dent or scratch, however, could rupture eventually and cause a release. In the DEIS, when the frequency of releases was calculated, no consideration was given to these releases waiting to happen. BNSF is aware that rail construction or operation may result in damage to pipelines, yet in the DEIS, only releases which manifest right after the accident were accounted for. This failure to account for releases only reiterates the incompleteness of the DEIS."

Response
This comment is incorrect. The OPS pipeline accident data used in the impact analysis, and discussed in Appendix E of the Draft EIS, includes all reported releases, including both releases for which the cause and release are closely associated in time (e.g., a backhoe operator severs a gas line) and releases that may have had their origin with events that occurred during installation or at any subsequent time. Thus, SEA's analysis of accident frequency in the Draft EIS does in fact include consideration of "releases waiting to happen."

Summary
Comments stated that SEA should provide a much more thorough analysis of potential problems with co-location of railroads and utilities, citing BNSF presentation materials as indicating that overhead power lines may interfere with grade crossing signal systems.

Response
The comments have not supported the assertion that power lines would interfere with grade crossing signal systems in the project area and SEA is not aware of information that would support such a contention. In addition, SEA notes that operating conditions under the Proposed Action and Alternatives would be the same as under current conditions in locations where BNSF trains would operate over existing track or where new track would be constructed near existing track in the Bayport Loop. On other portions of the Build Segments between the Bayport Loop and the GH&H line, there would be no grade crossings and, thus, no grade crossing signals. Thus, even if power lines had an adverse effect on grade crossing signals in the project area (and SEA has no information to indicate that such a problem exists), the Proposed Action and Alternatives would not result in any change in current conditions and, thus, no impacts on grade crossing signals would result.

Summary
Comments asserted that "chronic vibratory stress may have a deleterious or disastrous effect on buried pipelines" that crisscross southeast Harris County, and that this issue is not adequately addressed in the Draft EIS.

Response
The comments offer no support for this assertion, and the historical accident data used in the Draft EIS, obtained from OPS, show no evidence of pipeline releases caused by train-induced vibratory stress. As discussed in Section 3.3 (page 3-17) of the Draft EIS, there is a substantial body of regulations and consensus standards that apply to the construction and operation of rail lines and pipelines. These regulations and standards reflect decades of experience with hundreds of thousands of pipeline/rail crossings and their effectiveness is demonstrated by the available safety statistics used in the Draft EIS analysis. Furthermore, traffic over the proposed rail line would be low, at an average of 2 trains per day. Thus, the Draft EIS concluded, and SEA continues to believe, that the impact of rail operations on pipeline safety would be minimal.

Summary
Comments stated that the Draft EIS is in error and overlooks significant risks when it implies (on page 4-22) that damage to water and sewer pipelines would be "limited" and therefore minor, resulting in nothing more than temporary disruption of service. In support of this view, comments stated that "damage to the 96-inch raw water pipeline going into the City of Houston Drinking Water Plant or the 96-inch drinking water pipeline coming out of the Drinking Water Plant would result in a disruption of service that may be more than 'temporary' and certainly affect more people than a break of a service line in a residential neighborhood." Comments noted that "as part of the expansion of the Drinking Water Plant, the City of Houston will install two additional 96-inch raw water and two additional drinking water pipelines into and out of the plant, respectively." Comments also stated that "even if the City and the 'Co-Participants' could use back-up water sources, it is unlikely that these emergency sources could provide the pressure necessary for fire fighting." Comments further stated that this lack of consideration of the issue

"reveals that the preparers of the DEIS have no understanding of the demands on the City's infrastructure necessary to analyze the risks to the system."

Response
SEA agrees that taking a 96-inch line out of service could possibly involve more than temporary disruption of service. Accordingly, SEA has included a revised version of paragraph 2 on page 4-22 of the Draft EIS, in the errata section of this Final EIS (see Chapter 5). SEA disagrees, however, with the comment's contention that the Draft EIS overlooks the significant risk of such an event resulting from construction of the Build Alternatives. As discussed in Section 4.3 and Appendix E of the Draft EIS, and above in response to other comments, the chance of rail-related damage to a pipeline is low. This is especially true for a large diameter pipe such as a 96" water main, which would be easy to locate (relative to other smaller pipelines), especially with assistance from the City, and would be quite resistant to damage due to the structural strength required for normal service. As a result, the overall conclusion of the Draft EIS that the impacts on pipelines would be minimal is unchanged.

Summary
Comments stated that:

> "both the Preferred Alternative and Alternative 1C present risks to the people who use Sylvan Rodriguez Park and its habitat that the DEIS has not evaluated. The layout of the Park presents its narrowest face to the existing GH&H line. Both Alternatives, however, would place a rail line along the entirety of the longest flank of the Park. Adjacent to the Park on this north flank is a pipeline corridor that contains a nest of pipelines. Exhibit I (included with the comment) shows the general outline of the pipeline corridor and illustrates that it narrows adjacent to the Park. Exhibit 6 (included with the comment) shows the concentration of pipelines that run adjacent to the Park. Unlike the GH&H line, which crosses these pipelines, Alternative 1C apparently would lie on top of this pipeline corridor. This close proximity of rail line and pipeline creates the potential for pipeline rupture during construction and operation of Alternative 1C. This creates two new risks for the Park: the possibility of a release of a hazardous substance from a train or pipeline accident that could result in explosion and fire, as well as the release of a hazardous substance."

Comments stated that:

> "the DEIS has not examined the possibility of any of these events occurring in proximity to the Park, much less their consequences. Because of the natural state of the Park, long term environmental damage could occur if, for example, a pipeline accident released petroleum products that entered the surface water in the Park, affecting the wildlife. Further, the Park has a prominent water feature that is down-gradient from the Preferred Alternative and Alternative 1C, so a combustible material could enter the water and ignite, presenting the potential for injury to persons enjoying the water in the Park. The DEIS does not evaluate the potential for these impacts, although the risks of pipeline accidents are well documented."

Response
The "two new risks" described in the comments are in fact not new. Rather, they exist today because the Park was constructed near the intersection of and adjacent to both an Exxon pipeline corridor and the GH&H rail line, which is currently used for hazardous materials transport, as described in Section 3.2 of the Draft EIS. Notwithstanding, SEA evaluated the potential impacts, in Section 4.3 and Appendix E of the Draft EIS, including potential release and/or combustion of hazardous materials from rail cars or pipelines, of the Proposed Action and Alternatives, including Alternative 1C, along the entire length of each route including the existing rail line and proposed new segments. In Section 3.3.2 (page 3-18) of the Draft EIS, SEA recognized that the proximity to pipelines would be somewhat greater for Alternative 1C than for the Proposed Action, but found that the likelihood of a release was extremely low for all Alternatives. Finally, SEA notes that because the Draft EIS analysis is cumulative for the entire length of a route, the potential impacts (including the chance of an accident) at any one location along the route (e.g., the Park) would be substantially less than those presented in the Draft EIS for the route as a whole.

4.6.4 Mitigation

Summary
Comments stated that "UP is not aware of the Applicants' detailed construction plans in this case. However, UP is confident that BNSF customarily applies appropriate standards and takes appropriate precautions in connection with pipelines that cross or run near its railroad. UP is therefore confident that compliance with such standards and practices, together with the mitigation steps noted in the DEIS (see § 6.2.3), will be sufficient to ensure that the proposed rail construction does not pose a threat to pipeline safety at or near the Bayport Loop."

Response
Comment noted.

4.7 GRADE CROSSING DELAY AND SAFETY

Comments contended that the Bayport Loop would have negative consequences for grade crossing safety and would increase delay. Chief concerns expressed in the comments focused on the safety of school children and delays for school children, workers, and emergency vehicles.

Comments expressed general safety concerns, stating that the rail line would increase accidents because more trains would cause more accidents. Comments contended that the new rail line would cause serious delays. Comments stated that the new rail line would cause school children to be late to class. Comments contended that alternate routes that would avoid crossing delays are not available.

Summary
Comments noted a forthcoming study by the TTI concerning railroad operations in the East End of Houston, and requested that the findings of that study be considered in the Final EIS.

Response
SEA obtained the TTI study entitled "Inventory of Railroad Operating Conditions in the East End of Houston" (February 2003) and considered the study in preparing the Final EIS. Relevant information is discussed in appropriate points within this chapter of the Final EIS in reference to specific comments on the Draft EIS.

Summary
In the context of discussing Draft EIS information on train traffic, comments state that the presentation is "disingenuous" in the context of Table F.1-2 (page F-3) of the Draft EIS that shows 12.5 trains per day at the new grade crossing at Bay Area Boulevard.

Response
Due to a clerical error, Table F.1-2 of the Draft EIS indicates that train traffic associated with the Proposed Action at the new grade crossing at Bay Area Boulevard would be 12.5 trains per day. The correct figure is 2 trains per day, as shown in Table F.1-2 of the Draft EIS for the other four new grade crossings associated with the Proposed Action. SEA has corrected this figure, and the associated delay and LOS estimates, and the revisions are reflected in the Errata section of this Final EIS. These changes do not alter the conclusions of the Draft EIS.

Summary
Comments expressed "shock" that FRA's Grade Crossing Database and Public Crossing Accident Prediction System (PCAPS) was listed as a source document on page 3-21 of the Draft EIS because there are discrepancies between the Draft EIS and an "FRA report" enclosed with the comments. [The "FRA report" enclosed with the comments consists of selected pages from what appears to be output from FRA's Web Accident Prediction System (WBAPS) available on the internet (http://safetydata.fra.dot.gov/officeofsafety/).] Comments cited as examples differences in number of trains per day, train speed and predicted accidents per year for two specific at-grade highway/rail crossings on the GH&H - Howard and Park Place. In addition, comments questioned how the FRA could be quoted as a source while the numbers shown in the Draft EIS are not the numbers in the FRA report. Further, comments stated that these discrepancies show an error in statistical data based on a credible source (such as FRA) and expressed outrage that "the government agency not only bows to the whims of a business entity, but is unable to justify approval of the project, without the use of inaccurate data."

Response
Section 3.4.2 (page 3-21) of the Draft EIS states that:

"SEA used several data sources:
- Texas Department of Transportation (TxDOT) information on average daily vehicle traffic volumes at grade crossings;
- UP, BNSF, and PTRA information on train (sic) traffic; and
- FRA's grade crossing database and Public Crossing Accident Prediction System (PCAPS)."

SEA did not use or say that it used FRA information exclusively. SEA also used UP, BNSF, and PTRA train traffic information, as stated in the Draft EIS. SEA did not use FRA train traffic information, for reasons discussed in the Draft EIS (see for example Appendix C) and in more detail elsewhere in this document. SEA notes here, however, that the selected "report" pages included with the comments excluded the disclaimer page (FRA's term, not SEA's) that is generated as part of each FRA/WBAPS report. The disclaimer page provides information on the appropriate use of WBAPS/PCAPS output and (1) explains that WBAPS/PCAPS uses data obtained from "FRA's inventory and accident/incident files which are subject to keypunch and submission errors" and (2) "[o]nly the intended users (States and railroads) are really knowledgeable as to how current the inventory data is for a particular State, railroad, or location." Clearly, FRA recognizes that the railroads (which are the primary source of the information in the FRA inventory database) may have data that are more current and more accurate than the data available in the FRA inventory database. As noted here and elsewhere, SEA used information on train traffic provided directly by the railroads rather than FRA information. Similarly, and as also stated in Section 3.4.2 (page 3-21) of the Draft EIS, SEA used TxDOT data from 2001 rather than the FRA database as the source for ADT information. Again, SEA chose not to use FRA inventory data for ADT because there was an alternate source (TxDOT) that could provide more current data. To illustrate, SEA notes that the ADT information for the two grade crossings specifically mentioned by the commenter (Howard and Park Place) in the FRA inventory database is more than 10 years old (1992), as review of these data, which are available on FRA's web site along with WBAPS, indicates.

Other portions of Section 3.4.2 and Appendix F of the Draft EIS provide additional discussion of the data sources that SEA used in the analysis. For example, Section 3.4.2 (page 3-22) of the Draft EIS explains that SEA used FRA data for train speed and used typical train speed rather than maximum train speed in the analysis. SEA's approach to using FRA data to calculate typical train speed is also explained (see Section 3.4.2 (page 3-22) of the Draft EIS). On the same page and immediately below the discussion of train speed, Table 3.4-1 (page 3-22) of the Draft EIS shows the range of typical train speed by rail segment that the comments apparently used as the basis for indicating that the Draft EIS used a train speed of 15 to 17.5 mph for the Howard and Park Place Crossings. SEA wishes to clarify that the ranges shown in Table 3.4-1 of the Draft EIS are for rail segments. The typical train speed used in the analysis for both grade crossings was 17.5 mph, as shown in Appendix F (Tables F.1-2 and F.1-3) of the Draft EIS.

SEA concludes that a reasoned comparison of the data and analysis documented in the Draft EIS and a "FRA report" provided in comments and generated (apparently using WBAPS) from FRA data does not indicate discrepancies or that the Draft EIS used inaccurate data. Rather, the Draft EIS explains that SEA used data from sources in addition to FRA, so the reader should expect that the results might be different. Further, the data used in the Draft EIS are the best available.

4.7.1 Delay Existing Conditions

Summary

Comments contended that traffic delays due to grade crossings are already a problem in the project area. Comments stated that trains sometimes stop completely at grade crossings under existing conditions, blocking traffic for long periods. Comments contend that grade crossing delay can affect the mobility of residents, school buses, students on foot, emergency vehicles,

and local small business owners. Comments reported being frequently forced to wait 10 to 20 minutes for a standing train to move away from an intersection. Other comments contended that about once per month she encounters a stopped train blocking a crossing when she is driving a school bus, forcing her to try to find an alternate route. Still other comments stated that street blockages could last up to one hour. A commenter noted that on his way to attend a public meeting regarding the Proposed Action, a train stood blocking a grade crossing for more than 20 minutes, and this forced the commenter to take a detour. Comments also contended that small businesses in the project area experience productivity losses as a result of trains stopping in the area and blocking grade crossings.

Response
The objective and obligation of the Draft EIS is to evaluate the traffic delay impacts due to the Proposed Action and Alternatives, not to evaluate the impacts of existing conditions. SEA examined grade crossing delay under existing conditions only to provide a baseline and context for evaluating the potential impacts of the proposed rail traffic conditions. The resulting estimates of current grade crossing delay are described in Section 3.4 and Appendix F of the Draft EIS. The comments did not indicate whether the reported delays have occurred at grade crossings that would be affected by the two additional trains associated with the Proposed Action and Alternatives. There are many railroad grade crossings in Houston's East End (and elsewhere along the proposed route), and only a portion of them would be affected by the Proposed Action. As a result, the comments do not provide any information that would enable SEA to revise the estimated delay under existing conditions contained in the Draft EIS.

4.7.2 Delay Analysis Methodology

Summary
Comments contended that the Draft EIS uses an incorrect methodology to assess grade crossing delay and safety by calculating delay and LOS over a 24-hour period. Comments noted that drivers experience delay when it occurs, rather than as an average over a day. Further, comments stated that the delay-based LOS measurement is intended for use with 15-minute vehicle volumes, not daily volumes, and so should not have been used in the analysis.

Response
Delay at grade crossings is intermittent and the number of vehicles affected depends on vehicle traffic. SEA recognizes that vehicle traffic volumes are not evenly distributed throughout a 24-hour period. However, because it is not possible to predict the arrival times of the average of two new trains per day that would result from the Proposed Action and Alternatives, it is appropriate to evaluate crossing delay on a daily basis. Accordingly, SEA's analysis assumes the trains have an equal chance of arriving at any time in a 24-hour period, and calculates vehicle delay and grade crossing LOS over a 24-hour period for this reason. Further, SEA notes that the comments did not suggest an alternative approach to the one SEA used for analyzing vehicle delay in the Draft EIS.

4.7.3 Delay Impacts

Summary
Comments contended that grade crossing delay would get worse as a result of the Proposed Action.

Response
Section 4.4.2 of the Draft EIS summarizes the estimated increase in grade crossing delay that would result from the Proposed Action and Alternatives. Appendix F of the Draft EIS provided additional detail concerning grade crossing delay. The Build Alternatives would increase the average delay per vehicle by less than one second at all existing grade crossings. The No-Build Alternative would increase the average delay per vehicle by less than 1.5 seconds. Thus, delay would increase by a minimal amount at grade crossings along the routes that would be used by the Proposed Action and Alternatives. In addition, SEA notes that delay estimates in the Draft EIS are conservative (likely overstated) because they do not account for reductions in delay due to the decreased length of UP trains that would accompany a shift of some Bayport Loop traffic from UP trains to BNSF trains.

Summary
Comments stated that the increase in grade crossing delay resulting from the Proposed Action would degrade public safety by increasing delay for emergency response and hazardous materials response vehicles. Comments stated that trains can be up to 100 cars long, and can block numerous intersections. Comments contended that the Proposed Action would cause delay for vehicles responding to hazardous materials spills from a train derailment, a terrorist incident, or an industrial accident. Comments contended that heart attack victims must be treated within eight minutes, and the Proposed Action could lead to emergency response vehicle delays that would prevent a response in this time frame.

Response
The recent TTI study (referenced above) included consideration of how current railroad operations in the East End affect emergency vehicle response. As noted in this study, "the Houston Fire Department reports that most areas of the East End are accessible by adjacent grade crossings if a particular intersection happens to be blocked by a train." In addition, the study notes that each neighborhood area bounded by railroad lines has at least one fire station within its confines.

The Draft EIS includes an assessment of current grade crossing delay and the increase in delay that would result for all types of vehicles from the Proposed Action and Alternatives. As discussed above and presented in Section F.1 of the Draft EIS, the estimated increase in the average delay per vehicle is less (and typically much less) than 1.5 seconds at every grade crossing along the route of the Proposed Action and Alternatives. The duration of a delay event would not increase at all at any existing crossing as a result of the Proposed Action and Alternatives (see Section F.1 of the Draft EIS). As a result, SEA concluded that the Proposed Action and Alternatives would result in minimal delay impacts.

In summary, information made available in comments and the Draft EIS analysis indicate that: (1) emergency vehicle delay is not a problem today; and (2) future increases in delay due to the

Proposed Action and Alternatives would be minimal. None of the local emergency response organizations provided information or comments on the Draft EIS that would support a different conclusion.

Summary
Comments stated that the Proposed Action would affect access from Meadowcreek Village to I-45 because of the need to cross the GH&H rail line along SH 3.

Response
As shown in Table F.1-2 of the Draft EIS, the increase in average delay per vehicle would be less than one second at all grade crossings along the GH&H line for the Proposed Action. The increase in delay would be the same for all of the other Build Alternatives as well. The No-Build Alternative would not use the GH&H line. Therefore, SEA concluded that the affect on vehicle delay would be negligible throughout the project area (see Section 4.4.2 (page 4-24) of the Draft EIS).

Summary
Comments stated that the Draft EIS should consider the effect that the Proposed Action would have on hurricane evacuation, including crossing delays that might result due to debris stopping a train on the track.

Response
The Draft EIS does not specifically discuss grade crossing delays in the context of a hurricane evacuation incident, but the results presented in Appendix F of the Draft EIS make it clear that the effects on hurricane evacuation due to grade crossing delay resulting from the Proposed Action would be minimal. As indicated in Appendix F (Tables F.1-2 and F.1-3) the Draft EIS, the Build Alternatives would result in two additional trains per day that would block an intersection for up to 4.36 minutes per train (or 5.83 minutes under the No-Build Alternative). In addition, the need for a storm-related evacuation of an area is normally known many hours or even days before the arrival of the storm, so a crossing delay on the order of minutes (for the relatively few who might experience such a delay) would not interfere with timely evacuation.

Summary
Comments contended that the proposed Bayport Terminal would add 5,000 trucks per day to Port Road and SH 146, and this expected increase is not reflected in the Draft EIS grade crossing delay analysis nor in the cumulative impacts analysis.

Response
Potential cumulative impact on grade crossings due to additional traffic on Port Road and SH 146 that is projected if the proposed Bayport Terminal is constructed and operated is discussed in Section 5.1.4 of the Draft EIS.

Summary
Comments stated that the Draft EIS does not properly evaluate the relative increase in traffic delay caused by the Proposed Action, noting as an example that the number of vehicles delayed at grade crossings on the GH&H line will increase by approximately 60 percent. Comments also

stated that the delay involves several streets with ADT in excess of 15,000 vehicles and three streets with ADT of 20,000 vehicles.

Response
SEA's analysis (see Table F.1-2 of the Draft EIS) found that the number of vehicles that would experience grade crossing delay and the average delay per vehicle would increase by approximately 60 percent along the GH&H line as a result of the Proposed Action. (The portion is smaller along other affected rail segments.) The actual increase in the average delay time per vehicle, however, is less than one second per vehicle for all of the crossings on the GH&H line that would be used by the Build Alternatives. In addition, the resulting total average delay time per vehicle (including delay from both existing conditions and the Proposed Action) would be low. Specifically, if a Build Alternative is constructed and operated, the resulting average delay time per vehicle is calculated to be 2 seconds or less at all of these grade crossings, and less than 1 second at more than one-half of the grade crossings. Also, under the Proposed Action, the portion of all vehicles that would experience grade crossing delay along the GH&H line would be approximately 1.1 percent, up from 0.7 percent under existing conditions. Because only a small portion of vehicles would experience delay as a result of the Proposed Action, and the average delay per vehicle would also be relatively small, SEA considers the impact to be negligible (see Section 4.4.2 (page 4-24) of the Draft EIS). Further, SEA notes that the delay analysis in the Draft EIS for the Proposed Action and the other Build Alternatives is conservative because it does not account for the reduced delay that would be experienced at crossings on rail lines currently used to haul freight to and from the Bayport Loop. Reduced delay at crossings on these lines (e.g., the Strang Subdivision) would occur because trains would be fewer and/or shorter if some Bayport traffic moved over the GH&H (because the Proposed Action is not expected to change the amount of Bayport Loop rail traffic, only the route over which it is moved).

Summary
Comments stated that the Proposed Action would increase the likelihood of a blockage of one or more of Ellington Field's three access roads and would increase the frequency of gate closure on the three access roads. Comments noted that a train longer than 4,500 feet could block all three Ellington access roads simultaneously if the train stops in a critical location. Comments contended that trains passing along the west side of Ellington Field on the new track would be traveling a low speeds, which will increase the frequency of Ellington access road gate closures. Comments contended that the Draft EIS calculation of grade crossing delay impacts along the GH&H line near Ellington Field should not assume traffic is evenly distributed across 24 hours because employee shift changes cause traffic surges at specific points in the day and because there are many times when very few vehicles enter or exit the airport. The comment contended that delay-based LOS measurement is intended for use with 15-minute vehicle volumes, not daily volumes, and so should not have been used in the analysis.

Response
SEA recognizes that it is physically possible for a stopped train on the GH&H line to block all three Ellington Field access roads simultaneously. However, trains travel up and down the GH&H line today and have done so for many years, and the comments provide no evidence that a stopped train has ever simultaneously blocked all three Ellington Field vehicle entrances. In addition, SEA has no other information to indicate that such an event has occurred. Further,

addition of an average of two trains per day to the current average of 3.4 trains per day (as reported by UP), in the context of average train volumes of up to 7 (as indicted by TTI) to 9 trains (also based on earlier UP information) per day in recent years, would not create new conditions that would lead to train stoppages on the GH&H line.

As indicated in Section 6.3 (page 6-14) of the Draft EIS, the Applicants' proposed mitigation measures include installation of power switches at Graham Siding (for the Proposed Action and Alternative 1C) or at the turnout from the GH&H line (for Alternatives 2B and 2D). As discussed in Chapter 3 of this Final EIS, the Applicants have clarified that the power switches and turnout would allow trains to maintain a 20 mph speed as they transition between the Build Segment and the GH&H line. As a result, new trains on the Build Alternatives would not be traveling any more slowly past Ellington Field than the 17.5 mph used in the delay analysis (see Appendix F of the Draft EIS).

SEA recognizes that vehicle traffic volumes are not evenly distributed throughout a 24-hour period. However, because it is not possible to predict the arrival times of the average of two new trains per day that would result from the Proposed Action, it is appropriate to evaluate delay on a daily basis. Accordingly, SEA's analysis assumes the trains have an equal chance of arriving at any time in a 24-hour period, and for this reason calculates vehicle delay and grade crossing LOS over a 24-hour period. Further, SEA notes that the comments did not suggest an alternative approach to the one SEA used for analyzing vehicle delay in the Draft EIS.

Summary
Comments contended that Alignments 2B and 2D would conflict with a planned interchange of a northern Ellington Field access road and Beltway 8, and with the alternative northern Ellington access road connection to the Beltway 8 frontage road.

Response
The comment does not provide any data or analysis to support or describe the asserted conflict. SEA assumes that the "conflict" referred to in the comments might be grade crossing delay. SEA notes that maps prepared by the City of Houston Long Range Planning Division and submitted in comments on the Draft EIS do not show the planned northern Ellington Field access road to Beltway 8 or the frontage road mentioned in the comment, although they do show other planned roads in the area, such as extension of El Dorado Boulevard. Further, SEA notes that a northern access is not shown on Figure 3, "Airport Access Routes - Existing and Future" in the Ellington Field Master Plan Update prepared for the Houston Airport System and submitted in July, 2002. In any case, because the traffic volume on this planned access road is not known, SEA is unable to analyze the vehicle delay that would occur at a grade crossing if one is constructed in the future.

Summary
Comments stated that the Bayport Loop Build-Out would create 10 new at-grade crossings within the Bayport Loop, which will exacerbate vehicle/train conflicts and delays.

Response
The Draft EIS analysis includes estimated delay for five new public grade crossings that would be constructed near the Bayport Loop. SEA presumes that the comments arrived at the larger

number of grade crossings by including private grade crossings. The Draft EIS did not analyze delay at private crossings due to the generally low traffic volumes on such roads and the minimal increase in delay estimated for public crossings (with higher traffic volumes) in the project area.

4.7.4 Delay Mitigation

Summary
Comments stated that the Applicants should construct grade separations so residents would not have to wait for trains.

Response
As discussed in Section 3.4 (page 3-21) and Appendix F (page F-7) of the Draft EIS, SEA used USDOT criteria to evaluate the need for grade separations. SEA found that grade separation would not be warranted for crossings associated with the Proposed Action and Alternatives based on the USDOT criteria. In addition, SEA consulted with TxDOT during preparation of the Draft EIS and TxDOT did not indicate that grade separation would be needed for any of the grade crossings that would be affected by the Proposed Action and Alternatives. TxDOT did not comment on the Draft EIS.

Summary
Comments requested that the Board impose a mitigation measure that would require the Applicants and the PHA to develop an operating plan to minimize interference with roadway traffic at the Port Road grade crossing during Bayport Terminal operating hours. Comments also stated that such a plan is acceptable to the Applicants.

Response
As discussed in the mitigation section of this Final EIS, SEA is recommending to the Board that the mitigation measure requested in the comment be a condition for approval of the project.

4.7.5 Safety Impacts

Summary
Comments state that the Draft EIS does not adequately consider the increase in traffic/train interaction resulting from the build-out, the possibility that more grade crossing accidents would occur, and the possibility that more than two trains per day will use the new line.

Response
SEA analyzed the change in traffic/train interaction resulting from the build-out and estimated how this would affect predicted accident frequencies. As shown in Appendix F (Tables F.2-1 and F.2-2) of the Draft EIS, predicted accident frequency would increase slightly at all effected existing grade crossings. SEA did not calculate predicted accident frequencies for the proposed new grade crossings because they lack the necessary accident history data to conduct such an analysis. The basis for the train information that SEA used in the analysis is discussed in Section 2.2.1.2 and Appendix C of the Draft EIS and in response to other comments related to train traffic information.

Summary
Comments stated that the rate of crossing accidents associated with BNSF trains in Texas is increasing, despite a slight drop in Texas crossing accident rates for all railroads, and BNSF's safety record therefore suggests a higher public safety risk as a result of the Proposed Action.

Response
First, SEA notes that it is well documented that the operator of the vehicle, and not the operator of the train, is normally the cause of a grade crossing accident. Second, as described in Appendix F.2 of the Draft EIS, SEA calculated an estimated accident frequency for each existing grade crossing using a methodology developed and made available by FRA, which is the Federal agency with responsibility for rail safety. The methodology uses information on a variety of crossing-specific factors, including historic accident frequency and the frequency of train/vehicle interaction at a crossing, but does not include the owner of the rail line or the trains operating over the line. As a result, SEA does not believe that the statewide accident rate for BNSF is relevant for calculating estimated accident frequency at individual crossings.

Summary
Comments stated that a rail accident at grade crossings near SH 146 could impede the evacuation route for the City of El Lago.

Response
Direct access is available between the City of El Lago and SH 146 that would not require vehicles leaving El Lago to cross an at-grade crossing of the Proposed Action and Alternatives. Thus, a grade crossing accident associated with the Build Alternatives would not impede evacuation. Further, SEA notes that, in any case, the chance of the simultaneous occurrence of a grade crossing accident and an evacuation event is low.

4.7.6 Safety Mitigation

Summary
Comments state that the Draft EIS discounts the public safety issues of traffic mobility and that approval of the project should be contingent on building three new grade separations at Howard Drive, Broadway/Galveston Road, and Spencer Highway.

Response
The Draft EIS included evaluation of grade crossing safety at the three grade crossings mentioned in the comments. As discussed in Section 4.4.3 (page 4-25) of the Draft EIS, SEA calculated predicted annual accident frequencies at crossings on the GH&H associated with the Build Alternatives and found the predicted frequencies to range from 0.004 to 0.137 for existing conditions and from 0.005 to 0.151 for the Build Alternatives. For the Howard, Broadway and Spencer crossings, the predicted annual accident frequencies would increase from 0.062, 0.020, and 0.064 under existing conditions to 0.068, 0.023, 0.070 for the Build Alternatives (see also Errata, which provides an updated version of page F-9 from the Draft EIS that has been revised to correct a clerical error that did not affect the Draft EIS conclusions). As indicated in the Draft EIS, SEA concluded that estimated increases in predicted accident frequency would be negligible for all grade crossings under the Build Alternatives and the No-Build Alternative.

As discussed in Section 3.4.1 (pages 3-20 and 3-21) of the Draft EIS, Federal Highway Administration (FHWA) and FRA have Federal regulatory jurisdiction over safety at grade crossings. Day-to-day jurisdiction resides primarily with the states, with oversight by USDOT. SEA used USDOT guidelines to analyze grade separation of grade crossings. Comparison of these guidelines, which are presented in Appendix F (page F-7) of the Draft EIS, with the information for the subject crossings in Table F.1-2 (page F-3) of the Draft EIS shows that the Howard, Broadway and Spencer crossings would not warrant grade separation based on USDOT criteria. In addition, SEA consulted with the TxDOT during preparation of the Draft EIS and TxDOT did not indicate that grade separation would be needed for any of the grade crossings that would be affected by the Proposed Action and Alternatives. As a result, SEA did not recommend in the Draft EIS any new grade separations other than those proposed by the Applicants as a voluntary mitigation measure. Comments did not provide any information that would cause SEA to add such a recommendation to the Final EIS.

4.8 NOISE AND VIBRATION

Comments generally contended that the new rail line would cause additional noise and vibration that will adversely affect the communities along the existing and proposed rail lines. More specific comments are discussed below.

Summary
Comments stated that "noise, vibration, whistles would have adverse effects on the quality of life in the numerous communities along the proposed and current rail lines, including NASA's Sonny Carter Training Facility." In addition, comments stated that noise would adversely affect students, residents, churches, and libraries. Comments also stated that the areas that would be affected currently have significant existing noise levels from Ellington Field, industrial plants, truck traffic, and existing rail traffic along Highway 3.

Response
Project-related train whistles will not be an issue for NASA's SCTF because there are no planned at-grade highway/rail crossings in that area (see Section 2.2.1 (page 2-5) of the Draft EIS). As discussed in Section 4.5.2.3 of the Draft EIS, all increases in 24-Hour Day-Night Average Noise Level (L_{dn}) for noise-sensitive receptors (e.g., residences, schools, churches, libraries) would be less than or equal to 2 decibels (dBA) for the Build Alternatives. For the No-Build Alternative, noise level increases would be less than or equal to 1.5 dBA. This is not a substantial increase in railroad noise level. In addition, there are no noise-sensitive receptors within the 65 L_{dn} noise contours for the Build Segments. Based on current noise annoyance research, an increase in railroad noise of less than 3 dBA L_{dn} from a baseline of 65 L_{dn} is not considered adverse. As discussed in Section 4.5.2.5 of the Draft EIS and below, the Proposed Action and Alternatives would not result in any vibration impacts along existing rail lines and the impacts on the Build Segments, including the SCTF, would be minimal.

4.8.1 Noise Existing Conditions

Summary
Comments from the Mayor of the City of Shore Acres stated that the baseline noise measurements seem to be suspect. As an example, comment stated that at one of the sites in

Shore Acres that was used for noise level monitoring, the Bayport Loop Draft EIS finds more than double the noise level measured during the Bayport Terminal Draft EIS analysis. Comments also questioned the validity of the measurements near Baywood Country Club because they "showed noise levels considered uninhabitable by the FAA." Comments stated that "the DEIS concludes, in essence, that the affected areas are so noisy anyhow that what difference does two more trains make?"

Other comments, citing the Mayor's comments, stated that "in reviewing the data, we believe that there are no inconsistencies in the data collected for the Bayport [Loop] DEIS and the PHA [Bayport Terminal] DEIS. Instead, it would appear that the differences in noise monitoring results can be accounted for by the fact that the readings were taken at different locations in the Shore Acres residential area. While the Bayport [Loop] DEIS reading was performed at 3527 Bayou Forest, see Bayport DEIS at 3-28-3-29, the PHA [Bayport Terminal] DEIS readings were performed at four different locations (separated by a mile or more from SEA's readings) and were further away from SH 146, a dominant source of vehicular noise identified by SEA."

Response

SEA measured ambient noise at 3527 Bayou Forest in Shore Acres as part of the Bayport Loop Draft EIS. The measured noise level (L_{dn}) at this location was 66 dBA. The comments that question the validity of this measurement apparently compared this value against measured L_{dn} values in the Bayport Terminal Draft EIS such as 57 dBA measured at 138 Oakdale Drive and consider the 9 dBA difference too large to be credible. Ambient noise levels vary depending on a number of factors, including geographic location and proximity to various noise sources. The Bayport Terminal measurements were at locations at least a mile from SH 146, whereas the Bayport Loop measurement location was much closer to this highway. Variation in ambient noise level with location is also illustrated by the Bayport Terminal Draft EIS measurement at 4701 Charles Road where the measured L_{dn} was 67 dBA. The noise level at Charles Road is higher than the value that SEA measured at 3527 Bayou Forest. The noise measurements presented in the Bayport Loop Draft EIS are representative of the noise environment at the particular location and time the measurements were made. The Bayport Loop measurements were conducted with precision calibrated sound level meters traceable to the National Institute of Standards and Technology (NIST).

A number of Federal and state agencies, including the FAA, Department of Housing and Urban Development (HUD), Federal Transit Administration (FTA), FHWA, and acoustical standards organizations, such as the American National Standards Institute (ANSI), consider 65 L_{dn} to be the dividing line between 'unacceptable' and 'acceptable' levels for residential land use. In some cases, land use zoning codes allow for the construction of residential properties in areas exposed to 65 L_{dn} or greater as long as certain building sound insulation treatments are installed.

SEA's noise guidelines require counting of residences and other noise-sensitive receptors where train noise levels would exceed 65 L_{dn} or where train noise would increase ambient noise levels by 3 dBA or more. In the case of Shore Acres, the cumulative increase in noise produced by two trains per day would be less than 3 dBA, as indicated in Section 4.5.2 of the Draft EIS, due in part to the existing noise levels.

4.8.2 Noise Analysis Methodology

Summary
Comments stated that "the methodology concludes that additional noise does not constitute an impact unless the average noise levels across a 24-hour period reach 65 DBA, an extremely high level of noise." Comments further stated that looking at only average noise levels seems particularly inappropriate for trains that are by nature intermittent. Comments also stated that under this methodology a train rumbling through a living room or a whistle blowing outside of a window is not an impact if the average noise across the day and night doesn't reach an unbearable level.

Response
Train noise is intermittent. As a result, train-related noise depends on both the noise level and the number of noise events per day. In addition, the effect of noise on people depends on whether the noise occurs during daytime or nighttime hours. The 24-Hour Day Night Average Noise Level (L_{dn}) (described further below) provides a means for evaluating noise that accounts for variations in timing and intensity of noise events, and has been found to correlate better with human annoyance than does the maximum noise level.[30] As a result, agencies, such as SEA, FRA, and FTA, that oversee train projects, use the L_{dn} for impact assessment.

4.8.3 Noise Impacts

Summary
Comments stated that it is unacceptable to say that because noise from the airfield already occurs additional noise is acceptable. Comments also stated that airport and railroad noise are not equal because the planes do not fly at all hours of the night and the area is very quiet at night. Comments stated that a rail line could cause noise potentially at all hours of the day and night and, as a result, the Draft EIS should look carefully at the effect this would have on neighborhoods and quality of life, considering the thousands of homes within a mile of the proposed lines.

