

NMA 9111080007

TECHNICAL AND MANAGEMENT SUPPORT SERVICES
FOR THE
YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

PEER REVIEW PLAN

FOR

EARLY SITE SUSTAINABILITY EVALUATION

REVISION 2

OCTOBER 1991

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PDR WASTE
102.8 PDR

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ENVIRONMENTAL PROTECTION AGENCY
HEALTH, SAFETY, AND ENVIRONMENTAL DIVISION

1. PURPOSE

The Early Site Suitability Evaluation (ESS) is being conducted in accordance with the Office of General Services (OGS) Policy "Policy 100" for Development and Implementation of a "Method for Early Evaluation of Site Suitability" and the Technical and Management Support for the TAMS Plan, "Implementation Plan for Developing and Implementing a Method for Early Evaluation of Site Suitability." This plan will be a component of the evaluation report, which reports form the ESS will be.

Per TAMS Standard Planning Procedure No. 100, 1001, 1002, the ESS Site Manager assigned direction to conduct a peer review of the ESS Report, "Report of Early Site Suitability Evaluation of the Potential Repository Site at Yucca Mountain, Nevada" from the organization's Quality Control Manager and concurrence from the TAMS Project Manager and the Technical Director (Appendix A). This plan describes the peer review that is to be conducted.

2.0 WORK TO BE REVIEWED

In the Environmental Assessment EA 1016, 1994, the EIS established that available site information supported a decision to characterize Yucca Mountain as a potential repository site. The basis for that decision included findings, as required by 10 CFR Part 960 General Siteing Guidelines, that no disqualifying conditions were present and that all qualifying conditions were present. Although limited surface-disturbing site characterization has just restarted, continued field monitoring, laboratory studies, design studies, data evaluation, and performance assessments, during the past five years have expanded the information basis for the site. Non-DOE efforts have also contributed to this information basis, including studies supported by the State of Nevada, the U.S. Nuclear Regulatory Commission, and the Electric Power Research Institute.

The ESS Report will provide a description of a general method for applying 10 CFR Part 960 to early and iterative evaluations of site suitability. The remainder of the Integrated Evaluation Package will be an assessment of the current status of suitability of the Yucca Mountain site. The status assessment will be presented within the structure of the system and technical guidelines of 10 CFR Part 960 (see Table 1). The general section, together with conclusions as to the status of site suitability evaluations for each guideline, will be the subject of the review described in this plan.

Table 1 Early Site Suitability Evaluation (ESSE) Peer Review Panel Assignment Matrix

GENERAL SITING GUIDELINES 10 CFR PART 960	EXPERTISE												
	SUB-PANEL 1 ^a							SUB-PANEL 2 ^b					
	Hydrology Kreamer	Climate Webb	Geochemistry Drever	Economic Geology Einaudi	Petroleum Geology French	Engineering Geology-Rock Characteristics Perroneau	Tectonophysics Cambray/Mogdes	Seismic Hazard Arabasz	Volcanology Vogel	Health Physics Bell	Radiation Safety bell	Socioeconomics Albright	Environmental Quality Carethen
GENERAL SITE													
Water System Reviews	●	○	○	○	○	○	○	○					
- Compliance	●	○											
- Security													
- Risk Characterization	○	●	○	○		●							
- Climate Change													
- Emission													
- Assessment				○		○							
- Technical							●	●	●				
- Material Interference (Mineral Resources)			○	●	●								
GENERAL SITE													
- Use & Cost of Land, Construction, Operation, Closure	○		○			○	○						
- Surface Characteristics						●							
- Back Characteristics			○										
- Hydrology	○												
- Technical							○	●					
GENERAL SITE													
- Specific Issues									●	●			
- Population Density & Distribution											○		
- Policy Workshop & Control												○	
- Meteorology		○							○	○		○	
- Culture, Institutions & Operations									○	○			
GENERAL SITE													
- Environmental											○	○	○
- Socioeconomic											○	○	○
- Transportation												○	○
- Environmental Quality											●	○	○
- Socioeconomic Impacts											●	○	○
- Transportation													●

TABLE 1-1

ESSE peer review panel assignments and expertise are to provide input on panel health and safety at acceptable costs.

