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TITLE I - TECHNICAL ASSESSMENT REVIEW PLAN
FOR THE EXPLORATORY SHAFT FACILITY (ESF)
AT 100 PERCENT DESIGN COMPLETION


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SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
LAS VEGAS, NEVADA

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TITLE I - TECHNICAL ASSESSMENT REVIEW PLAN
FOR THE ESF AT 100 PERCENT DESIGN COMPLETION

The Science Applications International Corporation (SAIC) Plan for the Title I - Technical Assessment Review (TAR) for the ESF at 100 Percent Design Completion is approved. SAIC, the WMPO designee, is authorized to conduct the TAR according to this Plan, as indicated by the appropriate U.S. Department of Energy (DOE)/Waste Management Project Office (WMPO) signatures below:


L. P. Skousen, Chief
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8/2/88
Date


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8/2/88
Date


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Date

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Plan Approval	ii
Table of Contents	iii
1.0 Preface	
1.1 Introduction	
1.2 Technical Assessment Review Definition	
2.0 Scope	1
3.0 Plan Basis	2
3.1 Organizations	2
3.2 Technical Review Team Selection	3
3.3 Location/Time	3
Figure I - SAIC Technical Assessment Review Committee TARC Members	4
Figure II - Lead Representatives for Participating Organizations	5
Figure III - Review Meeting Location	6
4.0 Technical Assessment Review Process	7
4.1 Pre-Review	7
4.2 Review Process Outline	7
Figure IV - Scope of Work for Reviewing Organizations	8
Figure V - WMPO Proficiency Review Report (N-QA-007)	9
Figure VI - WMPO Proficiency Review Report (Example)	10
Figure VII - SAIC TARC Discipline Coordinators	12
Figure VIII - Reviewers Comment Sheet (RCS)	13
Figure IX - Reviewers Comment Continuation Sheet	14
Figure X - Discipline Resolution Sheet (DRS)	15
Figure XI - Discipline Resolution Continuation Sheet	16
4.2.1 Instructions to Reviewers	17
Figure XII - ESF Title I - 100 Percent Technical Assessment Review - Comment Resolution Designation Authority	20
Figure XIII - ESF Title I - 100 Percent Technical Assessment Review - Comment Resolution Concurrence	21
4.2.2 Comment/Resolution Development	22
4.2.3 Comment Identification Number Definition	24
4.3 Review Record Memorandum	25
5.0 Schedule/Activities	25
5.1 Calendar Days Activities	25
Figure XIV - ESF Title I - 100 Percent Technical Assessment Review Schedule	26
6.0 Acronyms	27

1.0 PREFACE

1.1 INTRODUCTION

The ESF Architect/Engineers (A/Es) are currently completing the Title I Design activities for the ESF. Part of the contractual agreements between the A/Es and the WMPO, is for the A/Es to submit all of the ESF design documents (drawings and specifications) at 100 percent design completion for a WMPO Technical Assessment Review. SAIC will plan, organize, conduct, document, and coordinate, the Technical Assessment Review. This plan satisfies the purpose and scope of QMP-02-08 Sections 1.0 and 4.1.2.

SAIC will conduct this Technical Assessment Review in accordance with the WMPO direction as provided in this approved Plan. The WMPO Quality Management Procedure QMP-02-08, Technical Assessment Review, will be used as a reference. This Plan, which supplements QMP-02-08, defines the logistics and methodologies by which the review process shall be implemented. In addition, SAIC will integrate the Review of other selected organizations and conduct comment resolution meetings. Subsequent to the review's completion, a final review report, titled Review Record Memorandum (RRM) shall document the review activities including the comment resolutions. The RRM, in addition to being provided to DOE/WMPO and participating organizations, shall be placed by the TARC Chairperson into the SAIC Correspondence Control Facility for retention and retrieval upon request, this satisfies QMP-02-08 Section 5.6.

1.2 Technical Assessment Review Definitions

This Technical Assessment Review is being conducted by the DOE and other participating organizations in accordance with DOE Order 4700.1, Project Management System, Attachment III-1, Section 2 Technical Reviews, paragraph (3) Preliminary Design (Title I) Review, which states "This Review is conducted in order to: a) Evaluate the progress, technical adequacy, and risk resolution (on a technical, cost, and schedule basis) of the selected design approach; b) determine its compatibility with performance and engineering specialty requirements of the development specification [in the case of the Nevada Nuclear Waste Storage Investigations Project (NNWSI) Project ESF Subsystems Design Requirements Document (SDRD) and other ESF Baselined Design Basis Requirements Documents]; and c) establish the existence and compatibility of the physical and functional interfaces among facilities, hardware, software, personnel, and procedures." This Technical Review Plan was adapted from the NNWSI Project ESF Title I - Design Review Plan for the ESF at 50 Percent Completion. This section satisfies QMP-02-08 Sections 2.0 and 3.0.

