

APPENDIX IV

**PROPERTY VALUE DIMINUTION
RESULTING FROM NUCLEAR WASTE SHIPMENTS:
SUMMARIES FOR CLARK, WASHOE, AND ELKO COUNTIES**

**PROPERTY VALUE DIMINUTION RESULTING FROM NUCLEAR WASTE
SHIPMENTS: SUMMARY OF CLARK COUNTY, WASHOE COUNTY
AND ELKO COUNTY, NEVADA**

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INTRODUCTION

Stigma that is related with risk has been associated with all aspects of nuclear energy including property value diminution. If the DOE goes ahead with its program it is likely that over the next 30 years 77,000 metric tons of Spent Nuclear Fuel and High-Level Nuclear Waste may be shipped to a repository at Yucca Mountain, Nevada. It is also likely that proposed routes for transporting nuclear waste will go through Clark County, Washoe County and Elko County, Nevada. Given the high level of public concerns over the risks of shipping nuclear waste, the probability of an incident (even with no release of radioactive material) may result in significant property value diminution over an extended period of time.

The purpose of this summary report is to provide the first estimation of the range and magnitude of property value impacts that are likely to occur from nuclear waste shipments in three Nevada counties, Clark County, Washoe County, and Elko County. This report describes the results of two surveys, one of the public and the second of property value experts, and the application of the findings from the experts survey to property values in the three counties. The first survey, describes the perceptions of Clark County residents as to the likely property value impacts of the shipment of nuclear waste. The second, a Scenario-based survey, of lenders and appraisers sought to identify the likely diminution factors that can be anticipated from the shipment of nuclear waste, based on three alternative shipment scenarios, for three different property types and at varying distances from the routes. This survey provided the diminution factors that were then applied to the fair market values for these land use, along the proposed routes in the three counties. The diminution factors for the three land use are then applied in Clark

County, along two possible routes—I-15 and the Beltway route and in Washoe and Elko Counties along the I-80 corridor.

APPROACH TO EVALUATING PROPERTY VALUE IMPACTS

It should be noted that the research involved the convergence of three methods: analysis of literature; a survey of Clark County residents; and a survey of property value experts, Clark County bankers and lenders that was subsequently applied to three land uses within the three counties to determine the range of potential losses. The first method utilized in this research was an analysis of the literature demonstrates that property value diminution as a result of undesirable environmental conditions is widely recognized by property value experts and the courts. Further, the courts have utilized the judgment of experts to define the nature and extent of diminution when establishing compensation. A detailed review of the literature can be found in the report, *Clark County Property Value Report On The Effects of DOE's Proposal to Ship High-Level Nuclear Waste To A Repository at Yucca Mountain*. The second method incorporated a survey of Clark County resident's perceptions of property value impacts from the shipment of nuclear waste. Lastly, two professional groups provided information on likely diminution effects based on local market experience, the scenarios, and distance factors. The findings from these investigations were then compared and evaluated to establish a credible framework of the potential for property value effects that are likely to be experienced within Clark, Washoe, and Elko Counties, if the DOE proceeds with its plans.

When Clark County lenders and appraisers were surveyed as to their beliefs about the effects of transporting nuclear waste would have on property values, they indicated that the highest rate of diminution would be nearest the route. This finding is consistent

with the literature. Actual experience has also shown that values influence stigma-induced property value diminution. When one compares the rates of diminution stated by Clark County residents; with other surveys of the effects of nuclear waste transportation; along with the actual rate of diminution that has been reported from other undesirable environmental conditions in other places; and with the opinions of experts, who are experienced in estimating property values within Clark County; there is a high degrees of consistency in the results.

This report represents a first estimation of the property value diminution that may occur as a result of DOE's proposal to construct the Yucca Mountain repository if it proceeds to ship HLW through Clark County, Washoe County and Elko County. It is important to remember that this study did not look at the full range of land uses in these counties. In fact, while all residential property was included, only a limited number of commercial and industrial land uses were considered. Of particular note, this study did not address the many land uses associated with Clark County's dominant economic sector, tourism. Therefore, as we will see, the substantial property losses that are likely to occur because of nuclear waste shipments and that are reported here all underestimate the real vulnerabilities to future property values. This study also did not examine the large number of parcels that are yet undeveloped. Land uses associated with tourism and undeveloped parcels represent an important component of Clark County's current economic base and its future. The impacts of DOE's proposal on these land uses must be examined to get a fuller understanding of the extent of property value diminution that may be experienced.