Response
As explained in Section 3.5 (page 3-27) of the Draft EIS, environmental noise is typically evaluated on the basis of the L_{dn}. The L_{dn} is a 24-hour average noise level with a 10-decibel penalty applied to noise events that occur during nighttime hours to account for increased human sensitivity to noise at night. SEA's regulations use the L_{dn} concept and require ID of noise sensitive receptors exposed to a L_{dn} of 65 dBA or greater or locations where increases of 3 dBA or more would occur. According, Sections 3.5 and 4.5 and Appendix G of the Draft EIS use L_{dn} to evaluate noise impacts. SEA notes that there are no noise-sensitive receptors (e.g., residences) at any point along any of the Build Segments that would be exposed to noise levels above SEA's criteria, due to the high existing ambient noise level as well as the distance from existing homes to where the new track would be located. This can be explained intuitively by noting that in areas that are already noisy, a few additional noise events are less likely to be

[30] See for example Federal Agency Review of Selected Airport Noise Analysis Issues, Federal Interagency Committee on Noise (1992).

noticeable than in quiet areas. Also, in noisy environments, ambient noise can mask new noise sources.

Summary
Comments stated that there would be "additional hours of railroad horns blasting through our neighborhoods at night."

Response
As explained in Section 2.2.1.2 of the Draft EIS, the Applicants anticipate operating an average of two trains per day over the proposed new line. As indicated in Section 4.5.1.2 (page 4-28) of the Draft EIS, train horns are normally sounded by the train engineer when the train approaches a public highway/rail at-grade crossing. Thus, horn noise events resulting from the Proposed Action and Alternatives would be brief and would occur two times per day on average. SEA also notes that there are no planned grade crossings along the Build Segments.

Summary
Comments stated that requests from Clear Lake residents for a grade separation at Space Center Boulevard were accommodated by BNSF early in the process. Comments also stated that as a result of the bridges to be constructed at Space Center Boulevard and Red Bluff, there will be no train whistles from the time a westbound train enters the Bayport District until it has passed Clear Lake City and is traveling north on the GH&H line.

Response
Comment noted.

Summary
Comments stated that there would be cumulative noise impacts if both the Bayport Loop and Bayport Terminal projects were constructed. Comments expressed concern about high noise levels in adjacent neighborhoods, particularly in Shore Acres and LaPorte, and stated that these impacts must be fully and fairly explained in the EIS. Comments cited a report submitted with comments on the proposed Bayport Terminal as support for the concern.

Response
As illustrated in Appendix G (Figure G.1-4 on page G-12) of the Bayport Loop Draft EIS, noise from the Build Segments would not affect Shore Acres, LaPorte, or other communities near the proposed Bayport Terminal. Therefore, there would be no cumulative noise impact from the Build Alternatives and the Bayport Terminal. The No-Build Alternative, however, could result in a cumulative noise effect with Bayport Terminal noise depending upon future rail traffic volumes, effect of building shielding, train speed, and other factors, as discussed in Section 5.1.5 of the Draft EIS.

Summary
One comment noted acute sensitivity to loud noises because of a seizure disorder and noted that walking into "a Wal-Mart is too many decibels."

Response
The ambient noise levels in the Bayport area are already quite high (i.e., greater than 65 Ldn in many locations,) irrespective of noise resulting from the proposed new train activity. While SEA sympathizes with people with any disorder, the Draft EIS analysis has shown clearly that the proposed project would not substantively increase noise in the area (see Sections 3.5 and 4.5 of the Draft EIS). SEA notes that there are no residences at any point along any of the Build Segments that would be exposed to noise levels above SEA's criteria.

4.8.4 Vibration Existing Conditions

Summary
Comments stated that the railroad rattles a home.

Response
Freight rail activity can cause rattling sounds in homes, due to either ground-borne vibration or low-frequency airborne noise from the locomotive. These phenomena are common along railroad rights-of-way, and many freight rail lines, including the existing lines such as the GH&H line that would be used by the Proposed Action, were in place before homes were constructed near them. As stated in Section 4.5.2 of the Draft EIS, vibration impacts are evaluated on the basis of maximum level and vibration resulting from additional rail traffic on existing rail lines would not constitute an impact because maximum vibration levels would be essentially unchanged from existing levels.

4.8.5 Vibration Impacts

Summary
Comments expressed a concern about the effect of railroad vibration on homes. Comments stated; "Have you even considered the impact that the vibrations that take place every 30 minutes of these intervals that these trains are coming through there? I just leveled my home. I had huge, about 2-inch cracks in my walls."

Response
Because train speeds over the Build Segments would be low (20 mph maximum), vibration levels due to rail operations also would be low and substantially lower than cosmetic building damage criteria (see Section 4.5.2 (page 4-36) of the Draft EIS). For areas where rail traffic currently exists, vibration resulting from additional rail traffic would not constitute an impact because maximum vibration levels would be essentially unchanged. Cracks can occur in building foundations for any number of reasons, including soil settlement.

Summary
Comments stated that:

> "the DEIS does not adequately address the impact on the Drinking Water Plant of the vibration of the train. The DEIS does not provide any analysis of soils and substratum characteristics beyond a review of the literature of area soils and geology. Alternatives 2B and 2D pass above and through, respectively, the closed Hughes Type IV landfill,

just to the west of the Drinking Water Plant. Due to its nature, the material in the landfill was not compacted, with the result that the loose fill magnifies and transmits external vibrations to the Drinking Water Plant. The Drinking Water Plant already is experiencing excess vibration from the operation of heavy equipment on the adjacent commercial property. The vibration caused by a moving freight train is likely to exacerbate this problem. Increased vibration could result in structural damage, up to and including system failure, as well as system inefficiencies that increase the cost of treating the water. The SEA should conduct a vibration study along these routes to assess the extent of vibration amplification caused by the landfill and its impact on Drinking Water Plant operations as well as the vibrations caused by the train traversing the plant."

Response
Projected vibration levels used in the Draft EIS analysis are based on FTA (1995) data (see Section 4.5.2 (pages 4-35 and 4-36) of the Draft EIS). These data are conservative in that they represent the upper end of the range of measured vibration for numerous soil types. The FTA data indicate vibration levels substantially lower than cosmetic building damage thresholds (0.20 in./sec) (see Section 4.5.2 (page 4-36) of the Draft EIS), which in turn are much lower than structural damage thresholds (nominally 2 in./sec) at a distance of 10 feet from the tracks. The right of way for Alternatives 2B and 2D would extend more than 10 feet on each side of the rail line and the closest current structure at the Water Treatment Plant is more than 100 feet from the proposed route, so no vibration damage or impacts are expected. Further, SEA notes that the comments provide no information to suggest that the Water Treatment Plant would suffer damage at vibration levels below cosmetic building damage thresholds. Finally, SEA notes that poorly compacted soils in fact transmit vibration less efficiently than well consolidated soils

Summary
Comments stated that vibration resulting from the Proposed Action and Alternative 1C could adversely affect or is a considerable environmental and safety hazard to NASA's SCTF and has not been adequately studied. Comments also questioned how the Draft EIS could conclude that there would not be an impact without "finishing the study" and why the evaluation of vibration impacts on NASA's SCTF was not completed before the Draft EIS was issued.

Response
SEA conducted an assessment of potential vibration impacts, in accordance with applicable regulations and standards, and included the results in Section 4.5.2 of the Draft EIS. This assessment included an examination, using data in the available literature, of potential vibration effects of the Proposed Action and Alternatives on NASA's NBL. NASA, a cooperating agency with SEA, worked with SEA to confirm whether or not train noise and vibration would interfere with underwater communication at NASA's NBL. Because of concern associated with this unique research facility, SEA conducted additional specialized field tests in cooperation with NASA as an added precaution to check the conclusions reached based on data from the literature concerning the potential effect of train activity on this facility. The field tests confirmed what the Draft EIS concluded - that trains running on the routes of the Proposed Action or Alternatives would result in minimal if any noise or vibration impacts on the NBL. These field tests were conducted after the Draft EIS was issued due to scheduling issues.

4.9 CLIMATE AND AIR QUALITY

Comments on climate and air quality centered on general concerns about air pollution from chemical releases and train operations. Comments contended that operation of train engines and releases of chemicals being transported on the rail line would contribute to already high levels of air pollution.

Summary
Comments stated that because southeast Harris County is classified as a severe non-attainment area, the addition of diesel and particulates from the trains, transportation and possible spills of hazardous chemicals, and additional industry in the area would "severely affect the air quality that thousands of people breath."

Response
As discussed in Section 3.6.2.2 (page 3-35) of the Draft EIS, southeast Harris County is classified as non-attainment for ozone (O_3). Diesel particulate matter (PM) does not contribute to O_3 air pollution. As discussed in Section 4.6.2 of the Draft EIS, the proposed construction and operation would result in increased nitrogen oxides (NOx) and volatile organic compound (VOC) emissions that do contribute to O_3 air pollution. However, the maximum emission increase in NOx and VOCs from the project would be below the de minimus value of 25 tons/year established by USEPA regulations that would necessitate a detailed air quality impact assessment. Further, as part of the railroad company efforts to reduce O_3 forming air pollution the "Statement of Principles Houston/Galveston Ozone Non-attainment Area Railroad Program" has a planned NOx reduction of approximately 730 tons/year. The increase in emissions that would result from the Proposed Action or any of the Alternatives (except the No-Action Alternative) would only marginally decrease this voluntary planned reduction. As indicated in the Draft EIS, the impact from the Proposed Action and Alternatives on O_3 air quality would be minimal.

Summary
Comments stated that "the impacts of adjacent land's future uses, consequent upon this rail project's approval, on the health and welfare of the many local children must be discussed in this S-DEIS and compared with those from alternative actions." Comments also noted that, "in addition, the impacts on air quality of secondary industrial development along this proposed rail route, a predictable consequence of this projects approval, will be presented in full, with the other Cumulative Impacts in the required S-DEIS. Potential industrial development of lands adjacent to future SJR triggered the development of this rail proposal."

Response
There is no need for a Supplemental Draft EIS because the Draft EIS included a thorough examination of air quality and found that the impacts would be minimal. As discussed in Section 4.10.2 of the Draft EIS and in Section 4.13 of this Final EIS, construction of the Build Alternatives would not lead to increased pressure to develop land for industrial use. As discussed in the Draft EIS, the purpose of the proposed construction and operation of a new rail line into the Bayport Loop is to provide competitive rail service to the shippers located within the Bayport Loop. The comments provide no data or analysis that indicate otherwise.

Summary
Comments stated that fine particle air emissions associated with the Bayport Terminal are projected to increase PM2.5 levels by as much as 3 microgram per cubic meter at the facility. Comments further stated that the diesel locomotives used by BNSF for the Proposed Action would contribute to this increased PM2.5 level and the increase must be quantified. Comments also stated that the combined effects of diesel carcinogens from BNSF locomotives and the Bayport Terminal must be fully disclosed. In addition, comments stated that the Draft EIS neglected to consider the implications of the carcinogenic gases from chemical and industrial plants in combination with the additional air pollution that will come with additional trains that would run through the East End.

Response
The Draft EIS discusses and quantifies diesel PM emissions from both the construction and operation of the Proposed Action and Alternatives. As shown in Section 4.6.2 of the Draft EIS, the total daily average diesel PM emissions over the entire route of the Proposed Action would only be 40 to 60 percent of the diesel PM emissions from vehicle traffic at a single roadway intersection and less than 0.02 percent of the emissions from a single major point source. Clearly, the estimated increase in diesel PM emissions from the Proposed Action and Alternatives would be insignificant in the context of existing conditions or future conditions if the Bayport Terminal is constructed.

4.10 WATER RESOURCES

Comments regarding water resources contended that operation of the rail line would endanger water supplies in the community. Specifically, comments asserted, a chemical spill from a rail car could threaten the community's water treatment plant. Comments also contended that construction and operation of the rail line would put area wetlands at risk.

4.10.1 Impacts

Summary
Comments stated that "the proposed route will detrimentally affect wetlands in southeast Harris County that have already been severely reduced or are potentially hazarded by the PHA's proposed 1200-acre Bayport container port facility. These potential cumulative impacts are not fairly or fully disclosed in the DEIS." Comments added that "irreplaceable prairie pothole wetland assets will vanish as a result of these projects and the resultant industrialization." These comments suggested that the impact of this proposal be evaluated in conjunction with the proposed Bayport Terminal.

Response
In Section 5.1.7 of the Draft EIS, SEA considered the cumulative impact on water resources, including wetlands, from the Proposed Action and the Bayport Terminal project. SEA concluded that the cumulative impact on water resources would not be significantly adverse because the projects would be designed and built in accordance with various Federal, state, and local regulatory programs, compensation would be required for impacts to jurisdictional wetlands and waters of the U.S., and the two projects are located in different drainage basins (except for a minor portion of the eastern end of the Bayport Loop project).

Section 4.8.2 (pages 4-55 and 4-56) of the Draft EIS addressed the impact to and the mitigation proposed by the Applicants to compensate for impacts to coastal prairie habitat (including prairie pothole wetlands) and Section 4.7.5 (pages 4-50 through 4-54) of the Draft EIS addressed wetlands (including both jurisdictional and non-jurisdictional wetlands). SEA concluded that the Proposed Action would have moderate impacts to water resources (including wetlands) and to plant communities (including coastal prairie communities). SEA considered the Applicants' proposed mitigation for these impacts, which would include preservation of a 24-acre coastal prairie/prairie pothole complex, preservation of a 24 to 30-acre bottomland hardwood forest near Armand Bayou that contains about 1.5 acres of gilgai wetlands, creation of a 3.75-acre detention basin near Armand Bayou that includes wetland plantings, and creation of about a 0.4-acre tidal wetland along Taylor Bayou.

Summary
Comments questioned the Draft EIS conclusion that the new rail line will pose no new risks. The comment implied that "a new rail line through virgin wetlands" would pose "more risks than adding to a line already going through navigable watersheds adjacent to roads and highways that facilitate spill response." Another comment suggested that the Final EIS address the "risk of a chemical spill in environmentally sensitive marsh habitats along the rail alignment and bridge crossing of Taylor Bayou." The comment stated that "there is no plan for detainment of potential chemical spills at that bridge or approaches."

Response
The Draft EIS evaluated the potential for a chemical incident to occur and the potential impacts of a chemical spill to a waterway or sensitive environmental community (Appendix D of the Draft EIS, pages D-6, and 4-17 to 4-19), including the EFH tidal marsh in Taylor Bayou (see Appendix J EFH Assessment report pages 7,8, and 9). SEA concluded that the potential likelihood of such a spill is relatively low and evaluated its consequence. Section 2.2.1.2 of the Draft EIS (page 2-7) identified that an access road would be built adjacent to the railroad, which would facilitate emergency response to the incident site. Finally, the Draft EIS noted that the Applicants have a Systems Hazardous Materials Emergency Response Plan and a Hazardous Materials Response Team, which would ensure that there is a team and a plan to respond to incidents at any location along the proposed line.

Summary
Comments stated that the Draft EIS did not address "the potential for water pollution in the Berry Bayou watershed." According to the comments, "Berry Bayou crosses underneath the GH&H rail line, runs parallel to that rail line for a portion, and then Berry Bayou runs through the heart of Meadowcreek Village." As a result, "any accident or incident in the Berry Bayou watershed would have a direct impact on Meadowcreek Village." Other comments reiterated this concern, stating that chemical spills, pollutants and sediments from drainage ditches would adversely affect water resources as the water shed drains heavy precipitation into bayous, lakes, bays, and nature preserves. One comment added that constructing a bridge over Taylor Bayou would destroy tidal marshes and wetlands that cleanse waters.

Response
The Draft EIS did address the potential for water quality impacts to streams located along the existing GH&H line, as well as other existing lines that would carry additional rail traffic under

the No-Action, Build and No-Build Alternatives, in Section 4.7.4.1 (page 4-49). The Draft EIS concluded that there was a small increase in the risk of a hazardous materials incident along these lines. Section 4.2 of the Draft EIS evaluated the consequences of a hazardous materials release to a nearby human population and the environment.

Section 4.7.4.1 (pages 4-48 and 4-49) of the Draft EIS also evaluated the impacts from stormwater runoff during construction and from operations and maintenance activities. SEA concluded that stormwater runoff impacts would be controlled and mitigated by the required stormwater discharge permits (from Harris County, the City of Houston, and the USEPA or TCEQ. In addition, the Applicants have proposed to construct three stormwater detention basins near the Big Island Slough and Armand Bayou crossings.

Sections 4.7.5.1 (pages 4-54) and 4.8.3.1 (page 4-60) of the Draft EIS reported that about 0.25 acres of tidal marsh and tidal shrub EFH along Taylor Bayou would be impacted by the construction of the Build Alternatives. Subsequent refinement to the design by the Applicants since the publication of the Draft EIS, reduced the impact to 0.11 acres of tidal marsh. The Applicants propose to create about 0.4 acres of tidal marsh to compensate for the impacts. SEA has determined that the loss of water quality benefits from the filling of tidal marsh should be adequately mitigated.

Summary
Comments stated that building the rail line would encourage further industrial development affecting wetlands. Comments stated that the proposed line would cause additional industrial land development across the existing undeveloped land area between Armand Bayou on East and Ellington Field on the West, Genoa-Red Bluff on the north and Clear Lake on the south. A comment asserted that "the length of the proposed action impact in the coastal prairie portion of the project is about 26,000 feet or approximately 60 acres of total impact with a 100 foot ROW." The comment added that past experience suggests the project should involve "a minimum 30% wetland coverage or approximately 20 acres of wetlands along this route."

Comments noted that "since the U.S. Supreme Court decision in Solid Waste Agency of Northern Cook County v. Corps of Engineers, isolated wetlands have lost their regulated status according to the interpretation of the Galveston District of the U.S. Army Corps of Engineers." The comment stated that "only by fully understanding the impacts of federal action can the permitting agency make the informed decision required by the U.S. Supreme Court in the Methow Valley case." The commenter submitted an expert report that evaluates the impacts of induced development on non-jurisdictional wetlands. This expert report includes the following conclusions:

> "Although the DEIS for the SJR shows a total impact to jurisdictional wetlands of 2.84 acres, Dr. Jacob's analysis indicates as much as 8.5 acres could be impacted just in the areas identified, that is forested floodplains and in salt marshes."
>
> "The loss of the Ellington prairie pothole complex would have a substantive effect on the water quality and the viability of the unique Armand Bayou Coastal preserve."

"There is a discrepancy between the amount of tidal marsh area reported as affected in the Draft EIS (0.36 acres) and the expert report's findings on the amount of tidal land affected (0.11 acres)."

"The Midland series is on the National Hydric Soils list, and it is rare that these areas do not contain at least some wetlands, yet none are shown in the Draft EIS."

"Any of the 5% delineations in the SJLR project are suspect (and probably the 10 or 25% complexes as well). If wetland characteristics were recognized in the field in these areas, then almost certainly at least 20% of the area is wetland."

Response

SEA reported the impacts to jurisdictional and non-jurisdictional wetlands in Section 4.7.5.1 (pages 4-50 to 4-54) of the Draft EIS. Appendix I of the Draft EIS reported the procedures used in delineating wetlands, calculating the impact acreage, and confirming the delineation. The USACE completed a field review of the wetland delineation and issued a jurisdictional determination, which confirmed the delineation of jurisdictional wetlands. In Texas, the USACE is authorized to make the determination regarding jurisdiction under Section 404 of the Clean Water Act. The Applicants also completed field delineation of isolated or non-jurisdictional wetlands that are not regulated by Section 404. These isolated wetlands are no longer regulated by the USACE's Section 404 program because of a Supreme Court ruling in Solid Waste Agency of Northern Cook County v Corps of Engineers (No. 99-1178). EEE Consulting, Inc, a subconsultant to ICF Consulting, SEA's independent third party consultant for the Draft EIS, reviewed the Applicants' field delineation of jurisdictional and non-jurisdictional wetlands. SEA acknowledges commenters' claims about possible flaws in the wetland delineation, but asserts that the delineation of jurisdictional areas has been confirmed by the USACE and no further evaluation is warranted. Because there is no Federal or state jurisdiction over the isolated wetlands, there is no regulatory confirmation of the delineation of non-jurisdictional wetlands. Nevertheless, SEA conducted an independent review of the delineation of non-jurisdictional wetlands and is satisfied of its accuracy.

SEA acknowledged in Section 4.8.2.1 (page 4-56) of the Draft EIS that isolated wetlands, especially bottomland hardwood forests and coastal prairie wetlands, are important ecological communities. Section 4.8.2 (pages 4-55 to 4-58) of the Draft EIS evaluated the impact to these communities and concluded that the impacts to plant communities would be moderate. Since the publication of the Draft EIS, SEA has prepared a Wetland Assessment of the jurisdictional and non-jurisdictional wetlands that would be impacted by the Build Segments. This Wetland Assessment evaluated the functions and values of wetlands located within the proposed right-of-way, which confirmed the significant value of various wetland types, including bottomland hardwood forest/gilgai wetlands. SEA recognized that the Applicants have developed a mitigation plan that offers compensation for impacts to jurisdictional and non-jurisdictional wetlands, including coastal prairie/prairie pothole wetlands and bottomland hardwood forest.

SEA also reported in the Draft EIS that the reported impacts to jurisdictional and non-jurisdictional wetlands may be revised slightly after publication of the Draft EIS because of refinements to the design. In fact, the Applicants have developed design refinements that reduce the jurisdictional wetland impacts slightly from the amounts reported in the Draft EIS.

Chapter 5 of the Draft EIS evaluated the cumulative impacts from "past, present, and reasonably foreseeable future actions' such as additional industrial development along the rail line. Section 5.0 of the Draft EIS considered the potential impacts of nine planned or reasonably foreseeable projects and concluded that the impacts to the natural and human environment and infrastructure would not be adverse.

Summary
Some comments expressed concern about the rail track causing higher levels of flooding. The comments stated that a build-up of the rail line would result in a "dam effect" that could cause additional flooding in the cases of heavy rain or hurricanes.

Response
As described in Sections 4.7.3 (pages 4-43 to 4-45) and 4.7.4.1 (pages 4-48 and 4-49) of the Draft EIS, SEA evaluated the impacts to floodplains and water quality from stormwater runoff. SEA concluded that the impacts would be minor because of good drainage design and compliance with the various regulatory programs, including the floodplain design requirements of the Harris County Engineering Division and the Flood Control Division and the stormwater management requirements of the USEPA, TCEQ, Harris County, and the City of Houston. The design requirements of these regulatory programs, the proposed bridging of most waterways, and the proposed stormwater detention basins should minimize the likelihood of additional flooding.

Summary
The TCEQ submitted extensive comments and questions on the Draft EIS, as follows:

> "The Texas Commission on Environmental Quality (TCEQ) recommends bridging of wetlands when practicable, specifically those located in Armand Bayou and Big Island Slough, to further minimize impacts.
>
> "Please indicate on diagrams dated December2002 (submitted with the correspondence dated January 29, 2003), the acreage of wetland fill/excavation on sheets 7/22, 8/22, 9/22, and 10/22.
>
> "Please describe in greater detail the proposed 3.8 acres detention mitigation area that will be planted with native hardwood species in Armand Bayou on sheet 6/22 on the diagram dated December 2002 (submitted with correspondence dated January 29,2003). Specifically, what are the proposed elevations of the area and how will emergent wetland species be established.
>
> "In the Draft EIS, the proposed preferred alignment will bisect the 52-acre wetland mitigation site east of Ellington Field for impacts resulting from the construction of Space Center Boulevard. If the mitigation site cannot be avoided, the TCEQ recommends bridging it to minimize impacts.
>
> "In the Draft EIS, the applicants state on page 4-48 that some hydraulic dredging may be necessary to construct pier footings for the bridge crossing in Taylor Bayou. The TCEQ request that a 300 mg/l of Total Suspended Solids requirement for decant water

from the disposal area to be stated in the Final Environmental Impact Statement (Final EIS).

"In the Draft EIS, under the subheading 'Operation and Maintenance Impacts', the applicants state that indirect impacts due to shading may occur as a result of the construction of the bridges. Have these impacts been accounted for in the calculation of the total impacts of the project, specifically, for the tidal marshes within Taylor Bayou?

"In the Draft EIS, page 5-7, under the subheading 'Water Resources,' the estimated impacts for the Bayport terminal should be verified and updated in the Final EIS.

"The TCEQ recommends rewording 'SEA expects that surface water and wetlands impacts would be adequately mitigated by the relevant regulatory programs...' so that the statement indicates that the applicants are responsible for mitigating impacts to surface water and wetlands as required by the regulatory programs.

"Please describe the proposed monitoring plan and success criteria in greater detail.

"Please specify a conservation easement or other restrictive covenant for the proposed mitigation site."

Response

SEA contacted the TCEQ to clarify some of TCEQ's comments regarding the Draft EIS. Several of TCEQ's comments apply to specific information submitted by the Applicants or specific conditions that could be required as part of the Section 404 Permit process. For example, establishment of a specific total suspended solids (TSS) limit for discharges from the possible dredging activity for the footings for the Taylor Bayou bridge, for the specific design elevations, success criteria and monitoring plan for the mitigation sites, and for the legal instrument that would be used to preserve the mitigation property would be required as part of the Section 404 permit from the USACE. Hydraulic dredging and associated decant discharges from the construction of pier footings for the bridge over Taylor Bayou, would have to meet TCEQ's Water Quality Standards and would be conducted in accordance with TCEQ's Technical Report DS-7810, Guidelines for Designing, Operating and Maintaining Dredged Material Containment Areas. SEA acknowledges the TCEQ's recommendations to bridge wetlands when practicable, especially those located along Armand Bayou, Big Island Slough, and the 52-acre mitigation site for Space Center Boulevard. SEA contends that the Applicants have minimized and avoided impacts to the maximum extent practicable. Lengthening of the proposed bridges over Armand Bayou and Big Island Slough to span all wetlands would be cost prohibitive and would create engineering design problems with the proposed turnouts/sidings. Constructing a bridge to span the 52-acre mitigation site would also be cost prohibitive and would present engineering design problems because of the embankment needed for the proposed grade-separated crossing of Space Center Boulevard.

SEA acknowledges the comment that the Applicants are responsible for mitigating impacts to surface water and wetlands as required by applicable regulatory programs and has revised the language on page 6-4 of the Draft EIS as recommended.

The Draft EIS did consider and report the effects of shading from bridges. Sections 4.8.3 and 4.8.3.1 of the Draft EIS addressed the impact to EFH from construction and shading from the bridges. The Draft EIS also considered the impacts to wetlands from indirect actions, including shading, in Section 4.7.5 (page 4-50).

4.10.2 Mitigation

Summary
Comments highlighted the Applicants' voluntary mitigation efforts:

> "24 acres of mitigation has been set aside for conservation near Armand Bayou. And BNSF's wetlands mitigation plan will more than offset the minimal damage to existing wetlands during construction."
>
> "At the Taylor Bayou crossing, BNSF developed an alternative crossing concept, identified as alternative 1B of the Draft Environmental Impact Statement, that reduces impacts of the tidal marshes by 75 percent. Even now during the final stages of design we are continuing to look for innovative approaches to further reduce wetland impacts and are designing the track structure with berms and flow check areas in an effort to improve water quality."

Response
SEA acknowledges that the Applicants have completed avoidance and minimization actions to reduce water quality and wetland impacts and have included a number of mitigation measures to compensate for the impacts to wetlands and water quality.

Summary
Comments addressed issues of wetland mitigation, stating that the Board has only a voluntary plan for one-to-one mitigation. The comment stated that EPA and any other Federal agency have never agreed to this sort of arrangement and that adoption of this plan would set a new standard for wetlands mitigation. As a result, the comment added, Congress should take action on the issue.

Other comments highlighted the mitigation measures discussed in three specific sections of the Draft EIS: Section 3.7.2.4 (Water Resources-Wetlands), Section 4.7.5.1 (Water Resources-Impact Analysis-Wetlands-Build Alternatives), and Section 4.8.2.1 (Biological Resources-Impact Analysis-Plant Communities-Build Alternatives). The comments acknowledged that these sections discuss constructing small berms where possible in the coastal prairie wetlands near Ellington Field on the outside of the proposed drainage ditches if an isolated wetland is bisected by or adjacent to the construction footprint. The Draft EIS also states that, to minimize plant damage, pipe culverts would be installed through the railroad bed to minimize the potential impact on surface drainage patterns in the coastal prairie habitat near Ellington Field. The comment expressed concern "that insufficient analysis was conducted to determine specifically how the hydrology on this site functions and what effects might actually be rendered by habitat fragmentation and noise/activity associated with the project." The comment added that this habitat type is increasingly scarce in this region and "this site was intended to be restored and set aside as a purposely-contiguous property representing a "true gilgai, uplands/wetlands prairie

complex" [USACE PN #21754(01)]." The comments state that "at this time the Foundation prefers the applicant's proposed alternative over the others presented because of its minimized wetland and Texas prairie dawn impacts." The comment asked for further study to facilitate "an accurate analysis of site hydrology and cumulative impacts to this location."

Comments also stated that "USACE permit application 22823 (posted 07 February 2003) ... notes a proposed 0.35-acre detention basin west of Armand Bayou and Big Island Slough, near the proposed Taylor Bayou Bridge." The comment asked that the Final EIS discuss this detention area and its associated impacts to existing bottomland hardwood habitat.

Response

The Draft EIS noted that the Applicants must satisfy the mitigation requirements of the USACE for impacts to jurisdictional wetlands through the Section 404 permit process and the mitigation requirements of the NMFS for impacts to EFH through the MSFCMA. The Draft EIS recognized that the conceptual mitigation plan proposed by the Applicants had not been approved by the regulatory agencies (page 4-54 and 4-60). However, the NMFS, in a letter dated March 31, 2003, approved the mitigation plan for impacts to EFH and provided their final conservation recommendations for EFH. SEA has incorporated these conservation measures in the Final EIS. The statements in the Draft EIS about the proposed mitigation do not limit or constrain the USACE or NMFS from requiring additional mitigation or revising the type or ratio of mitigation proposed.

Sections 4.8.2 (page 4-56) and 4.8.3 (pages 4-58 through 4-60) of the Draft EIS evaluated the impact of fragmentation of plant communities, noise impacts to wildlife, and possible alteration of the hydrology of the coastal prairie. The Draft EIS also evaluated the Applicants' avoidance and minimization actions and the proposed mitigation. For example, the Draft EIS reported that more than 50 percent of the proposed corridor is located in or adjacent to existing pipeline, transmission or roadway corridors and more than 20 percent of the corridor is in areas already disturbed by grazing and development (page 4-59). Therefore, the impact from habitat fragmentation should be minimized. The fragmentation of the 52-acre wetland mitigation site near Space Center Boulevard should not be adverse because the Build Alternatives would cross at relatively narrow points of the mitigation area and they would cross at a point where the site is already bisected by a utility corridor. SEA has received no comments or concerns about this proposed crossing from the USACE, which is the Federal agency that required the mitigation for the wetland impacts from Space Center Boulevard.

Section 4.7.5.1 (page 4-51) of the Draft EIS also considered the potential impacts due to hydrological modification of coastal prairie wetlands. The mitigation proposed by the Applicants includes installation of low permeability berms and pipe culverts through the rail line fill, which should maintain the general drainage patterns in the area. SEA's determination in the Draft EIS was that the Proposed Action would have a moderate impact upon plant communities. This determination was based in part on the fact that these wetlands are hydrologically isolated, which means that the potential for significant hydrological alteration is relatively low. This determination is consistent with the zone of influence analysis that was completed by the Applicants for the U.S. Fish and Wildlife Service (USFWS) as part of the consultation required by Section 7 of the Endangered Species Act, as explained in Section 4.8.4 (page 4-63) of the Draft EIS. The zone of influence analysis determined that the hydrological influence of the

proposed ditches would only extend out about 10 feet from the edge of the proposed ditches and would cause insignificant drawdown from the nearby wetlands. In addition, if the project moves forward, the Applicants would have to conduct detailed drainage and stormwater management calculations to satisfy the erosion and sediment control and stormwater discharge permit requirements. As discussed in Section 4.8.3.1 of the Draft EIS (page 4-62), these studies would provide a more detailed hydrological analysis and would require that the applicant manage stormwater runoff (such as the first 0.5 inch) that drains into regulated drainage ditches/storm sewers. Finally, the Applicants' proposed coastal prairie preservation site includes pristine coastal prairie habitat and coastal prairie wetlands, including about 17 populations of the endangered Texas prairie dawn. Because of the proposed design and avoidance measures and the proposed mitigation, SEA concluded that the impacts to plant communities would be moderate.

SEA reviewed the proposed compensation plan for impacts to coastal prairie, wetlands, EFH, and bottomland hardwood forest and concluded that the plan is satisfactory compensation for the impacts to these resources. Since the publication of the Draft EIS, the Applicants have enhanced the mitigation plan by adding a new 3.75-acre detention basin near Armand Bayou that would include wetland plantings and increasing the proposed compensation acreage for tidal marsh/EFH from 0.32 acres to 0.40 acres. In addition, the proposed bottomland hardwood forest preservation/mitigation site may be increased to about 30 acres in size from the 24 acres reported in the Draft EIS. SEA also recognizes that the compensation required for impacts to jurisdictional wetlands, waters of the U.S. and EFH are determined through the regulatory permitting process for the Section 404 permit and the MSFMCA. SEA has been coordinating with these agencies and has received favorable comments about the avoidance, minimization, and mitigation steps that were taken for the project. On March 31, 2003, SEA received a letter from the NMFS approving the mitigation plan for impacts to EFH.

SEA is aware that the Applicants have refined the proposed design since the publication of the Draft EIS and now propose to construct 3 detention basins near Armand Bayou, Big Island Slough, and a tributary of Armand Bayou. The Applicants submitted this information on January 29, 2003, as part of a supplemental package to the Section 404 Permit Application. According to information provided in the January 29, 2003, submittal, the proposed detention basins near Armand Bayou and the unnamed tributary to Armand Bayou would be located in grazed pastureland. The proposed detention basin near Big Island Slough would impact a previously disturbed site that is dominated by a dense stand of Chinese tallow trees. This proposed basin would potentially impact a small area of bottomland forest dominated by willow oak. The Applicants are currently re-evaluating the shape of the proposed basin to avoid the willow oak habitat, if possible.

Summary

Comments highlighted several mitigation issues and asked that the Final EIS address these in more detail. Comments suggested that the proposed mitigation ratios be expressed in terms of the USACE requirements for the Section 404 permit. The comment added that, unless the Petitioners will agree to do more mitigation than the USACE would require, this voluntary mitigation measure should read:

"Subject to coordination with the USACE, TPWD, and other appropriate Federal and state agencies, Petitioners shall negotiate for the purchase for conservation the amount and type of habitat the USACE determines is necessary to mitigate the loss of bottomland hardwoods and gilgai wetland depressions."

The comment stated that the Draft EIS does not propose measures to ensure that mitigation properties are maintained and continue to be used for mitigation. According to the comment, mitigation measures are effective only if mitigation property is acquired and restricted in such a manner that it cannot be converted from mitigation use.

Comments added that, in several places, the Draft EIS states that "the Project must secure or comply with a Storm Water Quality Permit from Harris County. Draft EIS at 3-38, § 3.7.1; 4-48, §4.7.4.1; 4-62, § 4.e.3.1." According to the comment, the Harris County Storm Water Quality Permit will only apply to storm water discharges to Harris County's storm sewer system and if any portion of a Build Alternative discharges storm water into the City's storm sewer system, which includes storm drainage ditches, the Applicants must obtain a Storm Water Quality Permit from the City and must implement Best Management Practices (BMPs) to control pollutants in storm water. The comment cited City of Houston Code of Ordinances, Chap. 47, art. XII.

Response
SEA acknowledges that if any portion of the project discharges stormwater into the City of Houston's regulated storm sewer system, then the Applicants must obtain a Storm Water Quality Permit from the City. Chapter 5 of the Final EIS includes this revised language.

SEA acknowledges that the Applicants must satisfy the mitigation required by the USACE in the Section 404 permit process. Sections 4.7.5.1 (page 4-54) and 4.8.3.1 (page 4-60) of the Draft EIS recognized that the conceptual mitigation plan proposed by the Applicants had not been approved by the regulatory agencies. The statements about the proposed mitigation in the Draft EIS do not limit or constrain the USACE from requiring additional mitigation or revising the type or ratio of mitigation.

SEA acknowledges that the Draft EIS did not address the specifics of how the proposed wetland compensation sites would be preserved or managed. SEA recognizes that the specific requirement for preservation/protection and monitoring of the mitigation sites would be established by the regulatory agencies (especially the USACE) through the Section 404 permit process. The NMFS has recommended various monitoring and success criteria for the EFH/tidal marsh mitigation site near Taylor Bayou. SEA has agreed to adopt the NMFS's EFH conservation recommendations, as part of the Final EIS, including the requirements for monitoring and success criteria (see letter from SEA to NMFS dated April 18, 2003 in Appendix D).

Summary
Comments addressed "surface water and wetland impacts along a tidal portion of Armand Bayou west of Red Bluff Road for all of the proposed project alternatives." The comment stated that the "Foundation appreciates the applicant's attempts to compensate for wetland function loss that would be associated with the proposed project by incorporating linear storm water detention berms and locating the bridge adjacent to an existing pipeline and transmission line." However,

the comment stated that further study might be necessary "to verify that the detention basins will in fact adequately replace any lost wetland function and provide sufficient non-point runoff pollutant attenuation for the bayou."