2.0 SCOPE

The scope of this Plan is to provide a Technical Assessment Review of the ESF Title I Design at 100 percent completion and to document the review comments and resolution according to this Plan's requirements. The review must determine whether the design meets the criteria required by the Office of Civilian Radioactive Waste Management and the Office of Geologic Repositories for the ESF. Included among the criteria is the need to assess the appropriate ESF

Design features with the GRD/Appendix E for regulatory compliance with 10 CRF 60 requirements. For the NNWSI Project, these criteria are set forth in the ESF SDRD, Volumes I and II; the NNWSI Project Reference Information Base (RIB); the NNWSI Project ESF Design Scope and Planning Document for Title I Design, prepared by Fenix and Scisson, Inc. (F&S); the NNWSI Project ESF Basis for Design, prepared by F&S; the ESF Title I Scope and Planning Basis Document for the NNWSI Project, prepared by Holmes and Narver, Inc. (H&N); the ESF Title I Design Basis Document, prepared by H&N; all codes and standards specified in these documents; and the Nuclear Waste Repository in Tuff Subsurface Facility Conceptual Design ESF/Repository Interface Control Drawing Number R07048A, Sheets 1-15, prepared by Sandia National Laboratories (SNL).

This review is to assess the compliance of the A/Es prepared Technical Assessment Review packages (Designs, specifications, etc.) to the design requirements provided to them. Valid assessments which may impact the approved design requirements provided to the A/E will be addressed outside of this review process, using existing WMPO change procedures.

3.0 PLAN BASIS

3.1 Organizations

The following organizations will participate in the Technical Assessment Review:

- o U.S. Department of Energy/Headquarters (DOE/HQ)
- o Nevada Operations Office/Safety and Health Division (NVO/SHD)
- o Nevada Test Site Operations (SSD)
- o Nevada Test Site Operations (HPED)
- o Nevada Test Site Operations (NTSO)
- o WMPO
- o Weston
- o SAIC
- o U.S. Army Corps of Engineers (COE)
- o Mine Safety and Health Administration (MSHA)
- o Bureau of Mines (B of M)
- o Reynolds Electrical and Engineering Company (REECo)
- o Los Alamos National Laboratory (Los Alamos)
- o U.S. Geological Survey (USGS)
- o SNL
- o Lawrence Livermore National Laboratory (LLNL)

The following organizations will provide observers at the Technical Assessment Review:

- o U.S. Nuclear Regulatory Commission
- o The State of Nevada
- o University of Nevada - Las Vegas
- o University of Nevada - Reno

SAIC will provide a multidiscipline group of personnel, Technical Assessment Review Committee (TARC) qualified in their chosen disciplines as part of Technical Review Team.

The TARC is composed of a Review Chairman, a Review Secretary, one representative of each specific design discipline, a Quality Assurance (QA) Specialist, and Regulatory Compliance, and others as appropriate (Figure I). Participating Organizations, in addition to providing Reviewers, shall designate a Lead Representative for their respective organization, (Figure II).

It is the TARC's role, in addition to providing review comments, to integrate the comments from each outside reviewing organization into one set of comments to be presented to the A/Es for resolution. The TARC Chairman shall coordinate all efforts between the SAIC, the outside reviewing organizations, and the A/Es.

3.2 Technical Review Assessment Team Selection

Team Members selection is based on the individual's qualifications of his or her technical/scientific speciality, as a competent reviewer representative for the scope of work identified for each respective participating organization. Team Members will, in their respective areas of competency be as qualified as those who, on the staff of the A/Es, prepared the Exploratory Shaft Facilities surface and underground works, engineering designs, and specifications, in accordance with the WMPO design requirements.

In order to meet the above qualification, Team Members will as a minimum, possess a Bachelors Degree and five years of experience or the demonstrated equivalency of training and experience in their area of expertise. Team Members' qualifications will be certified and documented by the Team Members' supervision. Documentation will be prepared on WMPO Proficiency Review Report, Form No. N-QA-007 and provided to the Technical Review Committee Secretary on or before the first day of the start of the review process. Background data/material which substantiates the qualification certification will be retained at the reviewer's organization. Prior to the destruction of such material notice shall be given to the WMPO. Background data/material may be subjected to audit by personnel from the Nuclear Regulatory Commission or the U.S. Department of Energy. The completed form N-QA-007 shall be included in the RRM. The above satisfies QMP-02-08, Section 5.2.

