

ESF OPEN ITEM CLOSURE LETTER

SEP 0 6 1989

Mr. Ralph Stein, Associate Director
for Systems Integration & Regulations
Office of Civilian Radioactive Waste
Management
U. S. Department of Energy RW 30
Washington, D. C. 20545

Dear Mr. Stein:

I am responding to your letter of May 1, 1989 in which you propose that 43 of the 56 exploratory shaft facility (ESF) open items identified in the October 1988 NRC-DOE ESF meeting be closed based upon information provided in the Site Characterization Plan (SCP) for the Yucca Mountain, Nevada site. Having completed its review of the SCP, as well as the contents of your May 1 letter, the NRC staff considers 23 of the 56 open items closed, as shown in tabular form in Enclosure 1.

For those ESF open items now considered closed by NRC, Enclosure 1 indicates where the NRC evaluation which led to that conclusion may be found (NRC staff's Site Characterization Analysis (SCA), Appendix A for ESF open items which correspond to NRC Consultation Draft Site Characterization Plan (CDSCP) point papers; Enclosure 2 to this letter for other open items). For those ESF open items still considered open by NRC, Enclosure 1 indicates where the NRC evaluation which led to that conclusion may be found (SCA, point papers in Section 4 for NRC CDSCP open items; Enclosure 3 to this letter for other open items).

The NRC staff has attempted in the SCA and in this letter to provide clear explanations of its ESF-related concerns and useful recommendations on how those concerns might be addressed. As we stated in our letter of July 31, 1989 transmitting the SCA to DOE, we stand ready to meet with DOE as necessary to ensure that DOE fully understands our concerns and to reach mutually agreeable approaches for resolving them. We are concerned that NRC and DOE have such different perceptions regarding which open items should be considered closed. This matter needs to be included as a topic for discussion at one of the ESF technical exchanges scheduled for this year.

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If you have any questions regarding this letter or its enclosures, please contact King Stablein (FTS 492-0446) of my staff.

Sincerely,

ORIGINAL SIGNED BY

John J. Linehan, Director
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management

Enclosures: As stated

- cc: R. Loux, State of Nevada
- M. Baughman, Lincoln County, NV
- S. Bradhurst, Nye County, NV
- D. Bechtel, Clark County, NV
- C. Gertz, DOE/Nevada

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DATE: 08/05/89	:08/05/89	:08/06/89	:08/06/89	:08/09/89	:

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ENCLOSURE 1

STATUS OF 56 ESF OPEN ITEMS IDENTIFIED
IN OCTOBER 1988 NRC/DOE MEETING

<u>ITEM NO.</u>	<u>CLOSED</u>	<u>OPEN</u>
	CLOSED PER CDSCP POINT PAPER NO. IN SCA APPENDIX A OR ENCLOSURE TO THIS LETTER	OPEN PER SCA POINT PAPER NO. IN SCA SECTION 4 OR ENCLOSURE TO THIS LETTER
1		OBJECTION 1; ENCLOSURE 3
2		ENCLOSURE 3
3		OBJECTION 1; COMMENT 128; COMMENT 130; ENCLOSURE 3
4		OBJECTION 1; ENCLOSURE 3
5		ENCLOSURE 3
6		OBJECTION 1
7	OBJECTION 4	
8		COMMENT 35; COMMENT 132
9		COMMENT 35
10	COMMENT 27	
11	COMMENT 55	
12	COMMENT 59	
13	COMMENT 68	
14	COMMENT 56	
15	COMMENT 63	
16	COMMENT 99	
17	COMMENT 101	
18		COMMENT 70; COMMENT 72; COMMENT 124; COMMENT 127; QUESTION 28
19		ENCLOSURE 3
20		COMMENT 74
21		COMMENT 74
22		ENCLOSURE 3
23		ENCLOSURE 3
24		QUESTION 24
25	ENCLOSURE 2	
26		COMMENT 72
27	COMMENT 67	
28		COMMENT 73
29		QUESTION 26
30	ENCLOSURE 2	
31		COMMENT 132
32		OBJECTION 1
33	COMMENT 102	
34	QUESTION 14	
35		COMMENT 74
36	COMMENT 10	
37	COMMENT 29	
38	QUESTION 34	
39	QUESTION 38	

ENCLOSURE 1 (CONTD.)

STATUS OF 56 ESF OPEN ITEMS IDENTIFIED
IN OCTOBER 1988 NRC/DOE MEETING

<u>ITEM NO.</u>	<u>CLOSED</u>	<u>OPEN</u>
	CLOSED PER CDSCP POINT PAPER NO. IN SCA APPENDIX A OR ENCLOSURE TO THIS LETTER	OPEN PER SCA POINT PAPER NO. IN SCA SECTION 4 OR ENCLOSURE TO THIS LETTER
40		COMMENT 4
41		COMMENT 4
42		COMMENT 55
43	COMMENT 46	
44	COMMENT 47	
45	COMMENT 48	
46		COMMENT 4
47		COMMENT 41
48		COMMENT 119
49	QUESTION 17	
50	COMMENT 97	
51		ENCLOSURE 3
52		ENCLOSURE 3
53		ENCLOSURE 3
54		ENCLOSURE 3
55		ENCLOSURE 3
56		ENCLOSURE 3

ENCLOSURE 2

ESF OPEN ITEMS CONSIDERED CLOSED AS A RESULT OF DOCUMENTS REFERENCED FOR CLOSURE IN DOE'S LETTER DATED MAY 1, 1989

OPEN ITEM NO. 25: Identify liner construction and placement technique. Include such information as: liner type, liner material testing and placement of liner. This information needs to be fully considered in application of any permanent sealing program.