Response
In the Draft EIS, SEA evaluated the conceptual mitigation plan proposed for impacts to coastal prairie habitat, including non-jurisdictional wetlands and jurisdictional wetlands such as bottomland hardwood forest, tidal wetlands, gilgai wetlands, etc. The Draft EIS also evaluated the impacts to water quality and the proposed measures to protect water quality. SEA concluded in Sections 4.7.4.1 (page 4-49) and 4.7.5.1 (page 4-51) of the Draft EIS that the impacts to wetlands and surface waters would be moderate. Since the publication of the Draft EIS, the Applicants have proposed to create stormwater detention basins at Armand Bayou, an unnamed tributary to Armand Bayou, and Big Island Slough. The additional level of stormwater treatment provided by these basins should further reduce the impact to surface waters from stormwater runoff and should provide at least partial containment of a chemical spill that occurred upslope of the basin. The Draft EIS noted that the Applicants must secure a stormwater discharge permit from the TCEQ or USEPA for construction related activities. This permit would require implementation of BMPs during construction activities that are designed to protect water quality.

SEA has concluded that the Applicants' stormwater management plans adequately mitigate for the impacts from stormwater runoff. However, SEA also recognizes that various regulatory programs, including the USACE Section 404 permit program, the TCEQ's or USEPA's NPDES stormwater discharge program, and the Harris County/City of Houston's Stormwater Discharge Program, would also evaluate the mitigation plan for impacts to wetlands and waters of the U.S. and the plans for stormwater management. Compliance with these regulatory programs/permits would ensure adequate compensation for impacts to wetland functions and stormwater runoff.

Summary
Comments stated that, although some have criticized the proposed mitigation as insufficient, "the proposed mitigation ratios exceed the level typically required by resource agencies whether based on the ratio for jurisdictional, high quality wetlands or the ratio which accounts for non-jurisdictional and low-quality wetlands." According to the comment, "the mitigation ratios for jurisdictional aquatic habitats (waters of the U.S.) average 3.75 to 1 for alignment 1/1B (Applicants' preferred route) and 3.35 to 1 for alignment 2D/1B. For jurisdictional habitats types, mitigation ratios are greater than 20 to 1 for emergent wetlands, 7.7 to 1 for forested gilgai depressions, and 3.6 to 1 for tidal marsh and shrub habitats. SJRL has developed the mitigation measures to compensate for unavoidable impacts to both jurisdictional and non-jurisdictional water resources. Therefore, the cumulative mitigation ratio proposed by SJRL for all aquatic habitats for the preferred alignment 1/1B is approximately 1.5 to 1. Additionally, SJRL rail design will include stormwater berms along the corridor and multiple stormwater detention basins to compensate for construction activities in floodplains. The berms and detention basins will perform beneficial functions of attenuation of peak runoff flows from the project area and filtration of sediment and potential pollutants to maintain water quality. Considering the disturbed condition of many of the wetland habitats along the proposed routes due to past drainage activities and exotic plant colonization, SJRL firmly asserts the proposed mitigation measures for water resources will provide a substantial net benefit to the aquatic environment in

the project area. Furthermore, the mitigation plan is currently under evaluation by the Corps of Engineers and the Corps of Engineers will independently determine if the plan is adequate."

Response
SEA acknowledges the efforts of the Applicants to create a mitigation plan that compensates for the impacts to jurisdictional and non-jurisdictional wetlands, bottomland hardwood forest, coastal prairie habitat, preserves multiple populations of the endangered Texas prairie dawn, and reduces the impacts of stormwater runoff.

4.11 BIOLOGICAL RESOURCES

4.11.1 Impacts

Summary
Comments addressed the mitigation measures discussed in three specific sections:

1. Section 3.7.2.4 (Water Resources-Wetlands),
2. Section 4.7.5.1 (Water Resources-Impact Analysis-Wetlands-Build Alternatives), and
3. Section 4.8.2.1 (Biological Resources-Impact Analysis-Plant Communities-Build Alternatives).

Comments acknowledged that these sections discuss constructing small berms where possible in the coastal prairie wetlands near Ellington Field. These berms would be constructed on the outside of the proposed drainage ditches if an isolated wetland were to be bisected by or adjacent to the construction footprint. The Draft EIS also states that, to minimize plant damage, pipe culverts would be installed through the railroad bed to minimize the potential impact on surface drainage patterns in the coastal prairie habitat near Ellington Field. Comments stated that, despite these measures, insufficient analysis was conducted to determine specifically how the hydrology on this site functions and what effects might occur with habitat fragmentation and noise and activity associated with the project. Comments added that this habitat type is increasingly scarce in this region and "this site was intended to be restored and set aside as a purposely-contiguous property representing a 'true gilgai, uplands/wetlands prairie complex' [USACE PN #21754(01)]." Comments stated a preference for the Applicants' Preferred Alternative because of its minimized wetland and Texas prairie dawn impacts; however, comments asked for further study to facilitate an accurate analysis of site hydrology and cumulative impacts to this location.

Response
Section 4.8.2.1 of the Draft EIS evaluated the impacts of fragmentation of plant communities (page 4-56) and Section 4.8.3.1 of the Draft EIS evaluated noise impacts to wildlife and possible alteration of the hydrology of the coastal prairie wetlands (pages 4-58 to 4-60). The Draft EIS also evaluated the Applicants' avoidance and minimization actions and the proposed mitigation. For example, Section 4.8.3.1 of the Draft EIS (page 4-59) reported that more than 50 percent of the proposed corridor is located in or adjacent to existing pipeline, transmission or roadway corridors and more than 20 percent of the corridor is in areas already disturbed by grazing and development. Therefore, the impact from habitat fragmentation should be minimized. The fragmentation of the 52-acre wetland mitigation site near Space Center Boulevard should not be

adverse because the Alternatives would cross at relatively narrow points of the mitigation area and the Proposed Action would cross at a point where the site is already bisected by a utility corridor. SEA has received no comments or concerns about this proposed crossing from the USACE, which is the Federal agency that required the mitigation for the wetland impacts from Space Center Boulevard.

Section 4.7.5.1 (page 4-51) of the Draft EIS also considered the potential impacts due to hydrological modification of coastal prairie wetlands. The mitigation proposed by the Applicants includes installation of low permeability berms and pipe culverts through the rail line fill, which should maintain the general drainage patterns in the area. SEA's determination in the Draft EIS was that the Proposed Action would have a moderate impact upon plant communities. This determination was based in part on the fact that these wetlands are hydrologically isolated, which means that the potential for hydrological alteration is relatively low. This determination is consistent with the zone of influence analysis that was completed by the Applicants for the USFWS as part of the consultation required by Section 7 of the Endangered Species Act (Section 4.8.4 (page 4-63) of the Draft EIS). The zone of influence analysis determined that the hydrological influence of the proposed ditches would only extend out about 10 feet from the edge of the proposed ditches and would cause insignificant drawdown form the nearby wetlands. In addition, if the project moves forward, the Applicants would have to conduct detailed drainage and storm water management calculations to satisfy the erosion and sediment control and storm water discharge permit requirements. As discussed in Section 4.8.3.1 of the Draft EIS (page 4-62), these studies would provide a more detailed hydrological analysis and would require that the applicant manage storm water runoff (such as the first 0.5 inch) during construction and operation of the facility. Finally, the Applicants' proposed coastal prairie preservation site includes relatively pristine coastal prairie habitat and coastal prairie wetlands, including about 17 populations of the endangered Texas prairie dawn. Because of the proposed design and avoidance measures and the proposed mitigation, SEA concluded that the impacts to plant communities would be moderate.

Section 4.8.3.1 (page 4-60) of the Draft EIS also considered the impact on wildlife from noise related to construction and operation of the rail line. SEA concluded that the impact would be minor because of the relatively short duration of the construction (16 to 21 months), the fact that only two trains would use the track per day, and the existing noise environment from industrial activity and especially from air traffic at Ellington Field. SEA determined that the additional noise impacts to wildlife would be minor.

Summary
Comments also addressed mitigation measures in two additional sections and a table:

1. Section 4.8.3 (Biological Resources-Impact Analysis-Fish and Wildlife Resources Including EFH),
2. Section 6.3 (Applicants' Voluntary Mitigation Measures), and
3. Table 4.7-3 (Approximate Wetland Impacts of Build Alternatives).

These sections discuss potential EFH impacts and subsequent mitigation measures. Comments asserted that potential impacts from the Proposed Action, Alternative 1C, 2B, and 2D to tidally influenced wetland (EFH) would occur at the site of the proposed bridge crossing of Taylor

Bayou. However, comments added, there are discrepancies among different subsections of the Draft EIS on the total impacts to EFH. According to comments, Section 4.8.3.1 of the Draft EIS indicates these Alternatives would impact 0.11-acre of tidal emergent wetland and 0.14-acre of tidal shrub wetland, totaling 0.25-acres; However, comments stated, Section 6.3 and Table 4.7.3 of the Draft EIS indicate total impacts to EFH would be 0.36-acre. Comments asked that these discrepancies be addressed in the Final EIS. Comments added that Section 6.3 of the Draft EIS indicates that the Applicants propose to mitigate for impacts to this resource at roughly a 1:1 ratio. Comments suggested that any impacts to EFH should be mitigated for at least at a 2:1 ratio.

Response
Table 4.8-2 (page 4-59) of the Draft EIS identified the potential impact to EFH, which includes tidal marsh, tidal shrub wetlands, stream substrate, and open water located along Taylor Bayou, which is the only location where EFH is located. Table 4.8-2 of the Draft EIS showed that the Proposed Action would impact about 0.11 acres of tidal marsh (designated as EFH) and 0.14 acres of tidal shrub wetland (designated as EFH) along Taylor Bayou. Table 4.7-3 of the Draft EIS identified the approximate impacts to all wetlands throughout the entire corridor. The approximate impact to tidal wetlands throughout the entire corridor was shown as 0.36 acres. The perceived discrepancy is due to the fact that some tidal wetlands in the corridor are not designated as EFH. Therefore, the estimated impact to tidal wetlands (0.36 acres) is greater than the impact to tidal wetland designated as EFH (0.25 acres).

The Applicants submitted a mitigation plan to USACE, which includes compensation for the impacts to all types of wetlands and EFH as described in Sections 4.7.5.1 and 4.8.3.1 of the Draft EIS (pages 4-51, 4-54 and 4-60). The compensation plan for EFH impacts includes the restoration of stream bottom (by removal of concrete debris) and creation of about 0.4 acres of tidal marsh along Taylor Bayou. Since the publication of the Draft EIS, the Applicants have further reduced the impacts to tidal wetlands/EFH by proposing to use a retaining wall on the eastern bank of the Taylor Bayou crossing. This revised plan was submitted to the USACE and NMFS as part of a supplemental package to the Section 404 permit application. The revised plan would reduce the EFH impact from 0.25 acres to 0.11 acres of tidal shrub wetlands along Taylor Bayou. Under the revised plan, the compensation would increase from 0.32 acres of tidal marsh creation to 0.40 acres. Therefore, the ratio of compensation to impact is much higher than that reported in the Draft EIS. SEA has concluded that the overall wetland and EFH compensation package is satisfactory. The NMFS has approved the compensation plan for the EFH impacts along Taylor Bayou. However, other regulatory agencies, especially the USACE, may require more compensation acreage or a different approach from that which is proposed. SEA has determined to let these agencies make the final determination about jurisdictional wetland impacts and compensation ratios.

4.11.2 Mitigation

Summary
Comments questioned the usefulness of the Applicants' VMM #11 in Chapter 6 of the Draft EIS. "This voluntary mitigation measure only states that the Petitioners shall negotiate." There is no requirement to actually purchase the approximately 24 acres of bottomland hardwood habitat for conservation. Therefore, the Petitioners could negotiate forever and never actually obtain the

property, and would continue to be in compliance with the Draft EIS. This item should be modified to state that the Petitioners "shall negotiate and purchase" within a reasonable period of time the specified property.

Response
As stated in this Final EIS, SEA is recommending that the Board impose all of the Applicants' voluntary mitigation measures as conditions in the final decision, should the Board grant approval for the project. In addition, the mitigation measure referenced in the comment states that the "habitat will be acquired." This mitigation measure is also part of the compensation proposed by the Applicants for the impacts to wetlands and waters of the U.S. contained in the pending Section 404 permit application. The Applicants will have to purchase the 24 acres or an equivalent mitigation area as a condition of the Section 404 permit from the USACE. SEA believes that no modification of the mitigation measure is necessary.

Summary
Comments stated that the proposal to mitigate loss of EFH on a 1:1 basis is inadequate, especially because the proposal should be designed to create new habitat, not to restore or expand existing marsh. Comments argued that the difficulty in establishing new wetland areas underlies the customary requirement that mitigation occur at higher than 1:1 ratios. Comments added that the mitigation measures should address permanent protection for the mitigation areas.

Response
Since the publication of the Draft EIS, the Applicants have further reduced the impacts to tidal wetlands designated as EFH by proposing to use a retaining wall on the eastern bank of the Taylor Bayou crossing. This revised plan was submitted to the USACE as a supplement to the Section 404 permit application. The revised plan would reduce the impact from 0.25 acres of tidal shrub and tidal marsh wetlands to 0.11 acres of tidal shrub wetlands. Under the revised plan, the compensation plan would increase the creation of 0.32 acres of tidal marsh to 0.40 acres. Therefore, the ratio of compensation to impact is much higher than reported in the Draft EIS. The proposed mitigation plan for EFH would create about 0.4 acres of new tidal marsh along the shoreline of Taylor Bayou, and would remove concrete and other debris from the stream bottom thus restoring natural stream bottom (Section 4.8.3.1 of the Draft EIS, page 4-60). In SEA's experience, this type of mitigation has the greatest likelihood of success because there are nearby marshes that provide a good seed source for the new site, because plugs of marsh grasses would be planted at the site, and because the existing adjacent marsh serves as a reference or benchmark to create the proper elevation for the mitigation site.

SEA has concluded that the overall wetland and EFH compensation package is satisfactory. The NMFS approved the mitigation plan for impacts to EFH, including tidal marsh along Taylor Bayou. However, other regulatory agencies, especially the USACE, may require more compensation acreage or a different approach (based on wetland functions) from that which was proposed. SEA recognizes that the Applicants would need to satisfy the regulatory compensation requirements of the USACE. SEA notes that other comments spoke favorably of the compensation package proposed for impacts to wetlands and coastal prairie habitat.

SEA acknowledges that the Draft EIS did not address the specifics of how the proposed compensation sites would be preserved. Since the publication of the Draft EIS, the NMFS has

provided SEA with recommendations for monitoring and success criteria for the EFH/tidal marsh mitigation site. SEA has adopted the NMFS's EFH conservation recommendations. SEA understands that the specific requirement for preservation/protection of the mitigation sites would be established by the regulatory agencies (especially the USACE) involved in the Section 404 permit process. SEA asserts that no further action by the Board is warranted.

Summary
Comments summarized the Draft EIS mitigation measures:

> "Only about seven acres of wetland habitat would be affected, of which less than three acres will be jurisdictional wetland. To compensate for those unavoidable impacts, BNSF is proposing to reserve more than 48 acres of habitat in three different ecosystems: the coastal prairie, bottomland hardwoods, and the essential fish habitats."
>
> "BNSF's preliminary review did not indicate any affected endangered species. During the process, however, BNSF became aware of the possibility of suitable habitat for an endangered plant species, the Texas Prairie Dawn. Through BNSF's effort, 18 previously unknown populations of this endangered Texas Prairie Dawn, a small flowering plant, that was not known to occur in this area before, was found. BNSF has purchased and is setting aside a habitat for these newly identified plants."
>
> "BNSF continues to explore ways to use the 24-acre mitigation site to create a larger coastal prairie conservation site in the area, which otherwise might eventually be developed. This would potentially also help to ensure that these open spaces near the rail line would remain undeveloped."

Response
SEA notes that some comments viewed the overall compensation package favorably. SEA has determined that the compensation package offered by the Applicants is adequate and offers mitigation that is based on the ecological communities impacted including both regulated/jurisdictional and non-regulated areas. This ecologically-based approach is consistent with recent guidance from the USEPA and the USACE, which recommends an ecological basis to compensation rather than a ratio based compensation approach.

Summary
Comments discussed mitigation measures presented in the Draft EIS, stating the following:

> "The Bayport Draft EIS concludes that the preferred alignment could impact approximately 18.65 acres of coastal prairie and 11.63 acres of bottomland hardwood forest. The Applicants' preferred alignment minimizes the impacts to these habitats compared to alternative routes."
>
> "The Applicants' Voluntary Mitigation Measures proposed to permanently set aside 24 acres of coastal prairie habitat, which includes up to 17 populations of the endangered Texas Prairie Dawn (Hymenoxys texana) and 24 acres of floodplain riparian hardwood forest along Armand Bayou to mitigate for these non-regulated habitat types."

"Through refinement of the project design and use of retaining walls at Taylor Bayou, the Applicant has further minimized the impacts to tidal marsh and shrub wetlands to 0.11 acres. The Applicant proposed to develop approximately 0.4 acres of tidal marsh habitat as documented in the Voluntary Mitigation Measures (Bayport Draft EIS, page 6-9) on Harris County property managed by Armand Bayou Nature Center staff. According to comments, this mitigation effort would result in a replacement ratio of approximately 3.6 to 1 for Essential Fish Habitat in the immediate project vicinity."

Response
SEA has received a letter from the NMFS dated March 31, 2003, which includes their final EFH conservation recommendations. SEA has adopted those recommendations in the Final EIS (see letter from SEA to NMFS dated April 18, 2003 in Appendix D) and has recommended them for inclusion in the Board's final action. This action will satisfy the procedural requirements of the MSFCMA.

Summary
NOAA Fisheries stated that the project applicant has minimized the proposed impacts to EFH from 1.12 acres to 0.34 acre and would provide mitigation as compensation for these unavoidable impacts. The Draft EIS includes a general description of the conceptual mitigation plan to create 0.32 to 0.4 acre of tidal marsh along Taylor Bayou; however, a more detailed version was submitted for interagency comments during the standard review period for the required Clean Water Act Section 404 permit.

Response
SEA acknowledges the comments and has continued to coordinate with the NMFS to ensure compliance with the MSFCMA. On March 31, 2003, NMFS provided final EFH conservation recommendations to SEA. These conservation measures have been incorporated into the Final EIS (Appendix D) and have been recommended for inclusion in the Board's final decision, if the Board grants final approval for the project.

4.12 TOPOGRAPHY, GEOLOGY, AND SOILS

4.12.1 Existing Conditions

Summary
Comments stated that the geology section of the Draft EIS correctly describes the surface geology of the area south of Houston in the Ellington Field and Clear Lake area as typical of the Beaumont formation. The comments also stated, however, that the surface in this area is a deltaic portion of a former course of what was likely the Brazos River and, as a result, the various rail alignments will cross sediments that have a different sand to clay relationship than much of the Beaumont formation. The comments also stated that in addition to the local soil factor, the Final EIS should consider other engineering factors, and noted that the Final EIS should consider shallow groundwater, low gradients, and drainage and infiltration.

Response
As the comment stated, the Draft EIS correctly described the surface geology of the area south of Houston in the area of Ellington Field and Clear Lake. Section 3.9.2.2 of the Draft EIS stated

that the new rail line would cross areas consisting of fine-grained clay and mud soils and substrates with low permeability and poor drainage and areas consisting of sand and silt with moderate permeability and drainage. Section 3.9.2.3 of the Draft EIS also described the groundwater and drainage in these areas. SEA agrees that the soil and groundwater conditions are factors, along with many others, that need to be considered in detailed engineering of the proposed rail line. Further, SEA observes that the local soil and groundwater conditions can be addressed successfully with proper engineering design and construction, as demonstrated by the fact that rail lines have been constructed, operated, and maintained in and around Houston for approximately 150 years.

Summary
Comments stated that active surface faulting is a major construction concern and hazard in Houston. According to the comments, the area immediately south of Houston includes several salt dome-related oil fields involved with active surface faulting. The comments described the process by which slow upward movement of domes has given rise to generally radial faulting, and production of oil and gas together with historic production of groundwater have activated existing and new faulting. According to the comments, this type of fault is typically shorter and the displacement less than the major or down to the coast faults such as the Long Point. The comments stated that the general area of the rail route includes both the Webster and Clear Lake oil fields. The comments included several maps and suggested that the Draft EIS re-visit the subject of active surface faults in the area using a full historical set of data to fully evaluate fault activity in the path of the rail line.

Response
SEA believes that the statement that "surface faulting is a major construction concern and hazard in Houston" is not supported by the comments and is contradicted by the reality that all manner of facilities (e.g., rail lines, airports, roads, residences, commercial and industrial buildings) have been and continue to be constructed in and around Houston. The comment presents no information or analysis to support the suggestion that the subject of active surface faults needs to be re-visited. As discussed in Section 3.9.2.2 (page 3-61) of the Draft EIS, most of the faults in the project area are presently inactive or move so slowly that no topographic features that are typical of active faults develop on the land surface. In Houston, fault movement can be attributed to natural geological processes and to extraction of groundwater and oil/gas. As discussed in Section 3.9.2.2 of the Draft EIS and documented in the cited references, groundwater withdrawal was the primary cause of fault movement in the past. As a result, the Harris-Galveston Coastal Subsidence District (the District) was created in 1975 with the goal of eliminating subsidence. Groundwater withdrawal was decreased substantially between 1976 and 1994, and no subsidence occurred in southeast Harris County between 1987 and 1995 and fault movement stopped or greatly slowed (e.g., 1 mm/yr). The District continues to control and reduce groundwater withdrawal through regulation, permits, and enforcement, and by promoting water conservation. Finally, SEA notes that the discussion of faults and subsidence in the Draft EIS is commensurate with the potential impacts.

4.12.2 Impacts

Summary
Comments stated that grading and draining land and increased loading from the rail line and projected industrial construction will cause occult trunk faults to open up and be active, causing pipeline and rail stability problems.

Response
The comments provide no data or analysis to support this assertion. Further, as stated in Section 3.9.2.1 of the Draft EIS, the topography of the project area is fairly flat, with an overall slope of less than one percent along the Proposed Action and Alternatives. The fairly flat land will lead to generally limited cut and fill heights and, as a result, SEA expects that nominal if any affect on faults or subsidence would result from the construction and operation of the rail line. Further, as discussed in more detail in response to other comments, appropriate engineering design and on-going maintenance are used to address effects that natural forces of all types have on rail lines over time. In addition, as discussed further in response to comments regarding land use, the Draft EIS concluded that construction of a new rail line would neither hinder nor promote development in the project area.

Summary
Comments stated that the proposed line would cross several faults radiating from the Clear Lake oil field. The comments added that these faults could cause a shift in the land surface, could cause structural failure of land uses crossing the faults, and greatly increase the chance of derailment.

Response
Faults do not "greatly increase the chance of derailment" on the proposed rail line for several reasons. First, fault movement is very limited. As stated in Section 3.9.2.2 (page 3-61) of the Draft EIS, as a result of reductions in groundwater withdrawals, which were the primary cause of subsidence and fault movement, no subsidence occurred in southeast Harris County between 1987 and 1995. As also explained in Section 3.9.2.1 of the Draft EIS, fault movement stopped or greatly slowed – the rate reduced to about 1 mm/year. Second, as noted in response to other comments, the Harris-Galveston Coastal Subsidence District continues to control and reduce groundwater withdrawal. In addition, SEA notes than an absence of past rail accidents attributable to fault movement (when subsidence rates far exceeded the current and projected rates) and existing FRA requirements for weekly track inspection (49 CFR 213.233) further indicate that faults are very unlikely to cause a derailment.

Summary
Comments made specific criticisms of the Draft EIS fault analysis. The comments stated that the section of a fault map by Verbeek and Clanton expanded to the approximate scale of the rail maps included in the Draft EIS shows a number of faults potentially affecting the proposed rail alternatives. Comments urged SEA to consider other available maps of faults. Comments noted that the literature contains several papers describing the effects of this faulting on already built structures. The comments stated that the trace of segment 73 across the Ellington runway is marked by airplane tire marks left as they met the upthrown side of the fault. Comments included a photograph of the fault beneath the Ellington engineers' building as an example of the

importance of the horizontal component of active surface fault displacement in the Houston area. Comments also provided a photograph of a rail bed displaced by fault 73 and stated the photograph illustrated the specific importance of faults to the Draft EIS study of potential environmental impact. The comments stated that, in summary, active surface faulting is a problem in the rail line area, and while the displacement parameters may not be of the scale of the down to the coast regional faults, they exist, cross the Alternatives and require consideration. The consequences of not doing these analyses were said to be demonstrated by the photograph of the rail bed displaced by fault 73. The comments stated that an active surface would deform the roadbed to a point where it could cause a derailment and that the fault map example showed a number of faults crossing the route of the Proposed Action.

Response

Section 3.9.2.2 (page 3-61) of the Draft EIS discussed faults in the Houston area and noted that most of the faults are presently inactive or move so slowly that no topographic features that are typical of active faults develop on the surface. In Houston, fault movement can be attributed to natural geological processes and to extraction of groundwater and oil/gas. As stated in the Draft EIS, subsidence resulting from withdrawal of groundwater was the major cause of fault movement. Since the 1970's (when the photographs included with the comment's Attachments 4, 5, and 6 were taken), groundwater withdrawal in Harris and Galveston Counties has been substantially reduced, with the result that no subsidence occurred in southeast Harris County between 1987 and 1995 and fault movement stopped or greatly slowed, as discussed in Section 3.9.2.2 of the Draft EIS. In addition, the Harris-Galveston Coastal Subsidence District continues to control and reduce groundwater withdrawal. Further, SEA notes, as does the text that is part of comment Attachment 6, that track movement is addressed through ongoing maintenance, which is required to address the effects on natural forces of all types and normal wear and tear due to track use. Changes in track condition are identified through track inspections, which would be conducted at least weekly on the proposed line to meet existing FRA requirements (49 CFR 213.233). In addition, SEA notes than an absence of past rail accidents attributable to fault movement (when subsidence rates far exceeded the current and projected rates) further indicates that faults are very unlikely to cause a derailment.

Summary

Comments stated that the Draft EIS describes subsidence in the Houston area in general terms but minimizes its potential effects. Comments stated that:

> "historically, there has been approximately six to eight feet of subsidence in the Bayport Rail project area [Attachment 7, Gabrysch 1987]. It is not insignificant that the headquarters of the Harris Galveston Subsidence District is located at Clear Lake. Topographic maps and benchmark elevations and records are updated periodically and current map editions and available information does not necessarily reflect the actual elevations. U.S. Geological Survey maps for this area caution that the area is affected by subsidence. The District has been effective in developing a strategy to reduce future subsidence. Maps included as Attachment 8 [Harris-Galveston Subsidence District] show predicted future subsidence under two scenarios. The measures taken have effectively reduced use of groundwater in the area of the Proposed Alternatives. However, the historic subsidence shown in the Attachment 7 diagram illustrates the problem and provides a baseline that should be considered in planning in the area. The

Draft EIS should have included these maps and indicated that the builders should consult with the district to obtain the current benchmark and survey values. The Draft EIS does not contain sufficient detail to determine the effect of historic subsidence on the rail route alternatives. Graphic information would improve the analysis. For example, the Draft EIS should plot rail route profiles showing the difference between recent and historic topographic mapping elevations and actual subsidence affected elevation. Failure to properly consider subsidence could result in a rail line built too low with attendant drainage difficulties and flooding. The case of the recent boulevard extension in Clear Lake is familiar to many in Houston. Here, the completed road turned out to be two feet below the actual required elevation and must be rebuilt."

Response
SEA is aware of past subsidence in the Houston area, as documented in Section 3.9.2 of the Draft EIS. The Proposed Action and Alternatives are described in sufficient detail in Chapter 2 of the Draft EIS to permit evaluation of the potential impacts. The subsidence-related information that the comments stated should be included in the Draft EIS is detailed design information. The design and construction of the proposed rail line would be controlled by applicable permits, requirements and consensus standards, as also discussed in mitigation measure number 75 in Section 6.3 (p. 6-16) of the Draft EIS.

4.13 LAND USE

4.13.1 Existing Conditions

Summary
Comments stated that the "majority of land uses adjacent to the proposed line are residential, open vacant land, or natural areas. The history of this quadrant has much to do with balancing the land use conflicts between industrial expansion from the north and expansion of the region's own high-tech growth sector, particularly associated with NASA space industries. The majority of this land, in terms of the type of soil and the access to water is suitable for either residential, related commercial, or environmentally restricted areas."

Comments referenced a map of existing land use (labeled Figure 6) and stated that it showed a "predominant residential and open space character, with limited industrial uses." Comments stated that the map showed that the existing infrastructure is designed to "accommodate a predominantly residential and recreational community, with limited industrial uses, and a large employment base adjacent to NASA and along SH3."

Response
In Section 3.10.2, the Draft EIS indicates that the majority of land uses adjacent to the Build Segments are not residential, open vacant land, or natural areas. Furthermore, Section 3.10.2 of the Draft EIS indicates that no residential developments are located adjacent to the Build Segments. Approximately four to five miles of undeveloped land or natural areas surround the Build Segments on both sides, out of about 12 to 13 total miles. Even that four to five mile area, which generally runs between the eastern side of Ellington Field and approximately a mile past Red Bluff Road, is fragmented by oil and gas wells, two gas processing facilities, and a 420-acre

underground gas storage facility. In other areas, the Build Segments are surrounded on one side by open space or natural areas and on another side by development.

The comments have not supported the assertion that "the majority of this land, in terms of the type of soil and the access to water is suitable for either residential, related commercial, or environmentally restricted areas." The Bayport Loop is a heavy industrial use area; Ellington Field and the water treatment plant are major institutional use areas; the two gas processing plants are heavy industrial use areas; the NASA SCTF is a training and research facility; and the City of Houston is planning industrial uses on the land southeast of Ellington Field. Regarding the comments that Figure 6 shows a predominant residential and open space character with limited industrial uses, Figure 6 covers an area greater than the area that the Proposed Action and Alternatives would affect. The comments have not supported the assertion that the existing infrastructure (Figure 6) is designed to accommodate a predominantly residential and recreational community, with limited industrial uses, and a large employment base adjacent to NASA and along SH 3. The map shows roads, but no other infrastructure.

4.13.2 Impacts

Planning in the Project Area

Summary
Comments asserted that the Draft EIS stated that "the Houston area does not have either zoning or consistent land use regulations in place." Comments contended that "the land use analysis, including impacts, is flawed because the SEA failed to consider other local and regional planning tools that are available." Comments asserted that the land use analysis in the Draft EIS assumed that "no planning occurs, and no planning tools exist."

Response
The comments do not accurately reflect the content of the Draft EIS. Section 3.10.2 (page 3-63) of the Draft EIS states, "the Houston area, including the Cities of Houston and Pasadena, does not have either zoning regulations or consistent land use **designations** in place." (emphasis added) The Draft EIS did not state or assume that there is no planning in the project area, and the Draft EIS did not fail to consider local and regional planning tools. SEA invited local agencies to provide, and SEA sought, information related to land use planning in the project area. SEA followed CEQ guidance that suggests the review of all types of formally adopted documents for land use planning, zoning, and regulatory requirements. Documents include local general plans, proposed plans, and staged plans. Along with other planning documents, SEA reviewed the Ellington Field Master Plan, the City of Pasadena's Light Industrial District (LID), and the Harris County Parks Plan. Section 4.10 of the Draft EIS describes these plans. SEA's conclusions on land use were based on identifying existing land use activities and planning activities in the project area and attempting to identify development trends. The comments do not reference any plans that would indicate desired or projected land use development patterns for more than a small portion of the project area.

Summary
Comments asserted that "SEA failed to consider the City's Major Thoroughfare and Freeway Plan (the 'MTFP') in its analysis." Comments stated that "the MTFP classifies El Dorado Boulevard as a thoroughfare with four lanes in a 100-foot ROW and requires its extension from Clear Lake to Genoa-Red Bluff Road." Comments asserted that the Draft EIS fails to address the fact that "El Dorado Boulevard will cross the rail line in all of the Build Alternatives." Comments expressed concern about the omission of El Dorado Boulevard because other Build Alternatives were eliminated from detailed study in the Draft EIS because of plans to extend streets or required grade separated crossings. Comments asserted that the Draft EIS "also failed to analyze the functions that the thoroughfares in the area serve with respect to mobility and emergency evacuation routes."

Response
SEA reviewed Exhibit 3 (provided with the comments) as it relates to the 2001 MTFP. It describes the El Dorado Boulevard extension plan as a "to be acquired" ROW. The MTFP offers no timetable for acquisition of the land or actual road construction. The comments similarly do not state when the road is planned for construction. Construction of the El Dorado Boulevard extension would be compatible with a rail line. Section 2.3 (pages 2-19 and 2-21) of the Draft EIS indicates that SEA eliminated Alternatives 1A and 2 because "the Applicants indicated that this alignment is not feasible because it would require the construction of a single grade separation for Genoa-Red Bluff Road and Red Bluff Road. The Applicants have stated that the size of this grade-separated crossing would make it economically infeasible and a highway/rail at-grade crossing would conflict with the City of Pasadena's plans to accommodate growth in traffic by extending Genoa-Red Bluff Road to the north/northeast to connect with Fairmont Parkway." The highway/rail at-grade crossing would have caused a conflict because extending Genoa-Red Bluff Road to connect with Fairmont Parkway would have required elevating that road to connect with an elevated Red Bluff Road and Genoa-Red Bluff Road. Furthermore, the highway/rail at-grade crossing would have eliminated access to businesses on the east side of Red Bluff Road, which is a much different situation than having El Dorado Boulevard extend across the Build Segments. Section 4.4 of the Draft EIS did analyze mobility, grade crossing delay, and safety. Because the potential effect on grade crossing delay would be negligible, so would the effect on mobility. See the response to comments on grade crossings regarding grade crossing delay and safety as well as emergency evacuation routes.

Summary
Comments asserted that "the MTFP is only one of the planning tools the City utilizes that controls or influences land development." Comments contend that the Draft EIS did not consider the City of Houston's "several ordinances that regulate development." Comments contended that the Draft EIS does not address the various Code of Ordinances that establish development requirements such as building lines; minimum lot sizes; open space; street spacing requirements and widths; minimum parking requirements; tree planting; and distances between land use types. Comments contended that the Draft EIS has not considered "the possibility that one or more general plans may have been approved for the undeveloped area along the Build Alternatives."

Response
The comments do not discuss what the plans and ordinances indicate about future development in the project area. The comments acknowledge that without zoning, the City does not specify how a particular piece of property may be used. Regarding "the possibility that one or more general plans may have been approved for the undeveloped area along the Build Alternatives," SEA consulted with the City of Houston on several occasions to discuss the proposed project, the potential development of City-owned property, and general planning and environmental issues pertaining to the project area. The City also submitted detailed scoping comments. The land use-related comments addressed impacts to Ellington Field and concern about industrial sprawl, but did not contain information on planning documents or known development plans. SEA reviewed the City of Houston's Code of Ordinances and concluded that they do not provide an indication of future development trends for the project area.

SEA reviewed existing planning documents - such as those prepared for the Pasadena LID, Harris County Parks, and Ellington Field (the ALP and the Ellington Field Master Plan). SEA identified areas of undeveloped land using field surveys, agency consultation, and public input. SEA also considered the location of existing land uses, undeveloped land and existing infrastructure, and natural and man-made constraints. SEA concluded in the Draft EIS that the Build Alternatives would have a negligible impact on existing and future development.

Direct Impacts and Induced Development

Summary
Comments focused on the possibility of the proposed rail line inducing industrial or commercial development in the open space areas to the north of Clear Lake City, thereby making it unavailable for residential development. Comments stated that this induced development would change the character of the area from residential and recreational to industrial.

Response
Vacant land parcels with rail spur access already exist in the project area and they have not induced industrial development. Improved and unimproved land parcels with rail access are currently for sale within the industrial area located east of Red Bluff Road. The GH&H line from Clear Lake City to the East End is lined with a mixture of non-industrial development that includes schools and a substantial amount of residential development that came after the construction of the railroad in the 1800s. Therefore, SEA concluded that the development history in the project area does not support the assertion that railroads automatically induce industrial development.

Specifically, Section 4.10.2 of the Draft EIS stated that SEA cannot reasonably foresee the type of development that might occur around the Build Segments in the future because the development history of the area shows that all types of developments have been built around the GH&H line. The Draft EIS further notes that the existence of hazardous materials moving over the GH&H line has not affected new residential development. The most recent residential development along the GH&H line includes the Clear Lake City homes on the east side of the GH&H line, as well as a large apartment complex adjacent to the GH&H line and south of Cesar Chavez High School that was constructed during the preparation of the Draft EIS. Moreover,

Section 3.10.2.1 (page 3-68) of the Draft EIS indicated that the area north of Clear Lake City is not currently available for residential development because the area contains active oil and gas wells, two processing gas plants, and a 420-acre underground gas storage field. The West Clear Lake Gas Storage Field was created in 1970 by converting a portion of the West Clear Lake Gas Field. The gas is injected into the field at high pressure. It is one of the largest gas storage fields in Texas. The field consists of 15 injection/withdrawal wells and one observation well. Remaining natural gas reserves in the Clear Lake and West Clear Lake Fields are estimated to be 3.3 billion cubic feet,[31] which represent 4 to 10 years' worth of reserves. A more precise estimate of the useful life of the field would require proprietary information.

In Section 4.10.2 of the Draft EIS, SEA identified the existing land use of the project area; evaluated the proposed and planned development activities in the project area; and determined that the Proposed Action would not adversely impact existing and future land use patterns. Even after the oil and gas fields and the gas storage facility cease operations and the gas plants are decommissioned, the amount of land that might be available for development north of Clear Lake City, east of Ellington Field's 65 L_{dn} noise contour, south of Red Bluff Road, and west of Armand Bayou is substantially less than comments contend. In addition, the Applicants are planning to set aside 24 acres of land near Space Center Boulevard that would not be developed.