3.3 Location/Time

To accomplish a technical review of a large number of drawings and specifications in the time allocated, SAIC requires a concentrated effort by all designated reviewers at a single location away from their respective offices. A single location simplifies the review process by eliminating those problems associated with multioffice reviews (i.e., document transmittals, reference material, misunderstood comments and resolutions, and conflicting work commitments of the Reviewers). The designated location is at the Henderson Convention Center, Henderson, Nevada, (Figure III). The review is scheduled to start on August 8, 1988, at 8 a.m.

Ken Beall
J. Reiser
P. Karnoski
J. Davenport

Reviewers

M. Brake
E. Cikanek
R. Tome'
I. Cottle
J. McConville
T. Pysto
S. Smith
A. Langstaff
S. Phillips
C. Pflum

Chairperson
Secretary
Quality Assurance
Regulatory Compliance

Discipline or Department

Civil/Structural/Architectural
Geotechnical
Mechanical
Testing
Electrical
Environmental Design
Repository/Operations
Mining/Ventilation
Safety
Regulatory Compliance

FIGURE I

SAIC TECHNICAL ASSESSMENT REVIEW COMMITTEE

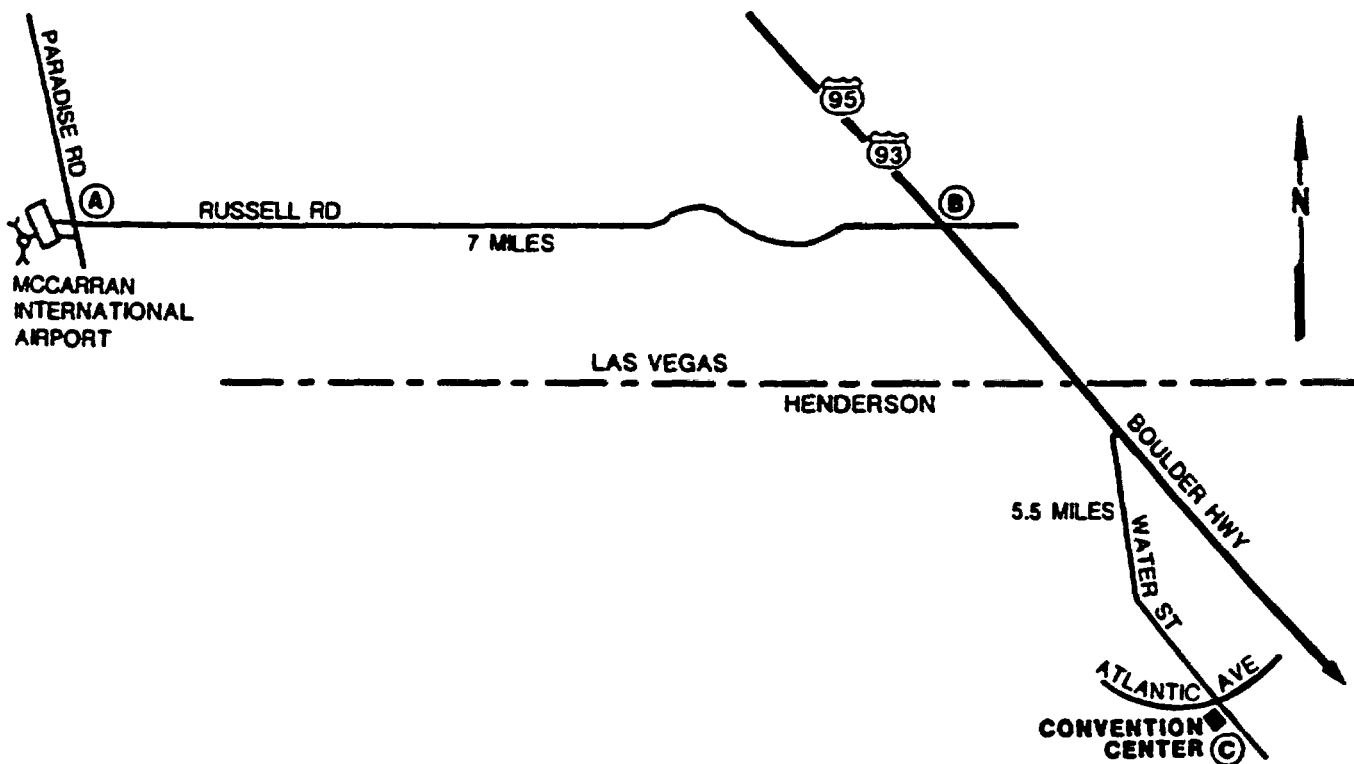
<u>ORGANIZATION</u>	<u>REPRESENTATIVE</u>
1. DOE/HQ	D. Stucker
2. DOE/WMPO	D. Irby
3. Roy F. Weston	J. Montgomery
4. SAIC/QA	J. Jardine
5. SAIC/TARC	I. Cottle
6. B of M	B. Cantrell
7. USGS	B. Craig
8. SNL	B. Stinebaugh
9. LLNL	D. Wilder
10. Los Alamos	T. Merson
11. NVO/SHD	D. Martin
12. DOE/NTSO	A. Veloso
13. REECo	D. Koss
14. COE	E. Jensen
15. MSHA	R. Breland
16. NVO/SSD	
17. NVO/HPED	