NRC STAFF EVALUATION: In response to this open item, the DOE has referenced the information provided in SAND85-0598 and in various sections of the SCP. The staff has reviewed this information and based on this review considers that DOE has adequately responded to this open item in the referenced documents. The staff consider that this item is closed.

ITEM NO. 30: Describe test plans and procedures used to obtain adequate data on site characteristics that can be measured either directly or indirectly during construction of the exploratory shaft. For example: Geologic mapping and rock mass characterization of the shaft walls, measurements of rates and quantities of groundwater inflow and collection of groundwater samples for testing, measurements of overbreakage during blasting, and rock mechanics testing of samples obtained during drill and blast operations.

NRC STAFF EVALUATION: In response to this open item, the DOE has referenced the information provided in study plans and in various sections of the SCP. The staff has reviewed this information and based on this review considers that DOE has adequately responded to this open item in the referenced documents. The staff consider that this item is closed. It should be noted, however, that NRC staff may have questions on the adequacy of the test plans and procedures as a result of review of DOE study plans.

ENCLOSURE 3

NON-CDSCP ESF OPEN ITEMS NOT FULLY ADDRESSED BY THE DOE IN THE SCP OR IN ITS LETTER DATED MAY 1, 1989 TO THE NRC AND THEREFORE CONSIDERED TO REMAIN OPEN

ITEM NO. 1: DOE should demonstrate that it has in place and is implementing an overall systematic design and approval process for the ESF that (i) considers 10 CFR 60 requirements including those for QA, (ii) recognizes uncertainties associated with site characterization activities, (iii) recognizes the need for feedback and interaction among participants responsible for design, scientific tests, performance assessment, construction and operation, and (iv) considers operational impacts on tests and space requirements to avoid test interferences.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has been only partially addressed by the SCP. The NRC staff has also identified concerns in Objection 1 of the SCA. The staff will review the complete response to the open item when it is made available.

ITEM NO. 2: DOE should provide the basis for assignment of quality levels to ESF design, construction, data collection during construction, the liner, rock structure, and the dewatering system. Also, provide a schedule for completion of ESF construction and testing QA procedures. (Note: Q-list for the ESF is QA open item 9 as identified in the meeting summary for the 7/7/88 DOE-NRC meeting on QA open items. This open item and QA open item 9 each need to be addressed individually.)

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has been only partially addressed by the SCP. The staff will review the complete response to the open item when it is made available.

ITEM NO. 3: DOE should demonstrate that the ESF design control process has provided for systematic review and consideration of 10 CFR 60 requirements in the development of the ESF design and for verification that those requirements have in fact been incorporated into the design.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff has also identified concerns in Objection 1, Comment 128, and Comment 130 of the SCA. The staff will review the response to the open item when it is made available.

ITEM NO. 4: DOE should identify the specific entity responsible for ensuring that 10 CFR 60 requirements are reviewed and considered in the development of the ESF design and then for verifying that those requirements have in fact been incorporated into the design.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff has also identified concerns in Objection 1 of the SCA. The staff will review the response to the open item when it is made available.

ITEM NO. 5: DOE should describe its design control process to assure that items and activities potentially important to safety or waste isolation for the design and construction of the exploratory shaft facility are identified as Quality Level I. The description should include both criteria and methods to be used. It should also address plans for determining what previous data and analyses are needed to support Quality Level I items or activities and how DOE plans to validate these.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff will review the response to the open item when it is made available.

ITEM NO. 19: Provide design specifications for the shaft construction and show how they deal with the factors affecting sealing.

EVALUATION OF DOE RESPONSE: In response to this concern, the DOE has referenced the Title I drawings and specifications package and several sections of the SCP. The staff evaluation of these documents shows that these referenced materials do not sufficiently address the NRC staff concern of this open item. The ESF Title I specifications and drawings and other referenced SCP sections do not show how the ESF design and construction specifications deal with the factors affecting sealing.

ITEM NO. 22: Describe remedial methods to be used if sealing methods are not adequate.

EVALUATION OF DOE RESPONSE: In response to this open item, the DOE has referenced section 8.3.3.1 of the SCP for closure of this open item. The NRC staff cannot locate the response to this open item in the referenced section of the SCP.

ITEM NO. 23: Describe test and inspection procedures to be used after sealing of the shaft to assess the results of the sealing effort in controlling adverse effects.

EVALUATION OF DOE RESPONSE: In response to this open item, the DOE has referenced section 8.3.1.2.2.3 of the SCP for closure of this open item. The NRC staff cannot locate the response to this open item in the referenced section of the SCP.

ITEM NO. 51: Identify the acceptance criteria for construction of the exploratory shaft.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff will review the response to the open item when it is made available.

ITEM NO. 52: The design specifications and acceptance criteria for the shaft construction including construction controls, test blasting, and overbreak control will be provided to NRC when available.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff will review the response to the open item when it is made available.

ITEM NO. 53: Describe test and inspection procedures to be used during excavation (e.g., plumbness of hole, rock mass disturbance etc.) to determine acceptability of the shaft as constructed.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff will review the response to the open item when it is made available.

ITEM NO. 54: Describe test and inspection procedures to be used during shaft liner construction.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff will review the response to the open item when it is made available.

ITEM NO. 55: Describe plans to document the above construction activities.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has been only partially addressed by the SCP. The staff will review the complete response to the open item when it is made available.

ITEM NO. 56: The DOE will provide the technical analysis supporting the proposed size of the exploratory drifts by June 1, 1987.

EVALUATION OF DOE RESPONSE: DOE letter indicated this open item has not been addressed by the SCP. The staff will review the response to the open item when it is made available.