^a Sub-panel 1 includes expertise in geology, geophysics, and tectonics. ^b Sub-panel 2 includes expertise in hydrology, meteorology, and transportation related impacts.

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 and the President John F. Kennedy Library Act of 1964

<u>NAME</u>	<u>ORGANIZATION</u>	<u>SPECIALTY</u>
James A. Armstrong	Michigan State University	Environmental Geology
William J. Aronson	University of Utah	Seismic Hazard
James B. Burt	University of Nevada, Las Vegas	Geophysics
William C. Campbell	Michigan State University	Tectonics
Robert C. Carey	SAIC, Inc.	Environmental Quality
James E. Clendenen	University of Wyoming	Geochronology
Robert F. Condit	Stanford University	Economic Geology
John D. French	Independent petroleum geologist	Petroleum Geology
John W. Hodge	MSC	Tectonics
Robert H. Jones	Hazardous Materials Systems, Inc.	Transportation
David K. Kremer	University of Nevada, Las Vegas	Hydrology
William C. Laxton	University of Utah	Engineering Geology
Thomas J. Vogel	Michigan State University	Volcanology
Thomas W. Webb III	Brown University	Climatology

1991

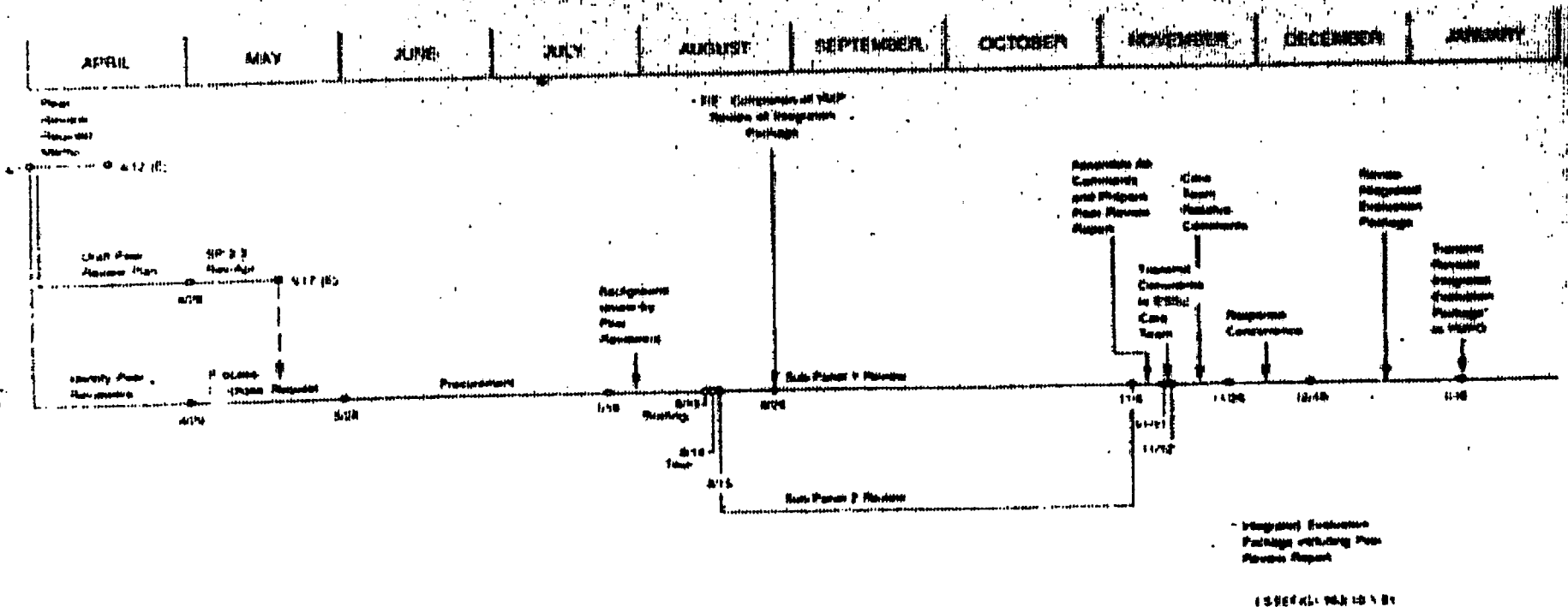


Figure 1 Early Site Sustainability Evaluation (ESSSE) Peer Review Schedule

... The peer review...
... in the form of the...
... may be either...
... of the...