Summary

Comments stated that "because of incorrect assumptions and inaccurate information, the conclusions in the DEIS about the impact on future land use in areas adjacent to the railroad alignments that are presently vacant is incorrect." Comments contended that the Draft EIS "failed to consider natural growth patterns and trends that are occurring in the area and assumed that no future residential uses would occur in the area adjacent to and east of Armand Bayou Preserve." Comments expressed concern that "the Clear Lake residential development is moving in a northward direction to the east of Ellington" and that "any of the Build Alternatives logically would impede the further expansion of residential development in that area. Instead, industrial development would be more likely to occur." Comments asserted that petroleum industries and "other industrial hubs, spurs, and rail terminals" are likely to develop along the corridor, and that this development is "almost certain to be incompatible with the existing residential developments" and will "contribute heavy industrial traffic loads onto the residential streets in the area."

Comments stated that the Draft EIS did address induced development, and that the proposed rail line would not induce industrial development in the area to the north of Clear Lake City. Comments contended that business development does not necessarily follow when a rail line is built. Comments suggested that induced development caused by the proposed rail line is speculative and need not be considered under NEPA.

Comments stated that the "potential induced industrial development would be controlled by local decision making and inhibited by pre-existing land uses and set-asides." Comments provided the following details to support this statement:

[31] NRG Associates, Database of Significant Oil and Gas Fields of the United States, 15th release.

"Beginning with the west end of Alignments 1 and 1C near State Highway 3, the new rail line will cross property owned by the City of Houston. Development at that location, therefore, will be controlled directly by the City of Houston. It is also noteworthy that, although this property already has access to a rail line running along State Highway 3, and the Ellington Field Master Plan calls for light industry in this area, no industrial development has occurred yet. Moreover, recent updates to the Master Plan do not envision heavy rail-served industry locating in that area.

"Moving toward the east along Alignments 1 and 1C, the line passes behind a light manufacturing facility and an office building owned by The Boeing Company, NASA's Sonny Carter Training Facility's Neutral Buoyancy Lab and a large Harris County Flood Control District retention structure. The presence of these facilities and the retention structure also makes it highly unlikely that such a site will see additional development. Just before crossing Space Center Boulevard, the route traverses through a 52-acre mitigation site owned and managed by Harris County. Without the lifting of current deed restrictions on those properties, development in that area is highly improbable.

"The route then crosses over Space Center Boulevard to an area that SJRL has voluntarily offered to contribute as a mitigation site of 24 acres. This set-aside will also act as a natural inhibitor to industrial development. In addition, SJRL is working with various agencies and organizations to help leverage the 24-acre site into a much larger coastal prairie habitat conservation site. This effort will set additional land aside and further restrict development potential.

"East of this property the line crosses an active gas field, which once again is not compatible with additional development. From there the line crosses Armand Bayou, and SJRL will set aside an additional 24 acres, on the north side of the proposed line, as a mitigation site. The owners of the property on the south side of the proposed line, ExxonMobil, is planning seismic testing with intentions of drilling for oil on the property. Finally, the line crosses Red Bluff Road and enters the Bayport Industrial District, an already highly industrialized area."

Response

The comments have not supported the assertions regarding induced industrial development. As indicated in Section 4.10.2 of the Draft EIS, SEA carefully reviewed the existing land use conditions, area plans, and development constraints, and concluded that the Build Segments would neither stifle residential growth nor induce industrial growth along the rail line. None of the planning documents or government officials provided information about the natural growth patterns and trends, or that the Clear Lake residential development is moving in a northward direction to the east of Ellington Field. SEA identified the area northeast and east of Clear Lake City as a riparian corridor associated with the Armand Bayou Preserve. The area north of Clear Lake City is the Clear Lake and West Clear Lake Gas Fields and the 420-acre underground gas storage facility. Ellington Field represents a development barrier to the west of Clear Lake City. The Draft EIS properly explained that the City of Houston purchased the 240-acre parcel between Ellington Field and Clear Lake City to serve as a buffer to keep new residential development from encroaching any further on airport operations.

The assertion that the Build Segments would attract petrochemical plants to the area north of Clear Lake City is likewise unsubstantiated. As the Board indicated in its decision served on August 28, 2002, the "argument that the proposed construction would lure into Bayport new industry that would overwhelm the rail network is not persuasive. That argument assumes that firms in the petrochemical industry would make irrational investments of millions of dollars simply because BNSF plans to build this line. But any industrialist contemplating building a facility in this area would carefully study the entire transportation system before undertaking such a major investment." Moreover, predicting production trends in the petrochemical industry is difficult. Three factors provide the best indicators of growth: the prices of natural gas (which changes by the minute), which is a feedstock, i.e., a raw material for the petrochemical industry; the price of a barrel of oil (which changes daily), which is also a feedstock; and the rate of global economic growth (also somewhat unpredictable). The petrochemical industry currently faces increasing pressure due to high natural gas prices ($5 per million BTU, which is a 33 percent gain in December 2002 alone), rising oil prices ($30 to $40 per barrel recently), and global economic slowdown (Chemical Week, January 8, 2003). In some regions of the U.S., plants are being shut down and capital expansions have been postponed.[32] Because petrochemicals are used in such a large number of consumer products, their market is directly affected by overall global growth patterns. However, it is hard to look overall at the petrochemical industry because each chemical is in its own distinct market. All of these factors indicate that it is not reasonably foreseeable that the Proposed Action would attract new petrochemical plants inside or outside the Bayport Loop.

Induced Development - Cumulative Impacts

Summary
Comments asserted that the Draft EIS does not disclose the cumulative impacts of the proposed Bayport Terminal and the Proposed Action and Alternatives.

Comments asserted that the combination of the Bayport Loop Build-out and the proposed Bayport Terminal would cause a change in land use around the Bayport Terminal facility, which would transform land use in southeast Harris County.

Comments contended that both the Bayport Loop Build-out EIS and the Bayport Terminal Draft EIS fail to disclose the overlapping and additive environmental impacts from these infrastructure proposals, rendering their cumulative land use analysis completely invalid.

Response
SEA identified the reasonably foreseeable development projects in the area and consistent with guidance and the regulations of CEQ, evaluated the potential for the Build Alternatives to have a cumulative impact on land resources. SEA also reviewed projected land uses described in the Ellington Field Master Plan and the Pasadena LID plans, identified the potential construction of a new school on Genoa-Red Bluff Road by the Deer Park School District, and noted both the

[32] The Houston Chronicle February 28, 2003, "Natural Gas Prices Hit Residents, Firms Hard; No Relief Expected Amid Low Supplies, Cold Winter Weather;" Business Wire February 11, 2003, Houston, "IIR Industry Alert: Grassroot Chemical Plant Construction Forecast Slows Down."

probable development of a 200-acre parcel by American Acryl on Port Road and the planned expansion of the Water Treatment Plant. The proposed Bayport Terminal project was also considered. SEA concluded that the cumulative impacts of the Proposed Action and proposed area development would not have a significant impact on land use.

Summary
Comments asserted that the Proposed Action and Alternatives "and their associated activities (including construction) will have a major negative impact on existing residential homes." Comments contended, "communities extending as far as Beltway 8 will also be affected, due to industrial sprawl and the exposure to industrial activities along the rail network."

Response
SEA recognizes that residents in the area around the Build Alternatives are concerned about the effects of the new line on residences. However, comments have not supported the assertion that the Proposed Action and Alternatives would have "a major negative impact on existing residential homes." As the Section 4.10 of the Draft EIS explains, the construction and operation of any of the Build Segments likely would result in negligible impacts on residential development. Numerous single-family homes have been built adjacent to the GH&H line from Clear Lake to the East End. Recent development adjacent to the GH&H line includes the Cesar Chavez High School and a large apartment complex south of the school. There are no known plans for expanded residential development in Clear Lake City. Alternative 1C would come within approximately 550 feet of the closest residence in Clear Lake City. It would be separated from Clear Lake City by a drainage ditch, pipeline corridor, and partially by NASA property. As discussed above, induced industrial development is speculative.

Summary
Comments predicted the chronology of cumulative impacts, stating that the "first wave of impacts will coincide with the first 10 years of container port operations and the construction of the San Jacinto Rail Line, up through year 2012." Comments asserted that the "most severely impacted residential areas will be in Clear Lake, Shore Acres, La Porte, Seabrook and El Lago, within the 1-2 mile radius of the new heavy industrial uses." Comments expressed concern that at "final build-out, 2025, the PTRA rail line that will connect Bayport and Barbours Cut starting in 2015 will coincide with even greater industrial expansion around the Bayport container terminal and along San Jacinto Rail." Comments asserted that "land along the existing SH 146 PTRA-UP corridor in Shoreacres and Seabrook will turn industrial." After 2025, "highway construction, rail expansion, rail storage yards, and container storage yards will continue to develop; and congestion, air pollution, chemical and truck accidents, industrial blight and sprawl problems will become more acute."

Response
SEA thoroughly analyzed the potential land use impacts associated with the Bayport Loop Build Alternatives in the Draft EIS and concluded that the operations would have negligible impacts to residential areas. The Bayport Terminal project was evaluated by SEA in the cumulative impact assessment in Chapter 5 of the Draft EIS. SEA observed residential development located north of Genoa-Red Bluff Road, moving south in the direction of the Water Treatment Plant and Ellington Field. SEA believes that both residential and industrial development will face potential development constraints from Ellington Field, the Clear Lake and West Clear Lake Oil

and Gas Fields, and the Armand Bayou Coastal Preserve. SEA identified plans for future land use; industrial and office uses described in the Ellington Field Master Plan; a planned City of Pasadena LID; the potential construction of a new school on Genoa-Red Bluff Road by the Deer Park School District; the development of a 200-acre parcel by American Acryl on Port Road; planned expansion of the Water Treatment Plant; and the proposed Bayport Terminal. Thus, SEA concluded that induced industrial development is not reasonably foreseeable and the proposed Build Segments would not have significant adverse land use impacts on area development.

SEA is not aware of any data indicating that industrial expansion would coincide with a year 2025 "final build out" of the PTRA.

Summary
Comments submitted figures that they developed that depict the future cumulative land use impacts for 2012 and 2025, which were designed to illustrate "a pattern of industrial sprawl extending along the San Jacinto rail impact corridor and around the Bayport container terminal site." Comments asserted that "industrial uses will crowd out incompatible residential, commercial, recreational and institutional uses," and therefore, "significant, adverse, and irreversible cumulative land use impacts will result from these two proposals."

Response
SEA reviewed the figures intended to show industrial sprawl for the years 2012 and 2025 in the Bayport Loop area. However, the Draft EIS appropriately identified and discussed reasonably foreseeable growth in the area. In preparing the Draft EIS, SEA conducted field observations and reviewed plans by area governments, agencies, school districts, and industry. Based on this analysis, SEA concluded in the Draft EIS that the Bayport Loop Build Alternatives would not induce industrial sprawl. Open and undeveloped areas on Ellington Field have been identified in the Master Plan for office, industrial, aviation, and institutional uses. The active Clear Lake and West Clear Lake Oil and Gas Fields represent potential development constraints, as does the Armand Bayou Coastal Preserve area.

Summary
Comments contended that because "planning principles mandate certain distances and buffers between heavy industry and residential, commercial, or light industrial uses, it is reasonably foreseeable that residential, commercial, or light industrial development is no longer probable on any undeveloped land adjacent or proximate to new heavy industrial uses."

Response
Zoning laws, not planning principles, mandate certain distances and buffers between various uses. Regardless of the absence of zoning in the project area, SEA concluded in the Draft EIS that the Build Segments would not preclude the development of commercial, retail, light industry, institutional, or office uses identified for the area. As the Draft EIS explains, the GH&H line shows that land uses not typically associated with traditional heavy industrial uses can and do exist near rail lines. Recent development along the GH&H line includes Cesar Chavez High School and a large apartment complex south of the school. Commercial and retail, as well as single-family residential homes have developed along the GH&H line over many years.

Ellington Field Development

Summary
Comments contended that the Proposed Action and Alternative 1C would adversely affect the City of Houston's development plans and opportunities for Ellington Field. Comments contended, "selection of Routes 1 or 1C will stifle commercial growth of Ellington Field and the surrounding land." Comments asserted that "transporting toxic cargo on or near airport property is a disincentive to economic development and bodes a security risk to airport users, including Air Force One and the President of the United States."

Comments addressed the "development of the 240-acre parcel to the southeast of the original airfield [Ellington]." Comments asserted that "the City [of Houston] plans to develop this property for aviation-related industry." Comments contended that "the Preferred Alternative would limit the ability to provide airfield access to parcel L a 115-acre parcel... to develop for aviation-related industry." Comments asserted that "both the Preferred Alternative and Alignment 1C conflict with a proposed access road that would connect the southern portion of Ellington to State Highway 3 and thus, significantly reduce the development potential of the 356 acres contained in parcels I through M shown on Exhibit 1." Comments contended that "Alternative 1C reduces the size and development potential of parcel N...by approximately 14 acres."

Response
SEA documented in the Draft EIS the importance of Ellington Field to the City of Houston and the economic development intentions of the City, including the City's plans for the 240-acre parcel located to the southeast of Ellington Field. Comments do not provide substantiation to support the assertion that the City plans to develop the southeast portion of Ellington Field for aviation-related industry. The City has not presented, and SEA has not found, any documentation indicating a plan to develop that area for aviation-related industry. The Draft Technical Memorandum for the "Site Suitability Analysis, Ellington Field Master Plan Update," prepared for the Houston Airport System and dated July 2, 2002, states that the southeast parcels closest to the airfield would be appropriate for heavier industrial development, but aviation and/or aviation industrial uses would also be appropriate. The Draft Master Plan codes those parcels for industrial-aviation use. The Draft Master Plan indicates what could happen, but the narrative does not indicate whether the demand exists for industrial or aviation use or any specific information on the type of development that could occur.

FAA is not required to and has not reviewed the Draft Master Plan, but has reviewed and approved the aviation activity forecasts[33] for the Draft Master Plan. In evaluating potential impacts to Ellington Field and undeveloped airfield property, SEA reviewed the Draft Master Plan, the aviation activity forecasts, consulted with the HAS and FAA, and toured Ellington Field. SEA determined that six parcels comprise the "Southeast Ellington Field Area." Parcels I, J, K, and L are identified in the Draft Master Plan as suitable for heavy industry, aviation, or

[33] FAA Terminal Area Forecast System online at http://www.apo.data.faa.gov/faatafall.htm. Click on the "TAF" button, followed by the "QUERY DATA" button, and then the "FACILITY" button. In the "FIND" box, type "EFD." Click on the "RUN REPORT" button to generate the forecast.

aviation industry uses. The Proposed Action would encroach on a corner of parcel I, and run alongside the northwest perimeter of parcel L. It would avoid parcels J and K. Alternative 1C would not cross Ellington Field at all. Alternative 1C would run along the southeast perimeter of parcel M, which the City purchased to prevent future residential development adjacent to the airport. It would then split parcel N and cross the northern portion of parcel L. The City also purchased parcels N and L to prevent residential development adjacent to the airport. Developing parcel L for industrial-aviation use appears to conflict with the purpose behind the City's purchase of those parcels. The purpose was to prevent residential uses from encroaching on aviation uses. In Section 4.10.2.1 (page 4-67) of the Draft EIS, SEA documented the fact that the City of Houston is considering a new road that would connect Space Center Boulevard with SH 3. Construction of the new road might involve crossing either Alternative 1C.

The Proposed Action would cross parcels I and L, which are illustrated in Exhibit 1 of the comment (see Appendix B). This would necessitate a rail crossing for aviation or vehicular access between both parcel L and a portion of parcel I, and Ellington Field. Again, developing aviation uses on parcel L would bring aviation closer to residences, which would be counter to the original reason for purchasing the land. Alternative 1C would cross parcel N and would require vehicles to cross the rail line to access the City's property, in the same manner as vehicles currently have to cross the existing GH&H line to access Ellington Field from SH 3. The Draft Master Plan is not yet finalized and presents conceptual options for developing available land on the airport and adjacent City property. The Draft EIS stated that it does not appear reasonably foreseeable that the southeast Ellington Field property would be used for aviation use, given the aviation forecasts for Ellington Field and the Draft Master Plan recommendation to use other areas of the airport for general aviation development. No firm plans exist for development of the southeast Ellington Field parcels and the need for aviation access to the parcel is speculative. The Draft Master Plan identifies 700 acres of available property on Ellington Field and states that the focus of development should be on parcels A through D. While the Proposed Action would take some available land and convert it to rail use, it would not be incompatible with development of these parcels for the heavier industrial and other development discussed by the Draft Master Plan.

SEA does not believe that transporting hazardous materials near Ellington Field would affect economic development of Ellington Field. The GH&H line currently carries hazardous materials through the RPZ, as does vehicular traffic on SH 3, and there is no evidence that these existing hazardous materials transportation practices have adversely impacted development at Ellington Field. In addition, the airport stores and transports hazardous jet fuel. The Draft Master Plan identifies parcels A through D as the "most marketable properties" on the airport. These parcels are located west of runway 17R/35L. The Draft Master Plan also states that these parcels are "visible from State Highway 3 and are the most easily accessible from the regional roadway system." SEA notes that the "easily accessible" SH 3 access described in the Draft Master Plan requires the crossing of the existing GH&H line.

Summary

Comments referenced the text in Section 4.10.2.1 (page 4-67) of the Draft EIS, and contended that "the southeast area is 'reasonably foreseeable' for aviation-related industry, and the Preferred Alternative and Alternative 1C would interfere with that use." Comments contended that "the Preferred Alternative would restrict access to three Ellington Field parcels, Parcels I, J,

and K shown in Exhibit 1 of the comment, to the same degree that the existing GH&H rail line affects Ellington's three entrances along State Highway 3."

Response
The FAA acknowledges the City's comment that "The southeast area is 'reasonably foreseeable' for aviation-related industry, and the [Applicants'] Preferred Alternative and Alternative 1C would interfere with that use." The City claims that either Alternative would interfere with their ability to develop the property and restrict access. While not as concerned with the issue of access, FAA is concerned about the protection of the ability to develop the airport for aviation-related uses. FAA is charged with protecting the property and not allowing a use that would materially and adversely affect the development, improvement, operation or maintenance of the airport. FAA believes that the two Alternatives in question have the potential to affect the development of this airport. Although these Alternatives would not negatively impact the operation of aircraft (as determined in FAA's aeronautical study), FAA believes that the proposal would interfere with the airport owner's ability to develop the property.

SEA acknowledges the FAA's obligation to protect against uses that could adversely affect the airport. Nevertheless, SEA reasonably concluded that aviation development in the southeast portion of Ellington Field was not reasonably foreseeable based on the fact that the aviation activity forecasts show operations continuing at the current level with no growth out to 2020. In addition, the only substantiation about future aviation use in the Draft Master Plan is for general aviation growth in other parts of the airport. The land parcels located on other parts of Ellington Field were identified in the Draft Master Plan as the "most marketable" for general aviation growth. SEA acknowledged in the Draft EIS that undeveloped parcels on southeast Ellington Field property were identified in the Draft Master Plan as suitable for aviation and aviation industry uses. SEA concluded, however, that the Proposed Action and Alternative 1C would have negligible impacts on the plans of the City of Houston's Airport System to develop the property. There is no evidence that the low volume of rail traffic on the GH&H line has affected access to Ellington Field. By leaving parcels L, M, and N out of their ALP, the City appears to be keeping their options open. If the City extends the ALP around those parcels, they would have less flexibility in developing the land for non-aviation use.

The development of the southeast area is speculative because the City has not substantiated their claim that development of the southeast area is reasonably foreseeable. The Draft Master Plan does not provide any information to support the claim. The Draft Master Plan states that the land is suitable for aviation use, but does not provide any information (e.g, demand forecasts, market analysis) on the likelihood of aviation use. The City has indicated that their interest is to maximize revenue from the land and, thus, SEA expects that the City will develop whatever uses would be supported by demand. There is no indication that the City would reserve the land for aviation use if another type of development presents itself first.

Summary
Comments contended that "aerospace contractors near the NASA Sonny Carter Training Facility have long-term plans of expansion in the area of Routes 1 and 1C."

Response
SEA is not aware of any proposed plans for the development or expansion of aerospace contractors - including Boeing - near the SCTF. NASA is a cooperating agency in the preparation of this EIS. SEA closely coordinated the preparation of the Draft EIS with NASA, specifically the evaluation of potential impacts by the Proposed Action and Alternative 1C on NASA-owned property and facilities. NASA did not indicate that the analysis in the Draft EIS was inadequate or incomplete.

As the Draft EIS explains, Alternative 1C would travel through parcel M on Ellington Field's southeast perimeter. parcel M is identified in the "Site Suitability Analysis, Ellington Field Master Plan Update" as most suitable for light industrial or institutional uses. However, SEA is not aware of any active plans to develop this parcel. Although access to parcel M from Space Center Boulevard would require crossing Alternative 1C, SEA believes that Alternative 1C would not be a disincentive to the development of parcel M because only two trains per day would not constitute a barrier to access.

Summary
Comments contended that the Draft EIS should have evaluated non-aviation uses of the land, rather than stating that "no adverse land use impact would be created if the land was developed for non-aviation use." Comments asserted that the Draft EIS works from the "unstated assumption that all rail lines are compatible with all industrial and commercial land uses, both on the land intersected by the right of way, and on adjacent or proximate properties."

Response
The Draft EIS states that SEA evaluated the potential land use impacts of each of the Build Alternatives. This evaluation included consideration of development plans for Ellington Field and the status of current master planning efforts. SEA considered the compatibility of the Proposed Action and Alternative 1C with the Ellington Field Master Plan and this included evaluating non-aviation uses of the land. SEA also considered the potential impacts of the Build Alternatives on land use outside of the proposed rail line ROW.

Ellington Field Runway Protection Zone and Instrument Landing System (ILS)

Summary
Comments asserted that the proposed rail line can affect the aviation operations at Ellington Field because of the following:

> "An object, rolling or fixed, exceeding 27 feet in height above the runway end for Runway 35L (32 feet MSL) would penetrate the FAR Part 77 surface and would require an aeronautical study to determine if the object is a hazard to air navigation. An object, rolling or fixed, exceeding 40 feet in height above the runway end for Runway 35L (32 feet MSL) would penetrate the inner approach obstacle free zone and could lead to runway operating restrictions. The Preferred Alternative alignment would pass between the last two lights of the MALSR installation (approximately 2,300 feet south of the end of Runway 35L). Any object, rolling or fixed, obstructing a pilot's view of one or more of the MALSR lights could restrict operations on the runway. Alignment 2D would cross Ellington property located north of Runway 17R. An object, rolling or

fixed, exceeding 44 feet in height above the runway end (33 feet MSL) for Runway 17R would penetrate the FAR Part 77 surface for the future Runway 17R extension and would require an aeronautical study to determine if the object is a hazard to air navigation. The Preferred Alternative would require realignment of the Airport Operating Area (AOA) and service road, and would reduce the size of Ellington parcel I, a 94-acre tract shown on Exhibit 1, by approximately 6 acres."

A petition, signed by approximately 50 people, highlighted the importance of Ellington Field and asserted that the addition of rail lines near this airport would cross the RPZ and possibly endanger the safety of pilots, property, and homes.

Response
Page 4-67 of the Draft EIS states that the Applicants prepared and submitted to FAA a "Notice of Proposed Construction or Alteration" as required by 49 U.S.C. 44718. The Draft EIS also indicates that the FAA conducted an aeronautical study and found no adverse aeronautical impacts from the Proposed Action or Alternative 1C. Regarding the City's comment that Runway 35L has a Medium-Intensity Approach Lighting System with Runway Alignment Indicator Lights (RAIL) (MALSR) installation which is approximately 2,400 feet in length, the FAA has determined that this is not correct. Runway 35L has a Short Supplemental Approach Lighting System (SSALR) which is approximately 1,500 feet in length.

Water Treatment Plant

Summary
Comments highlighted the incompatibility of Alternatives 2B and 2D with the Water Treatment Plant by explaining that "to treat the Plant and the grounds of the plant as two separate and severable tracts is an error."

Response
In Section 3.10.2.1 (page 3-68) of the Draft EIS, SEA described the City of Houston's 400 acre Water Treatment Plant site. Section 2.2 (pages 2-14 and 2-17) of the Draft EIS correctly states that Alternatives 2B and 2D would travel "across the grounds of the Water Treatment Plant" south of the existing Plant facilities. SEA uses the term "the plant" in the Draft EIS to refer to the existing water plant purification system infrastructure and not the entire plant property, including undeveloped open space. SEA noted the City of Houston's intentions to expand the Plant's capacity to 720 million gallons per day (MGD) in Section 4.10.2.1 of the Draft EIS. Alternatives 2B and 2D would separate the present plant facilities from a sludge lagoon and sludge disposal area located in the southern part of the 400-acre parcel. SEA determined that the impact would be negligible.

Summary
Comments expressed concern that the statement in Section 4.10.2.1 (page 4-68) of the Draft EIS is the only statement in the Draft EIS that describes the "analysis of environmental impacts on land use." Comments asserted that "no other section in the Draft EIS analyzes the impact of the Build Alternatives on the Drinking Water Plant."

Response
As described in the Draft EIS, SEA evaluated the potential impacts to the Water Treatment Plant under its Land Use analysis. SEA also analyzed potential impacts on rail operations safety and hazardous materials transportation safety, both of which encompassed potential impacts to the Water Treatment Plant, although these sections of the Draft EIS did not name specific facilities. As SEA concluded in the Draft EIS, there would be negligible impacts from Alternatives 2B and 2D on the Water Treatment Plant.

Summary
Comments stated that the entire 400-acre tract of the Water Treatment Plant would be necessary for the ultimate 720 MGD capacity of the plant. Comments presented an exhibit (4) to illustrate that design proposals "require the use of the entire site, as illustrated on Exhibit 4." Comments asserted that the Draft EIS "does not consider the impact to the Drinking Water Plant of losing part of its property to a rail line that will render it impossible for the plant to reach its 720 MGD capacity." Comments contended that the Draft EIS "does not consider the cost to the City of constructing a new facility to meet the demand that it will not be able to provide because of property lost from the site."

Response
As part of its environmental analysis, SEA reviewed Water Treatment Facility Expansion Plan exhibits that showed expansion plans for the years 2007, 2015, and 2040. The exhibits are undated and have not previously been made available. The exhibits showed the proposed alignment of Alternatives 2B and 2D (superimposed) avoiding any 2007-planned infrastructure and encroaching on one ground storage tank in the 2015-planned infrastructure. The proposed routes encroach on numerous facilities identified for the 2040 expansion. However, the exhibit also shows existing rail line spurs at the Water Treatment Plant and the City's Exhibit 5 shows the City's future plans for providing rail access to the Water Treatment Plant. These City plans for rail access do not appear to conflict with the expansion of facilities at the Water Treatment Plant.

SEA fully considered the City of Houston's concerns about Alternatives 2B and 2D in the Draft EIS. SEA determined that the potential for an actual land use conflict is uncertain because the 2040 expansion plan will be subject to change over that long planning horizon. The expansion to 720 MGD could happen sooner, later, or not at all. The Plant currently processes 80 MGD. Under the 2040 plan, an expansion to 720 MGD would occur over a 40-year time frame. SEA believes that Alternatives 2B and 2D would not interfere with future Water Treatment Plant planning. SEA evaluated the extent of the encroachment of Alternatives 2B and 2D across the Water Treatment Plant property. Alternatives 2B and 2D would require a 50 to 100 foot ROW for a distance of approximately 1000 feet across the parcel. This is an impact area of approximately 1.2 to 2.3 acres on the total 400-acre site. Thus, SEA concluded that this property loss would be negligible, and that the rail line ROW would not be expected to impede expansion of the site to 720 MGD. The planning horizon to expand to 720 MGD - year 2040 - would allow sufficient time to integrate the rail line into future expansion plans.

Pasadena Light Industrial District

Summary
Comments asserted that the Draft EIS failed to analyze land use impacts on the proposed Pasadena LID. Comments highlighted the Pasadena LID's environmental standards, which are contained in its covenants, conditions and restrictions (CC&Rs). Comments expressed concern that the Draft EIS states that there is no conflict with the Pasadena LID. Comments asserted that the Draft EIS's "failure to properly classify San Jacinto Rail as a heavy industrial use serves as a fatal omission." Comments asserted that the rail line would represent a heavy industrial use and this would conflict with the Pasadena LID.

Response
SEA reviewed the plans and exhibits for the Pasadena LID. SEA considered existing conditions, proposed land use, future parking and circulation, a levee plan, proposed utilities, and proposed development in the evaluation of impacts. SEA concluded in Section 4.10 of the Draft EIS that the Build Segments would have no adverse impact to the proposed Pasadena LID. The Build Alternatives would cross Red Bluff Road with a grade-separated crossing. Rail operations would neither impede access to the site nor encroach onto land within the Pasadena LID.

4.13.3 Mitigation

Summary
Comments stated, "our [the Applicants] commitment to conservation does not end with our voluntary mitigation measures. We continue to explore ways to use the 24-acre mitigation site to create a larger coastal prairie conservation site in the area, which otherwise might eventually be developed. This will potentially also help to ensure that these open spaces near the rail line will remain undeveloped. These are just a few of the examples why we are justifiably proud of our environmental position and our voluntary mitigation measures."

Response
Comment noted.

4.14 SOCIOECONOMICS

Comments expressed concern about decreasing property values due to the proposed rail line. Comments argued that decrease in property values will negatively affect the area's economy. Comments contended that the quality of life will decrease because the rail line is in close proximity to people's homes. Comments suggested that an unpleasant view and increased noise will have a negative effect on the aesthetics of the area.

4.14.1 Existing Conditions

Summary
Comments stated that areas identified in the Draft EIS that supposedly contain no residents are actually neighborhoods containing 2,000 homes. The comment stated that it is "disconcerting that serious consideration is being given to this plan based on knowingly flawed data."

Response
The commenter did not identify the 2,000-home development to which he was referring. However, the Draft EIS indicates that construction of the Build Segments would occur in areas where there are no homes adjacent to the track. Figure 2.2-2 (page 2-4) of the Draft EIS illustrates the route for the Proposed Action and shows that the residential developments in the Clear Lake area are not adjacent to the Build Segments. In addition, Figure 3.10-1 (page 3-64) of the Draft EIS illustrates land uses including residential developments, in the area around, but not adjacent to, the Build Segments.

4.14.2 Impacts

Employment

Summary
Comments questioned whether travel delays caused by additional rail traffic on existing lines would affect businesses and employment and whether impacts would occur on employment retention.

Response
The grade crossings delay analysis in Section 4.4 (beginning on page 4-23) of the Draft EIS, shows that the LOS for grade crossings on the existing rail lines used by the Build Alternatives would not decrease. SEA concluded that the grade crossing delay impacts from the Build Alternatives and the No-Build Alternative would be negligible. Therefore, there would be no effect on businesses, employment, and employment retention along the existing rail lines.

Property Values

Summary
Comments asserted that the proposed rail line and increased rail traffic on existing lines would impact property values. Comments suggested that people are already selling their homes or have decided not to buy in Clear Lake due to the rail proposal. One comment suggested that the "property values of hundreds of thousands of peoples' homes would significantly decrease if the proposed rail line were completed."

Another comment calculated the economic costs of property value impacts:

> "The DEIS also fails to adequately address concerns over home values and the quality of life for residents near the line. Home values for those Clear Lake neighborhoods closest to the proposed route have already dropped pending the outcome of this matter. The loss of value can be readily assessed by local real estate professionals, but our data indicates decreases of 20-30% have already occurred. The presence of the existing rail line was built into housing values already, so adding an additional rail line has a significant negative impact on property values. Applying the 20% values decrease to the 3,000 homes nearest the proposed line at an average $200,000 in base value gives a conservative negative economic impact $120 million - before the line is even approved for construction! This calculation does not reflect the potential impact on other values

> for communities north of Clear Lake or for neighborhoods like ours that are only slightly further from the proposed line. These are tangible aspects that reflect the negative impact on quality of life from moving additional heavy industry activity closer to a residential area. In the past, the ICC has found that such considerations are sufficient to prohibit construction of a similar rail line, and we feel that heavier weight should be given to these concerns in this case."

Other comments asserted that rail lines do not negatively impact property values:

> "My wife and I purchased our home - less than a half mile from Union Pacific's tracks along Highway 3 - in 1998. Today, our home is appraised at 33% more than we paid for it. That's a pretty good increase in a little more than four years. Railroads haven't hurt home values in Bellaire, West University, River Oaks, Champions, Sugar Land, and Kingwood, either."

Response
The Draft EIS appropriately concluded that the Alternatives would not have a significant impact on the environment. The absence of significant environmental impacts associated with any of the Alternatives makes it unlikely that this project would significantly impact property values. Community perceptions of possible impacts may lead some in the community to expect that their homes may suffer reduced value. However, property values are affected by a variety of factors. The location of residential areas beside Ellington Field, major pipeline corridors, and existing rail lines in the Houston area suggests that proximity to transportation facilities in the long-term does not affect home purchases in the project area.

Summary
One comment questioned how the proposed rail line would impact revitalization of certain areas. The comment mentioned a new apartment complex being constructed and wondered whether the rail line would affect businesses.

Response
The comments did not specify the location of the areas of concern. However, revitalization of areas in Houston's East End that are near existing rail lines that have up to an average of 25 trains per day would not be impacted by the Proposed Action or Alternatives. Construction of new schools and an apartment complex is occurring immediately adjacent to the existing lines. For example, Cesar Chavez High School and an apartment complex were recently built adjacent to the GH&H line. The Draft EIS concluded that the Alternatives would have a negligible impact on the human environment and therefore, there would be no affect on revitalization or businesses.

Aesthetics

Summary
Comments stated that existing railroad easements are overgrown with weeds, littered with debris, and are a blight on the community. The comment asserted that the railroads will not hire outside contractors to provide cleanup of the "neglected, trashed-out railroad rights-of-way, a problem they have not addressed in the past due to inadequate resources."

Response
Comments did not specify which railroad easements were affected. However, all of the existing rail lines that would be used under the Proposed Action or Alternatives are owned by UP, not the Applicants. The aesthetics of the existing rail lines would be unaffected by the Proposed Action and Alternatives.

Public Services

Summary
One comment suggested that the analysis of impacts to public services in the Draft EIS was deficient and highlighted several perceived flaws:

> "First, this is no analysis, just a conclusion.
>
> "Second, the characterization of the area as 'industrial' is incorrect. Large portions of the Build Segments, especially those in the City, would pass through undeveloped area, as indicated on the Land Use Map. (DEIS at 3-64, Fig. 3-10.1)
>
> "Third, even if 'public services' only include emergency services, the Build Alternatives will increase the demands on 'public services' because they will expose areas not currently exposed to any demand for emergency services to a new demand. Additional police or other security will be necessary to keep the water supply safe for the one million or more residents that depend on the water provided by the Drinking Water Plant if the perimeter of the facility is breached by a rail line. This was not analyzed and cannot be dismissed with conclusory statements.
>
> "Fourth, the STB regulations require the DEIS to 'describe the effects, including impacts on essential public services . . . in communities to be traversed by the line.' 49 C.F.R. § 11 05.7(e)(1 I)(vi). This language does not compel the SEA to limit its inquiry into demand for public service. To the contrary, it requires an explanation of the impact on public services.
>
> "Last, this purported analysis falls victim to the underlying assumption that existing conditions in Houston justify minimizing the impacts of any incremental increase."

Response
Section 3.10 (page 3-63) of the Draft EIS describes the area of the Build Alternatives as containing a number of existing developments and undeveloped land and describes the industrial, residential, and open space areas. However, there are large industrial developments in the project area and the characterization of the area as industrial for the purpose of analyzing emergency service response demands was appropriate. The emergency services in the southeast Houston area are fully trained to operate in an area with many miles of existing rail lines carrying hazardous and non-hazardous materials. There would be no new area exposed to emergency service response. All parts of the proposed Build Alternatives would be fully accessible to emergency services from the existing road network and from rail ROW service roads.

Comments offer no verified data to support the statement that additional police or other security would be necessary to protect the Water Treatment Plant. The Water Treatment Plant is already protected by police and security personnel and the construction and operation of a rail line would not affect that situation.

As explained in Section 4.11.3 of the Draft EIS, SEA analyzed the potential effects on public services found in the project area. SEA found that the Proposed Action and Alternatives would not place additional significant demands on public services.

Recreation

Summary
Comments asserted that several recreational facilities in the area would be impacted:

> "Recreational facilities impacted by Bayport and the associated rail lines and highway facilities, as well as San Jacinto Rail, include ecologically sensitive lands, golf courses, waterways, parks, recreation facilities and the shoreline of Galveston Bay. Impacted facilities in the immediate vicinity of Bayport include, the historic Houston Yacht Club, the Casa Mare Girl Scout Camp, the upper reaches of Taylor Lake and Taylor Lake Bayou, Shore Acres Park, and Pine Gully Park. Impacted areas along the San Jacinto Rail Line include Baywood Country Club and golf course, Armand Bayou and the San Jacinto College and Pasadena fair grounds. Of particular concern are stream crossings where chemical spills would cause environmental devastation across a wide area."