A survey of 512 Clark County residents was conducted by telephone in August 2000 by the Cannon Center for Survey Research at the University of Nevada, Las Vegas. Assuming a 95% confidence interval, the sampling error for the survey was approximately +/-4.5%. The questionnaire was closely adapted from the *Santa Fe Property Values Opinion Research Regarding the WIPP Bypass Survey* (Zw1A Research Associates 1990). The "Santa Fe" survey is important in three ways. First, it demonstrated that residents' believe that the transportation of radioactive waste would adversely impact property values and that they are unwilling to purchase properties near these routes. Second, the survey results were important in a judicial decision demonstrating that damages for property value losses can be compensated because of stigma. Third, the survey design allows crosswalks to the survey of Clark County residents. The study shows strong similarities in findings between the two surveys supporting the conclusion that both populations believe property values will be diminished because of radioactive waste transport.

Clark County lenders and appraisers were asked to estimate potential property value changes under three different transportation scenarios. In all, 18 bankers and 35 appraiser were contacted. Of the 18 bankers, 15 completed the survey; and 25 completed surveys were obtained from the appraisers for a participation rate of 71.4%. The three scenarios ranged from a benign, no-incident scenario; to an event that results in no release of radiation; to a third scenario which is characterized by a significant but plausible accident event resulting in the release of radiation. The first two scenarios are based on the shipping campaign described in the US DOE's Draft Environmental Impact

Statement. Based on the three scenarios, the two professional groups were asked to evaluate any property value changes to an average residential single-family home, a 250,000 square-foot office building and a 100,000 square-foot industrial warehouse at two distances from a proposed shipment route. The resulting scenario-based diminution factors were then used as assumptions in estimating real dollar losses in assessed valuation for three property value types along shipment corridors in Clark County, Washoe County and Elko County, Nevada.

In Clark County the assessors' valuation data by parcels were integrated by property type and placed on a GIS framework. One mile and one to three mile distances were applied to the GIS base. Two proposed routes, I-15 through Las Vegas and the Beltway route were evaluated for real dollar impacts to assessed value by applying the different diminution rates to three property types at two distances. The diminution in property values is expressed in losses in fair market value.

The diminution factors derived from the survey of two professional groups were also utilized to estimate property value changes in Washoe and Elko Counties in Nevada. Assessor's data from Washoe and Elko Counties in Nevada were used as a basis to calculate the diminution in property value from the proposed shipment of high-level nuclear waste. Washoe County includes the Reno metropolitan area, while Elko county includes the smaller urban area of the City of Elko. Different methods were used to estimate the loss in property values in both counties. Washoe County like Clark County, possesses a high-resolution GIS (Geographic Information System), enabling a very precise estimate of diminution based on proximity to the transportation route. While

tabulations for Elko did not include the use of a GIS, the data availability were sufficient to devise an acceptable methodology for the calculations.

In order to calculate the dollar values of property value diminution, the data acquired from Washoe and Elko County Assessors required three basic components. First, we had to place all parcels in space with a reasonable degree of accuracy. That is, we had to be able to select those parcels within the 3-mile and 1-mile corridors. Second, the parcels must have a land use that can be assigned to them. Different diminution factors can be assigned to residential, commercial, and industrial properties. Finally, the parcels must include assessed value for the estimation of impacts.

Because Washoe County did have a GIS to utilize in these calculations, the calculation procedure was quite straightforward. All parcels intersecting a 1-mile and a 3-mile buffer were extracted from the county GIS. Land use codes and assessed value from the Assessor's data were then "joined" to the spatial data using a relational database procedure. The spatial (parcels) data were linked to the assessed values using the APN (Assessor's Parcel Number) present in both datasets. Land use codes were then used to collapse the various activities present into the broad categories of Residential, Commercial, and Industrial

Because we did not have a GIS available for the calculations in Elko, a different approach was used for the spatial extraction of corridor parcels. First, only those parcels within the Elko municipal area were evaluated. For the spatial calculations of parcels within the 1-mile corridors, Assessor location maps were scanned on a flatbed digital scanner, geo referenced to state plane coordinates, and placed into a GIS with a street and highway network constructed from Census TIGER files. It was then possible to

determine what map areas were within the 1-mile truck corridor. Using land-use codes and assessed values, calculations then proceeded for Elko as previously discussed in Washoe County.