(¹) This is a tentative list and will be confirmed by the participating organizations on the first official day of the review proceedings.

FIGURE II

LEAD REPRESENTATIVES FOR PARTICIPATING ORGANIZATIONS (¹)

**HENDERSON CONVENTION CENTER
200 WATER STREET
HENDERSON, NEVADA 89015**



DIRECTIONS FROM AIRPORT TO HENDERSON CONVENTION CENTER

- A. Out of McCarran Airport to corner of Paradise Avenue and Russell Road.
- B. East on Russell Road to Boulder Highway (93 & 95) - 7 miles.
- C. South on Boulder Highway to Convention Center (on southwest corner) - 5.5 miles

FIGURE III - REVIEW MEETING LOCATION

4.0 TECHNICAL ASSESSMENT REVIEW PROCESS

4.1 Pre-Review

A formal request has been received by SAIC from the WMPO as designee to conduct a multiple participating organizations Technical Assessment Review.

The Review Technical Assessment Committee Secretary shall contact the WMPO and obtain the list of reviewing organizations and approved scope of review for each group (Figure IV). A Technical Assessment Review Notice announcing the planned review shall be sent to each reviewing organization. The Review Notice shall focus on the plan, dates, location, scope of work, review process outline, and any other pertinent or background information necessary for the review. The Review Notice shall also request reviewers names, qualifications, and commitment for the review period.

The reviewing organizations shall send a list of reviewers with qualifications according to the Scope of Work, Figure IV in the Plan, using form N-QA-007 as indicated in Figures V, and VI respectively.

Reviewers shall be required to complete the WMPO QA training prior to the acceptance of their comments into the review process. It is emphasized that an integral part of the Reviewer's qualification training completion and his/her commitment for the review period are that each reviewer, as a minimum, be in attendance during the following:

- o Review Presentation and Indoctrination
- o Review period
- o Reviewer comment disposition (transmit or not to transmit comments to A/Es)

SAIC shall reserve meeting rooms, provide for logistical support (i.e., secretarial, copying, etc.) and shall also obtain the appropriate number of drawings and specification copies to provide each reviewer with a complete set for the area being reviewed. Calculations may be requested as required from the A/Es during the review period.

4.2 Review Process Outline

The Presentation Meeting will be held in Henderson, Nevada, on the first day of the review. The A/Es will present a design overview by discipline, followed by Review indoctrination by SAIC to provide guidance on the scope of the review and comment content. Attendance at this presentation shall be documented as part of the review record. Subsequent to the completion of the design presentation and work shops, the A/Es will present their Technical Assessment Review Package to the review Team Members to be assessed. The above satisfies QMP-02-08, Section 3.4 and 4.2, compile a data package for review.

The main points of guidance to the Reviewers will be:

1. Purpose and scope.
2. Participants and their responsibility.
3. Comment guidelines.
4. Review Forms completion.

1. DOE/HQ/Weston - Review for compliance to Program Requirements, constructibility, operations, maintenance, and safety (10 CFR 60).
2. REECo - Review for constructibility, use of standard construction practices, quality control, operations, maintenance, and safety (industrial/worker).
3. SAIC - Review of general compliance with Program Requirements, standard construction practices, and environmental permitting compliance, and regulatory compliance.
4. WMPO - Review for general compliance with Program Requirements.
5. COE - Review for general compliance with regulations for site preparation and civil works, constructibility, and use of standard construction practices.
6. MSHA - Review for general compliance with MSHA regulations and standard safety practices, and for use of standard construction practices.
7. B of M - Review for mining technology applications with respect to controlled blasting and blast effect on instrumentation, dust abatement and control, diesel emissions at surface and underground works, and drift and pillar stability design.
8. USGS - Review for adequacy to support ESF in situ characterization testing needs.
9. SNL - Review for general compliance with site and engineering properties data base identified in the RIB, adequacy to support ESF in situ site characterization testing needs, and compatibility of ESF permanent items which will be incorporated into the repository. Design features of the ESF for regulatory compliance with 10 CFR 60 requirements, as defined in the DOE Generic Requirements Document, Appendix E for the ESF.
10. LLNL - Review for general compliance with the waste package interfaces and for adequacy to support ESF in situ site characterization testing needs.
11. Los Alamos - Review for adequacy to support in situ site characterization testing needs.
12. NVO/SHD - Review for compliance to health and safety regulations.
13. NTSO - Review with respect to security concerns and for compatibility/interface with present on-site utilities, buildings, roads, maintenance facilities, etc.
14. NVO/SSD - Review with respect to physical security concerns.
15. NVO/HPED - Review for environmental compliance with regulations.

FIGURE IV

SCOPE OF WORK FOR REVIEWING ORGANIZATION

Review Date _____

Name _____ Title _____

The proficiency review is based on the experience, knowledge and training of the individual. The activities the individual is capable to perform are listed below.

Activities

Proficiency Report Conducted and Certified by

Signature _____ Title _____

Date _____

NOTE: This report should be completed on an annual basis.

FIGURE V - WMPO PROFICIENCY REVIEW REPORT FORM



WMPO PROFICIENCY REVIEW REPORT

N-04-007
6/86

Name I. A. REVIEWER Review Date May 4, 1988
Title Senior Mining Engineer

The proficiency review is based on the experience, knowledge and training of the individual. The activities the individual is capable to perform are listed below.

Activities Based upon a review of MR REVIEWER'S education and employment history,
he is fully qualified to serve on the Title II TECHNICAL Review Board. Mr. REVIEWER
holds a B.S. degree in Mining Engineering from the Colorado School of Mines. He
was employed by Amax Inc. at the Urad and Henderson mines in various capacities
including ventilation engineer, mine planning engineer, underground surveyor, and
blasting crew miner. Subsequently, MR. REVIEWER was employed by Cleveland Cliffs
where he was responsible for completion of feasibility studies. Duties included
design of mine layouts, ventilation system design, equipment selection and material
handling system design. Prior to joining the ABC Co. team he was employed by
Westinghouse Hanford on the Basalt Waste Isolation Project where he was responsible
for providing mining expertise and guidance for design of the BWIP exploratory shaft
facility. Assignments included leading a study group reviewing changes in mine
regulations, direction of Architect Engineer contractor and team leader of a group
defining design recommendations for the underground facility.

Proficiency Report Conducted and Certified by

Signature H.S. SUPERVISOR Title Integration Mining Manager

Date MAY 4, 1988

NOTE: This report should be completed on an annual basis.

FIGURE VI - WMPO PROFICIENCY REVIEW REPORT EXAMPLE

4.2 Review Process Outline (Continued)

After the Presentation Meeting, work areas for the Reviewers will be provided at the Henderson Convention Center, as required. The Reviewers will have the next seven calendar days to review the Technical Assessment Review Package and submit their comments to SAIC. SAIC will have copies of the SDRD, RIB, A/Es Planning and Scoping and Design Basis Documents, and its referenced documents, available in a library at the meeting room. Each Reviewer must have their comments reviewed by the Lead Representative from the Reviewer's organization prior to submittal to SAIC.

The Lead Representative must ensure that the submitted comments are appropriate, relative, and not redundant or conflicting with another Reviewers comments from that organization.

SAIC Discipline Coordinators (Figure VII) will remain in specific areas to assist the Reviewers on questions or data needs. The Reviewers shall follow the WMPO Plan, Sections 4.2.1 and 4.2.2 for review process and submit their comments on forms, RCS (Figures VIII and IX), DRS (Figures X and XI). Comments shall be dispositioned and consolidated to a common form by the SAIC Discipline Coordinators. Typing and copying services will be available in the secretarial and copy room.

The SAIC Technical Assessment Review Secretary or Discipline Coordinators will review the comments with the designated Lead Representative to help ensure proper comments. Improper comments (comments in question form, duplicate comments, comments on the requirements documents, comments outside the Reviewer's scope, etc.) will be brought to the Reviewer's attention by the SAIC Coordinators.