Response
Chapter 5 of the Draft EIS considered the cumulative impacts of the Proposed Action and Alternatives in conjunction with numerous other proposed projects, including the proposed Bayport Terminal. The Draft EIS also analyzed impacts on recreation in the project area in Section 4.11.4, which concluded that the Build Alternatives would have a negligible impact.

4.15 HAZARDOUS MATERIALS / WASTE SITES

4.15.1 Existing Conditions

Summary
Comments stated that there are major problems associated with old landfills in the vicinity of the alignments for Alternatives 2B and 2D, such as the Farley Street Superfund site. Comments also stated that there are several other construction and debris landfills in the area. The comments criticized the Draft EIS documentation of these landfills.

Response
Appendix K, (Section K.4 and Tables K-1 through K-3) of the Draft EIS described the results of SEA's research regarding existing conditions and past activities along the alignments for the Build Alternatives relevant to hazardous materials spills and hazardous waste sites. As part of this research, SEA reviewed the results of multiple environmental database searches to identify sites located within 500 feet of the proposed Build Alternatives that could potentially be affected

as a result of construction activities. Table K-3 specifically documents the findings regarding landfills in the area. Additionally, SEA conducted interviews with environmental regulatory agency representatives of relevant agencies with jurisdiction over the area of the Build Alternatives. Several of these interviews focused specifically on the findings from regulatory database searches regarding the active and inactive landfills located north of Ellington Field. The Draft EIS indicates that, according to the USEPA Superfund National Priorities List (NPL) Assessment Program, the Harris (Farley Street) site (as the Farley Street Superfund site is referred to in the Draft EIS) was closed and eventually removed from the NPL (i.e., delisted) in 1991as a result of consultation between USEPA and the State of Texas and only after the contamination was removed and disposed of properly and no further operational or institutional controls were deemed necessary to ensure the future integrity of the cleanup. Given that the closure of the Harris (Farley Street) site involved removal of the source of contamination and that the decision-making process associated with the closure and delisting involved the appropriate relevant Federal and state agencies, SEA considered it unnecessary for the Draft EIS to further evaluate the process that lead to the decision to close and delist the site. SEA notes that the discussion of hazardous materials spills and hazardous waste sites in the Draft EIS is commensurate with the potential impacts. SEA sees no information in the comment to support the suggestion that SEA's research regarding hazardous materials spills and hazardous wastes sites, as documented in the Draft EIS, is insufficient.

4.15.2 Impacts

Summary
Comments noted that a portion of the area north of Ellington Field is one of "active sandpits, inactive sandpits, an active landfill, and several inactive and capped landfills." Comments indicated that "these landfills are and were construction and demolition landfills," and that "several were operated before formal permitting and regulation became the norm." Comments stated that the research conducted for the Draft EIS with respect to potential hazardous materials spills and hazardous waste sites appears to be insufficient.

Comments called attention to "the Farley Street Superfund site located north of Ellington Field and in the vicinity of the three alignments, 2B, 2C and 2D." Comments discussed the remedial action alternatives considered for closure of the site and questioned the conditions under which the Farley Street Superfund site was closed because it was closed before current standards for closure were established. Comments also noted that the reports associated with that site would "provide shallow geologic information that should be valuable to general engineering planning for the rail alignments."

Comments stated that while the Draft EIS indicates that a portion of Alternative 2D would run between two landfill cells, parallel to a Harris County Flood Control (HCFC) district drainage channel, the results of the site investigation conducted along that area of the drainage channel show that construction and demolition landfill materials can be found below grade in that area. Comments indicated that a 1975 aerial photo "shows the HCFC easement area with excavation taking place on either side" and that a 1982 topographic map shows the same area "as a road with excavation on either side." The comments state that "it appears that this part of Alignment 2D is over an area that was once excavated as a sand pit." Comments also stated that the EIS "should not be finalized until soil boring studies along the full route through the landfill area are

evaluated and made public." Furthermore, comments indicated that the necessary corrective actions should be developed and implemented when building through or over landfills.

Response
As stated in the previous response, SEA considers it unnecessary for the Draft EIS to further evaluate the process that led to the decision to close and delist the Harris (Farley Street) site. SEA agrees with the comments regarding the fact that the reports associated with that site would provide shallow geologic information that should be useful for engineering of the rail alignments.

As the comments stated, the Draft EIS correctly indicates that the results of the site investigation conducted along the easement of the HCFC district drainage channel show that construction and demolition landfill materials can be found below grade in that area. SEA agrees that this information suggests that the portion of Alternative 2D that would run parallel to the drainage channel is over an area that was once used for disposal of such materials. This area corresponds to the Hughes landfill. As indicated Appendix K (Table K-3) of the Draft EIS, according to the Permitted Site List from the TCEQ Municipal Solid Waste Permits Section, the Hughes landfill was closed in October 1988. SEA acknowledges the concern expressed in the comments regarding the need to carefully consider the specific soil conditions in all the areas where a rail line is to be constructed. As with any similar construction project, in order to develop the detailed design, the Applicants may need to conduct specific additional studies to assess the mechanical properties of the underlying soils - including native soils, fill, and waste materials - along the Proposed Action. However, such specific additional studies are an integral part of the detailed design and engineering process and are not required for assessing the potential environmental impacts.

SEA recognizes that settlement of the underlying soil may occur if a structure is built on an area that was formerly used for disposal of construction and demolition debris. SEA also recognizes that the potential exists for such settlement to be differential, rather than uniform, and thus potentially affect the structure, in this case the railroad track. However, SEA believes that the conditions described can be adequately addressed through appropriate design and engineering. If not, then the Alternative would not be a feasible Alternative. Furthermore, SEA notes that changes in track condition are identified through track inspections, which would be conducted at least weekly on the proposed line to meet existing FRA requirements (49 CFR 213.233). SEA notes that the discussion of hazardous materials spills and hazardous waste sites in the Draft EIS is commensurate with the potential impacts. SEA sees no information in the comment to support the suggestion that SEA's research regarding hazardous materials spills and hazardous wastes sites, as documented in the Draft EIS, is insufficient or that additional research regarding soil conditions along the portion of Alternative 2D that runs parallel to the HCFC district drainage channel is required as part of the EIS.

4.16 CULTURAL RESOURCES

Summary

The THC commented that it has determined that the Draft EIS demonstrates that no archeological or architectural historic properties are affected. However, if any portion of the

alignment segments change during the construction, the THC should be notified for recommendations for any further survey within the changed alignment routes.

Response
It has been noted that any changes in the alignments will require that the THC be notified.

4.16.1 Existing Conditions

Summary
Comments suggested that South East Harris County has a number of points of historical interest that could be developed for tourism.

Response
A cultural resource survey was conducted to determine if any prehistoric or historic cultural resources would be directly impacted by the construction of the project. No prehistoric resources were found during the survey. One single home site, determined to date to the 20th century and to not be eligible for inclusion in the National Register of Historic Places (NRHP), was found along the Preferred Alignment. The report of investigations (Appendix L of the Draft EIS) concludes that allowing the proposed project to proceed will directly impact no significant cultural resources within the project ROW. The THC, which is responsible for the protection of significant cultural resources in the State, has concurred with the findings of the cultural investigation.

4.16.2 Impacts

Summary
Comments suggested that the EIS should identify existing historical sites and landmarks, identify their condition, and disclose impacts of increased usage on maintenance, repair and access to sites.

Response
As described above and in Section 4.14 of the Draft EIS, there are no significant historic sites or landmarks within the ROW of the proposed project.

Summary
The Mescalero Apache Tribe commented that the Proposed Action would not affect any objects, sites, or locations important to the Tribe's traditional culture or religion.

Response
Comment noted.

4.17 ENVIRONMENTAL JUSTICE

Comments addressed a range of issues related to environmental justice, including contentions that the Draft EIS undercounted the Hispanic population in the project area and that the Proposed Action and Alternatives would cause disproportionate impacts to environmental justice

populations. Because the rail line would cause trains to travel close to homes, comments contended, the rail line would have an impact on minority communities. Comments stated that SEA must consider discernable or disproportionate effects on communities with minorities or low-income populations. Other comments questioned the validity of the data used in the Draft EIS, contending that many Hispanics were counted as White in the population data. Some comments contended that, because construction and operation of the proposed rail line would have no impact on the surrounding community, race is not an issue.

4.17.1 Existing Conditions

Summary
Comments asserted that the Draft EIS did not properly characterize the minority population. Comments contended that the demographic data provided in the Draft EIS are not correct, specifically that the Draft EIS maps indicating minority populations affected by the Proposed Action and Alternatives did not properly account for all minority populations. Comments contended that the majority of the population living close to many portions of the proposed rail is minority, principally Spanish/Hispanic/Latino. Comments asserted that the presence of minorities indicates that the possible disproportionate adverse effects caused by the Proposed Action and Alternatives should be evaluated as an environmental justice issue. Comments contended that data were intentionally misrepresented in the Draft EIS.

Response
SEA's omission in the Draft EIS of portions of the Spanish/Hispanic/Latino population in the minority population counts was the result of an unintentional error. The minority population mapping error occurred when SEA misidentified a data element. SEA calculated the minority population for each Census block by subtracting the non-minority population from the total population. In preparing the maps for the Draft EIS, SEA accidentally used a data field containing the "white only" population, rather than the non-minority population. The "white only" population includes a substantial fraction of the Spanish/Hispanic/Latino population. In particular, it includes all Spanish/Hispanic/Latino residents who identify their race as "white" on the U.S. Census. When SEA subtracted the "white only" population from the total population, the result was the population that does not classify itself as "white." This population is different from the minority population and is the population that SEA incorrectly used to create the minority maps. The result of this error was that Figures 4.16-1 and 4.16-3 in the Draft EIS do not include Spanish/Hispanic/Latino residents who classify their race only as White.

The narrative of the Executive Summary, and Chapters 2, 3, and 4 of the Draft EIS clearly indicates that the existing rail lines associated with the Proposed Action and Alternatives traverse environmental justice communities. However, the minority population maps in Section 4.16.2 (Figure 4.16-1 on page 4-84 and 4-85 and Figure 4.16-3 on page 4-87 and 4-88) did not properly include the minority population. SEA described the proper approach for considering minority populations in Section 3.16-1 (page 3-78) of the Draft EIS, but SEA made a mistake in the handling of the data. SEA has corrected the minority maps and the associated portions of the narrative. (See Chapter 5 Errata for these corrections.)

Summary
Comments contended that over 27,000 Hispanics, or 90 percent, of the people who live within a quarter mile of the route were incorrectly counted as White in the racial data provided in the Draft EIS.

Response
The Draft EIS did not present any data that delineated the population within one quarter-mile of the Proposed Action and Alternatives. Comments did not include the analyses used to derive the finding that 90 percent of the people who live within a quarter-mile of the route were incorrectly counted as White.

Summary
Comments contended that the Applicants provided incorrect demographic data to SEA. Comments alleged that the Applicants "provided false information to the Board saying that the areas where the railroad would operate were sparsely populated. They also stated that the areas were predominantly of white, Anglo residents." Comments asked SEA to consider the January 9, 2003, Houston Chronicle article titled: "Rail Planners Hit for Using Bad Data; Hispanics Uncounted, Lawyer Says."

Other comments highlighted the fact that the Applicants did not provide SEA with analysis of U.S. Census data along the GH&H line.

Response
SEA collected and analyzed relevant demographic data as part of the environmental justice analysis. Comments have not supported the allegations that the Applicants intentionally provided inaccurate data. In fact, Appendix N of the Draft EIS, which contains all of the correspondence between SEA and the Applicants shows that the Applicants did not provide SEA with demographic data.

Summary
Comments stated that SEA should issue a supplemental Draft EIS with corrected demographic figures.

Response
SEA determined that the error that occurred in reporting minority population data does not trigger a requirement for a supplemental Draft EIS because the error had no effect on any of the impact analysis conclusions in the Draft EIS. The Draft EIS indicates that the impacts from the Proposed Action and Alternatives would not be high and adverse. Therefore, under the EO on environmental justice, SEA was not required to assess disproportionate impacts on environmental justice communities. SEA has corrected the minority population maps and the associated portions of the narrative in this Final EIS. Since the correction does not constitute significant new information relevant to the impacts of the project, a supplement to the Draft EIS is not necessary.

Summary
Comments contended that the minority and low-income populations might experience more severe consequences from a hazardous materials release than the general population when

exposed to the same hazardous pollutants. This can result from environmental justice communities having a long-term history of exposure to chemicals. Comments contended that the Draft EIS must consider the characteristics of the environmental justice population in order to determine whether the effects are significant, adverse or disproportionate.

Response
Different populations may respond differently to the same level of exposure to environmental hazards. These considerations are relevant to environmental justice evaluations, as described in the following: environmental justice: Guidance Under the National Environmental Policy Act, Council on Environmental Quality, December 10, 1997. Regarding hazardous materials transport safety, SEA's determination that hazardous materials transport risk is negligible is based on finding that the probability of a release in a populated area is extremely small as indicated in Section 4.2.2.3 of the Draft EIS. The probability of exposure is sufficiently low that SEA considers there to be no potentially high and adverse effects, even taking into consideration cumulative impacts. This finding is not affected by differences in the way various populations respond to such environmental hazards.

Regarding air quality impacts, the Draft EIS determined that there were no high and adverse air quality impacts based on the National Ambient Air Quality Standards (NAAQS) (Draft EIS, Section 4.6) which are established with the goal of protecting those populations that are most sensitive to pollutants.

Summary
Comments asserted that if the Draft EIS had included the correct demographic data, then additional mitigation measures might have been proposed to lessen impacts for environmental justice communities.

Response
SEA did not include mitigation measures specifically for environmental justice because there would be no high and adverse impacts to environmental justice communities that might warrant mitigation. The mistake in the demographic data presented in the maps in the Draft EIS did not affect whether to include environmental justice mitigation measures.

Summary
Comments highlighted that numerous schools are located in close proximity to portions of the existing rail lines that would be used by the Proposed Action and Alternatives, and that predominantly low-income and minority students attend these schools. Comments also asserted that U.S. Census data are not accurate for southeast Harris County because of the number of minority residents who do not respond to the U.S. Census. Comments described several sources of demographic data besides the U.S. Census, including the school districts as well as other individuals and agencies that could be used by SEA.

Response
SEA appropriately declined to include an analysis of school demographics in the environmental justice section. While schools and other local sources can provide legitimate data regarding local population demographics, SEA determined that U.S. Census data provided the most comprehensive information to support the environmental justice methodology. U.S. Census data

is reliable and its use here was entirely appropriate given the absence of high and adverse impacts that would result from the Proposed Action and Alternatives. CEQ guidance[34] also recommends using U.S. Census data for an environmental justice analysis.

Summary
Comments stated that the schools along the GH&H line have predominantly minority and low-income students.

Response
For the environmental justice analysis, SEA did not evaluate the demographics of schools that are near the GH&H line. Such school demographic data may be an acceptable component of environmental justice analysis, but SEA instead used U.S. Census data to identify the minority status of all residents and the income status of all households. This approach is recommended by CEQ, as described in the Draft EIS, Appendix M. An assessment of school demographic data may be important in cases where the schools would experience high and adverse impacts from a project, which is not the case for any school near the existing rail lines that would be used by the Proposed Action and Alternatives.

4.17.2 Analysis Methodology

Comments highlighted a bill that Congressman Green has introduced in the U.S. House of Representatives that would require a determination on whether a proposal would have a disproportionate impact on either minority areas or economically disadvantaged areas.

Analysis of disproportionately high and adverse impacts to minority or low-income populations is already required under an existing EO (EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations). Sections 3.16 and 4.16 of the Draft EIS present analysis of potential environmental justice impacts prepared in accordance with that EO.

Summary
Comments asserted that SEA did not use a prescribed or promulgated methodology for its environmental justice analysis and that this raises concerns about the consistency of SEA's approach. In particular, a comment raised concerns that SEA followed neither the EPA Region 6 Index Methodology, nor previous SEA environmental justice methodologies. Comments stated "SEA's purported reliance on a 1996 EPA Region VI Environmental Index Methodology is also somewhat curious. This methodology was actually promulgated in 1994 and is currently in effect."

Response
In developing its environmental justice methodologies, SEA follows USEPA and CEQ environmental justice guidance and follows the latest developments in the field of environmental justice analyses. However, SEA is unaware of any single "prescribed" or "promulgated"

[34] CEQ, Environmental Justice Guidance under the National Environmental Policy Act, December 10, 1997.

methodology. USEPA and CEQ guidance documents avoid a prescribed approach to analysis so that agencies have the flexibility they need to address their individual situations. The five-step methodology described in Appendix M of the Draft EIS is generally consistent with previous environmental justice methodologies conducted by SEA. However, SEA does not believe it is appropriate to use exactly the same methodology in all environmental justice analyses. SEA believes that environmental justice methodologies must be adapted based on the circumstances presented in the individual case, feedback from the community, the nature of the project, and the guidance provided by the USEPA Region where the project is located.

For the Bayport Loop Build-Out, SEA examined its own previous environmental justice analyses and consulted with the Environmental Justice Office of USEPA Region 6. Region 6 forwarded the "Region 6 Environmental Justice Index Methodology," revised in August 1996. Staff in USEPA's Region 6 Environmental Justice Office emphasized that this methodology was flexible and should be adapted based on the specific circumstances of the project being analyzed.

SEA concluded that the analysis resulting from the methodology used in the Draft EIS would be more appropriate in this case and more informative than that produced through the Region 6 methodology. However, SEA felt that some aspects of the Region 6 methodology were relevant to disclose as much information as possible about the location of minority and low-income populations.

In its comment letter of February 21, 2003, USEPA Region 6 noted that it had "no objections" to the Draft EIS, which indicates that USEPA is in agreement with the environmental justice methodology and results of SEA's analysis in this EIS.

4.17.3 Impacts

Summary
Comments asserted that the Draft EIS fails to confront and analyze the issue of environmental justice fully and accurately on all levels, taking into account social justice, procedural justice, distributive justice, and corrective justice.

Response
The presence of minority and low income populations in the absence of high and adverse effects does not require an analysis of disproportionate effects. This is based on Environmental Justice: Guidance Under the National Environmental Policy Act, Council on Environmental Quality, December 10,1997, referenced in Appendix M (page M-2) of the Draft EIS.

Summary
Comments claimed that the proposed rail line would have a disproportionate impact on minorities. Comments asserted that the impacts are disproportionate and significant enough that the Board should deny the proposed project.

Response
Comments have not supported their claim of disproportionate impacts and significant impacts. When examining environmental justice and as required under EO 12898, SEA analyzes whether high and adverse impacts disproportionately affect minority and low-income populations. As

described in the Draft EIS, the Proposed Action and Alternatives would not result in high and adverse impacts. Therefore, there would not be a disproportionate distribution of high and adverse impacts on environmental justice communities.

Summary
Comments contend that the proposed project poses significant and major environmental justice issues by impacting low-income minorities along the proposed route.

Comments contended that Federal policy requires that the USDOT consider any discernable or disproportionate adverse effects on the minority or low-income population during consideration and review of major transportation projects.

Response
The Draft EIS indicates that the impacts from the Proposed Action and Alternatives would not be high and adverse. Therefore, under the EO on environmental justice, SEA was not required to assess disproportionate impacts on environmental justice communities. Because there were no high and adverse impacts, the Proposed Action and Alternatives could not disproportionately affect minority and low-income communities. Accordingly, SEA determined that the Proposed Action and Alternatives would not produce environmental justice impacts.

Summary
Comments expressed concern that the low-income, minority population in question does not have the resources to adequately influence the Board's decision.

Response
SEA notes that elected officials, community groups, and other organizations have represented the interests of the community in question. NEPA requires SEA to objectively analyze the consequences of proposed actions and alternatives. Therefore, the outcome of the analysis is independent of a community's resources. Nevertheless, SEA recognizes that low-income and minority populations often have fewer financial and professional resources with which to participate in and influence the decision-making process. The Federal environmental justice policy was developed, in part, to ensure equal treatment in spite of this disparity of resources. Equal treatment means both procedural fairness (i.e., equal access to the decision-making process) and fair outcomes (i.e., protection from decisions that disproportionately harm minority and low-income populations).

SEA followed Federal environmental justice policies in evaluating potential impacts of the Proposed Action and Alternatives. As described in Section 1.7 of the Draft EIS, SEA took steps to ensure that public outreach was conducted in a manner that minority and low-income communities were informed about the proposed project and able to voice any concerns and requests regarding the environmental review process. This represents SEA's efforts to addresses procedural equality. As described in Appendix M (Step 3) of the Draft EIS, SEA assessed whether any potential effects to environmental justice populations could be high and adverse. SEA identified no potential high and adverse effects, and therefore, concluded that the outcome would also be equitable.

Summary
Comments claimed that the Proposed Action and Alternatives would provide further standing in a pending environmental justice lawsuit relating to Cesar Chavez High School.

Response
SEA is unaware of pending lawsuits associated with Cesar Chavez High School, but believes that the commenter is referring to concerns that the High School was built close to existing environmental hazards when alternative sites had been identified. This issue is beyond the scope of the EIS.

Summary
Commenters claimed that they are already overburdened by air pollution and other problems, and that the cumulative effects of the proposed rail line with the existing conditions creates an adverse, disproportionate impact on the surrounding community.

Response
The Draft EIS, in Section 5.1.6, concluded that the air quality impacts of the Proposed Action and Alternatives would be negligible. When combined with other planned or reasonably foreseeable projects, the Proposed Action and Alternatives would not have a significant cumulative adverse impact on air quality.

Regarding cumulative impacts resulting from hazardous materials transport, the Draft EIS concluded that other projects that may generate rail traffic on the same lines as the Proposed Action and Alternatives but the risk would be negligible as indicated in Section 5.1.2 of the Draft EIS.

Regarding grade crossing delay and safety impacts, SEA found that two reasonably foreseeable projects would generate rail traffic that could impact grade crossings on some of the same roads as the Bayport Loop Proposed Action and Alternatives. These are the proposed Bayport Terminal and the proposed Shoal Point Container Terminal. As indicated in Section 5.1.4 of the Draft EIS, the grade crossing safety and delay impacts from these two projects combined with the impacts of the Bayport Loop Build-Out would be negligible.

Regarding noise impacts, SEA acknowledges that it cannot accurately predict noise impacts from other proposed projects affecting the same population as would be affected by the proposed Bayport Loop Build-Out (See Draft EIS, Section 5.1.15, page 5-10). However, based on the minor contribution of the Bayport Loop Build-Out to these future noise impacts, SEA has concluded that cumulative environmental justice impacts would be less than significant (See Section 5.1.16, page 5-11).

Summary
Comments stated that the Draft EIS fails to consider future growth in low-income and minority communities.

Response
The Draft EIS found that there would be no high and adverse impacts resulting from the Proposed Action and Alternatives. Therefore, whether the environmental justice population

increases or decreases, the effects are the same. SEA's consideration of potential environmental impacts is based on utilizing a timeframe in which it is reasonably foreseeable to predict impacts. While the population in southeast Houston is likely to grow over time, it is difficult to predict the exact location where that growth might occur. It would, therefore, be speculative to take into account future environmental justice population growth trends when analyzing potential impacts.

Summary
Comments asked that a standard based on the Board's decision in the I&O case be applied to deny the proposed rail line, and asserted that a failure to apply this standard would create an environmental justice issue.

Response
As discussed in more detail in the section on Rail Operations Safety, there are important differences between the I&O case and the Bayport Loop Build-Out case. In particular, the I&O case involved homes that were much closer to the portion of track that would be built. In contrast, the Bayport Loop Build Alternatives do not come within close proximity of any homes.

Summary
Comments contended that since the issuance of the Draft EIS, the Applicants' Preferred Alternative has been changed from the original Preferred Alternative, Alternative 1C, which has greater impacts for non-minorities to a different route which has greater impacts on Hispanic populations. "Subsequent to the release of the DEIS, the applicant identified that Alternative 2D was the preferred alternative. This route goes to the north of Ellington Field and avoids the Anglo community to the south. However, the Hispanic community remains significantly impacted by the proposed rail line. The point here is that the applicant has now indicated a preference for a route that avoids impacts to whites." "This unfair treatment results in Hispanics being forced to shoulder a disproportionate share of exposure to the negative effects and risks of the railway."

Response
The Applicants have not altered their Preferred Alternative since the issuance of the Draft EIS. At the November 17, 2002 City Council Meeting on Transportation, Infrastructure, and Technology, the Applicants indicated that if the City would cooperate, the Applicants would pursue Alternative 2D, the route that runs north of Ellington Field. Chapter 2 of the Draft EIS explains the development of the Alternatives in detail. Comments have not supported the contention that Alternative 2D would cause significant impacts to the Hispanic community. The Draft EIS concluded that Alternative 2D would cause minimal environmental impacts.

Summary
Comments suggested that the Draft EIS should make more explicit reference to the fact that the Build Alternatives would shift rail traffic and associated impacts from portions of track with predominantly non-minority populations to portions of track with predominantly minority populations.

Response
The minority population maps in the Draft EIS do not definitively indicate that non-minority populations live adjacent to or near the Strang Subdivision because the area shaded white indicates that either the population is less than 50 percent minority or there are no residences at those locations. Nevertheless, the minority maps in the Draft EIS and the corrected minority maps both indicate higher concentrations of minority communities along the existing GH&H line. Section 4.16.2.4 (page 4-92) of the Draft EIS states the following:

> "Along the existing GH&H line south of Tower 30, minority populations are substantially more concentrated than compared with the Bayport Loop Industrial Lead and the Strang Subdivision."

These maps and associated discussion are included in the EIS in order to fully inform the community of the number of environmental justice communities along the various Alternatives. Since there would be no high and adverse impacts to these communities, their presence along the existing rail lines does not change the conclusions that the project would pose no significant environmental justice impacts.

Summary
Comments asserted that SEA did not adequately address the environmental justice impacts associated with the heightened risk of pipeline ruptures resulting from construction and operation over pipeline crossings.

Response
SEA considered both the probability of pipeline ruptures and the risk associated with such ruptures in Section 4.3 of the Draft EIS. SEA concluded that for all Alternatives, the impact of rail operations on pipeline safety is minimal. Consequently, pipeline safety does not pose environmental justice issues.

Summary
Comments highlighted that regardless of the number of environmental justice communities, the Proposed Action poses no potential high and adverse impacts. Comments also stated that concerns about the accuracy of the environmental justice analysis relate to the potential impacts to minority populations along UP's existing GH&H line over which BNSF would operate via trackage rights, and that BNSF had no choice as to where to place the alignment in this instance. By contrast, according to Section 4.16.2 (page 4-82) of the Draft EIS, the area in which the new rail line is proposed to be built is "located in an area with few minorities and few low-income residents relative to the general project area."

Response
Comment noted.

4.17.4 Mitigation

Summary
Comments asserted that the environmental justice sections in the Draft EIS incorrectly concluded that all of the impacts to environmental resources were "negligible," and that some impacts necessitate a thorough mitigation analysis.

Response
Comments have not supported their assertion that the Draft EIS incorrectly concluded that the impacts were negligible. Chapter 6 (page 6-5) of the Draft EIS states the following:

> "SEA has determined that the Proposed Action and Alternatives would have a negligible effect on environmental justice populations."

This is based on the findings that noise, hazardous materials transport, and grade crossing safety and delay impacts would be negligible. Based on these findings, environmental justice mitigation measures are not warranted.

4.18 CUMULATIVE IMPACTS

Comments asserted that the Draft EIS should have analyzed cumulative impacts with the proposed Bayport Terminal and the proposed Shoal Point Container Terminal. Comments argued that the two projects would have negative environmental impacts on the Bay and would increase traffic significantly.

Summary
Comments asserted that the Draft EIS should have analyzed cumulative impacts with the proposed Bayport Terminal.

"Why isn't the proposed Port of Houston project discussed in the DEIS? There is no consideration of the potential overlap of these two projects. Together, these projects will significantly affect air quality, water quality, noise levels, public safety, traffic, and sensitive wetlands."

"The DEIS fails to properly look at cumulative impact. Whether you believe that the BNSF and the Port of Houston have ever spoken or will ever even look each other in the eye, the fact of the matter is the two projects would affect the same areas, particularly those on the east end of the line, which Shore Acres is located. And those impacts should be looked at cumulatively. The land use, noise, and wetlands analysis in particular are areas where cumulative impacts are a concern. Analyzing one of these projects while pretending the other one does not exist is irresponsible and, if I'm not mistaken, illegal."

"The San Jacinto Rail DEIS fails to address the cumulative effects and impacts that the construction, operation and maintenance of the Bayport Terminal will have in the area that will also be affected by the proposed rail line."

Response
Cumulative impacts were considered in Chapter 5 of the Draft EIS. The cumulative impacts analysis included a variety of other projects that are proposed for the area. These projects included the proposed Bayport Terminal. The analysis covered all environmental resource categories, including land use, noise, and wetlands.

Summary
Other comments mentioned the proposed Shoal Point Container Terminal, in addition to the proposed Bayport Terminal, and contended that the Draft EIS did not fully discuss potential cumulative impacts from these projects:

> "The Bayport container port is proposed to be constructed adjacent to the Atofina plant, the eastern terminus of the SJR line. The Bayport container port will generate over 5,000 trucks per day and will generate eight 8,000 foot long container trains per day. Bayport will cause significant destruction of wetlands, change land use patterns, generate substantial small particle air pollution and generate significant sources of noise, among other things. The Shoal Point container port is proposed to be constructed at Texas City to the south of the proposed SJR line. The major overlapping cumulative impact will be involve rail traffic from Texas City moving northward up Highway 3 along the UP line, causing an increase in traffic along the same route to be used by SJR. These cumulative impacts must be fully and fairly discussed."

Response
Chapter 5 of the Draft EIS discusses cumulative impacts analysis and includes consideration of the proposed Bayport Terminal and Shoal Point Container Terminal projects. Section 5.1.1 of the Draft EIS discusses the rail operations and safety cumulative impacts analysis with respect to the potential rail traffic created by these two proposed port projects.

Summary
Comments asserted that the Draft EIS "has not considered any past actions in its analysis of cumulative impacts and is inherently inadequate as a result."

Response
Chapter 3 of the Draft EIS discusses the affected environment associated with the Proposed Action and Alternatives. It considers the existing conditions in the affected area that are the result of past actions. Chapter 5 of the Draft EIS discusses SEA's cumulative impacts analysis, which included planned and reasonably foreseeable projects that overlap with the Proposed Action and Alternatives. The foundation for the cumulative impacts analysis is the information on the affected environment, described in Chapter 3 of the Draft EIS.

4.19 MITIGATION

Comments discussed reporting requirements for mitigation, the provision of a community liaison, and prohibiting construction vehicles on residential streets, among other issues.

Summary
Comments stated that the Applicants' voluntary mitigation measures, presented in Chapter 6 of the Draft EIS, contain "many promises from the Petitioners on how their activities will be conducted." Comments also stated that there "are many other examples of ambiguous language within this section of the Draft EIS." The comment suggested that, "there are certain activities that the Petitioners should be required to document and report." The comment suggested that the "reporting can consist of formal reports to the Board," and could be "included on the project web site." The comment "recommended that the Board determine which activities and decisions require documentation and the mechanisms for doing such."

Response
This Final EIS contains SEA's recommended mitigation, which, if adopted by the Board, would require the Applicants to implement their voluntary mitigation and four additional mitigation measures developed by SEA. The Applicants' proposed voluntary mitigation included an extensive and comprehensive list of 76 mitigation measures. These 76 measures go well beyond the mitigation that SEA would normally recommend to the Board, given the low level of potential impacts associated with the Proposed Action and Alternatives. Moreover, in response to comments on the Draft EIS, the Applicants have clarified some of the voluntary mitigation measures (see Appendix D). SEA is recommending a new mitigation measure that requires the Applicants to retain a third-party contractor to assist SEA in reviewing the Applicants' submittals under VMM #76 regarding habitat restoration, and as necessary, during implementation of this project, should the Board grant final approval. The Board may adopt some or all of SEA's recommendations in its final decision, if it decides to grant final approval for the project.

Summary
Comments stated that many of the Applicants' voluntary mitigation measures should be "more appropriately characterized as meeting the requirements of law." The comment cited VMM #5:

> "For each of the public grade crossings on the new and existing rail line, Petitioners shall provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing ID number in compliance with Federal Highway Regulations (23 CFR Part 655)." Comments also stated "other mitigation measures seem to be less than what might otherwise be required." Comments cited VMM #11 "proposing to mitigate loss of wetlands at 2-to-1 or 3-to-1 without regard to requirements of the Corps of Engineers for 404 permit" and VMM #42 promising "that trespass on private property will only be after notice to property owner." The comment stated, "because the SEA did not find any impact that needed to be mitigated, the voluntary measures become even more critical."

Response
Some of the Applicants' voluntary mitigation measures address regulatory compliance, but they generally go beyond the requirements of those regulations or to the extent that the regulations are not prescriptive, the Applicants have specified how they plan to comply with the regulations. FHWA regulations at 23 CFR Part 655 are not specific to grade crossing signs, but refer to the Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD provides guidance for grade crossing signs in Section 8B.09, Emergency Notification Sign. Section 8B.09 says that

emergency notification sign for a grade crossing should provide a number to call and a crossing number. The Applicants' VMM #5 goes on to state that "The toll-free number shall be answered 24 hours per day by" the Applicants' personnel. Neither FHWA regulations nor the MUTCD require that and they do not require the coordination with another carrier that VMM #5 also contains.

Regarding comments about the USACE and the requirements of a Section 404 permit, SEA recognizes that the compensation ratios, location, monitoring requirements, success criteria, and specific design of a wetland mitigation plan would have to be approved by the USACE through the Section 404 permit process. As stated in the Draft EIS, SEA's inclusion of the Applicants' voluntary mitigation plan does not limit or constrain the USACE or other regulatory agencies from requiring more compensation or a different type of mitigation from that which has been proposed. However, SEA recognizes that the Applicants' proposed mitigation includes compensation for impacts to isolated wetlands, coastal prairie habitat, and some bottomland hardwood forest that are not regulated by the Section 404 program and which are not typically included in mitigation requirements. The mitigation measure also would preserve multiple populations of the endangered Texas prairie dawn. SEA considers the Applicants' proposed mitigation measures an acceptable compensation proposal for the impacts to water resources (including wetlands) and plant communities.

Regarding comments about VMM #42, that measure does not address "trespassing on private property." The measure addresses crossing parking areas and driveways that others traverse routinely. As stated elsewhere in this Final EIS, SEA is recommending that the Board impose all of the Applicants' voluntary mitigation measures as conditions in the final decision, should the Board grant final approval for the project.

Summary
Comments stated "testimony at the public hearings indicates that the public is more concerned about the operations of the rail line than the construction impacts. The Applicants' VMM #38 and #39, however, appear focused on construction issues. We would encourage the Applicants to maintain one or more Community Liaisons for more than a year after operations commence. In addition, we recommend that one Community Liaison be fluent in Spanish."

Response
VMM #38 focuses on operations as well as construction. VMM #38 states that the Applicants "shall establish a Community Liaison to consult with businesses and agencies for a period of one year following start-up of operations on the new rail line." The comment was directed at the Applicants for their consideration. As stated in Chapter 3 of this Final EIS, SEA is recommending an additional mitigation measure to the Board that would require the Applicants to provide Spanish-language capabilities through their community liaison. SEA is also recommending that the Board impose all of the Applicants' voluntary mitigation measures as conditions in the final decision, should the Board grant final approval for the project.

Summary
Comments stated, "while it is nice of the Applicants to agree not to trespass on residential properties, one area of concern during the construction phase is the use of residential streets to access construction sites. The Applicants should agree that construction vehicles, equipment and

workers will not access work areas by use of streets in residential neighborhoods and will not use residential streets for parking."

Response
The Applicants would have to comply with any posted restrictions that might apply. However, SEA believes that it is unlikely that the Applicants would need to utilize residential streets to access work areas. The configuration of each of the Build Alternatives is such that the construction equipment can probably access them by non-residential streets. The Applicants have stated, in VMM #59, that they would, to the extent practicable, "confine all project-related construction traffic to a temporary access road within the ROW or established public roads." SEA believes that this is an appropriate mitigation measure for this case.

Summary
Comments stated that, "regarding VMM 74, any traffic control measures undertaken in the City must be approved by the City's Public Works and Engineering Department."

Response
Comment noted.

Summary
Comments stated that "because the DEIS does not recognize the significant adverse impacts of the rail line on the Drinking Water Plant, it presents no mitigation for these impacts. These impacts are significant and adverse and the DEIS should address their mitigation."

Response
Comments have not supported the assertion that a Build Segment would cause significant adverse impacts to the Water Treatment Plant. As discussed in detail earlier, Section 4.2 of the Draft EIS concluded that the Water Treatment Plant would experience negligible impacts. Therefore, mitigation is not warranted. In addition, plans for the Water Treatment Plant, submitted in combination with comments, indicate the presence of an existing rail lines within the Plant and plans for future rail access to the facility.

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CHAPTER 5
ERRATA

This chapter presents changes and corrections to the Draft EIS. The changes were either identified by SEA in its ongoing environmental review or identified through agency and public comments on the Draft EIS.

Each change or correction states the chapter, page, paragraph, and sentence, table, or figure in the Draft EIS, which is being updated. In each case, words being added are underlined and words being deleted are denoted by ~~strikeout~~.

Chapter 1

Page 1-9, Last paragraph, Second sentence

The FAA has a responsibility to assess the aviation and environmental impacts of releasing Federally obligated airport property and approving changes to the Airport Layout Plan (ALP) associated with the Proposed Action ~~on Ellington Field~~.