... is... of the...
... associated...
... will...
... and...
... of the...
... will...
... and...

... responsibility...
... will...
... will...
... will...
... will...
... will...
... will...
... will...

... After completion...
... will...
... will...
... will...
... will...
... will...
... will...
... will...
... will...
... will...

... The final...
... will...
... will...
... will...

... REFERENCES

... At the...
... will...
... will...

...with the Peer Review Panel, which will include a briefing of reviewers and their technical qualifications and independence. The Peer Review Panel will submit a written meeting minutes request for peer review (see Appendix A); and all other pertinent and appropriate documentation (per WWSO-1297).

7.1 COST ESTIMATES FOR PEER REVIEW

As described in sections 4.0 and 5.0, it is anticipated that at least 12 experts will be needed to cover the areas necessary for a comprehensive peer review of the 10 CFR Part 961 guideline evaluation package. It is assumed that one 2 day briefing in July will be adequate to provide the necessary background information; a second 2 day session will be scheduled to initiate the formal peer review. Between August and November, it is estimated that between 160 and 240 man-hours will be required per peer reviewer, depending on the breadth and depth of the review topics assigned to each reviewer. The chairperson and the sub-panel coordinators (one of whom may also function as the chairperson) may need additional man-hours to complete their tasks because of additional time needed to coordinate and chair review tasks. It is also expected that at least one 2-3 day meeting will be necessary in November after the peer review report is completed to discuss resolutions and recommendations.

For purposes of this plan, the following assumptions will be made:

<u>Number of Experts</u>	<u>Man-hours</u>	<u>Task</u>	<u>Total</u>
14	56	planning & briefing	784
12	220	review	2640
2	240	review & sub-panel coordination	480
14	28	comment resolution	392
		TOTAL MAN-HOURS	3796

U.S. Department of Energy, 1984. "Final Environmental Assessment Report for the Nevada Test Site, Nevada Reservation and Surrounding Area, Nevada," DOE #W-1373, Washington, D.C.

WMSD-1100, 1984, "Superior Technical Panel Report on Final Review for High-Level Nuclear Waste Repository," U.S. Government Printing Office, Washington, D.C.

TXMIS 1-10, "Implementation of Final Site Characterization and Implementation a Method for Early Evaluation of Site Suitability," TXMIS (M-4) 1-10.

TXMIS 2-10, "Resource Management."

TXMIS 3-10, "Clearing."

10 CFR Part 960 Code of Federal Regulations, 1984, Title 10, "Energy," Part 960, "General Provisions for Recordation of Sites for Nuclear Waste Repository," U.S. Government Printing Office, Washington, D.C., pp. 960-961.

Nevada Mountain Site Characterization Project Early Evaluation Activity Plan for Development and Implementation of a Methodology for Early Evaluation of Site Suitability, WMSD 1-10, Jan 1984.

9 7 9 3 5 9 2 1 0

APPENDIX B

Yano, Yonker to Distribution, April 5, 1991: Request for Direction
to Conduct a Peer Review of the
Early Site Suitability (ESSS) Phase I Integrated Evaluation Package

9 0 7 6 5 7 2 2 1



Science Applications International Corporation

DOY:SPF:001:091-097
#BS: 1.0.0
JA: 1/A

INTEROFFICE MEMO

DATE: April 8, 1991

TO: Distribution

FROM: Jean L. Younker, ESSE Task Manager *file*

SUBJECT: Request for Direction to Conduct a Peer Review of the Early Site Sustainability Evaluation (ESSE) Phase I Integrated Evaluation Package

Per Technical and Management Support Services (T&MSS) Standard Practice Procedure (SP)-1.62, Peer Review, the ESSE Task Manager is to initiate a req for direction to conduct a peer review of the ESSE Phase I Integrated Evaluation Package.

ESSE is being conducted in accordance with the Office of Geologic Disposal plan, "Activity Plan for Development and Implementation of a Method for Early Evaluation of Site Suitability" and the T&MSS plan, "Implementation Plan for Developing and Implementing a Method for Early Evaluation of Site Suitability". Both of these plans call for a peer review of the integrated evaluation package which results from the ESSE effort.