As noted earlier in this summary, these studies did not examine undeveloped parcels or land uses associated with tourism. These types of parcels represent important parts of the current and future economic base for these counties. Therefore, it should be recognized that these studies underestimate the magnitude of potential loss by focusing on three land use types only. Even with these limitation, the studies indicate that even under the DOE's own scenario that postulated no incidents of any type, the transportation program will likely result in significant property value losses within Clark County, Washoe County, and Elko County, Nevada.

CLARK COUNTY RESIDENTIAL SURVEY

This section of the property value impact report summarizes the results of a survey of Clark County residents' perceptions and attitudes about property value impacts from shipments of high-level nuclear waste through Clark County, Nevada. There were three key objectives to the survey. First, to evaluate the extent to which residents believe their property values would be adversely affected by nuclear waste shipments and the magnitude of those effects. If residents indicate that they will prefer not to buy residential properties near nuclear waste shipment routes, such preferences may be useful in understanding consumer behavior, which indirectly impact property values. Second, the approach that was utilized would provide data on perceived or anticipated property value diminution in the residential sector. Third, the Clark County survey used many questions from a survey undertaken in Santa Fe County, New Mexico related to public perceptions

of property values from shipments of transuranic wastes to Carlsbad, New Mexico. The ability to have crosswalks between the surveys and make comparisons is important because the Santa Fe survey was used in a judicial decision to support compensation to land owners who would likely lose property values resulting from stigma effects due to the transportation of radioactive wastes.

Respondents were first asked whether various “environmental conditions” or facilities would increase, decrease or have no effect on nearby residential property values. The responses were similar to the Santa Fe, New Mexico survey. Residents stated that a polluting manufacturing plant, a landfill, and a freeway used to ship nuclear waste would have the most negative effects on property values of the twelve facilities that were provided in the survey. With respect to the likelihood of purchasing property near shipment routes, almost 82% of the Clark County residents stated that a nearby route would either ‘decrease a lot’ or ‘decrease’ their likelihood of purchasing residential property. With respect to views concerning transportation impacts on nearby commercial or business property, 40.7% of the Clark County respondents indicated that commercial property values would decrease. Residents in the Santa Fe, New Mexico survey held similar views.

Under what conditions would Clark County residents consider purchasing residential properties near proposed transport routes for nuclear waste? Responses to this question showed that almost three-fourths of the respondents would not purchase these properties *under any conditions*. In addition to this strongly held attitude among County residents, the mean expected drop in selling prices for homes near a transport route compared to a similar home at a considerable distance from such a route was

approximately 25%. When this perceived diminution rate for residential properties is applied to the current assessed valuations of residential properties within one mile of the I-15 transportation corridor, the resulting loss is estimated to be \$604.6 million of residential assessed valuation.

PROPERTY VALUE LOSSES: CLARK, WASHOE, AND ELKO COUNTIES, NEVADA

CLARK COUNTY: PROPERTY VALUE DIMINUTION

Clark County lenders and appraisers provided data on diminution factors that would result from the transportation of nuclear waste through Clark County. The diminution factors affecting property values vary by distance from routes (one mile and one to three miles), the three scenarios, and land use type-light industrial, commercial-office and residential. Although small differences appear between lenders and appraisers in the diminution factors for scenarios one and two, there is a strong consistency in their evaluation of property value impacts under scenario 3. Table 1 shows the diminution factors by distance, scenario, and property type in mean percentages. The results of this analysis were applied to residential, commercial, and industrial property values for Clark County along two potential routes, I-15 and the new Beltway route.

Under the first scenario, appraisers and lenders indicated that residential properties would lose the most value in percentage terms. Appraisers indicated that within one mile of a shipment route, residential properties would decline on the average by 3.5%, while lenders indicated the decline would be approximately 2.0%. At distances of one to three miles, residential property values could decline by almost 1.5% according to appraisers.