Chapter 2

Page 2-11, Second paragraph, Twelfth sentence

The analysis recommends that based on projected aviation activity, "up to 50 acres should be reserved to accommodate growth in ~~a generation~~ general aviation."

Page 2-28, Third paragraph, Second and fourth sentences

The right-of-way for most of the Build Alternatives (Proposed Action and Alternatives 1C, 2B, and 2D) would ~~disturb~~ include approximately 2.84 acres of jurisdictional wetlands and about 4.22 acres of non-jurisdictional wetlands.

The Original Taylor Bayou Crossing would impact more jurisdictional wetlands, including about 0.18 acres more gilgai habitat and about ~~0.77~~ 0.91 acres more of tidal marsh.

Chapter 3

Page 3-21, Third paragraph

To characterize the existing traffic delay and safety conditions at existing and proposed grade crossings, SEA used several data sources:

- Texas Department of Transportation (TxDOT) information on average daily vehicle traffic volumes at grade crossings;
- UP, BNSF, and PTRA information on ~~trafin~~ train traffic; and
- FRA's grade crossing database and Public Crossing Accident Prediction System (PCAPS).

Page 3-46, Second paragraph, Last sentence

The wetland delineation and jurisdictional determination for the wetlands along the proposed Action have been field verified by the USACE Galveston District ~~and the confirmation letter will be issued soon~~.

Page 3-50, Third paragraph, First sentence

The Build Alternatives ~~Proposed Action and Alternative 1C~~ would cross a 52-acre wetland restoration site that is located near Ellington Field.

Page 3-67, Replace Figure 3.10-3 with the following page.

Page 3-77, Second complete paragraph, Last sentence

The bridge proposed for this crossing would not require a ~~Section 9~~ permit from the USCG.

Page 3-77, Third paragraph, Last sentence

This crossing would not require a ~~Section 9~~ permit from the USCG.

Page 3-77, Fourth paragraph, Last sentence

This crossing would not require a ~~Section 9~~ permit from the USCG.

Page 3-78, Second paragraph, Last sentence

The USCG determined that a ~~Section 9~~ permit would not be required.

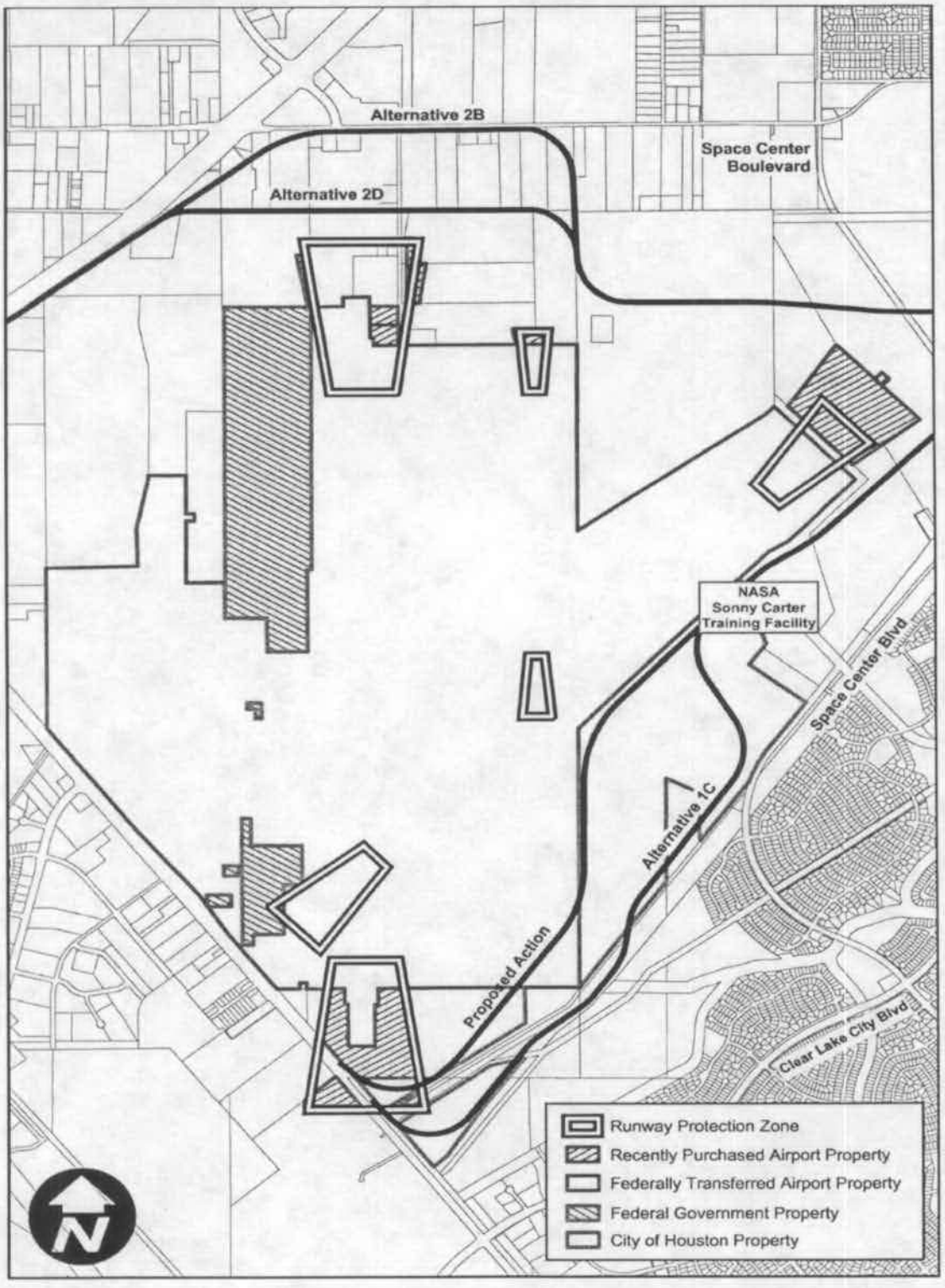
Page 3-79, Replace Table 3.16-1 with the following:

Table 3.16-1
Percent Minority for Jurisdictions in Project Area

Geographic Area	Population	% Minority
Harris County	3,400,578	57.9%
City of Houston	1,953,631	69.2%
Pasadena City	141,674	52.8%
La Porte	31,880	29.3%
Deer Park	28,520	19.2%
South Houston City	15,833	~~19.6%~~ 80.4%
Dayton	5,709	32.4%

Source: U.S. Census Bureau, Census 2000, Summary File 1 Tape (SF1), table P4 available at www.census.gov.

Figure 3.10-3
Ellington Field Property Lines and Runway Protection Zones



Page 3-80, First paragraph

All of the Build Alternatives would use the existing GH&H line to Tower 85. The population along the GH&H line near Ellington Field is ~~not characterized by either~~ a mix of minority and non-minority residents with no predominantly low income populations. ~~or minority status.~~ Heading northwest, the GH&H line passes through more densely populated areas that can be characterized as predominantly minority and partially low income ~~and through some census block areas that are characterized as minority~~. The line traverses South Houston City, which is a predominantly minority community. The area from Tower 30 to Tower 85, on the GH&H line, and from Tower 85 to Tower 87, on the East Belt Subdivision, contains several low income areas and ~~some census blocks with~~ predominantly minority populations. The areas from Tower 87 to Dayton Junction and on to the CMC Dayton Yard are sparsely populated and are not characterized as low income or minority.

Page 3-80, Second paragraph

No-Build Alternative. The No-Build Alternative involves no new rail construction. It would use the existing Baytown, Lafayette, Terminal, and East Belt Subdivisions, Strang Subdivision, and Bayport Loop Industrial Lead to access the Bayport Loop. The segment from the CMC Dayton Yard to Tower 30 is the same as that used under the Build Alternatives and its existing environmental justice populations are discussed above. The population along the Strang Subdivision, near Harrisburg Junction and Manchester Yard, is predominantly low income and some of the census blocks can be characterized as minority. Further east, the Strang Subdivision passes through less densely populated areas that are ~~not~~ characterized ~~as~~ with sporadic low income~~, but do contain some census blocks with~~ and minority populations. Pasadena City, which is south of the Strang Subdivision, is a diverse community with lower minority concentration than the county average. It includes a substantial number of middle and low income residents. North of Strang Yard is ~~a~~ sparsely populated with some low income areas.

Chapter 4

Page 4-22, Second paragraph

In the extremely unlikely event of a pipeline release caused by a rail accident, OPS data indicate that the consequences of an incident involving a gas or hazardous liquids pipeline could include damage to property, fire, explosion, and personal injury or death. OPS data also indicate that only a small percentage of pipeline accidents that do occur result in serious consequences such as fire, explosion, or personal injury or death. Potential consequences associated with damage to other types of pipelines (e.g., water, sewage) typically would be much more limited (e.g., temporary disruption of service). In the unlikely event of damage to a large (e.g., 96") water line, the consequences potentially could include longer service disruptions and/or reduced water pressure, which potentially could reduce fire fighting capabilities.

Page 4-37, Second paragraph, First sentence

The Applicants used published vibration data from the Federal Transit Administration and typical freight train vibration spectra to ~~eliminate~~ estimate a noise level of approximately 50 dBA at the astronaut's ear.

Page 4-38, Table 4.6-1

Table 4.6-1
Estimated Maximum* Emissions from Construction and Operation

	CONSTRUCTION PHASE		OPERATIONAL
	Averaged Daily Off-Road and Rail (kg/day)	**Averaged Daily On-Road (kg/day)**	**Switching and Line Haul Operations (kg/day)**
Diesel PM	2.1	0.62	0.62
NO_x	35.1	16	25
VOC	2.8	0.74	1.2

*Based on the Build Alternatives that would result in the largest estimated increase in emissions.

Page 4-38, Third paragraph

SEA developed an emissions inventory for each Build Alternative. Because the length of new rail construction is similar for all of the Build Alternatives, however, the estimated emissions are similar as well. To be conservative, SEA used estimated emissions for construction for the Alternative requiring the most new rail construction (Alternative 2B) in this analysis. ~~Because nearly all of the emission sources associated with the Proposed Action and Alternatives would be associated with the combustion of diesel fuel, which emits very small amounts of VOCs relative to NO_x, SEA developed quantified estimates only of emissions of NO_x and diesel PM.~~

Page 4-38, Fifth paragraph

The current State Implementation Plan (SIP) emission inventory for Harris County estimates that total railroad emissions of NO_x average 9,800 kg/day. Thus, estimated emissions from the Build Alternatives would represent an increase of less than 0.5 percent (51.1/9,800) during construction and a 0.26 percent increase (25.0/9,800) during operation. Similarly, total railroad emissions of VOC average 780 kg/day. Thus, the estimated emissions from the Build Alternatives would represent an increase of less than 0.5 percent (3.44/780) during construction and a 0.15 percent increase (1.2/780) during operation.

Page 4-39, First complete paragraph

A conformity determination is required in the Houston area when NO_x or VOC emissions from a proposed project would be greater than a threshold amount of 25 tons per year. The maximum estimated NO_x or VOC 12-month total emission increase is ~~20.5~~ 18.7 tons/year of NO_x during

construction. Because estimated emissions of NO_x or VOC are less than 25 tons per year, the Build Alternatives would not be subject to conformity requirements.

Page 4-40, Insert the following paragraph and Table 4.6-5

Table 4.6-5 shows the total emission increase from all sources over the No-Build Alternative for the three phases of the project: first 12 months of construction, a second transition year with 4 months constructions and 8 months of operation, and a third and subsequent years of operation only. The construction phase represents the largest emissions for all pollutants and these emissions are very low, particularly in comparison with total railroad emissions for Harris County. As a result, SEA concluded that the estimated increase in emissions from all phases of the project would be insignificant in the context of existing conditions.

Table 4.6-5
Summary of Total Emissions (All Sources) by Calendar Year From Proposed Action Increase over the No-Build Alternative

		First Year (tons/year)	Second Year (tons/year)	Third and Subsequent Years (tons/year)
VOCs	Construction	1.3	0.41	--
	Operation Phase	--	0.27	0.41
	Traffic Delay	--	0.22	0.33
	Total	1.3	0.9	0.74
NOx	Construction	18.7	6.2	--
	Operation Phase	--	6.1	9.13
	Traffic Delay	--	0.08	0.12
	Total	18.7	12.4	9.25
PM	Construction	1	0.33	--
	Operation Phase	--	0.15	0.23
	Traffic Delay	--	0.002	0.003
	Total	1	0.48	0.23
CO	Construction	5.5	1.8	--
	Operation Phase	--	2	3
	Traffic Delay	--	1.1	1.6
	Total	5.5	4.9	4.6

Page 4-44, Last paragraph

Second, the proposed drainage channels and floodplain crossings along the rail line would be designed to manage stormwater flows. In particular, the design would include properly sized, sited, constructed, and maintained bridges and culverts, three stormwater detention basins, and new drainage ditches on both sides of the rail bed along most of the alignment. The proposed ditches would drain into surface waters and existing HCFCD and City of Houston drainage

channels. The proposed drainage channels and detention basins could help reduce flooding in some locations where flood control improvements have not been constructed.

Page 4-45, First complete paragraph, Fifth sentence

SEA has reached a ~~preliminary~~ finding that the Proposed Action and Build Alternatives would be in compliance with Executive Order 11988 on Floodplain Management.

Page 4-46, First paragraph, Second complete sentence

The USACE has field verified and confirmed the delineation along the Proposed Action ~~and will be issuing a verification letter in the near future~~.

Page 4-46, First paragraph, Fourth complete sentence

Stormwater discharge permits would also be needed from the TCEQ or EPA under the NPDES program and Harris County and the City of Houston through the Stormwater Quality Permit Program.

Page 4-48, Last paragraph, First sentence

BMPs for erosion control, sediment control, and post-construction TSS control would be required by the TCEQ's Section 401 Water Quality Certificate and the USACE's Section 404 permit. In addition, the Applicants have proposed to construct three stormwater detention basins near Big Island Slough and the Armand Bayou crossings.

Page 4-48, Last paragraph, Third sentence

The Texas Pollutant Discharge Elimination System (TPDES) permit from the TCEQ for construction activities or NPDES General Construction Permit from the EPA and Storm Water Quality permit from Harris County/City of Houston for stormwater discharges from construction activities also would require stormwater runoff controls.

Page 4-48, Last paragraph, Sixth sentence

The Applicants ~~would have to~~ submitted an application for a Texas Coastal Management Program (CMP) consistency certification to the USACE. The USACE ~~would then~~ forwarded the application to the Coastal Coordination Council of the Texas GLO, which ~~would publish a public notice and~~ initiated a 45-day consistency review process. The Coastal Coordination Council on April 5, 2003 issued a letter indicating that the Proposed Action is consistent with the CMP goals and policies. Therefore, SEA has satisfied the procedural requirements of the Coastal Zone Management Act.

Page 4-49, First complete paragraph, Third sentence

Stormwater discharges to the receiving waterbodies and existing drainage channels from the proposed drainage ditches and drainage ditches in the rail corridor would occur, especially during storms.

Page 4-49, Third complete paragraph, First sentence

Maintenance activities along the Build Alternatives could include excavation, stream bank stabilization, bridge repair, ditch, basin, and culvert clean out, and related disturbances at stream crossings.

Page 4-51, First paragraph, Last sentence

The amount of jurisdictional wetland actually filled by the Proposed Action would be about ~~2.70~~ 2.56 acres.

Page 4-51, Second paragraph, Fourth sentence

Alternatives 2B and 2D would ~~avoid~~ cross the northern tip of the 52-acre wetland mitigation site that is located near Ellington Field.

Page 4-51, Second paragraph, Last sentence

However, the Original Taylor Bayou Crossing would cross Taylor Bayou at a different location from the other Alternatives and would impact more jurisdictional wetlands, including about 0.18 acres more of gilgai habitat and about ~~0.77~~ 0.91 acres more of tidal marsh.

Page 4-51, Last paragraph, Sixth sentence

The conceptual plan includes the purchase and preservation of approximately 24 to 30 acres of bottomland hardwood forest in the Armand Bayou watershed, which would include about 1.5 acres of gilgai wetlands.

Page 4-54, First paragraph, Second complete sentence

In addition, the Applicants propose to regrade an impacted shoreline along Taylor Bayou near Port Road, remove debris in the water, and create approximately ~~0.32~~ 0.40 acres of tidal marsh.

Page 4-54, First paragraph, Third complete sentence

The Applicants' proposed mitigation plan has not yet been approved by ~~the~~ all regulatory agencies. However, the NMFS approved the proposed mitigation plan for EFH impacts along Taylor Bayou.

Page 4-54, First complete paragraph, Second sentence

The FAA and NASA have reached a ~~preliminary~~ final determination regarding the Proposed Action (for both the FAA and NASA) and Alternative 1C (for NASA) that construction in wetlands could not be avoided by the practicable Build Alternatives because of the linear nature of the proposed project.

Page 4-56, Last paragraph, Fourth sentence

In addition, the Applicants have a conceptual plan to acquire and preserve about 24 to 30 acres of bottomland hardwood forest in the Armand Bayou watershed and about 24 acres of coastal prairie near Space Center Boulevard (see Figure 4.8-1).

Page 4-59, Table 4.8-2

Table 4.8-2
EFH Impacts for the Alternatives

EFH Type	Impact on EFH from the Build Alternatives	
	Proposed Action, Alternatives 1C, 2B, 2D	**Original Taylor Bayou Crossing**
Tidal Marsh	0.11 acres	0.05 acres
Tidal Shrub	~~0.14~~ 0 acres	1.07 acres
Substrate	173.6 ft^2	156.8 ft^2
Open Water (Direct)	1,444.4 ft^3	117,609.7 ft^3
Open Water (Indirect from shading)	0.78 acres*	0.55 acres*

* Actual impact should be approximately 30 percent less because some sunlight could penetrate through the bridge crossties and from the sides due to the height of the bridge above water.

Page 4-60, First complete paragraph, Fifth sentence

The EFH impacts would include a permanent loss of about 0.11 acres of tidal emergent wetland, ~~0.14 acres of tidal shrub wetlands,~~ 1,444 cubic feet of water column, and 174 square feet of substrate.

Page 4-60, Last paragraph

To compensate for EFH impacts, the Applicants have proposed to remove debris along a section of shoreline of Taylor Bayou near Port Road (see Figure 4.8-2), to regrade the steep slope, and create about ~~0.32~~ 0.40 acres of tidal marsh to mitigate for the impacts on EFH. Plantings of ~~smooth cordgrass~~ wetland grasses would be used to create a tidal marsh. This mitigation would restore aquatic substrate and water column and create tidal marsh. As stated in Section 4.8.2.1, the Applicants have committed to preserving about 24 acres of coastal prairie and about 24 to 30 acres of bottomland hardwood forest, which would mitigate for the impacts to wildlife habitat. Appendix J includes a more detailed assessment of the impact to EFH and includes consultation

documentation required by the NMFS under the MSFCMA. The impact on EFH from the Build Alternatives is expected to be minor. On October 22, 2002 the NMFS responded to SEA's EFH Assessment Report. NMFS recognized "that the project applicant has minimized impacts to EFH" but ~~has~~ requested a more detailed mitigation plan. The Applicants submitted a more detailed plan to NMFS on November 7, 2002 and February 17, 2003. ~~which has yet to be evaluated. SEA will continue to coordinate with NMFS to ensure that the proposed mitigation plan is acceptable~~. On March 31, 2003, the NMFS provided EFH conservation recommendations to SEA. SEA adopted those recommendations in the Final EIS (Appendix D) and has recommended their inclusion as mitigation measures in the Board's final decision, if they grant approval of the project. These mitigation measures include a requirement for the Applicants to create a 0.4-acre intertidal marsh along the Taylor Bayou shoreline and to satisfy monitoring and success parameters for the mitigation site. By adopting these mitigation measures, SEA satisfies the procedural requirements of the MSFCMA and its implementing regulations. ~~and meets all requirements of the Magnuson-Stevens Fishery Conservation and Management Act.~~

Page 4-62, Third complete paragraph, First sentence

Operation of the Build Alternatives would result in stormwater discharges from the proposed drainage ditches and detention basins to waterbodies and EFH.

Page 4-62, Third complete paragraph, Third sentence

Stormwater discharges would also have to meet the "first ½ inch" treatment requirements of Harris County's/City of Houston's Stormwater Quality Permit.

Page 4-64, First paragraph, Last sentence

Nevertheless, SEA ~~is continuing to~~ coordinated with the TPWD concerning the Texas prairie dawn and received no comment.

Page 4-83 through 4-88

Replace Figures 4.16-1a, 4.16-1b, 4.16-3a, and 4.16-3b with the following pages.

Page 4-82, Second paragraph, Last sentence

The latest available income data at the time of this analysis consisted of a forecast based on a 1997 Census sample that is not divided into the same geographic units.

Page 4-82, bottom of page

2) Existing rail corridors included in the various Alternatives pass through ~~some~~ areas with significant low income and minority ~~concentrations~~ populations;

3) There ~~appear to be fewer~~ are more minority and low income populations along ~~the Strang Subdivision to Tower 30, compared with~~ the Proposed Action to Tower 30 than along the sparsely populated Strang Subdivision;

Page 4-91, First paragraph (footnotes remain unchanged)

SEA determined that some effects from grade crossing delay, hazardous materials transport risk, and train noise would be experienced by environmental justice populations. ~~This is~~ These are shown in Figure 4.16-1 (a and b) and Figure 4.16-2 (a and b). Figure 4.16-1 (a and b) shows minority census blocks that qualify as environmental justice populations because they exceed 50 percent minority population.[9] This figure indicates that the existing GH&H line that would be used by the Build Alternatives passes through areas with a high number of environmental justice communities. Figure 4.16-2 (a and b) shows low income census block groups that qualify as environmental justice populations because the proportion of households that are low income exceeds 28.7 percent.[10]

Page 4-92, Second paragraph

Minority census blocks along Build Alternatives. Figure 4.16-1 (a and b) indicates a minimal number of minority census blocks in the vicinity of any Build Segments. No minority census blocks are adjacent to the Build Segments of either the Proposed Action or Alternative 1C, while several sparsely populated minority census blocks are located near the Build Segments of Alternatives 2B and 2D in the vicinity immediately north of Ellington Field. The segment of the GH&H line that would be used by the Build Alternatives is predominantly located among ~~runs beside~~ minority census blocks~~, although minority blocks appear to be less concentrated near the rail line~~. From Tower 30 to Tower 87, ~~there are a mix of minority and nonminority~~ the existing rail lines are predominantly lined by minority census blocks ~~along the rail lines and~~ and minority census blocks are found adjacent to the existing grade crossings. Nearly half of the grade crossings along these routes are adjacent to minority blocks. From Tower 87 to the CMC Dayton Yard, there are minority blocks near about 15 percent of the route and near approximately one-third of the grade-crossings.

Page 4-92, Third paragraph

Minority census blocks along No-Action and No-Build Alternatives. Figure 4.16-1 (a and b) indicates a minimal number of minority census blocks adjacent to the Bayport Loop Industrial Lead and the Strang Subdivision up to Tower 30, with the majority of grade crossings occurring in areas with no minority census blocks. From Tower ~~85~~ 30 to Tower 87, minority census blocks abut most portions of the existing rail lines and all of the grade crossings. ~~there are interspersed minority census blocks, with about half of the grade crossings occurring adjacent to at least one census block.~~

Figure 4.16-1a
Census Blocks With A Minority Population That Exceeds 50 Percent

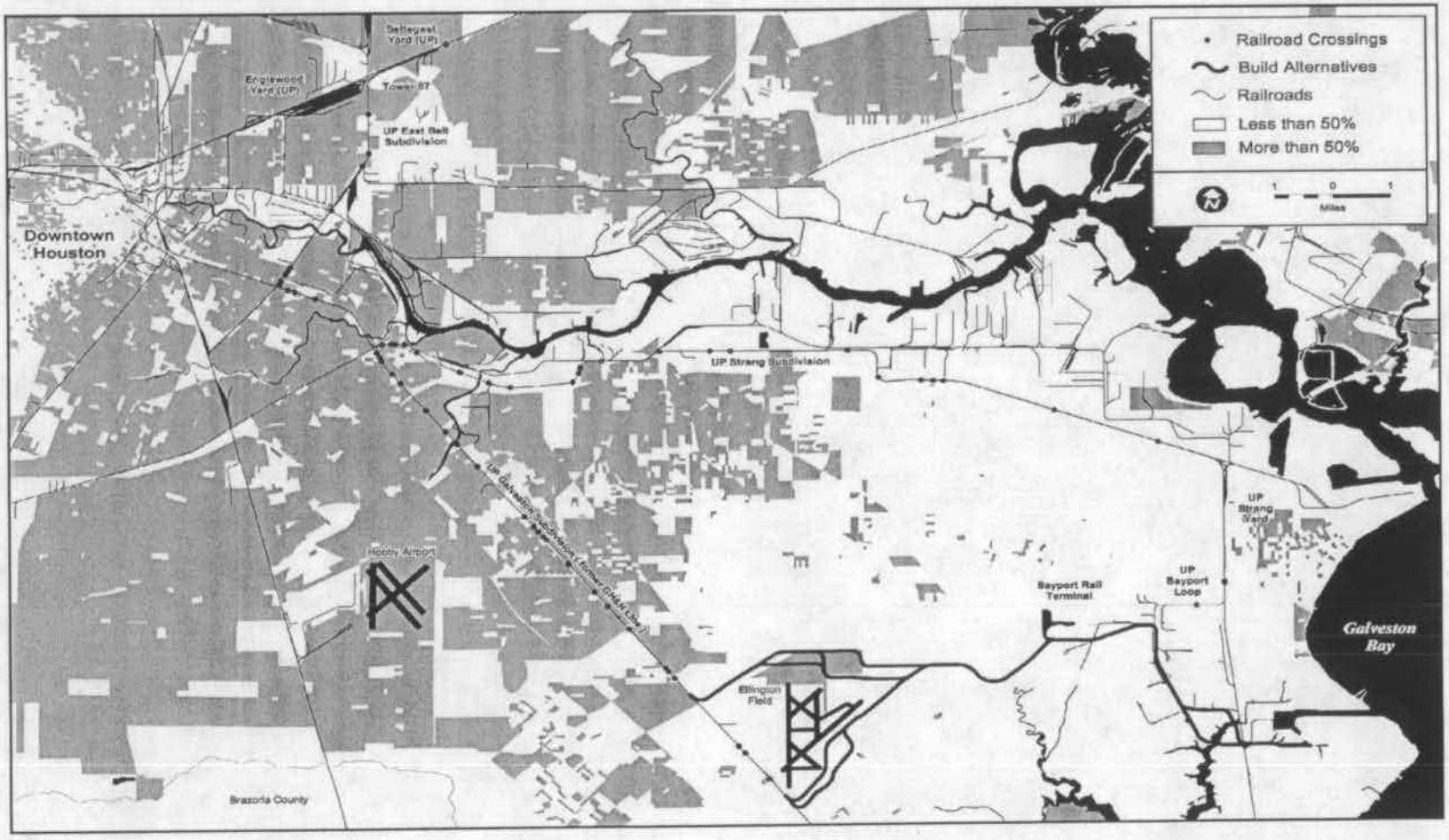


Figure 4.16-1b
Census Blocks With A Minority Population That Exceeds 50 Percent

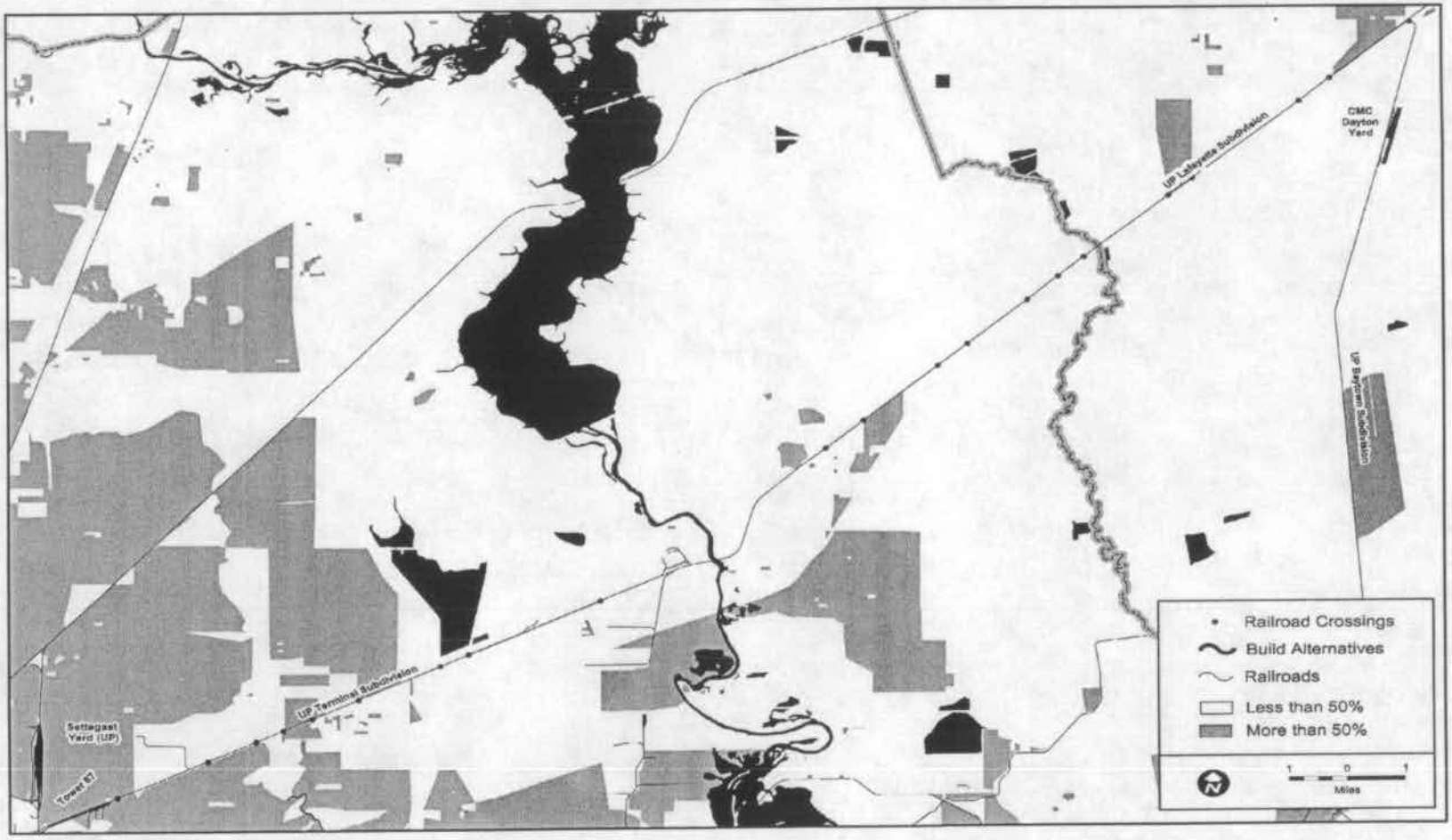


Figure 4.16-3a
Density of Minority Population

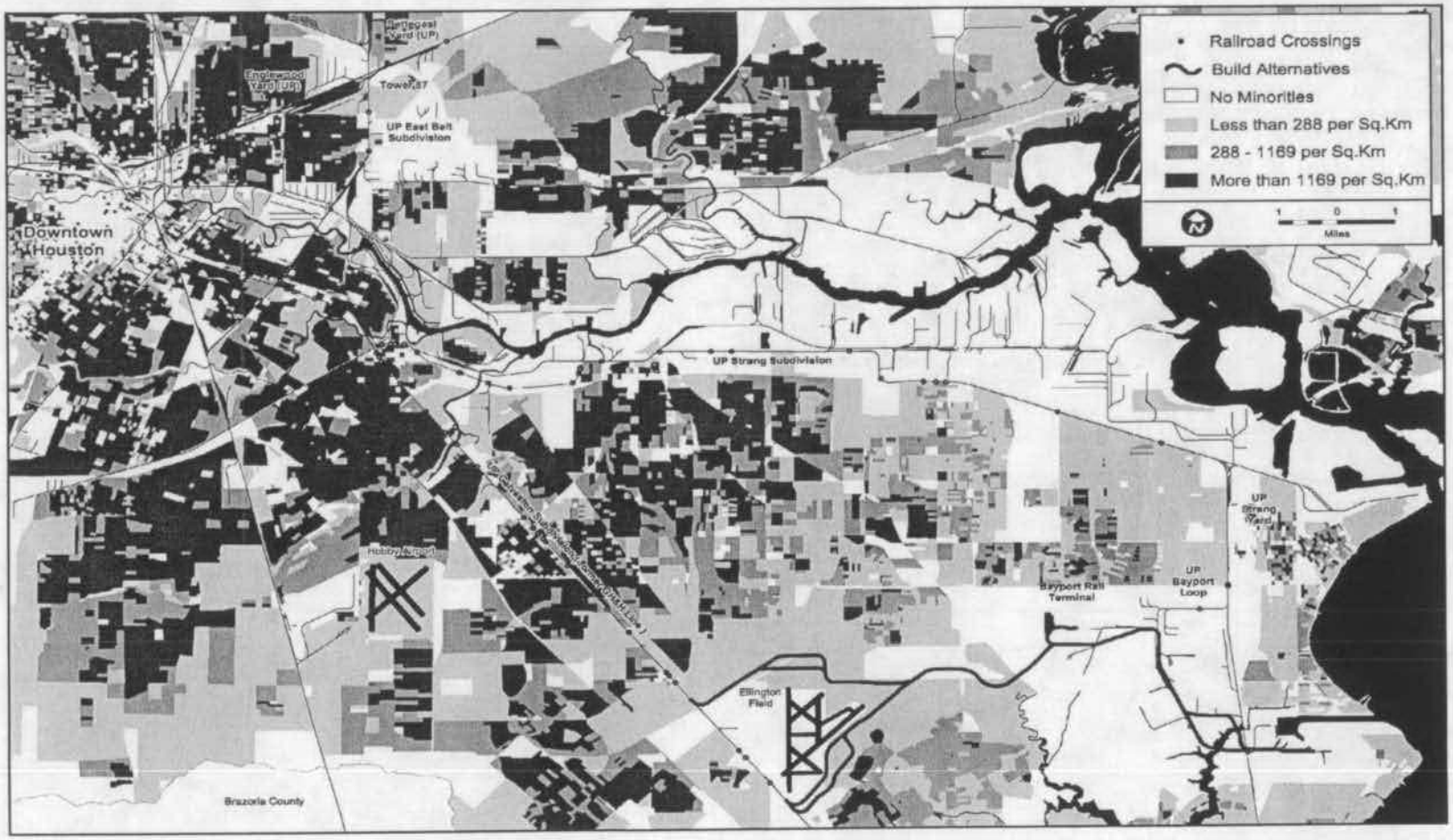
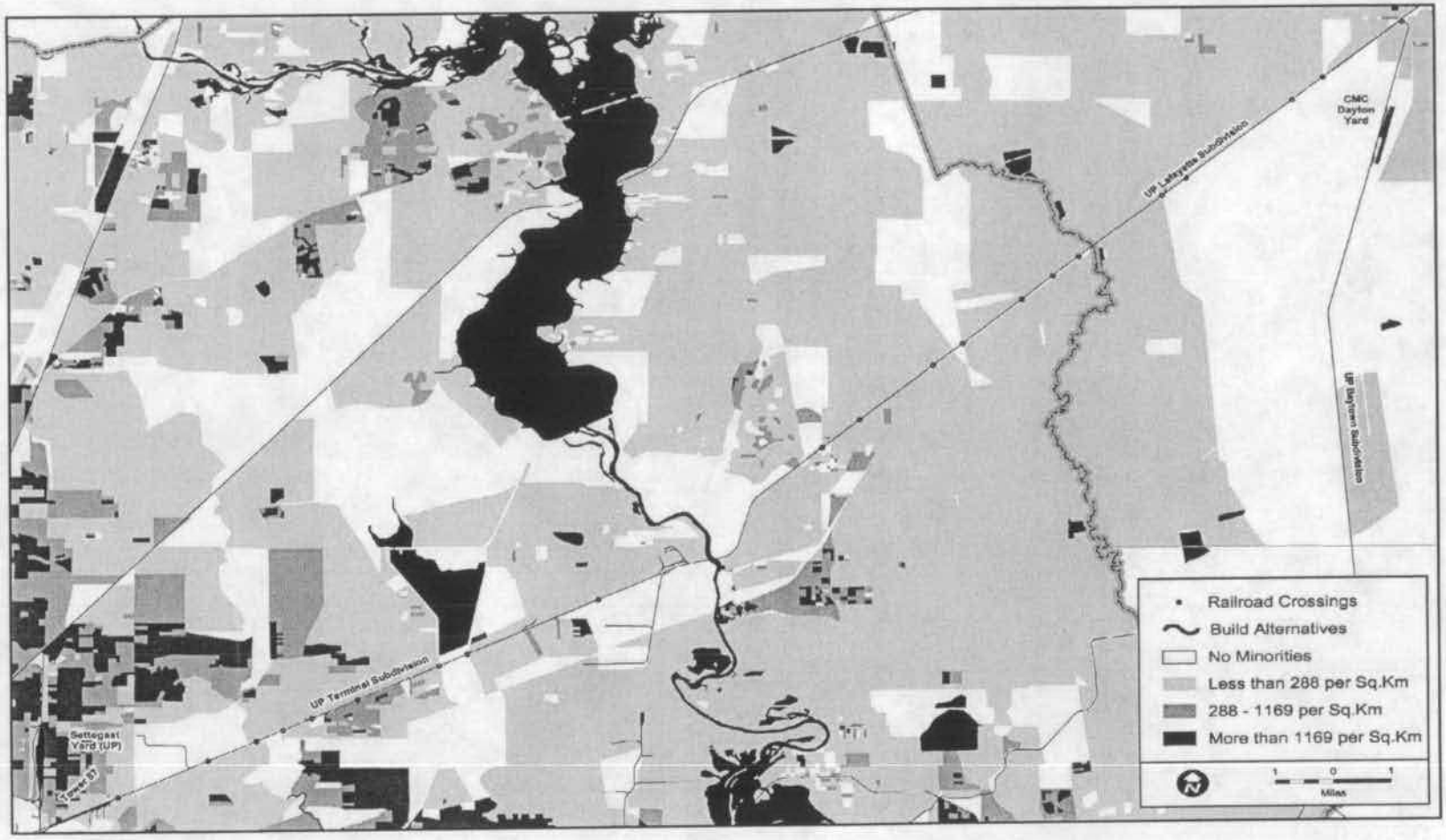


Figure 4.16-3b
Density of Minority Population



Page 4-92, Last paragraph

Minority Densities. Figure 4.16-3 (a and b) indicates sparse minority populations in the vicinity of the Build Segments of the Build Alternatives. Blocks along these segments are either in the lowest or second lowest minority density quartiles. Along the existing GH&H line south of Tower 30, minority populations are substantially more concentrated than compared with the Bayport Loop Industrial Lead and the Strang Subdivision. Many census blocks along this segment of the GH&H line fall in the highest minority density quartile. The existing lines from Tower 30 to Tower 87 have many adjacent blocks in the highest minority population density quartile. ~~Between~~ The majority of the lines between Tower 87 and the CMC Dayton Yard are adjacent to census blocks with no minority population. ~~there is one small segment (Beaumont Place) that falls above the two lowest minority density quartiles.~~

Chapter 5

Page 5-7, Fourth paragraph, Second and third sentences

The Bayport Loop Proposed Action would result in the filling ~~disturbance~~ of approximately 2.56 ~~2.84~~ acres of jurisdictional wetlands, approximately 4.22 acres of non-jurisdictional wetlands, and impact about 173.6 ft^2 of substrate and 1,444 ft^3 of open water designated as EFH. The Bayport Terminal project would result in the filling of about ~~2.5~~ 19.71 acres of jurisdictional wetlands, 1.56 acres of intretidal mud flats, ~~104~~ 126.70 acres of non-jurisdictional wetlands, and the dredging of ~~150~~ about 127.3 acres of bay bottom (designated as EFH) and the filling of about 0.64 acres of bay bottom.

