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October 21, 2003

BY HAND DELIVERY

Mark Langer, Clerk of the Court
United States Court of Appeals for the
District of Columbia Circuit
E. Barrett Prettyman U.S. Courthouse
333 Constitution Avenue, N.W.
Washington, D.C. 20001-2866

Re: *Nevada v. Department of Energy*, Case Nos. 01-1516, 02-1036, 02-1077, 02-1179, 02-1196 (consolidated under lead Case No. 01-1258)

Dear Mr. Langer,

In the course of reviewing the final briefs filed by the Petitioners in the above-referenced matter, Petitioners recently discovered a small number of minor errors in the citations in Petitioners' Final Opening Brief to the Joint Appendix. Petitioners have therefore prepared, and respectfully submit, the attached errata sheet correcting these errors.

Petitioners have also discovered that the page submitted as Page 441 of the Joint Appendix is not the correct version of the page to which Petitioners intended to cite at Page 78, footnote 28, line 9 of Petitioners' Final Opening Brief. Rather, Petitioners intended to cite to a different version of the identical document (containing different marginalia, which are quoted in the brief). The correct version of the document is in the administrative record but not reproduced in the Joint Appendix. Petitioners therefore attach the correct pages, as new Pages 2094-2097 of the Joint Appendix.

Please feel free to contact me should you have any questions.

Sincerely,

Vincent J. Colatriano

Vincent J. Colatriano

Enclosures

cc (w/enclosures, by facsimile and mail):

Joseph R. Egan, Esq.
Ronald M. Spritzer, Esq. and John A. Bryson, Esq.
Michael A. Bauser, Esq.
James Bradford Ramsay, Esq.
John F. Cordes, Esq. and Steven F. Crockett, Esq.
Jean V. MacHarg, Esq.
Geoffrey Fettus, Esq.

Nevada v. Department of Energy, No. 01-1516, *et al.*

Petitioners' Final Opening Brief – Errata

Page of Brief	Line	Correction
8	2	Change "JA-814" to "JA-821"
10	16	Change "JA-14" to "JA-22"
10	18	Change "JA-14-15" to "JA-16"
76	16-17	Change "JA-160;" to "JA-1602;"
78	footnote 28, line 9	Change "JA-441" to "JA-2096"
79	12-13	Change "JA-359" to "JA-365"
89	12-14	Remove quotation marks; change "JA-853, 896" to "JA-1439, 1448"
95	20	Change "JA-430" to "JA-246, 249"

QA: N/A

MOL.19990426.0042

Civilian Radioactive Waste Management System
Management & Operating Contractor

Environmental Impact Statement
Cost Summary Report

B00000000-01717-5700-00029 REV 00C

January 1999

Prepared for:

U.S. Department of Energy
Yucca Mountain Site Characterization Office
P.O. Box 30307
North Las Vegas, NV 89036-0307

Prepared by:

TRW Environmental Safety Systems, Inc.
1261 Town Center Drive
Las Vegas, NV 89134-6352

Under Contract Number
DE-AC08-91RW00134

3. MAJOR ASSUMPTIONS

The cost estimates for the DEIS are based on a set of assumptions about the project from the VA reference case as modified to accommodate specific differences affecting design as noted in the respective engineering files. The following, however, present some of the major assumptions for the overall repository and this analysis.