Table 1 Property Value Diminution Factors (in Percent) by Distance, Scenario, and Land Use

	Scenario 1		Scenario 2		Scenario 3	
	Lender	Appraiser	Lender	Appraiser	Lender	Appraiser
One-mile Distance						
Residential	2.00	3.50	6.18	7.96	29.00	33.79
Commercial	0.56	3.21	4.00	7.39	22.00	31.88
Industrial	0.56	1.25	4.00	5.29	21.25	25.54
One-three miles						
Residential	0.50	1.46	1.64	4.00	20.00	23.65
Commercial	0.56	1.25	1.00	3.04	16.67	20.50
Industrial	0.56	0.83	1.00	2.08	10.00	16.73

As Table 1 shows, commercial property values would decline by 3.2 % and industrial property values by 1.5% within one mile of a shipment route. Under Scenario 3, substantial property value declines should be anticipated. Residential property values could drop approximately 30% at one mile and over 20% one to three miles from a route. Appraisers indicated that the potential property value loss for commercial property could be 32% at one mile and 20.5% at one to three miles. Industrial property value losses could range from 21.3% to 25.5% within one mile of the transportation routes for nuclear waste, and from 10% to 16.7% at one to three miles.

Table 2 shows the actual dollar declines when these diminution factors are applied to fair market values for the three property types along two potential routes, I-15 and the Beltway route with Clark County. Even under Scenario 1, a no-event characterization, property value diminution will result in all three market segments-residential, commercial and industrial. The largest declines in present market values (\$6.2 billion - \$7.3 billion)

will be experienced in the residential sector within three miles of the I-15 route. The rate

Groups	Residential		Commercial		Industrial	
	Lenders	Appraisers	Lenders	Appraisers	Lenders	Appraisers
Scenario 1	\$203,219,474	\$462,500,346	\$5,615,300	\$14,100,251	\$5,919,186	\$9,518,200
Scenario 2	\$646,024,023	\$1,175,472,314	\$12,424,417	\$33,873,129	\$15,892,269	\$27,680,400
Scenario 3	\$5,269,739,823	\$6,203,196,049	\$171,414,257	\$189,179,886	\$125,658,343	\$192,465,463

of decline under scenario 3 is less for commercial and industrial properties with losses of

up to \$926.9 million estimated for commercial properties within three miles of I-15. It

should be noted that the I-15 corridor is more fully built out than the Beltway. This study

did not examine the property value impacts on undeveloped land or land uses other than

the three that were addressed. Thus a direct comparison between the routes in terms of

route selection should not be made based on these data. The results demonstrate the

potential that significant adverse impacts can be anticipated along either Clark County

routes proposed and for all property types, even under the most benign transportation

scenario.

Table 2 Property Value Diminution Under Three scenarios within Three Miles of the Proposed Beltway

Table 3 Property Value Diminution under Three Scenarios within Three Mile Distance of the I - 15

Groups	Residential		Commercial		Industrial	
	Lenders	Appraisers	Lenders	Appraisers	Lenders	Appraisers
Scenario 1	\$243,567,363	\$549,526,426	\$21,388,171	\$72,531,594	\$14,103,817	\$25,012,894
Scenario 2	\$772,643,557	\$1,392,987,706	\$76,137,260	\$171,126,151	\$54,535,563	\$83,790,291
Scenario 3	\$6,218,675,720	\$7,318,862,089	\$704,094,009	\$926,894,417	\$361,917,017	\$507,543,183

The findings indicate that increasing the severity of events within the scenarios, of events within the scenarios, as illustrated in Scenario 2 and 3 results in significantly larger impacts on property values. Under scenario 3, it is likely that the market value for the three property types may decline by approximately \$6.6 billion along the beltway route and \$8,7 billion along the I-15 corridor.

WASHOE COUNTY: PROPERTY VALUE DIMINUTION

The Washoe County Assessor’s data included 132, 778 land parcels with a total assessed value of over \$9.4 billion. Of these parcels, \$4.7 billion falls within the 3-mile corridor of the possible shipment route for nuclear waste. The impacts on property values addressed three land use types in Washoe County and therefore not all parcels. The land use types included residential properties, commercial-office, and light industry. Within the three-mile corridor, the assessed value of these three property types was estimated to be \$2.9 billion. Within a one-mile corridor of the shipment route the assessed valuation of these three land use types were calculated to be 1.2 billion.

