



DOE 2007b

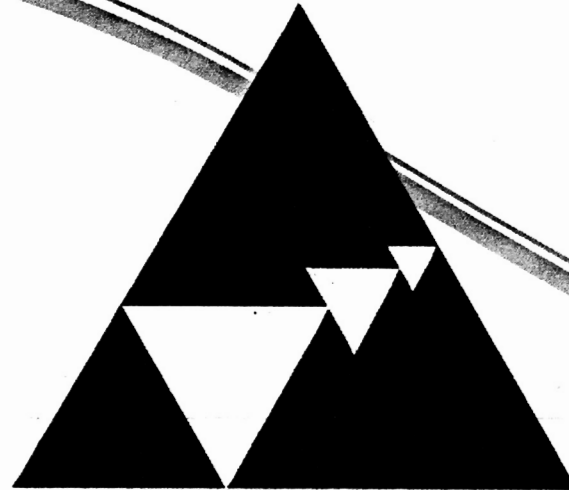


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Chapters 5 - 15 and
Appendices A - G



COMPLEX transformation

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6.3.2.3 Transportation

With respect to cumulative impacts of transportation, impacts of transporting SNF and HLW from the commercial and DOE sites to the Yucca Mountain site could be additive to the transportation impacts associated with Complex Transformation activities. For DOE’s preferred transportation mode (mostly rail), Table 6.3.2-1 depicts these transportation impacts.

For Complex Transformation, as shown in Section 5.10, the maximum transportation impacts would result in less than one fatality from both radiological impacts and non-radiological impacts. As such, the cumulative transportation impacts would be essentially the same as the results presented in Table 6.3.2-1.

Table 6.3.2-1 — Yucca Mountain Transportation Impacts (for 50 year shipping period)

Impact	Mostly legal-weight truck scenario	Mostly rail scenario
Incident-free latent cancer fatalities		
Involved worker	0.53	2.8
Public ^a	0.21	0.48
Latent cancer fatalities from accidents		
Public	0.000041	.0025
Traffic Fatalities ^b	0.59	2.2

Handwritten notes: 2.8 is circled with an arrow pointing to 4667 P-rem; 0.48 is circled with an arrow pointing to 800 P-rem.

^a These latent cancer fatalities would result from very low doses to a very large population.
^b Does not include 44-46 fatalities that could occur from repository workers commuting and transporting construction material to the repository.
 Source: DOE 2007a.

Complex Transformation alternatives would contribute approximately 4.1 worker fatalities from construction of a CNPC, less than 1 traffic fatality from CNPC construction and operation, approximately 9.3 LCFs to Complex Transformation workers over 40-years of operations, and essentially no LCFs to the public from Complex Transformation operations, including transportation of radiological materials.

6.3.3 Cumulative Impacts at Pantex

Cumulative impacts at Pantex could result from Complex Transformation activities and the plutonium disposition activities. The maximum cumulative impacts would be associated with transportation of plutonium from Pantex to SRS. Under the plutonium disposition program, up to 34 tons of surplus plutonium would be transported from Pantex to SRS for conversion to MOX fuel. Under the Complex Transformation CNPC alternative, up to 60 metric tons of plutonium could be shipped from Pantex to SRS. Based on the analysis in Section 5.10, the impacts of transporting up to 60 metric tons of plutonium from Pantex to SRS would be as shown in Table 6.3.3-1.

Table 6.3.3-1 — Radiological Transportation Impacts Associated with the Transportation of Pits from Pantex to the CNPC Site

CNPC Site	Transportation Segment	Estimated Health Impacts (LCFs)		
		Accident	Incident-Free	Total
SRS	Pits	3.46×10 ⁻⁹	0.0584	0.0584

Source: Dimsha 2007.