- Cost estimates for the DEIS cases are developed primarily based on previous project VA and TSLCC estimate data and are presented in constant 1999 dollars. An escalation factor of 3 percent was used to convert 1998 dollars to 1999 dollars.
  what is the basis of the 3%? Cite source.
- ~~Rough order of magnitude total costs are only necessary for use in evaluation of each DEIS case. For DEIS purposes~~ estimates are factored from the VA reference case ~~and~~ cost estimates for ~~increase~~ capacities ~~of the repository beyond the~~ greater than the base case quantity.
  ~~If the DEIS cost estimates are factored from the VA case~~
  Statement unnecessary
- The waste allocation ~~for~~ amounts as represented in the VA ~~is considered the base~~ or reference case ~~and has been determined as a HTL Case~~ are made up of the following: 63,000 MTHM CSNF; 640 MTHM equivalent commercial HLW; 4,027 MTHM equivalent defense HLW; and 2,333 MTHM DOE SNF including US naval SNF.
  HTL case? Applies to VA reference case or waste allocation?
- Current law and Nuclear Regulatory Commission (NRC) regulations limiting emplacement for a repository at Yucca Mountain to 70,000 metric tons of uranium (MTU), or its equivalent, will be relaxed to accommodate additional inventories as contemplated by the DEIS. This would require an amendment to the NWPA.
  How do we know this? Is there a publication/document that discusses this?
- Beyond the base case of 70,000 MTHM (i.e., an HTL case), incremental variations affecting AML, number of waste packages, increases in MTHM inventories, etc. are assumed.
  Is the assumption that the quantities assumed or that there will be variations used in the development of the
- Waste package quantities are ~~assumed~~ based on ~~using~~ the ~~same~~ logistics model ~~which supports~~ VA and TSLCC cost estimates. Module 2 package estimates are factored upward from Module 1 cases due to assumed additional waste packages for GTCC waste requirements.
- Three alternative AML categories are considered for the DEIS: HTL, ITL, LTL. For each AML case, two variations in CSNF quantities are considered (i.e., 63,000 and approximately 105,000 MTHM).
- The DEIS forecast for ~~an~~ approximately 105,000 MTHM for CSNF assumes that all licensed and operating reactors receive full extensions and continue to be operational throughout their full operating license, ~~as well as~~ and no new additional reactors receive operating licenses from the NRC.
  not
- Years to operate the surface facilities, subsurface emplacement operations and supporting functions will vary depending upon loading cases; however, the base case assumes emplacement from 2010 to 2033 (or 24 years). For amounts at 105,000 MTHM, an extra 10 years of reactor life extensions over the base case required additional facility operational costs.
  The emplacement period remains @ 24 years even with the increased quantity of 105,000 MTHM? Or does the extra 10 years mean that the emplacement period is 34 years?

∴ emplacement period = 34 years?

- Receipt rates for an additional 10 years operational period are a
- The repository will be designed to ensure that it can be functic 100 years after initial waste emplacement. For DEIS cases, as i will be closed and decommissioned by 2116.
- There is no significant additional site characterization or colle support potential repository expansion areas.
- The pre-construction site and test facilities will become part They will be upgraded as required.
- Substantially complete construction of repository facilities v receipt and possession of SNF and HLW for Surface facilities also run concurrent with emplacement operations.
- All SNF and HLW will be shipped directly to the repository.
- DOE will own and control land, water rights and subsurface rights. DOE will formally dedicate the land for repository construction.
- Costs associated with or supporting DOE program level activities, including national and Nevada transportation, program integration, etc. are not part of this analysis.
- Requirements of the Nuclear Waste Act, as amended for expenditures relating to Payment Equal To Taxes, Financial and Technical Assistance and other benefits as defined by the NWPA will continue; however, these costs are not part of this analysis.
- Current cost-sharing and support arrangements with the Nevada Test Site will continue.
- Cost impacts resulting from possible schedule delays or other actions beyond the control of Yucca Mountain Project (YMP) will not be included.
- Repository design, construction, emplacement of waste, monitoring, as well as closure and decommissioning activities, will be conducted under a quality assurance program as described in the current *Quality Assurance Requirements and Description* (QARD) (DOE 1998).
- For the purposes of comparison of options within the EIS, the waste package arrangement within the drifts will be kept constant and the drift spacings will be adjusted to attain the intermediate and low AML values.
- Defense HLW (DHLW) waste packages are placed between CSNF packages. The equivalent MTU content of DHLW has not been considered in waste package spacing calculations.

More detailed assumptions can be found within the DEIS engineering files.

4. ESTIMATING METHODOLOGIES

The DEIS costs estimates are rough order of magnitude estimates and follow generally accepted industry and DOE cost estimating guidelines. Estimating methodologies that supported this cost summary primarily included:

- **Parametric:** A cost estimating technique requiring historical databases on similar systems or subsystems. Statistical analysis is performed on the data to find correlation between cost drivers and other system parameters, such as design or performance parameters (e.g., dollars per installed kilowatt, or length of commodity). The analysis produces cost equations or cost estimating relationships that can be used individually or grouped into more complex models.

- **Sampling:** A technique to perform check estimates whereby only certain work items are evaluated. For example, it may be found that the estimated items costing $100 million or more account for 80 percent of the overall estimated cost in a specific cost element. The sampling technique might consist of evaluating only those items costing $100 million or more even though only a relatively small fraction of the overall work items in the estimate are evaluated.

It should be noted that this summary report is primarily based on and supported by project cost estimates developed under the *Viability Assessment of a Repository at Yucca Mountain* (DOE 1998a) and *Analysis of the Total System Life Cycle Cost of the Civilian Radioactive Waste Management Program* (DOE 1998b). As a result, some of the methods used in those estimates, e.g., bottoms-up, are incorporated by reference.