Table 4 Property Value Diminution under Three Scenarios within 3 Mile Distance of the Washoe Route

Groups	Residential		Commercial		Industrial	
	Lenders	Appraisers	Lenders	Appraisers	Lenders	Appraisers
Scenario 1	\$71,471,134	\$149,245,686	\$2,570,789	\$11,492,884	\$6301,095	\$12,966,670
Scenario 2	\$224,771,043	\$367,504,879	\$13,398,627	\$26,727,213	\$37,163,012	\$51,128,896
Scenario 3	\$1,563,139,657	\$1,835,646,132	\$92,175,623	\$127,520,646	\$209,686,007	\$264,337,333

As in the Clark County evaluation, to calculate diminution estimations for Washoe County, property loss factors for each of three scenarios were applied to parcels within the one-mile corridor and multiplied by the total assessed value for each of the land uses addressed. Similar calculations for the corridor of one to three miles from the route were undertaken. The sum of these calculations is the estimate of property value diminution for the three miles from the route that can be anticipated if nuclear waste shipments occur through Washoe County. Table 4 shows the potential property value losses in market value by property type and scenario within a 3-mile distance from the shipment route.

Under a Scenario 3 event, it is possible that property losses in market value may exceed \$1.8 billion for residential properties alone.

ELKO COUNTY: PROPERTY VALUE DIMINUTION

The property value impact study for Elko County examined property parcels within the Elko municipal area. All parcels are within three miles of the interstate highway that would be used to transport high-level nuclear waste. To be consistent with the methodologies used in Clark and Washoe counties, the evaluation considered three land use types (residential, commercial-office, and light industrial), two distance factors (one mile and one to three mile distances from the route), and the three transportation Scenarios.

Table 5 shows the results of the property value diminution in market value that are likely to result from transporting nuclear waste through Elko. Property value impacts for the entire 3-mile corridor would result in estimated losses of over \$115 million in fair

market value for residential property, \$3 million for commercial property and \$10.6 million for industrial property.

Table 5 Property Value Diminution under Three Scenarios within 3 Mile Distance of the Elko Route

Groups	Residential		Commercial		Industrial	
	Lenders	Appraisers	Lenders	Appraisers	Lenders	Appraisers
Scenario 1	\$6,401,897	\$11,484,912	\$54,707	\$302,853	\$252,317	\$521,081
Scenario 2	\$19,827,588	\$26,447,072	\$374,333	\$698,111	\$1,501,360	\$2,061,528
Scenario 3	\$98,964,776	\$115,477,842	\$2,119,999	\$3,052,049	\$8,446,139	\$10,623,805

Clark County Property Values (in million \$) for Residential, Commercial, and Industrial Real Estate within One-Mile and One-toThree Miles of the Las Vegas Beltway and I-15

	Residential		Commercial		Industrial	
	1-mile	1-3 mile	1 mile	1-3 mile	1 mile	1-3 mile
Beltway	\$5,626	\$18,191	\$80	\$923	\$177	\$880
I-15	\$6,909	\$21,074	\$1,265	\$2,555	\$978	\$1,540
Subtotal	\$12,534	\$39,266	\$1,345	\$3,477	\$1,156	\$2,420
Combined Total	\$51,800		\$4,822		\$3,576	

**Expert Impact Evaluations of Residential/Commercial/Industrial Property Value
Diminution for Three scenarios by Lenders and Appraisers for One-Mile and One-to-
Three Mile Distances from I-15**

Residential/Commercial/Industrial market value (appraised) within One Mile (millions \$)	Residential		Commercial		Industrial	
Scenario One (no accident)						
Lender estimate impact	(-2.0%)	\$138	(-0.56%)	\$7	(-0.56%)	\$5
Appraiser estimate impact	(-3.50%)	\$242	(-3.21%)	\$41	(-1.25%)	\$12
Scenario Two (non-radiation accident)						
Lender estimate impact	(-6.18)	\$427	(-4.00%)	\$51	(-4.00%)	\$39
Appraiser estimate impact	(-7.96%)	\$550	(-7.39)	\$93	(-5.29%)	\$52
Scenario Three (radiation accident)						
Lender estimate impact	(-29.0%)	\$2,004	(-22.00%)	\$278	(-21.25%)	\$208
Appraiser estimate impact	(-33.79%)	\$2,335	(-31.88%)	\$403	(-25.54%)	\$250
Residential/Commercial/Industrial market value (appraised) One-to- Three Miles (millions \$)	Residential		Commercial		Industrial	
Scenario One (no accident)						
Lender estimate impact	(-0.5%)	\$105	(-0.56%)	\$ 14	(-0.56%)	\$9
Appraiser estimate impact	(-1.46%)	\$308	(-1.25%)	\$32	(-0.83%)	\$13
Scenario Two (non-radiation accident)						
Lender estimate impact	(-1.64%)	\$346	(-1.00%)	\$26	(-1.00%)	\$15
Appraiser estimate impact	(-4.00%)	\$843	(-3.04%)	\$78	(-2.08%)	\$32
Scenario Three (radiation accident)						
Lender estimate impact	(-20.0%)	\$4,215	(-16.67%)	\$426	(-10.0%)	\$154
Appraiser estimate impact	(-23.65%)	\$4,984	(-20.5%)	\$524	(-16.73%)	\$258