SP-1.62 requires the following steps, after which a peer review plan can be prepared:

1. ESSE Task Manager (J. L. Younker) requests concurrence from the Project Management Assistant Project Manager (APM) (G. K. Beall) to conduct the review.
2. If the APM concurs, he notifies the Task Manager of his concurrence and requests direction from the T&MSS Project Manager and Technical Director to conduct the peer review.
3. If the T&MSS Project Manager and Technical Director concur, they provide noted direction to the APM and ESSE Task Manager to prepare the peer review plan for his approval.

To expedite the SP-1.02 process, this memo requests your signature as follows to signify the above approvals and concurrence:

Concurrence to conduct the noted peer review and request to the T&SS Project Manager to direct performance of the peer review.

G. K. Beall 4/10/01
G. K. Beall Date
Project Management APM

Approval to prepare a Peer Review Plan for the review of the ESSE Phase I Integrated Evaluation Package.

M. D. Voegale 4/10/01
M. D. Voegale Date
Technical Director

J. H. Nelson 4/10/01
J. H. Nelson Date
T&SS Project Manager

If you have questions concerning this memo, please contact either me at extension 4-7650 or Steve P. Fogdall at extension 4-7654.

Distribution:

G. K. Beall, SAIC, Las Vegas, NV, 517/T-17
J. H. Nelson, SAIC, Las Vegas, NV, 517/T-04
M. D. Voegale, SAIC, Las Vegas, NV, 517/T-04

cc:

S. P. Fogdall, SAIC, Las Vegas, NV, 517/T-39
C. S. Linden, SAIC, Las Vegas, NV, 517/T10

APPENDIX B

FORMS

- Figure B-1 Early Site Suitability Evaluation Comment Response Form
- Figure B-2 Early Site Suitability Evaluation Comment Response Form
Continuation Sheet
- Figure B-3 Early Site Suitability Evaluation Comment Resolution Record

**EARLY SITE SUITABILITY EVALUATION
COMMENT RESPONSE FORM**

(Instructions on back of form.)

Reviewer completes items 1-8:

- | | |
|---------------------------|------------------------------|
| 1. Comment _____ of _____ | 5. Revision Draft Date _____ |
| 2. Date _____ | 6. Section _____ |
| 3. Reviewer _____ | 7. Page _____ |
| 4. Organization _____ | 8. Paragraph _____ |

9. Comment

10. Proposed Resolution (To be completed by ESSE Core Team)

11. Resolution (To be completed by original Reviewer)

**INSTRUCTIONS FOR COMPLETING
EARLY SITE SUITABILITY EVALUATION
COMMENT RESPONSE FORM**

To be completed by Reviewer (either hand-written in black ink, typed, or word-processed and attached).

- 1 Provide one comment per each CRF and assign comment numbers consecutively. If more than one page is necessary for a comment, use the continuation sheet and number the continuation pages consecutively.
- 2 Provide the date the comment is initiated.
- 3 Print Reviewer's name.
- 4 Provide the name of Reviewer's organization.
- 5 Provide the appropriate draft date or revision number, if applicable. If not applicable, write NA.
- 6 Provide the number of the section being reviewed.
- 7 Provide the document page number to which the comment refers. If the comment refers to more than one page, write all appropriate page numbers. If the comment is a general comment, write NA in the space provided.
- 8 If appropriate, write the paragraph number(s) to which the comment refers (the first full paragraph on the page is number one).
- 9 Write the comment.

To be completed by ESSE Core Team Member.

- 10 Provide the proposed resolution to each comment in the space provided. If more than one sheet is necessary, use the CRF continuation sheet and number the pages consecutively.

To be completed by Reviewer.

- 11 Provide the resolution of the comment. For example, if the proposed resolution is acceptable, so state. If it is unacceptable, so state. If otherwise resolved, provide appropriate documentation.

**EARLY SITE SUITABILITY EVALUATION
COMMENT RESPONSE FORM
(CONTINUATION SHEET)**

(Instructions on back of form.)