Comment disposition disagreement between SAIC Discipline Coordinators and the Reviewer, shall be submitted to the Review Chairman. The Review Chairman shall have final disposition authority on the comments transmitted to the A/Es. Comments should be assessed for appropriateness and relativity by the following:

1. The Reviewer.
2. The Designated Lead Representative of the reviewing organization.
3. The SAIC Review Secretary/respective Discipline Coordinator.

The Review Secretary shall then compile all comments into a single set of integrated comments.

It is the intent of this plan that all comments will be resolved at the joint resolution meeting with the ESF A/Es and representatives from reviewing organizations. Unreconciled differences of opinion, which occur between the Reviewer(s) and the A/Es during the joint resolution meeting which are not resolved through the office of the Review Committee Chairperson will be identified as open items in the Review Record Memorandum (RRM). Open items will be reviewed by the TARC. The TARC will include in the final RRM a recommendation for each unresolved comment.

Conflicts are referred, with a documented recommendation by the TARC Chairperson, to the appropriate TPO for conflict resolution. The TPO documents the resolution of the conflict to the Chairperson and the responsible WMPO branch chief. The joint resolution meeting will begin 18 calendar days after final comment disposition to allow time for comments to be properly consolidated and proposed resolutions prepared by the A/Es. This satisfies QMP-02-08 Section 5.5.3 and 5.5.5.

Closure of Resolution, the responsible WMPO Branch Chief or designee, shall ensure that the appropriate TPO satisfies and closes out the commitments made in resolutions to the Technical Assessment Review Comments. This satisfies QMP-02-08 Section 5.7.

Information needs on the forms shown on the figures in QMP-02-08 for documentation of the Technical Assessment Review Comment Record is provided for by a suitable alternative which enables computerization of the comment/resolution process. The Review Comment Record form shown in QMP-02-08 is reformed for this plan into two forms namely: 1) Reviewer's Comment Sheet (Figure VIII) and Discipline Resolution Sheet (Figure X), including appropriate continuation sheets. This satisfies QMP-02-08, Section 7.0, Figures 3 and 4.

<u>Category⁽¹⁾</u>	<u>SAIC Principal Coordinator</u>	<u>Support Coordinators</u>
General	I. Cottle	S. Smith
Civil/Architectural	M. Brake	I. Cottle
Mechanical	R. Tome'	None (as necessary)
Electrical	J. McConville	None (as necessary)
Mining	S. Smith	A. Langstaff/E. Cikanek
Shafts	I. Cottle	E. Cikanek/S. Smith

(1) Specification shall be reviewed within the category.

Figure VII

SAIC TARC DISCIPLINE COORDINATORS

REVIEWER'S COMMENT SHEET

N-ES-001
7/88

Document Originator _____

Date _____

Document Title _____

Name of Reviewer _____

TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures

Reviewer

Date

Discipline Coordinator

Date

QA Representative

Date

COMMENT
NO.
& TYPE

PAGE
NO.

REVIEWER'S COMMENTS

COMMENT

RESOLUTION

FIGURE VIII - REVIEWER'S COMMENT SHEET

REVIEWER'S COMMENT CONTINUATION SHEET

N-ES-001
7/88

Document Title _____

Name of Reviewer _____

COMMENT NO. & TYPE	PAGE NO.	REVIEWER'S COMMENTS COMMENT	RESOLUTION

FIGURE IX - REVIEWER'S COMMENT CONTINUATION SHEET

DISCIPLINE RESOLUTION SHEET

N-ES-002
7/88

Document Originator _____

Date _____

Document Title _____

Discipline Coordinator _____

TECHNICAL ASSESSMENT REVIEW

Acceptance Signatures

_____ Date _____

Chairperson

Date

_____ Date _____

QA

Date

_____ Date _____

AE

Date

_____ Date _____

WMPO

Date

COMMENT
NO.
& TYPE

PAGE
NO.

REVIEWER'S COMMENTS

COMMENT

RESOLUTION

FIGURE X - DISCIPLINE RESOLUTION SHEET

DISCIPLINE RESOLUTION CONTINUATION SHEET

N-ES-002
7/88

Document Title _____

COMMENT
NO.
& TYPE

PAGE
NO.

REVIEWER'S COMMENTS

COMMENT

RESOLUTION

FIGURE XI - DISCIPLINE RESOLUTION CONTINUATION SHEET

4.2.1 Instructions to Reviewers

A. General Guidance

Particular attention should be given to the comment content and structuring to provide the document author with constructive and referenced or supported comments. Comments should be provided that are clear and concise, and which may be dispositioned on the RCS without dialogue to determine the meaning of the comment. The Review shall provide information which may be incorporated or expanded by the A/Es to enhance the quality of the document. Since the RCS are records which may become public information, the comments should be structured in a professional manner and with enough detail to communicate and resolve the intent of the comment.