**Expert Impact Evaluations of Residential/Commercial/Industrial Property Value Diminution for
Three scenarios by Lenders and Appraisers for One-Mile and One-to-Three Mile Distances from
the Beltway**

Residential/Commercial/Industrial market value (appraised) within One Mile (millions \$)	Residential		Commercial		Industrial	
	Impact	Value	Impact	Value	Impact	Value
Scenario One (no accident)						
Lender estimate impact	(-2.0%)	\$113	(-0.56%)	\$0.4	(-0.56%)	\$1
Appraiser estimate impact	(-3.50%)	\$197	(-3.21%)	\$3	(-1.25%)	\$2
Scenario Two (non-radiation accident)						
Lender estimate impact	(-6.18)	\$348	(-4.00%)	\$3	(-4.00%)	\$7
Appraiser estimate impact	(-7.96%)	\$448	(-7.39)	\$6	(-5.29%)	\$9
Scenario Three (radiation accident)						
Lender estimate impact	(-29.0%)	\$1,632	(-22.00%)	\$18	(-21.25%)	\$38
Appraiser estimate impact	(-33.79%)	\$1,901	(-31.88%)	\$25	(-25.54%)	\$45
Residential/Commercial/Industrial market value (appraised) One-to-Three Miles (millions \$)						
	Residential		Commercial		Industrial	
Scenario One (no accident)						
Lender estimate impact	(-0.5%)	\$91	(-0.56%)	\$5	(-0.56%)	\$5
Appraiser estimate impact	(-1.46%)	\$266	(-1.25%)	\$12	(-0.83%)	\$7
Scenario Two (non-radiation accident)						
Lender estimate impact	(-1.64%)	\$298	(-1.00%)	\$9	(-1.00%)	\$9
Appraiser estimate impact	(-4.00%)	\$728	(-3.04%)	\$28	(-2.08%)	\$18
Scenario Three (radiation accident)						
Lender estimate impact	(-20.0%)	\$3,638	(-16.67%)	\$154	(-10.0%)	\$88
Appraiser estimate impact	(-23.65%)	\$4,302	(-20.5%)	\$189	(-16.73%)	\$147

**Table: Washoe County
Expert Impact Evaluations of Residential/Commercial/Industrial
Property Value Diminution for Three Scenarios by Lenders and
Appraisers for One-Mile and One to Three-Mile Distances from
Transportation Route (in millions \$)**

Residential/Commercial/Industrial market value (appraised) within One Mile (millions \$)	Residential \$2540	Commercial \$294	Industrial \$864
Scenario One (no accident)	Residential	Commercial	Industrial
Lender estimate impact	(-2.0%) \$50.8	(-0.56%) \$1.6	(-0.56%) \$4.8
Appraiser estimate impact	(-3.50%) \$88.9	(-3.21%) \$9.4	(-1.25%) \$10.8
Scenario Two (non-radiation accident)	Residential	Commercial	Industrial
Lender estimate impact	(-6.18) \$157.0	(-4.00%) \$11.8	(-4.00%) \$34.6
Appraiser estimate impact	(-7.96%) \$202.2	(-7.39) \$21.7	(-5.29%) \$45.7
Scenario Three (radiation accident)	Residential	Commercial	Industrial
Lender estimate impact	(-29.0%) \$736.6	(-22.00%) \$64.7	(-21.25%) \$183.6
Appraiser estimate impact	(-33.79%) \$858.3	(-31.88%) \$93.7	(-25.54%) \$220.7
Residential/Commercial/Industrial market value (appraised) One to Three Miles (millions \$)	Residential \$4,132	Commercial \$165	Industrial \$261
Scenario One (no accident)	Residential	Commercial	Industrial
Lender estimate impact	(-0.5%) \$20.7	(-0.56%) \$0.9	(-0.56%) \$1.5
Appraiser estimate impact	(-1.46%) \$60.3	(-1.25%) \$2.1	(-0.83%) \$2.2
Scenario Two (non-radiation accident)	Residential	Commercial	Industrial
Lender estimate impact	(-1.64%) \$67.8	(-1.00%) \$1.7	(-1.00%) \$2.6
Appraiser estimate impact	(-4.00%) \$165.3	(-3.04%) \$5.0	(-2.08%) \$5.4
Scenario Three (radiation accident)	Residential	Commercial	Industrial
Lender estimate impact	(-20.0%) \$826.4	(-16.67%) \$27.5	(-10.0%) \$26.1
Appraiser estimate impact	(-23.65%) \$977.2	(-20.5%) \$33.8	(-16.73%) \$43.7