Page 5-8, First paragraph, Second sentence

The Bayport Loop Proposed Action would create about 0.40 ~~0.32~~ acres of tidal marsh and preserve about 1.5 acres of jurisdictional wetlands (Gilgai) including about 24 to 30 acres of bottomland hardwood forest, and 5 to 6 acres of non-jurisdictional coastal prairie wetlands including 24 acres of coastal prairie habitat to compensate for wetland impacts.

Page 5-8, Second paragraph, Third and sixth sentences

The two projects would ~~affect~~ impact about ~~174~~ 128 acres of EFH in the Galveston Bay/Gulf of Mexico (Bayport Loop Proposed Action - less than one acre and Bayport Terminal Project - ~~173~~ 127 acres). The Applicants for the Bayport Loop project have proposed a ~~conceptual~~ mitigation plan that would compensate for EFH impacts by creating about ~~0.32~~ 0.40 acres of tidal marsh and restoring stream bank/bottom along Taylor Bayou. This plan has been approved by the NMFS but has not yet been approved by the USACE.

Chapter 6

Page 6-4, Third paragraph, Fifth sentence

SEA acknowledges that the Applicants are responsible for mitigating impacts to ~~expects that~~ surface water and wetlands ~~impacts would be adequately mitigated~~ as required by the relevant

regulatory programs, including the Section 404 Permit and Section 10 Permit from the USACE, and Section 401 Water Quality Certificate from the TCEQ.

Chapter 10

Page 10-1, Ninth bullet

- U.S. Department of Transportation, Federal Aviation Administration

Page 10-1, Insert the following after the twentieth bullet, as a separate bullet:

- City of Houston Aviation Department

Appendix F

Page F-3, Table F.1-2, Fifth line of the body of the table (showing information for Bay Area Boulevard), change:

- Average Number of Trains per Day (N) from 12.5 to 2;
- Number of Vehicles Delayed per Day (TD) from 678 to 108;
- Average Delay per Vehicle (seconds) from 6.74 to 1.08; and
- Traffic Level of Service from B to A.

Page F-9, replace with the table on the following page.

Appendix H

Page H-1, Second paragraph

SEA estimated emissions from both the construction and operational phases of the proposed project. Because the Houston area is in attainment for CO and SO_2, SEA only investigated ozone precursor emissions of NO_X and VOCs. ~~Because nearly all of the emission sources associated with the Proposed Action and Alternatives would be associated with the combustion of diesel fuel, which emits very small amounts of VOCs relative to NO_x, SEA developed quantitative estimates only of emissions of NO_x and diesel PM.~~

Page H-3, Insert following paragraph at the end of Section H.1.1

Because all off-road and on-road equipment and vehicles would be diesel fueled, VOC emissions were estimated based on a constant VOC and NO_x ratio of (0.68/8.38), which yields an average VOC emission rate of 2.5 kg/day from construction equipment and vehicles. Similarly, the railroad VOC emissions were estimated based on a constant VOC to NO_x ratio for a switch locomotive of (1.01/17.4), which yields an average emission rate of 0.3 kg/day. Finally, on-road mobile emissions were also estimated based on the heavy-duty diesel VOC to NO_x ratio of (0.98/21.08), which yields an average daily VOC emission rate of 0.74 kg/day.

Appendix F, Table F.2-1
Proposed Action Traffic Safety Analysis Results for Highway/Rail At-Grade Crossings

Segments	Crossing	Street	Predicted Accident Frequency		
			Pre	Post	Change
GH&H line (mp 15.9 - 4.5)	859598E	BRANTLEY ST.	0.009	0.010	0.002
	859597X	CHALLENGER 7 PKWY	0.030	0.035	0.005
	859596R	N. GATE	0.016	0.018	0.003
	859592N	GENOA-RED BLUFF	0.083	0.090	0.007
	859589F	TIKI LANE	0.015	0.018	0.003
	859587S	SHAVER	0.022	0.025	0.003
	859584W	CORONATION DRIVE	0.015	0.018	0.003
	859583P	EDGEBROOK	0.024	0.028	0.004
	859579A	NEVADA	0.023	0.027	0.004
	859578T	SPENCER	0.064	0.070	0.006
	859577L	PENNSYLVANIA[1]	0.011	0.013	0.002
	859576E	VIRGINIA ST	0.027	0.032	0.005
	859575X	KENTUCKY ST.	0.137	0.151	0.014
	859574R	S. RICHEY ST.	0.021	0.025	0.003
	859570N	HOWARD DRIVE	0.062	0.068	0.006
	859569U	WYNE ST.	0.009	0.010	0.002
	859567F	PARKPLACEBLVD.	0.024	0.028	0.004
	859568M	PARK TERRACE	0.012	0.014	0.002
	859550C	BROADWAY ST.	0.020	0.023	0.003
	859549H	JUNIUS	0.004	0.005	0.001
	859548B	BOWIE ST	0.015	0.018	0.003
	859547U	LAWNDALE	0.021	0.024	0.003
	859546M	MANCHESTER ST.	0.012	0.014	0.002
Tower 30 to Tower 85 (mp 4.5-2.1)	859533L	67TH ST.	0.009	0.011	0.001
	859530R	66TH ST.	0.018	0.021	0.003
	288035Y	HUGHES ST.	0.052	0.057	0.005
Tower 85 to Tower 87 (mp 9.4-4.7)	288034S	HARRISBURG BLVD.	0.094	0.095	0.002
	288033K	SHERMAN ST.	0.023	0.023	0.001
	288032D	BRADY ST.	0.046	0.047	0.001
	288024L	CANAL ST.	0.023	0.023	0.001
	288009J	OLD CLINTON RD.	0.011	0.011	0.000
	288010D	CLINTON DR.	0.032	0.033	0.001
	287996C	MARKET	0.099	0.101	0.002
	287994N	LYONS AVE.	0.075	0.077	0.002
	287982U	WALLISVILLE RD.	0.064	0.066	0.001
Tower 87 to Dayton (mp 356.8-327.7; 353 at Dawes)	758293C	FIELDS	0.020	0.021	0.001
	745074B	OATES ROAD	0.028	0.029	0.001
	762907S	RALSTON RD	0.021	0.022	0.001
	762905D	HEATHER ROW RD	0.017	0.018	0.001
	762904W	CE KING PKWY	0.027	0.028	0.001
	762901B	VAN HUT RD	0.024	0.025	0.001

Page H-11, Insert following paragraph at the end of Section H.1.2

SEA estimated switch and line-haul locomotive emissions for VOC from both switching and line-haul operations based on the VOC to NO_x ratios reported in Table H-1 from USEPA's "Emissions Factor for Locomotives." For the Alternative with the largest overall length, SEA estimated that the average daily VOC emissions would be 1.2 kg/day.

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CHAPTER 6
DISTRIBUTION OF FINAL EIS

The Board's regulations identify the types of agencies and officials to receive the environmental documentation (49 CFR Part 1105.7). Additionally, CEQ regulations identify appropriate distribution (40 CFR Part 1500 to 1508). This section lists the agencies, officials, and other interested persons receiving the Final EIS on the proposed Bayport Loop Build-Out. SEA also mailed the letter shown at the beginning of the Final EIS, in both English and Spanish, to approximately 1,800 individuals. This letter explains the contents of the Final EIS as well as how to obtain a copy of the Final EIS. SEA concurrently mailed the Final EIS to Federal, state, and local agencies, elected officials, other interested persons, and the repositories as listed below.

6.1 FEDERAL AGENCIES

- National Aeronautics and Space Administration
- National Marine Fisheries Service
- Natural Resources Conservation Service
- Transportation Security Administration
- U.S. Army Corps of Engineers, Galveston District
- U.S. Coast Guard, 8th Coast Guard District
- U.S. Department of Transportation, Office of Pipeline Safety
- U.S. Environmental Protection Agency, Region 6
- U.S. Department of Transportation, Federal Aviation Administration
- U.S. Fish & Wildlife Service

6.2 STATE AGENCIES

- Railroad Commission of Texas
- Coastal Coordination Council
- Port of Houston Authority
- Texas Air National Guard
- Texas Commission on Environmental Quality
- Texas Department of Transportation
- Texas General Land Office
- Texas Historical Commission
- Texas Parks & Wildlife

6.3 COUNTY/LOCAL GOVERNMENTS

- City of Deer Park
- City of Houston
- City of LaPorte
- City of Pasadena
- City of Shoreacres
- Clear Creek Independent School District

- Harris County Agricultural Extension Office
- Harris County Fire and Emergency Services
- Harris County Flood Control District
- Harris County Office of Emergency Management
- Harris County Public Health and Environmental Services
- Harris County Public Infrastructure Department
- Historical Commission of Harris County
- Houston-Galveston Area Council

6.4 ELECTED OFFICIALS

- Carol Alvarado, Council Member, District I, Houston City Council
- Jim Barker, Council Member, District E, City of Pasadena
- Allen Barnes, City Manager, City of Liberty
- Honorable Chris Bell, U.S. House of Representatives
- Michael Berry, Council Member, At-Large, City of Houston
- Honorable Richard Boyett, Mayor, City of Cleveland
- Honorable Lee P. Brown, Mayor, City of Houston
- Norman Brown, Commissioner, Liberty County Precinct 4
- Phil Cayten, Council Member, District F, City of Pasadena
- Phillip Cook, City Manager, City of Cleveland
- Honorable John Cornyn, U.S. Senate
- Honorable John E. Davis, Texas House of Representatives, District 129
- Honorable Tom DeLay, U.S. House of Representatives
- Jack Douglass, Council Member, District D, City of Pasadena
- Honorable Robert Eckels, County Judge, Harris County Judge's Office
- Honorable Nancy R. Edmonson, Acting Mayor, City of Shoreacres
- Ada Edwards, Council Member, District D, City of Houston
- Mark Ellis, Council Member, District F, City of Houston
- Jerry Eversole, Commissioner, Harris County Precinct 4
- Robert Ewart, City Manager, City of Dayton
- Todd Fontenot, Commissioner, Liberty County Precinct 1
- Honorable Mario V. Gallegos, Jr., State of Texas Senator, District 6
- Carol Mims Galloway, Council Member, District B, City of Houston
- Sylvia R. Garcia, Commissioner, Harris County Precinct 2
- Mark Goldberg, Council Member, District C,.City of Houston
- Honorable Gene Green, U.S. House of Representatives
- Lee Groce, Commissioner, Liberty County Precinct 2
- Honorable Bruce E. Halstead, Mayor, City of Liberty
- Honorable Guy Harris, Mayor, City of Dayton
- Melvin Hunt, Commissioner, Liberty County Precinct 3
- Honorable Kay Bailey Hutchison, U.S. Senate
- J.J. Isbell, Council Member, District H, City of Pasadena
- Honorable Mike Jackson, State of Texas Senator, District 11
- Bert Keller, Council Member, District G, City of Houston
- Honorable Lloyd Kirkham, Judge, Liberty County
- Honorable Nick Lampson, U.S. House of Representatives

- Honorable John Manlove, Mayor, City of Pasadena
- Jerri Neely, Council Member, District A, City of Pasadena
- Honorable Rick Noriega, Texas House of Representatives, District 145
- Honorable Natalie S. O'Neil, Mayor, City of Taylor Lake Village
- Annise Parker, Council Member, At-Large, City of Houston
- Dana Philibert, Council Member, District G, City of Pasadena
- Gordon Quan, Council Member, At-Large, City of Houston
- Carroll G. Robinson, Council Member, At-Large, City of Houston
- Shelley Sekula-Gibbs, Council Member, At-Large, City of Houston
- Leroy Stanley, Council Member, District C, City of Pasadena
- Bruce Tatro, Council Member, District A, City of Houston
- Laurence W. Tobin, Council Member, City of Taylor Lake Village
- Gabriel Vasquez, Council Member, City of Houston
- Bill Welch, Council Member, District B, City of Pasadena
- Addie S. Wiseman, Council Member, District E, City of Houston
- Honorable Beverly Woolley, Texas House of Representatives, District 136

6.5 ORGANIZATIONS

- American Chemistry Council
- Armand Bayou Nature Center
- Association of Clear Lake Communities
- Bay Pointe Civic Association
- Bay Pointe Community Association, Inc
- Brook Forest Community Association
- Clean Air Clear Lake
- Clear Lake Area Chamber of Commerce
- Clear Lake Area Economic Development Fund
- Crosby Chamber of Commerce
- East Lawndale Civic Association
- The Eastwood/Broadmoor Area Community Development Corporation
- Eastwood Civic Association
- Galveston Bay Conservation and Preservation Association
- Galveston Bay Foundation
- Greater East End Coalition for Community Concerns
- Greater Houston Partnership
- Houston Canoe Club Conservation Committee
- Houston Independent School District
- Meadowcreek Civic Association
- Meadowbrook Civic Club
- Meadowcreek Village Civic Club
- The Metropolitan Organization
- North Pointe Elementary PTA
- Northfork Community Association, Inc.
- Park Place UMC/TMO
- Pasadena Independent School District
- Pine Brook Community Association

- Southeast Neighborhood Coalition
- Union Pacific Railroad Company

6.6 OTHER

- Martin W. Bercovici
- Jim Bilek
- James B. Blackburn, Jr.
- David Boswell
- Richard and Betty Brotzman
- Peter Brown
- Esther Campos
- Paul A. and Rosebud L. Caradec
- Amy Carruth
- Vicky M. Cherewaty
- David L. Cheuvront
- John R. Cobarruvias
- Steve Cornell
- Paul and Susan D. Cotter
- Dianna Almos deGussman
- Rick Dovalina
- Gerald J. Drake
- Annette Dwyer
- Samuel Eaton
- Daniel R. Elliott, III
- Rafael Enriquez, Jr.
- Robert J. Fairchild
- Barbara and George Finlay
- Robert Gallegos
- Stephen and Lisa Ganey
- Sonny Garza
- Betty Gaunt
- Lee Gonzales
- Eileen A. Groves
- Anthony W. Hall, Jr.
- Robert F. Jeffords
- Kurt R. Kessler
- Larry and Debbie Ketner
- Stanley W. Krauhs, Jr.
- Kathryn A. Kusske
- Carol Longmire
- Colonel and Mrs. Robert A. Maddocks, Jr.
- Mary Beth Maher
- David Marrack, M.D.
- Charles Mayfield
- David L. Meyer
- Andrew and Kathy Morey

- Mary E. Nave
- Thomas Nix
- John O'Leary
- Doug Peterson
- Brian Pietruszewski
- Frances Rankin
- Gregory Rincon
- Louise A. Rinn
- Michael Rodriggs
- Michael L. Rosenthal
- Melissa and Fernando Samano
- Richard J. Schiefelbein
- Lisa and David Siminski
- Joy Spaulding
- Adrian Steel, Jr.
- Gary W. Stevens
- Christie and David Tee
- Lesley Throup
- Kitty and Robert Trojanowski
- Steven M. Turner
- Luis G. and Thusnelda M. Valdes
- Frank G. Weary
- Richard M. Wehrman
- Sam White
- William W. Whitehurst, Jr.
- Jim and Terry Wilder
- Michael Wortham
- David F. Zoll
- Rachel Zuckert

6.7 REPOSITORIES

- Austin Memorial Library
- Bracewell Branch Library
- Crosby Branch Library
- Dayton Library
- Deer Park Public Library
- Freeman Memorial Branch Library
- Harris County Public Library, Evelyn Meador Branch
- Harris County Public Library, South Houston Branch
- Houston Public Library
- Kingwood Branch Library
- Kingwood College Library
- Liberty Municipal Library
- Melcher Branch Library
- Pasadena Public Library, Fairmont Branch
- Pasadena Public Library, Main Branch

- Park Place Regional Library
- Patricio Flores Library
- Sam Houston Regional Library
- San Jacinto College, Central Campus Library
- San Jacinto College, North Campus Library
- San Jacinto College, South Campus
- Stanaker Branch Library
- Tuttle Branch Library
- University of Houston, Clear Lake Campus, Alfred Neumann Library

APPENDIX A
ORAL COMMENTS RECEIVED ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

SEA held two public meetings on the Draft EIS on January 14 and 15, 2003 at the Pasadena Convention Center and Cesar E. Chavez High School, respectively. A total of 115 oral comments were received at the two meetings (50 comments at the Pasadena Convention Center meeting and 65 comments at the Cesar E. Chavez High School meeting). The transcripts from the public meetings are contained in this Appendix.

Each oral comment was assigned a comment number. The January 14 transcript contains comments D0122 through D0171 and the January 15 transcript includes comments D0172 through D0256. Table A-1 organizes the oral comments on the Draft EIS alphabetically within the following categories:

- Elected Officials (Federal, state, and local)
- Agencies (Federal, state, tribal, and local)
- Organizations
- Citizens

Table A-1
Oral Comments Received on the Draft EIS at Public Meetings

Commenter Name	Commenter Title/Organization	Comment Number
ELECTED OFFICIALS		
Federal Government		
Coleman, Bill	Representing Nick Lampson, Member, U.S. House of Representatives	D0199
Green, Gene	Member, U.S. House of Representatives	D0192
Tyler, Peter	Representing Nick Lampson, Member, U.S. House of Representatives	D0122
State Government		
Noriega, Rick	Member, Texas House of Representatives	D0193
Local Government		
Alvarado, Carol	Member, Houston City Council	D0196
Edmundson, Nancy	Mayor, City of Shore Acres	D0123
Manlove, John	Mayor, City of Pasadena	D0125
O'Neil, Natalie	Mayor, Taylor Lake Village	D0127
Parker, Anniese	Member, Houston City Council	D0198
Robinson, Caroll	Member, Houston City Council	D0195
Sekula-Gibbs, Shelley	Member, Houston City Council	D0124
Sekula-Gibbs, Shelley	Member, Houston City Council	D0194
Smith, Eloise	Mayor, City of South Houston	D0126
Wiseman, Addie	Member, Houston City Council	D0197
AGENCIES		
Local Government		
Campos, Esther	Houston Independent School District	D0201
Hansen, Mary Margaret	Greater East End Management District	D0221
ORGANIZATIONS		
Ashworth, Wendy	Atofina	D0155
Blackburn, Jim	Galveston Bay Preservation and Conservation Association	D0147
Blackburn, Jim	Galveston Bay Conservation and Preservation Association	D0220
Borgen, Dan	Bayport Rail Terminal	D0139
Boyd, Donovan	Hydrochem Industrial Services	D0137
Collins, Anthony	The Metropolitan Organization	D0206
Cornell, Steve	Atofina Petrochemicals	D0204
Cortez, Richard	Magnolia Park Presinct Judge	D0200
Cubley, Ruby	Clear Lake Area Chamber of Commerce	D0152
Dovalina, Rick	LULAC	D0209
Duggan, George	Burlington Northern Santa Fe	D0213

Table A-1 (continued)
Oral Comments Received on the Draft EIS at Public Meetings

Commenter Name	Commenter Title/Organization	Comment Number
Dwyer, Annette	North Fork Community Association/Association of Clear Lake Communities	D0153
Dwyer, Annette	North Fork Community Association/Association of Clear Lake Communities	D0234
Franklin, Scott	Onyx Industrial	D0148
Freeman, David	Burlington Northern Santa Fe	D0212
Gallegos, Robert	Eastwood/Lawndale-Wayside Super Neighborhood	D0238
Ganey, Steve	Baypoint Community Association	D0138
Gelinas, Robert	Basell	D0143
Goss, Gordon	East Lawndale Civic Association	D0222
Gregson, Megan	Old World Industries	D0150
Hemmer, Jeff	Lyondell Chemical Company/Equistar Chemical Company	D0205
Kessler, Kurt	Equistar Chemical Company	D0129
Leon, Norma	Metropolitan Organization	D0217
Martinez, Dan	Lyondell Chemical Company	D0203
Mathera, Douglas	Lyondell Chemical Company	D0131
McKinney, Michael	LBC Petro Chemical United	D0132
McWilliams, David	Metropolitan Organization	D0218
Meza, Paul	Second Ward Residents Organization	D0230
Ness, Daryl	Burlington Northern Santa Fe	D0214
Padilla, Theresa	Metropolitan Organization	D0219
Parker, Steve	Eastwood Civic Association	D0255
Parras, Juan	Environmental Justice Clinic at Southeastern Texas University/Labor Council for Latin American Advancement	D0242
Pocsik, Steve	Atofina	D0154
Rincon, Gregory	Greater East End Coalition	D0210
Sanders, Gene	Austin Industrial	D0134
Schick, Tom	American Chemistry Council	D0141
Seep, David	Burlington Northern Santa Fe	D0145
Tolson, Leah	Pecan Park Civic Association	D0247
Turner, Raymond	Meadow Creek Village Civic Club	D0248
Vargo, Mary	Southeast Neighborhood Coalition/Coalition for Responsible Railroad Building	D0207
Willits, Debora	Houston Yacht Club	D0157

Table A-1 (continued)
Oral Comments Received on the Draft EIS at Public Meetings

CITIZENS			
Commenter Name	**Comment Number**	**Commenter Name**	**Comment Number**
Barbick, Chris	D0223	Kelley, Bill	D0168
Berg, Cheryl	D0149	Ketner, Debbie	D0254
Bill, R.S.	D0240	Liebeg, Sandra	D0239
Bish, John	D0156	Lindsay, Robert	D0144
Bridges, Bill	D0171	Marrack, David	D0229
Bridges, Bill	D0256	Martinez, Maria	D0226
Brown, Gregory	D0208	Mayfield, Charles	D0236
Brunsfeld, John	D0170	McEwing, David	D0215
Castillo, Liza	D0227	Miller, Josh	D0146
Cheuvront, David	D0169	Morua, Alejandro	D0251
Cobarruvias, John	D0128	Nunez, Anna	D0250
Cobarruvias, John	D0231	Parras, Juan	D0164
Coronado, Christine	D0252	Peterson, Doug	D0160
Coronado, Gilbert	D0243	Peterson, Doug	D0237
de Gussman, Dianna Almos	D0224	Puffer, William	D0130
Ekong, Archie	D0228	Pulgini, Douglas	D0133
Enriquez, Rafael	D0249	Ramirez, Macario	D0245
Fraga, Felix	D0202	Rodriggs, Michael	D0253
Gauntt, Betty	D0140	Russell, John	D0142
Gauntt, Betty	D0232	Sexton, Janette	D0246
Gauntt, Johnny	D0163	Siwinski, Lisa	D0136
Gauntt, Johnny	D0233	Smitherman, Marijane	D0159
Given, Chris	D0166	Stehly, Mark	D0211
Groves, Eileen	D0162	Tee, Kristy	D0151
Gussman, Antonio	D0225	Trojanowski, Kitty	D0244
Hammock, Tal	D0165	Valdes, Luis	D0235
Harpole, David	D0135	Valdez, Nelda	D0241
Helmkemp, Matthew	D0158	Vargo, Mary	D0161
Huerta, Juanita	D0216	Wortham, Mike	D0167

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APPENDIX B
WRITTEN COMMENTS RECEIVED ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

SEA received and fully considered a total of 638 comments on the Draft EIS. Of the 638 comments, 115 were oral comments received at the public meetings on January 14 and 15, 2003 (see Appendix A) and 523 are written comments that were emailed, faxed, or mailed to SEA or submitted at the public meetings. Table B-1 organizes both the written and oral comments on the Draft EIS alphabetically within the following categories:

- Elected Officials (Federal, state, and local)
- Agencies (Federal, state, tribal, and local)
- Organizations
- Citizens

Several commenters faxed or emailed written comments to SEA and then submitted the same comment letter by mail or messenger. When duplicate comments were submitted using different media, Table B-1 lists the commenter name only once but includes the unique comment numbers assigned to each submittal in the "Comment Number" column. Table B-1 also indicates when an oral comment was submitted at a public meeting (See Appendix A for the public meeting transcripts).

When the comments are large in number and volume, NEPA does not require Federal agencies to reprint all the written comments in the Final EIS. However, to serve public interest, this Appendix includes all of the unique written comments submitted on the Draft EIS, plus any attachments that commented directly on the Draft EIS. Several parties submitted voluminous information as attachments to their written comments, but not all of these attachments commented specifically on the Draft EIS. Table B-2 lists and describes in detail each attachment that was submitted, including a column indicating whether or not the attachment is reproduced in this Appendix. The comment attachments that are not reprinted in this Appendix are available in the public docket.

Each unique written comment that was received is reprinted in numerical order, following Tables B-1 and B-2 in this Appendix. As mentioned above, several parties submitted duplicate comments, and only one copy of each duplicate letter is included in this Appendix. SEA identified two distinct form letters submitted in the written comments. SEA is reprinting one copy of each of the two form letters. The commenters who submitted one of the two form letters are included in Table B-1 with a parenthetical notation to describe the applicable form letter that is printed in this Appendix.

Table B-1
Comments Received on the Draft EIS

Commenter Name	Commenter Title/Organization	Comment Number
ELECTED OFFICIALS		
Federal Government		
Coleman, Bill	Representing Nick Lampson, Member, U.S. House of Representatives	D0199 (public meeting transcript)
Delay, Tom	Member, U.S. House of Representatives	D0055 (form letter #1; see D0001)
Green, Gene	Member, U.S. House of Representatives	D0002/D0081(See D0002)
Green, Gene	Member, U.S. House of Representatives	D0026 (form letter #1; see D0001)
Green, Gene	Member, U.S. House of Representatives	D0192 (public meeting transcript)
Green, Gene	Member, U.S. House of Representatives	D0583
Green, Gene	Member, U.S. House of Representatives	D0635
Lampson, Nick	Member, U.S. House of Representatives	D0115/D0185 (See D0115)
Tyler, Peter	Representing Nick Lampson, Member, U.S. House of Representatives	D0122 (public meeting transcript)
State Government		
Davis, John	Member, Texas House of Representatives	D0173/D0369 (See D0173)
Noriega, Rick	Member, Texas House of Representatives	D0027 (form letter #1; see D0001)
Noriega, Rick	Member, Texas House of Representatives	D0193 (public meeting transcript)
Noriega, Rick	Member, Texas House of Representatives	D0567/D0602 (See D0567)
Local Government		
Alvarado, Carol	Member, Houston City Council	D0025 (form letter #1; see D0001)
Alvarado, Carol	Member, Houston City Council	D0196 (public meeting transcript)
Brown, Lee	Mayor, City of Houston	D0082
Edmundson, Nancy	Mayor, City of Shore Acres	D0123 (public meeting transcript)
Edwards, Ada	Member, Houston City Council	D0061 (form letter #1; see D0001)
Garcia, Sylvia	Commissioner, Harris County, Precinct 2	D0590/D0620 (See D0620)
Manlove, John	Mayor, City of Pasadena	D0121
Manlove, John	Mayor, City of Pasadena	D0125 (public meeting transcript)
O'Neil, Natalie	Mayor, Taylor Lake Village	D0079 (form letter #1; see D0001)
O'Neil, Natalie	Mayor, Taylor Lake Village	D0127 (public meeting transcript)
Ong, Natalie	Mayor, City of El Lago	D0582/D0621 (See D0582)
Parker, Anniese	Member, Houston City Council	D0198 (public meeting transcript)
Robinson, Caroll	Member, Houston City Council	D0195 (public meeting transcript)
Sekula-Gibbs, Shelley	Member, Houston City Council	D0124 (public meeting transcript)
Sekula-Gibbs, Shelley	Member, Houston City Council	D0194 (public meeting transcript)
Sekula-Gibbs, Shelley	Member, Houston City Council	D0574/D0595 (See D0574)
Sekula-Gibbs, Shelley	Member, Houston City Council	D0533

Table B-1 (continued)
Comments Received on the Draft EIS

Commenter Name	Commenter Title/Organization	Comment Number
Smith, Eloise	Mayor, City of South Houston	D0126 (public meeting transcript)
Vasquez, Gabriel	Member, Houston City Council	D0085 (form letter #1; see D0001)
Wiseman, Addie	Member, Houston City Council	D0197 (public meeting transcript)
Wiseman, Addie	Member, Houston City Council	D0532 (form letter #1; see D0001)
AGENCIES		
Federal Government		
Lawrence, Robert	U.S. Environmental Protection Agency, Office of Planning & Coordination, Region 6	D0624
Ruebsamen, Rickey	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Habitat Conservation Division	D0549
State Government		
Cowan, Michael D.	Water Quality Division, Texas Commission on Environmental Quality	D0638
Oaks, F. Lawrence	Texas Historical Commission	D0105
Tribal Government		
McFadden, Doria Stern	Mescalero Apache Tribe	D0535
Local Government		
Babin, Latrice	Harris County Public Health & Environmental Services, Pollution Control Division	D0589/D0637 (See D0589)
Campos, Esther	Houston Independent School District	D0201 (public meeting transcript)
Haines, Albert	City of Houston, Office of the Mayor	D0109
Haines, Albert	City of Houston, Office of the Mayor	D0172
Hall, Anthony	City of Houston, Legal Department	D0581/D0599 (See D0599)
Hansen, Mary Margaret	Greater East End Management District	D0221 (public meeting transcript)
Lewis, Kirk	Pasadena Independent School District	D0102
Stripling, Kaye	Houston Independent School District, Office of the Superintendent	D0530/D0538/D0554 (See D0554)
ORGANIZATIONS		
Ashworth, Wendy	Atofina	D0155 (public meeting transcript)
Blackburn, James	Galveston Bay Conservation and Preservation Association	D0001 (form letter #1; printed)
Blackburn, James	Galveston Bay Conservation and Preservation Association	D0591
Blackburn, Jim	Galveston Bay Preservation and Conservation Association	D0147 (public meeting transcript)
Blackburn, Jim	Galveston Bay Conservation and Preservation Association	D0220 (public meeting transcript)

Table B-1 (continued)
Comments Received on the Draft EIS

Commenter Name	Commenter Title/Organization	Comment Number
Borgen, Dan	Bayport Rail Terminal	D0139 (public meeting transcript)
Boyd, Donovan	Hydrochem Industrial Services	D0137 (public meeting transcript)
Brown, Gregory	Meadowcreek Village Civic Club, Inc.	D0626
Caradec, Paul	Bay Glen Subdivision	D0555
Cherewaty, Vicki	Bay Glen Subdivision	D0556
Collins, Anthony	The Metropolitan Organization	D0206 (public meeting transcript)
Cornell, Steve	Atofina Petrochemicals	D0204 (public meeting transcript)
Cortez, Richard	Magnolia Park Precinct Judge	D0200 (public meeting transcript)
Cubley, Ruby	Clear Lake Area Chamber of Commerce	D0152 (public meeting transcript)
Dobberstine, Jim; Goldberg, Alisha	Galveston Bay Foundation	D0584/D0631 (See D0631)
Dovalina, Rick	LULAC	D0209 (public meeting transcript)
Duggan, George	Burlington Northern Santa Fe	D0213 (public meeting transcript)
Dwyer, Annette	North Fork Community Association/Association of Clear Lake Communities	D0153 (public meeting transcript)
Dwyer, Annette	North Fork Community Association/Association of Clear Lake Communities	D0234 (public meeting transcript)
Franklin, Scott	Onyx Industrial	D0148 (public meeting transcript)
Freeman, David	Burlington Northern Santa Fe	D0212 (public meeting transcript)
Gallegos, Robert	Eastwood/Lawndale-Wayside Super Neighborhood	D0238 (public meeting transcript)
Ganey, Steve	Baypoint Community Association	D0138 (public meeting transcript)
Gelinas, Robert	Basell	D0143 (public meeting transcript)
Goss, Gordon	East Lawndale Civic Association	D0174
Goss, Gordon	East Lawndale Civic Association	D0222 (public meeting transcript)
Gregson, Megan	Old World Industries	D0150 (public meeting transcript)
Hemmer, Jeff	Lyondell Chemical Company/Equistar Chemical Company	D0205 (public meeting transcript)
Kessler, Kurt	Equistar Bayport Chemicals Plant	D0119
Kessler, Kurt	Equistar Chemical Company	D0129 (public meeting transcript)
Kusske, Kathryn	San Jacinto Rail Line and Burlington Northern Santa Fe	D0543
Kusske, Kathryn	San Jacinto Rail Line and Burlington Northern Santa Fe	D0598
Leon, Norma	Metropolitan Organization	D0217 (public meeting transcript)
Lin, Lisa & Alex	Coalition for Responsible Rail	D0588
Martinez, Dan	Lyondell Chemical Company	D0203 (public meeting transcript)
Mathera, Doug	Lyondell Bayport Plant	D0118
Mathera, Douglas	Lyondell Chemical Company	D0131 (public meeting transcript)
McKinney, Michael	LBC Petro Chemical United	D0132 (public meeting transcript)

Table B-1 (continued)
Comments Received on the Draft EIS

Commenter Name	Commenter Title/Organization	Comment Number
McWilliams, David	Metropolitan Organization	D0218 (public meeting transcript)
Meyer, David	Union Pacific Railroad Company	D0565/D0572/D0592 (See D0565)
Meza, Paul	Second Ward Residents Organization	D0230 (public meeting transcript)
Ness, Daryl	Burlington Northern Santa Fe	D0214 (public meeting transcript)
Padilla, Theresa	Metropolitan Organization	D0219 (public meeting transcript)
Parker, Steve	Eastwood Civic Association	D0255 (public meeting transcript)
Parras, Juan	Environmental Justice Clinic at Southeastern Texas University/Labor Council for Latin American Advancement	D0242 (public meeting transcript)
Peters, Roseanne	Chavez High School PTA	D0571
Pocsik, Steve	Atofina	D0154 (public meeting transcript)
Puffer, Marty	Lyondell Bayport Plant	D0120
Rawlinson, Julie	Baywood Oaks Subdivision	D0525 (form letter #2; see D0349)
Rincon, Gregory	Greater East End Coalition	D0210 (public meeting transcript)
Sanders, Gene	Austin Industrial	D0134 (public meeting transcript)
Schick, Tom	American Chemistry Council	D0141 (public meeting transcript)
Schiefelbein, Richard	Port of Houston Authority	D0594
Seep, David	Burlington Northern Santa Fe	D0145 (public meeting transcript)
Steel, Scott	Clear Lake Area Chamber of Commerce	D0117/D0575 (See D0117)
Tee, Christie	Citizens for Responsible Rail	D0623
Tobin, Laurence	Vermillion & Western Holdings, Inc.	D0578
Tolson, Leah	Pecan Park Civic Association	D0247 (public meeting transcript)
Turner, Raymond	Meadow Creek Village Civic Club	D0248 (public meeting transcript)
Vargo, Mary	Southeast Neighborhood Coalition	D0028 (form letter #1; see D0001)
Vargo, Mary	Southeast Neighborhood Coalition/Coalition for Responsible Railroad Building	D0207 (public meeting transcript)
Vargo, Mary	The Southeast Neighborhood Coalition	D0600
Vargo, Mary	Southeast Neighborhood Coalition	D0625
Vargo, Mary	The Southeast Neighborhood Coalition	D0636
Weary, Frank	Bay Oaks Community Association	D0576
Whitfill, Kerry	Pine Brook Community Association	D0080 (form letter #1; see D0001)
Whitfill, Kerry	Bay Pointe Community Association	D0569/D0604 (See D0604)
Whitfill, Kerry	Pine Brook Community Association, Inc.	D0601/D0603 (See D0603)
Willits, Debora	Houston Yacht Club	D0157 (public meeting transcript)