B. Specific Guidance

1. Reviewers shall determine that their respective organization's ESF 50 Percent Title I Design Review comments/resolutions agreed to be completed at the ESF 100 Percent Title I Technical Review have been incorporated into the A/E's designs and specifications.
2. Avoid comments in the form of questions directed to the author. Make statements that can be dispositioned by the author to resolve your concerns. Questions such as, "What is the intent of...?" or "Why did you...?" or "Can you?" are not comments on the document content requiring resolution. Most question-type comments can be structured into constructive comments. For example, "What is the intent of...?" can be restructured to, "Provide an explanation in this section to support the intent of..."
3. Avoid comments of "More detail required," "change" or "clarify." Rather, state what additional details or clarifications are considered necessary, or state "change to..." and support the suggested change with reference or justification, or provide the additional text necessary to resolve the comment.
4. Provide supporting evidence such as a reference, or attach verified information or rationale if a comment identifies a technical error or disagreement with a conclusion.
5. If the document is a specification, give page number, paragraph, and sentence number.
6. If the document is a drawing, give specific zone number (i.e., drawing number, zone A-Z, detail 1, etc.).

4.2.1 Instructions to Reviewers (Continued)

B. Specific Guidance (Continued)

7. Give enough detail so the designated person from the reviewing organization can dispose of the comment with the A/E.
8. The Reviewer should restrict his comments to the Scope of Work designated by the WMPO (Figure IV) Page 8 for his organization and to the area of the Reviewer's qualified expertise.
9. Comments must be integrated by the reviewing organization by discipline and typed by SAIC on the appropriate forms. No correction fluids or tape may be used on the signed document. Corrections may be made by lining out the incorrect text and making additions. The original text must not be obliterated. Changes must be initialed in black ink and dated. All submitted comment forms must be signed by the Reviewer in black ink.
10. Comments must consider the stage of design completion and scope of the review.
11. It should be kept in mind that Technical Reviews are intended to improve the product and not impose alternative design choices or concepts.
12. Conflicting comments within a reviewing organization must be resolved internally by the Lead Representative before submittal for disposition.
13. The design needs to meet the requirements and should be reasonable and defensible. Refer to design criteria documents. These documents will be provided, during the meeting periods, in the library at Henderson Convention Center.
14. This Review requires that all comments shall be written on the document review sheets, as provided.
15. Editorial comments or comments on the contractual language in specifications will not be accepted.
16. Comments on the Design Basis Requirements Documents should not be prepared; they will not be accepted for transmittal to the A/Es. Change Requests to the Design basis requirements are outside the scope of this review. Such requests are processed through the WMPO using the formal change request procedures for the project.

4.2.1 Instructions to Reviewers (Continued)

B. Specific Guidance (Continued)

17. To meet the spirit and intent of the WMPO to have a single location to facilitate the review process, paragraph 3.3 Location, Reviewers are required to sign a "Reviewer Comment Resolution Designation Authority" which designates his/her signature authority to their Organization's Lead Representative. This signature authority enables the review process, as regards the Reviewer's comments to continue in the review process, in the necessary absence of the Reviewer (Figure XII).
18. In order to enable closure between the Reviewing Organizations and the Comment Resolutions developed by the A/Es, when final concurrence is reached, this concurrence shall be evidenced by the signature of the Reviewing Organization's Lead Representative on "Comment Resolution Concurrence Form", (Figure XIII). This statement satisfies the requirement of QMP-02-08, Section 5.4 that "The TARC Chairperson will review and sign and date the RRM". These forms will be included in the RRM.
19. Reviewers should note that all comments dispositioned as "transmit" to the A/Es are major comments by definition.
20. Each Reviewer is responsible for both the technical and grammatical (i.e., spelling errors, etc.) content of their submitted comments.

THE REVIEWER, NAMED BELOW, IN HIS ABSENCE DESIGNATES AND TRANSFERS COMMENT
RESOLUTION AUTHORITY AND CONCURRENCE AUTHORITY TO HIS LEAD REPRESENTATIVE.

REVIEWER: _____

ORGANIZATION NAME: _____

LEAD REPRESENTATIVE: _____

DATE: _____

FIGURE XII

ESF TITLE I - 100 PERCENT TECHNICAL ASSESSMENT REVIEW

REVIEWER COMMENT RESOLUTION DESIGNATION AUTHORITY

THE REVIEWER TEAM LEAD REPRESENTATIVE CONCURS WITH ALL THE RESOLUTIONS
DEVELOPED FOR ALL OF THE COMMENTS SUBMITTED BY HIS ORGANIZATION DURING THE
COMMENT AND RESOLUTION ACTIVITIES.