**Table : Washoe County Summary
Total One-mile Plus One-Three-Mile Property Impacts (In millions \$)**

	Scenario 1		Scenario 2		Scenario 3	
	Lenders	Appraisers	Lenders	Appraisers	Lenders	Appraisers
Residential	\$71.5	\$149.2	\$224.8	\$367.5	\$1,563.0	\$1,835.5
Commercial	\$2.5	\$11.5	\$13.5	\$26.7	\$92.2	\$127.5
Industrial	\$6.3	\$13.0	\$37.2	\$51.1	\$209.7	\$264.4
Range of Impacts by Scenario	\$80.3 to \$173.7		\$275.5 to \$445.3		\$1,864.9 to \$2,227.4	

(Lenders & Appraiser diminution factors applied)

**Elko Property Values (in thousand \$) for Residential, Commercial, and Industrial Real Estate
within One-Mile and One-toThree Miles of the Highway**

	Scenario 1		Scenario 2		Scenario 3	
	Lenders	Appraisers	Lenders	Appraisers	Lenders	Appraisers
Residential	\$6,402	\$11,490	\$19,827	\$24,715	\$98,965	\$115,478
Commercial	\$55	\$303	\$374	\$698	\$2,120	\$3,052
Industrial	\$252	\$521	\$1,501	\$2,062	\$8,446	\$10,624
Range of Impacts by Scenario (millions \$)	\$6,709	\$12,314	\$21,702	\$27,475	\$109,531	\$129,154

Summary Elko Backup Data

	Residential		Commercial		Industrial	
Scenario One (no accident)						
Lender estimate impact	(-2.0%)	\$6,161	(-0.56%)	\$52	(-0.56%)	\$196
Lender estimate impact	(-0.5%)	\$241	(-0.56%)	\$3	(-0.56%)	\$56
		\$6,402		\$55		\$252
Scenario One (no accident)						
Appraiser estimate impact	(-3.50%)	\$10,782	(-3.21%)	\$296	(-1.25%)	\$438
Appraiser estimate impact	(-1.46%)	\$708	(-1.25%)	\$7	(-0.83%)	\$83
		\$11,490		\$303		\$521
Scenario Two (non-radiation accident)						
Lender estimate impact	(-6.18)	\$19,038	(-4.00%)	\$369	(-4.00%)	\$1,401
Lender estimate impact	(-1.64%)	\$789	(-1.00%)	\$5	(-1.00%)	\$100
		\$19,827		\$374		\$1,501
Scenario Two (non-radiation accident)						
Appraiser estimate impact	(-7.96%)	\$24,522	(-7.39)	\$681	(-5.29%)	\$1,853
Appraiser estimate impact	(-4.00%)	\$193	(-3.04%)	\$17	(-2.08%)	\$209
		\$24,715		\$698		\$2,062
Scenario Three (radiation accident)						
Lender estimate impact	(-29.0%)	\$89,338	(-22.00%)	\$2,029	(-21.25%)	\$7,443
Lender estimate impact	(-20.0%)	\$9,627	(-16.67%)	\$91	(-10.0%)	\$1,003
		\$98,965		\$2,120		\$8,446
Scenario Three (radiation accident)						
Appraiser estimate impact	(-33.79%)	\$104,094	(-31.88%)	\$2,940	(-25.54%)	\$8,946
Appraiser estimate impact	(-23.65%)	\$11,384	(-20.5%)	\$112	(-16.73%)	\$1,678
		\$115,478		\$3,052		\$10,624