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Aaderson, L. Nell	D0036 (form letter #1; see D0001)
Aaderson, Robert	D0037 (form letter #1; see D0001)
Abad, Mikhail	D0320
Acosta, Israel	D0263
Acosta, Juan	D0442
Acosta, Vanessa	D0336
Adams, Leora	D0500
Aguilera, Ruby	D0305
Alaniz, Felipe	D0289
Aleman, Luz	D0368
Alford, Brad	D0110
Allcorn, Joanne	D0116
Alvarez, Misael	D0383
Amador, Hormelinda	D0551
Anguiano, Javier	D0474
Antrobus, Sally	D0058 (form letter #1; see D0001)
Antrobus, Sally	D0614 (form letter #2; see D0349)
Arguelles, Roy	D0071 (form letter #1; see D0001)
Argueta, Carlos	D0477
Argueta, Joanna	D0364
Armenta, Diana	D0291
Arroya, Luis	D0516
Arteaga, Diana	D0418
Arzola, Jesus	D0308
Autrey-Rodriguez, Lara	D0261
Axton, Daniel & Melissa	D0634
Aylor, Jared	D0410
Banbosa, George	D0016 (form letter #1; see D0001)
Barbick, Chris	D0223 (public meeting transcript)
Barraza, Jessica	D0487
Barringer, Cynthia	D0557
Barron, Jessica	D0402
Basan, Ivette	D0292
Beaudreau, Ross	D0616
Beck, Beverly	D0627
Benavides, Alexandra	D0293
Berg, Cheryl	D0149 (public meeting transcript)
Bill, R.S.	D0240 (public meeting transcript)
Bish, John	D0156 (public meeting transcript)
Blanco, Alfredo	D0019 (form letter #1; see D0001)
Blanco, Esmeralda	D0379
Blome, Glenn	D0348
Bloomer, Elizabeth	D0628
Bond, Joy	D0550

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Bonilla, Pedro	D0335
Bonner, Marques	D0286
Bowyer, Steven & Joanna	D0298
Brandt, Lucille	D0012 (form letter #1; see D0001)
Brannigan, Peggy	D0090 (form letter #1; see D0001)
Bridges, Bill	D0171 (public meeting transcript)
Bridges, Bill	D0256 (public meeting transcript)
Brody, Frank	D0091 (form letter #1; see D0001)
Brooks, Marika	D0513
Brotzman, Richard	D0096 (form letter #1; see D0001)
Brotzman, Richard & Betty	D0106
Brown, Gregory	D0013 (form letter #1; see D0001)
Brown, Gregory	D0208 (public meeting transcript)
Brown-Garison, Ann	D0033 (form letter #1; see D0001)
Brunsfeld, John	D0170 (public meeting transcript)
Buenrostro, Gabriela	D0260
Butanda, Sonya	D0438
Butcher, Judy	D0065 (form letter #1; see D0001)
Cabanas, Aide	D0521
Cabrera, Nelson	D0427
Cabrera, Horacio	D0314
Campos, Esther	D0006 (form letter #1; see D0001)
Canales, Priscila	D0357
Caradec, Rosebud	D0088 (form letter #1; see D0001)
Caradec, Rosebud	D0544
Castaneda, Mario	D0478
Castilleja, Dora	D0287
Castillo, Ashely	D0411
Castillo, Liza	D0227 (public meeting transcript)
Ceruontez, Jose	D0491
Cespedes, Juan	D0262
Chavez, Guadalupe	D0414
Cherry, Eunice	D0003 (form letter #1; see D0001)
Cheuvront, David	D0111
Cheuvront, David	D0169 (public meeting transcript)
Cobarruvias, John	D0024 (form letter #1; see D0001)
Cobarruvias, John	D0128 (public meeting transcript)
Cobarruvias, John	D0231 (public meeting transcript)
Cody, Caitlin	D0518
Conforc, Gus	D0391
Constantine, Leo	D0288
Contreras, Xavier	D0104
Cook, James	D0034 (form letter #1; see D0001)
Cook, Landa	D0032 (form letter #1; see D0001)

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Coreas, Jeremias	D0378
Coria, Manuel	D0466
Cornejo, Sergio	D0421
Coronado, Christine	D0252 (public meeting transcript)
Coronado, Gilbert	D0243 (public meeting transcript)
Cortez, Richard	D0022 (form letter #1; see D0001)
Cotter, Susan	D0113
Cowpersmith, Eric	D0362
Cox, Steve	D0496
Critelli, Nickie	D0191/D0529 (form letter #2; see D0349)
Crum, Meghan; Kim, Joyce; Scleuler, Christina; De Lorey, Kaie	D0570
Cruz, Cruz	D0371
Cruz, Peter	D0559
Cuellar, Jose	D0397
Cupples, Susan	D0075 (form letter #1; see D0001)
Daumas, Rossana	D0629
Dave	D0481
Davis, Bill	D0596 (form letter #1; see D0001)
Davis, Darren	D0469
Davis, John	D0050 (form letter #1; see D0001)
Davis, Judell	D0437
de Gussman, Dianna Almos	D0224 (public meeting transcript)
Delgado, Freddy	D0310
Dickson, Drusilla	D0612
Dix, Paul Kevin	D0038 (form letter #1; see D0001)
Dominguez, Daisy	D0380
Dominguez, Christina	D0396
Dominguez, Nubia	D0422
Dow, Julie	D0184
Drake, Gerald	D0580
Draper, Cameron	D0499
Dujan, Merce	D0408
Duron, Linda Kay	D0541
Dwyer, Annette	D0062 (form letter #1; see D0001)
Ekong, Archie	D0228 (public meeting transcript)
Elwood, Edwin & Dorothy	D0004 (form letter #1; see D0001)
Enriquez, Rafael	D0249 (public meeting transcript)
Escobar, Guadalupe	D0506
Escobedo, Gilbert	D0285
Espinoza, Ellyse	D0259
Fairchild, Robert	D0548 (form letter #2; see D0349)
Fakan, Leandro	D0321
Fernandez, Mark	D0176
Feustel, Indira; Jay, Andrew	D0083

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Finlay, George	D0558
Flores, Juventino	D0180
Flores, Natalie	D0304
Flores, Pedro	D0472
Flowers, Thermon	D0435
Fraga, Felix	D0202 (public meeting transcript)
Franco, Jonathan	D0294/D0536 (See D0294)
Franco, Nancy	D0103
Frank, Mr. & Mrs. M.P.	D0610 (form letter #2; see D0349)
Gallegos, Stephanie	D0352
Gamez, Esmeralda	D0423
Ganiel, Adrian	D0515
Garay, Alyssa	D0324
Garces, Zulema	D0398
Garcia, Brian	D0519
Garcia, Catalina	D0182
Garcia, Charles	D0467
Garcia, Delia	D0278
Garcia, Frank	D0401
Garcia, Jesus	D0505
Garcia, Juan	D0434
Garcia, Richard	D0095 (form letter #1; see D0001)
Garcia, Selene	D0279
Garza, Adrian	D0356
Garza, Lilian	D0433
Garza, M.E. Sonny	D0107
Gauntt, Betty	D0140 (public meeting transcript)
Gauntt, Betty	D0232 (public meeting transcript)
Gauntt, Betty	D0562
Gauntt, Johnny	D0163 (public meeting transcript)
Gauntt, Johnny	D0233 (public meeting transcript)
Gerguis, Sabri	D0072 (form letter #1; see D0001)
German, Harry	D0546
German, Patricia	D0018 (form letter #1; see D0001)
Gibbs, R.W.	D0020 (form letter #1; see D0001)
Gibbs, Robert	D0112
Gilbert, Mary	D0633
Given, Chris	D0166 (public meeting transcript)
Gloria, Guardo	D0492
Gonzalez, Alma	D0290
Gonzales, Lee	D0181
Gonzales, Monique	D0280
Gotting, Peter	D0295
Grauerholz, Doris	D0183

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Groves, Eileen	D0162 (public meeting transcript)
Groves, Eileen	D0563/D0579 (See D0563)
Guerra, Dyanara	D0281
Guerrero, Leticia	D0539
Guevara, Daniel	D0426
Guevara, Nancy	D0327
Guillen, Thomas	D0319
Guilliams, JohAnna	D0431
Gussman, Antonio	D0225 (public meeting transcript)
Guthier, Jessica	D0415
Gutierrez, Junior	D0452
Gutierrs, Crystal	D0384
Guzman, Francisco	D0282
Hammock, Tal	D0165 (public meeting transcript)
Hansen, Mary	D0007 (form letter #1; see D0001)
Harpole, David	D0135 (public meeting transcript)
Haud, Elizabeth	D0005 (form letter #1; see D0001)
Helmkemp, Matthew	D0158 (public meeting transcript)
Henn, Daniel	D0057 (form letter #1; see D0001)
Hernandy, Pedro	D0403
Hernandez, Brenda Jean	D0484
Hernandez, Catalina	D0283
Hernandez, Lizandy	D0365
Hill, Robert	D0351 (form letter #2; see D0349)
Hlaveck, Rita	D0617
Hobun, Jesse	D0447
Howard, Kenneth	D0462
Howard, Thomas	D0392
Huerta, Juanita	D0216 (public meeting transcript)
Huffsmeth, Lola	D0526
Ibarra, Sharlyne	D0358
Igwe, Kay	D0284
Illegible	D0035 (form letter #1; see D0001)
Illegible	D0047/D0531 (form letter #1; see D0001)
Jeffords, Robert	D0561/D0609 (See D0561)
Jopy, Joe	D0388
Joseph, Shernitta	D0512
Kajs, Lawrence	D0568
Kelley, Bill	D0168 (public meeting transcript)
Kerr, Evan	D0586
Ketner, Debbie	D0254 (public meeting transcript)
Kimmey, Cynthia	D0023 (form letter #1; see D0001)
Kopfer, Jay	D0048 (form letter #1; see D0001)
Krommenhoek, Jane	D0043 (form letter #1; see D0001)

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Kuan, Janet Lee Lai	D0076 (form letter #1; see D0001)
Lacayo, Damilo	D0465
Lawrence, Betty	D0054 (form letter #1; see D0001)
Lawrence, Ron	D0053 (form letter #1; see D0001)
Laynez, Fermina	D0274
Le, Aah	D0078 (form letter #1; see D0001)
Liberature, Vanessa	D0074 (form letter #1; see D0001)
Liebeg, Sandra	D0239 (public meeting transcript)
Lindsay, Robert	D0144 (public meeting transcript)
Longmire, Carol	D0108
Longoria, Gonzalo	D0436
Longoria, Matthew	D0275
Lopez, Christina	D0460
Lopez, Gabriela	D0331
Lopez, Guadalupe	D0330
Lopez, Jeremy	D0424
Lopez, Suzy	D0276
Lucio, Veronica	D0420
Luna, Sara	D0489
Lundry, Candia	D0063 (form letter #1; see D0001)
M., Leidu	D0342
Maddocks, Colonel and Mrs. Robert	D0099/D0100 (See D0099)
Maher, Mary Beth	D0560/D0618 (See D0560)
Maldonado, Krystle	D0439
Malonado, Magaly	D0537
Malone, David Ray	D0073 (form letter #1; see D0001)
Marin, Juana	D0517
Marrack, David	D0229 (public meeting transcript)
Marrack, David	D0577/D0622 (See D0577)
Martinez, Analy	D0385
Martinez, Andrew	D0454
Martinez, Brenda	D0277
Martinez, Daniel	D0468
Martinez, Evelyn	D0346
Martinez, Laura	D0376
Martinez, Marcel	D0490
Martinez, Maria	D0226 (public meeting transcript)
Mata, Geovany	D0425
Matias, Marta	D0337
Mayfield, Charles	D0236 (public meeting transcript)
Mayse, J.	D0606
Mayse, Julio	D0015 (form letter #1; see D0001)
McClure, Scott	D0049 (form letter #1; see D0001)
McDaniel, Clinton	D0303

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
McEwing, David	D0215 (public meeting transcript)
McImar, Pris	D0573
McLarty, N.S.	D0597
McLean, Martin	D0566
McWashington, Ashley	D0501
Medina, Megin	D0361
Medrano, Mayra	D0377
Medrano, Dulce	D0345
Mendez, Esmeralda	D0328
Mendez, George	D0444
Mendez, Michael	D0488
Mendoza, Luis	D0307
Meza, Paul	D0014 (form letter #1; see D0001)
Miguel, Pablo	D0270
Miller, Josh	D0146 (public meeting transcript)
Miniel, Elias	D0387
Molina, Sabrina	D0440
Moncada, Patricia	D0416
Monks, Pat	D0066 (form letter #1; see D0001)
Moody, Barbara	D0070 (form letter #1; see D0001)
Morales, Bianca	D0495
Morales, Dulce	D0386
Morales, Freddy	D0504
Morales, Haniel	D0333
Morales, Melissa	D0338
Morales, Patrick	D0450
Moran, Steve & Jan	D0605
Moreno, Briceyda	D0404
Moreno, Manuel	D0366
Morey, Andrew	D0114
Morris, Jeff	D0077 (form letter #1; see D0001)
Morua, Alejandro	D0251 (public meeting transcript)
Murillo, Katherine	D0311
Murphy, Adrian	D0471
Musler, Jeffrey	D0056 (form letter #1; see D0001)
Nevareaz, Maria Kita	D0316
Nguyen, Dung	D0464
Nguyen, Hao	D0511
Nieto, Patricia	D0271
Nix, Thomas	D0101
Nogel, Ralph	D0527
Nunez, Anna	D0179
Nunez, Anna	D0250 (public meeting transcript)
Nute, Charles	D0619

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Oliver, Suzanne	D0040 (form letter #1; see D0001)
Oliver, Suzanne	D0299 (form letter #2; see D0349)
Oliveros, Alejandro	D0540
Oliveros, Monica	D0325
Ong, Natalie	D0097 (form letter #1; see D0001)
Oritz, Anthony	D0322
Ortega, Daniel	D0393
Ortiz, Alejandro	D0407
Ortiz, Carlos	D0272
Ortiz, Keven	D0367
Ortiz, Rebecca	D0430
Parada, Alex	D0395
Parkinson, Kristen	D0069 (form letter #1; see D0001)
Parras, Juan	D0164 (public meeting transcript)
Patricio, Jose	D0273
Pena, Manuel	D0507
Peralta, Steven	D0312
Perea, Maria	D0375
Pererira, Erica	D0339
Perez, Cecily	D0432
Perez, Esmeralda	D0323
Perez, Harun	D0258
Perez, Joyce	D0494
Perez, Maria	D0332
Perez, Veronica	D0485
Peterson, Doug	D0160 (public meeting transcript)
Peterson, Doug	D0237 (public meeting transcript)
Picha, Dixie	D0010 (form letter #1; see D0001)
Pineda, Lilia	D0266
Plasek, Edward & Grace	D0607
Portillo, Napolean	D0483
Post, Kevin	D0042 (form letter #1; see D0001)
Powell, Kay	D0370
Puffer, William	D0130 (public meeting transcript)
Pulgini, Douglas	D0133 (public meeting transcript)
Radcliffe, Barrey & Joan	D0632
Rainford, Conrad	D0564
Ramirez, Enrique	D0354
Ramirez, Ericka	D0480
Ramirez, Macario	D0245 (public meeting transcript)
Ramirez, Michael	D0475
Ramirez, Roxanne	D0459
Ramos, Brittany	D0269
Ramos, Eric	D0448

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Ramos, Hunter	D0334
Ramos, Lissett	D0417
Rangel, Jessica	D0355
Rankin, Frances	D0613 (form letter #2; see D0349)
Rankin, Sally	D0064 (form letter #1; see D0001)
Rayos, Edna Nayeli	D0502
Recendis, Rudolfo	D0482
Register, Carol & Illegible	D0046 (form letter #1; see D0001)
Register, Patti	D0044 (form letter #1; see D0001)
Register, Steven	D0045 (form letter #1; see D0001)
Regner, Renee	D0545
Reitan, Leo	D0593
Reyes, Roger	D0296
Rice, Gabriela	D0400
Rico, Crystal	D0318
Rincon, Greg	D0093 (form letter #1; see D0001)
Rios, Mario	D0394
Robinson, Leroy	D0498
Rodriggs, Michael	D0253 (public meeting transcript)
Rodriggs, Michael	D0347
Rodriguez, Andrew	D0264
Rodriguez, Crystal	D0359
Rodriguez, Glenn	D0453
Rodriguez, Jacob	D0363
Rodriguez, John	D0503
Rodriguez, Leonard	D0009 (form letter #1; see D0001)
Rodriguez, Lizett	D0413
Rodriguez, Nataly	D0446
Rodriguez, Patricia	D0008 (form letter #1; see D0001)
Rodriguez, Ricardo	D0528
Rodriguez, Salina	D0341
Rodriguez, Victor	D0524
Rodriquez, Issac	D0523
Roque, Brenda	D0177
Rudisell, Theresa	D0067 (form letter #1; see D0001)
Ruiz, Eleazar	D0309
Ruiz, Guadalupe	D0381
Russell, John	D0142 (public meeting transcript)
Saenz, Venus	D0399
Sagredo, Maria	D0315
Salazar, Alejandro	D0445
Salazar, Cristobal	D0443
Saldana, Angelica	D0522
Salinas, Frances	D0175

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Salumunek, Theresa	D0011 (form letter #1; see D0001)
Samano, Fernando	D0585
Samano, Geraldine	D0473
Sanchez, Eric	D0409
Sanchez, Jessica	D0508
Sanchez, Jose	D0449
Sanchez, Mayra	D0360
Sanchez, Vicky	D0374
Sandhu, David	D0297
Santibanez, Reynaldo	D0267
Santivanez, Rodolfo	D0493
Sauceda, Celina	D0382
Saucedo, Sergio	D0428
Saudaual, Elvis	D0451
Scholes, Weda	D0611
Schuetze, Neal	D0542
Sellers, Chevell	D0389
Serrano, Frank	D0419
Sessums, Catherine	D0017 (form letter #1; see D0001)
Sexton, Janette	D0246 (public meeting transcript)
Simon, Joseph	D0068 (form letter #1; see D0001)
Siwinski, Lisa	D0136 (public meeting transcript)
Siwinski, Lisa, Dave, Ryan & Joseph	D0534 (form letter #1; see D0001)
Smitherman, Marijane	D0159 (public meeting transcript)
Solorzano, Crystal	D0486
Sommer, Michael	D0089 (form letter #1; see D0001)
Soriano, Jasmine	D0441
Sosa, Steven	D0406
Soto, Diego	D0458
Soto, Jose	D0021 (form letter #1; see D0001)
Soto, Yesenia	D0268
Stehly, Mark	D0211 (public meeting transcript)
Stevens, Gary	D0301
Suarez, Fabiola	D0372
Sulis, Ofelia	D0455
Sustaita, Amaris	D0509
Sweezey, Alan	D0098 (form letter #1; see D0001)
Taylor, Antoine	D0470
Tee, Kristy	D0151 (public meeting transcript)
Thomas, Paula	D0060 (form letter #1; see D0001)
Thomassee, John	D0084 (form letter #1; see D0001)
Thompson, John	D0087 (form letter #1; see D0001)
Thorn, Geraldine	D0086 (form letter #1; see D0001)
Throup, Lesley	D0608

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Tobin, Laurence	D0041 (form letter #1; see D0001)
Torres, Danielle	D0429
Treece, Michael	D0052 (form letter #1; see D0001)
Trevino, Manuel	D0456
Trevino, Rebecca	D0373
Trojanowski, Kitty	D0244 (public meeting transcript)
Turner, Steve	D0186
Unsigned	D0317
Unsigned	D0329
Unsigned	D0349 (form letter #2; printed)
Unsigned	D0350 (form letter #2; see D0349)
Valdes, Luis	D0235 (public meeting transcript)
Valdes, Luis & Thusnelda	D0190
Valdes, Luis & Thusnelda	D0547
Valdez, Nelda	D0241 (public meeting transcript)
Valdivia, Valenti	D0463
Van Maanen, Ned	D0031 (form letter #1; see D0001)
Vantrease, Marvin & Bonnie	D0300
Vargas, Erandi	D0343
Vargo, Mary	D0161 (public meeting transcript)
Vasquez, Elizabeth	D0457
Velasco, Gabuela	D0344
Velasquez, Sandro	D0520
Velazquez, Charly	D0340
Vick, Kay	D0302
Vielma, Maria	D0265
Villa, Bethzy	D0313
Villarreal, Angelique	D0306
Villarreal, Krystal	D0476
Villarreal, Vanessa	D0412
Vitela, Arthur	D0461
Walch, Steven	D0187
Walch, Steven	D0188
Walch, Steven	D0189
Ward, Alan	D0094 (form letter #1; see D0001)
Wehrman, Richard	D0553
Weinberger, Maurice	D0030 (form letter #1; see D0001)
Wells, Charlotte	D0587 (form letter #2; see D0349)
White, Patricia	D0029 (form letter #1; see D0001)
Wilder, Terry	D0630
Wilkinson, Justin	D0059 (form letter #1; see D0001)
Wilkinson, Justin	D0615
Williams, Takesha	D0514
Williamson, Kilen	D0479

Table B-1 (continued)
Comments Received on the Draft EIS

CITIZENS	
Commenter Name	**Comment Number**
Wise, Laury	D0039 (form letter #1; see D0001)
Wizzy, Terry	D0051 (form letter #1; see D0001)
Wolsey, Crystal	D0353
Word, Nichole	D0390
Wortham, Mike	D0167 (public meeting transcript)
Yatsu, Carolyn	D0092 (form letter #1; see D0001)
Zamarripa, Laura	D0326
Zavala, Jacqueline	D0510
Zavala, Maria	D0497
Ziesemer, Maxie	D0552
Zuckert, Rachel	D0178
Zyada, Martha	D0405

Table B-2
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
D0562	Betty Gauntt	Citizen	Petition Opposing the San Jacinto Rail	Petition with 50 signed names	Signed names not included
D0569/ D0604 (See D0604)	Kerry Whitfill	Bay Pointe Community Association	BNSF Pipeline Hazard Presentation	Presentation on co-location of utility lines and railroads	Not included
D0581/ D0599 (See D0599)	Anthony W. Hall, Jr.	City of Houston, Legal Department	Vicinity of Ellington Field	Large color fold-out map depicting locations of Southeast Water Purification Plant (SEWPP) and Ellington Field	Not included
			Right of Way Deed for the Texas Pipe Line Company	Photocopy of 2-page deed	Not included
			SEWPP Facility Expansion Plan	Large color fold-out map depicting expansions in 2007, 2015, and 2040	Not included
			SEWPP Layout Plan	Large color fold-out map depicting current layout of SEWPP	Not included
			Proposed San Jacinto Rail Ellington Field Area	Large color fold-out map depicting location of proposed rail with respect to Ellington Field	Not included
			Friendswood 7.5 Minute Quadrangle	Large color fold-out map depicting pipeline locations	Not included
D0583	Gene Green	U.S. House of Representatives	Inventory of Railroad Operating Conditions in the East End of Houston, authored	43-page report authored by the Texas Transportation Institute	Not included
D0591	James B. Blackburn, Jr.	Galveston Bay Conservation and Preservation Association	Exhibit 1: BNSF Pipeline Hazard Presentation	Presentation on co-location of utility lines and railroads	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
			Exhibit 2a: Pipeline Map of LaPorte, Texas	Large color fold-out maps from the Texas Railroad Commission	Not included
			Exhibit 2b: Pipeline Map of Pasadena, Texas		Not included
			Exhibit 2c: Pipeline Map of League City, Texas		Not included
			Exhibit 2d: Pipeline Map of Friendswood, Texas		Not included
			Exhibit 3: Dr. H.C. Clark Expert Report	Report on geology of the area	Included
			Exhibit 4: Prof. Olga Moya Expert Report	Report on environmental justice in the area	Included
			Exhibit 5: Peter Brown Expert Report	Report on land use in the area	Included
			Exhibit 6: John Jacob Expert Report	Report on wetlands in the area	Included
			Appendix A: Union Pacific Houston Service Unit 2002 Derailments	16 pages of graphs displaying incidences of derailments	Not included
			Appendix B: STB's Failure to Count 90% Hispanic Population within 1/4-mile and the Census 200 Analysis	21-page presentation defining minority groups and presenting redrawn demographic maps	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
			Appendix C: Financial Docket 33877-Illinois Central Railroad Company-Construction and Operation-East Baton Rouge Parish, LA. Environmental Assessment, July 20, 2001	74-page environmental assessment	Not included
			Appendix D: Financial Docket 31321-Indiana and Ohio Railway Company-Construction and Operation-Butler, Warren, and Hamilton Counties, OH. Decision dated July 23, 1993	1-page decision to deny application for I&O reconstruction.	Not included
			Appendix E: Financial Docket 34040-Riverview Trenton Railroad Company-Construction and Operation-Wayne County, MI Environmental Assessment, Vo. I, October 15, 2001	85-page environmental assessment	Not included
			Appendix F: Financial Docket 33782-Entergy Arkansas and Entergy Rail, Construction and Operation-White Bluff to Pine Bluff, AR. Draft Environmental Assessment, November 2, 2000, excerpted land use and socioeconomic sections	5 pages of environmental assessment	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
			Appendix G: Financial Docket 34060-Midwest Generation LLC Construction and Operation, Will County, IL. Environment Assessment, April 12, 2001, excerpted environment justice section	16 pages of environmental assessment	Not included
			Shoal Point Final EIS, November 2002	Final EIS on CD	Not included
			Bayport Terminal DEIS, November 17, 2001	DEIS on CD	Not included
			GBCPA Comments on Bayport Terminal DEIS	Comments on 3 CDs	Not included
D0596	Father Bill Davis	Immaculate Heart of Mary Church	Petition Opposing the San Jacinto Rail	500+ names	Signed names not included
D0598	Kathryn A. Kusske	San Jacinto Rail Line and Burlington Northern Santa Fe	Wetland Mitigation Ratios (Jurisdictional & Non-Jurisdictional Waters), San Jacinto Rail Limited, Bayport Industrial Build-Out Project, Alignment 2D/1B	See reproduction	Included
			Wetland (Jurisdictional & Non-Jurisdictional) Mitigation Ratios, San Jacinto Rail Limited, Bayport Industrial Build-Out Project, Alignment 1C/1B		Included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
			Wetland Mitigation Ratios (Jurisdictional & Non-Jurisdictional Waters), San Jacinto Rail Limited, Bayport Industrial Build-Out Project, Alignments 1/1B and 2D/1B		Included
			Wetland Mitigation Ratios (Jurisdictional Waters Only), San Jacinto Rail Limited, Bayport Loop Build-Out Project, Alignment 1/1B		Included
			Wetland Mitigation Ratios (Jurisdictional Waters Only), San Jacinto Rail Limited, Bayport Loop Build-Out Project, Alignment 1C/1B		Included
			Letter from Frederick Herman, Project Manager at BNSF Engineering to John Machol, PWS USACE Regarding Proposed Mitigation Ratio Summary, San Jacinto Rail Limited, Permit Application #22823		Included
			Location of Bayport Loop Build-Out Proposed Rail Line Houston, Texas	Photocopied aerial photographs	Not included
			Location of Indiana and Ohio Railway Company Proposed Rail Line Near Cincinnati, Ohio		Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
D0600	Mary Vargo	The Southeast Neighborhood Coalition	BNSF Internal Document[35]	Pipeline hazard presentation on co-location of utility lines and railroads	Not included
			Photos of Pipeline Markers	8 pages of photographs showing pipeline markers and homes near rail line along Highway 3	Not included
			Demographics	Maps and tables of Houston Independent School District Schools that show ethnicity, free lunch participation, LEP program participation, and other relevant demographics	Not included
			Rail Accident Statistics	Tables and reports printed from the web USDOT and FRA	Not included
			Hazardous Chemicals	Information and maps from ethyleneoxide.com and other Internet sources	Not included
				Maps of Hazardous Materials Incidents by Incident Location (2000)	Not included
				Ethylene oxide User's Guide and Overview of Hazards-2nd edition	Not included
				Local Government and Hazardous Substances: Part II, Dealing with the Situation authored by Illinois State Museum Geography Program	Not included
			Toxic Release Inventory	Tables containing San Jacinto Rail Partner Chemical Companies TRI information	Not included
			Friendswood 7.5 Minute Quadrangle	Large color fold-out maps with pipeline locations	Not included

[35] In the reproduction of the comment letters in this Appendix, the cover pages to each attachment were included for D0600.

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
			La Porte 7.5 Minute Quadrangle		Not included
			League City 7.5 Minute Quadrangle		Not included
			TX Railroad Commission Map		Not included
			Rail Accident Media Reports (printed from Internet)	Cleanup follows derailment, hundreds displaced (CNN.com, 2/10/03)	Not included
				Train Wreck Fires Extinguished (ABCNEWS.com, 5/30/00)	Not included
				Freight Train Fallout (ABCNEWS.com, 5/29/00)	Not included
				OSHA Factsheet on Ethylene Oxide	Not included
				EPA Investigation Report RE: Accra Pac Accident	Not included
				Baltimore rail fire heightens concerns (Technological Disasters-News, 7/24/01)	Not included
				Atofina Chemical Explosion (SEMCOSH)	Not included
				Train Wreck Fires Extinguished (ABCNEWS.com, 5/30/00)	Not included
				Residents Await Derailment Cleanup (Louisiana Office of Emergency Preparedness, 10/14/02)	Not included
				Vapor cloud to blame for deadly explosion in Brazoria County (ABC13.com, 1/17/03)	Not included
			Do the Math	See reproduction	Included
			The FBI	Information from FBI website regarding terrorism risk	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
			U.S. Department of Transportation Reports	Over 100 pages of reports of unanticipated events that have taken place in hazardous materials transport as well as rail incidents in general	Not included
			National Transportation Safety Board Reports	Over 100 pages of reports of unanticipated events that have taken place in hazardous materials transport as well as rail incidents in general	Not included
			Opposition	Petitions with hundreds of signatures opposing the San Jacinto Rail	Signed names not included
			Congressman Green Neighborhood Rail Accountability Act	Green's statement and the Bill	Not included
			Laws	Section-by-Section Analysis of the STB Reauthorization Act of 1999 from the FRA website	Not included
			Federal Railroad Administration Accident Prediction Report for Harris County Highway-Rail Crossings	Reports from FRA's Web Accident Prevention System	Not included
			Additional Data Sources	Statement suggesting that the STB review the additional data sources and web addresses cited throughout the binder	Not included
			Comments	20 pages of comments presented at community meetings	Not included
D0601/ D0603 (See D0603)	Kerry Whitfill	Pine Brook Community Association, Inc.	BNSF Pipeline Hazard Presentation	Presentation on co-location of utility lines and railroads	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
D0625	Mary Vargo	The Southeast Neighborhood Coalition	Conclusions: The result of research presented in earlier comments and information in this book	See reproduction	Included
			Statements of politicians, articles, and other printouts from the Web	Senator John D. Rockefeller IV at the Surface Transportation Board (STB) Reauthorization Hearing before the Surface Transportation and Merchant Marine Subcommittee (3/21/01)	Not included
				Senator John D. Rockefeller IV Statement on the Senate Floor on the Introduction of the Railroad Competition Act of 2001 (6/26/01)	Not included
				BMWE-Journal Online: Reauthorization of the Surface Transportation Board (June/July 1998)	Not included
				Railway Age: STB reauthorization at what price? (1999)	Not included
				H.R. 141: Surface Transportation Board Reform Act of 2001 (January 13, 2001)	Not included
				Testimony of Bob Chipkevich before the Committee on Transportation and Infrastructure Subcommittee of Railroads House of Representatives Regarding Railroad Track Safety (3/29/01)	Not included
				Testimony of Robert Chipkevich, Chief, Pipeline and Hazardous Materials Division, NTSB, before the Committee on Commerce, Science, and Transportation Subcommittee on Surface Transportation and Merchant Marine, U.S. Senate Regarding Hazardous Materials Safety (5/8/97)	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
				Testimony of Marion C. Blakey, Chairman, NTSB, before the Committee on Transportation and Infrastructure Subcommittee on Railroads House of Representatives Regarding Railroad Safety (6/6/02)	Not included
				Remarks by Jim Hall, Acting Chairman, NTSB, at the Damage Prevention Convention Boston, MA (11/30/00)	Not included
				Remarks by Jim Hall, Acting Chairman, NTSB, at the Damage Prevention Convention Pipeline Safety Hearing, Washington, DC (11/15/00)	Not included
				Testimony by Jim Hall, Chairman, NTSB before the Committee on Appropriations Subcommittee on Transportation U.S. Senate Regarding Transportation Safety Issues (2/24/00)	Not included
				Testimony of Robert Chipkevich, Director, Office of Railroad, Pipeline, and Hazardous Materials Investigations, NTSB, before the Committee on Energy and Commerce Subcommittee on Energy and Air Quality House of Representatives Regarding Pipeline Safety (3/19/02)	Not included
				Testimony of Vernon S. Ellingstad, PhD, Director, Office of Research and Engineering, NTSB, before the Surface Transportation and Merchant Marine Subcommittee Senate Commerce Committee regarding Fatigue in the Trucking and Rail Industry (9/16/98)	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
				Testimony of Robert C. Lauby, PE Director, Office of Railroad Safety, NTSB, before the Subcommittee on Railroads Committee on Transportation and Infrastructure U.S. House of Representatives Regarding Railroad Safety (4/1/98)	Not included
			NTSB Safety Recommendations	Over 100 pages of reports addressing the adequacy of Federal regulations and oversight for cargo transfer operations involving bulk containers transporting hazardous materials	Not included
			Labor Union Article Printouts from the Web (United Transportation Union News)	Railroads argue against state safety rules (2/14/03)	Not included
				UTU seeks emergency safety summit (2/19/03)	Not included
				Member crushed to death between boxcars (2/19/03)	Not included
				Legislation targets fatigue (9/01)	Not included
				No simple solutions to fatigue problem (9/01)	Not included
				Our nation demands a better rail system (11/01)	Not included
				UTU member killed in crash (1/02)	Not included
				Two members killed on NS (2/02)	Not included
				Railroads resist installing life-saving technologies (2/02)	Not included
				NTSB cites driver in crash (3/02)	Not included
				Rails' promises of growth ring with employees (3/02)	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
				UTU, BNSF agree on new safety culture (4/02)	Not included
				New BNSF safety rules the result of determination (4/02)	Not included
				Two members killed on BNSF (7/02)	Not included
				Time for carriers to walk the talk on safety (7/02)	Not included
				UTU advises Congress on rail safety (7/02)	Not included
				NTSB urges UTU activism (8/02)	Not included
				Railroads must stop intimidating the injured (8/02)	Not included
				Member on NS killed in switching accident (8/02)	Not included
				Deeds are the true measure (9/02)	Not included
				Railroad fatalities rise (10/02)	Not included
				FRA warns rail managers against worker intimidation (10/02)	Not included
				Two members killed on the job (10/02)	Not included
				We are sick and tired of being worked to death (11/02)	Not included
				Fatigue invites disaster (11/02)	Not included
			Population Density by Census Tract (1999)	Large fold-out color demographic maps	Not included

Table B-2 (continued)
Written Comment Attachments

Comment Number	Commenter Name	Affiliation	Attachment Title	Attachment Description	Included in Appendix B
			Median Income by Census Tract (1999)		Not included
			Ethnicity by Zip Code (1999)		Not included
			Hispanic Population Density by Zip Code (1999)		Not included
			Population Distribution by Census Tract (1999)		Not included
			Rand McNally City of Houston map	Includes location of public schools	Not included
D0626	Gregory Brown	Meadowcreek Village Civic Club, Inc.	BNSF Pipeline Hazard Presentation	Presentation on co-location of utility lines and railroads	Not included
			Article: Cleanup follows derailment, hundreds displaced	Article from CNN.com (2/10/03)	Not included
D0635	Gene Green	U.S. House of Representatives	U.S. Census Bureau Tables	28 pages of tables depicting general demographic characteristics based on Census 2000 for various geographic areas located within the East End area in Houston	Not included

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APPENDIX C
DECISIONS AND RELATED CORRESPONDENCE

Appendix C contains the following documents:

- The Surface Transportation Board's August 2002 Decision
- The letter from SEA (Victoria Rutson) to GBCPA (James Blackburn, Jr.) dated October 30, 2002
- The Surface Transportation Board's December 2002 Decision
- The letter from the Surface Transportation Board (Secretary Vernon Williams) to GBCPA (James Blackburn, Jr.) dated February 11, 2003

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APPENDIX D
ADDITIONAL CORRESPONDENCE

Appendix D contains the following documents:

- The letter from NMFS (Rickey Ruebsamen) to SEA (Dana White), dated March 31, 2003
- The letter from the Applicants (Kathryn Kusske) to SEA (Dana White), dated April 10, 2003
- The letter from SEA (Victoria Rutson) to NMFS (Rickey Ruebsamen), dated April 18, 2003
- The letter from FAA (Nan Terry) to SEA (Victoria Rutson), dated April 17, 2003