1 Comment _____ of _____

3 Name _____
Print Name:

2 Page _____ of _____

4 Date _____

5 Comment or Proposed Resolution or Resolution. *Circle one.*

9 1 7 6 5 4 3 2 1

**INSTRUCTIONS FOR COMPLETING
EARLY SITE SUITABILITY EVALUATION
COMMENT RESPONSE FORM CONTINUATION SHEET**

To be completed by Reviewer or ESSE Core Team Member, as appropriate (either hand-written in black in typed, or word-processed and attached).

- 1 Provide the comment number as on the original CRF
- 2 Number pages of continuation sheet(s) consecutively beginning with number 2
- 3 Print Reviewer's name
- 4 Provide the date the continuation sheet is initiated
- 5 Continue the Comment or Proposed Resolution or Resolution

0 0 0 5 5 . 0 2 2 7

EARLY SITE SUITABILITY EVALUATION COMMENT RESOLUTION RECORD

Peer Reviewer's Statement

I have reviewed the ESSE Integrated Evaluation Package in accordance with ESSE Peer Review Plan. My conclusions with respect to the review criteria of the ESSE Peer Review Plan are:

Review Criteria	Adequate	
	Yes: See Comment(s): Nos	No: See Comment(s): Nos
<p>in my areas of expertise:</p>		
1. The content of the ESSE Integrated Evaluation Package provides an unbiased and objective presentation of information relevant to the suitability issues covered by each guideline.	_____	_____
2. The conclusions about the status of lower and higher-level findings on the siting guidelines are balanced and defensible.	_____	_____

Comments 1 through _____ are attached.

Peer Reviewer _____ Date _____

Comment Resolution Record

Yes _____ The revised ESSE Integrated Evaluation Package adequately addresses my comments.

No _____ The following comments have not been adequately addressed:

Peer Reviewer _____ Date _____

Comments not resolved between the Peer Reviewer and the ESSE Core Team have been noted by the T&MSS Task Manager.

T&MSS Task Manager _____ Date _____

*Note: May explain adequacy of comment(s), if needed.

Figure B-3 Early Site Suitability Evaluation (ESSE) Comment Response Record.

ESSE-FIG4 M151

APPENDIX 1

Letter, Request for Distribution, February 23, 1991.

Early Site Suitability Evaluation (ESSE) Task Manager Delegation

4

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DATE: 1998 11/10/98 11:43 AM 2002 TASK MANAGER DELEGATION

Reference: 1 Letter, Letter to Nelson, etc. 11/03/98
2 Letter, Letter to Nelson, etc. 11/03/98

Reference 1 directed the Technical and Management Support Services (TMSS) to assist in the execution plan for developing and implementing a Method for Early Evaluation of Site Suitability. In reference 2, the Yucca Mountain Site Characterization Project Office (YMPO) approved the noted implementation plan and directed TMSS to conduct the EESS effort, involving other YMPO participants.

By this letter, TMSS delegates the technical management of EESS to Jean L. Soukter, Project Manager, as the EESS Task Manager. With this delegation is the authority to expend designated EESS funds within established cost accounts, make activity assignments to both TMSS organizations and to other YMPO participants, and to direct the scope within the bounds of the implementation plan.

As EESS activities will involve peer reviews, TMSS SP 1.62, Peer Reviews, calls for the responsible PM to resolve peer review comments. This letter also delegates comment resolution, as detailed in SP 1.62, to Jean L. Soukter.

J. Nelson
John A. Nelson, Project Manager
Technical and Management
Support Services

JAN-027-99-191-0189

71759 0239



Science Applications International Corporation

WBS: 1.2.5.2
QA: N/A

June 17, 1991

TO: Distribution

TRANSMITTAL OF EARLY SITE SUITABILITY EVALUATION (ESSE) PEER REVIEW PLAN

Enclosed is a copy of the Peer Review Plan which has been prepared, according to SP-1.62, for conducting the peer review of the ESSE Integrated Evaluation Package. Please note this document is not under formal document control due to the one-time, limited duration of the peer review activity. Accordingly, as ESSE Task Manager, I will control distribution of revisions to the plan.

If you need further information regarding the peer review, please contact me at (702) 794-7650.

Jean L. Younker
Jean L. Younker, Task Manager
Early Site Suitability Evaluation
Technical and Management
Support Services

JLY:SPF:LCR:L91-7561

Enclosure:
As Stated

Distribution

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June 17, 1991

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