ORGANIZATION NAME: _____

LEAD REPRESENTATIVE: _____

DATE: _____

FIGURE XIII

ESF TITLE I - 100 PERCENT TECHNICAL ASSESSMENT REVIEW

COMMENT RESOLUTION CONCURRENCE

4.2.2 Comment/Resolution Development

<u>Comment Development</u>	<u>Remarks</u>
1) Reviewers Written Comments on RCS Delivered to Review Control Room typing box	In pencil on RCS
2) Initial Processing by SAIC Control Room <ul style="list-style-type: none">o Type drafto Individual comment tracking numbers assignedo Return to Reviewer	
3) Draft Review and Mark-up <ul style="list-style-type: none">o Reviewer edits commentso Lead Representative concurs with commentso Return final draft comments to SAIC Control Room typing box	Direct mark-up of draft
4) Final Typing Input <ul style="list-style-type: none">o SAIC corrects and types Reviewers draft commentso Printout on RCSo Reviewer proof reads signs and delivers finished comments to their Lead Representativeo Lead Representative ensures compliance with Review requirements and initials his concurrenceo Lead Representative delivers final comments to Discipline Coordinator's in box	See comment ID format (Pg. 19)

<u>Comment Disposition</u>	<u>Remarks</u>
1) <ul style="list-style-type: none">o Disposition by Designated Review/Discipline Coordinatorso Reviewer concurs and signs off on Reviewer line on RCSo Coordinator signs and dates on Discipline coordinator lineo Comment Originals to Master Comment File Book	Any corrections necessitate re-printing
2) Signoffs - RCS <ul style="list-style-type: none">o Chairperson/Secretary as responsible manager, sign and date in proper lineo QA Specialist, sign and date in proper line.	

4.2.2 Comment/Resolution Development (Continued)

<u>Comment Disposition (continued)</u>	<u>Remarks</u>
3) Sorting and Consolidation of Comments for each A/E	
a. By A/E	Computer sort
b. By category (Pg. 19)	Computer sort
c. By A/E drawing specification list	Computer sort
d. By comment commonalty	Coordinator sort
e. SAIC Control Room makes file modifications as directed by coordinator for each drawing category	
4) Consolidation	
o Transfers comments to DRS	
5) Number Comments	
o Number comments DRS consecutively within categories	
6) Comments to A/E's	
o Consolidated comments transmitted to A/Es for development of proposed resolutions	

Resolution Meeting

- 1) Resolutions
 - o Resolution acceptance or rejection
 - o Resolution modification or rewrite of rejected comments
 - o Concurrence on all resolutions
- 2) Comment/Resolution Consolidation
 - o Comment and resolution typed on DRS
 - o Resolution modifications or rewrites to be reviewed by appropriate SAIC Discipline Coordinators for accuracy and consistency

Review Record Memorandum

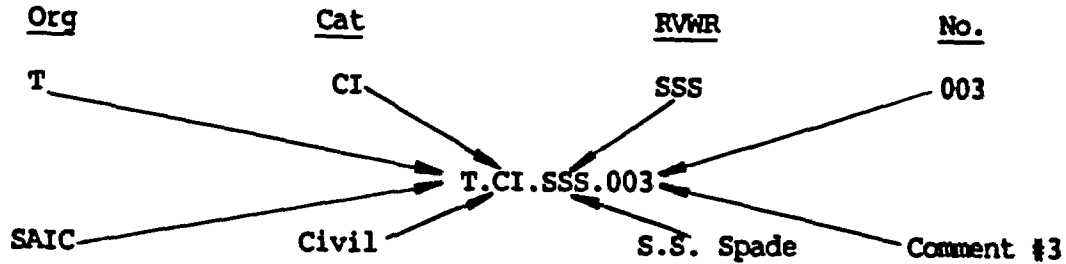
- o All inclusive report
- o Findings and recommendations by TARC

4.2.3 Comment Identification Number Definition

1) Format

- o Organization (Org)
- o Category (Cat)
- o Reviewer (RVWR)
- o Number (No.)

EXAMPLE



<u>Category</u> ⁽¹⁾	<u>Codes</u>	<u>Organization</u>	<u>Codes</u>	<u>Reviewer Codes</u>
1. General	GE	1. DOE/HQ	Q	o Three initials
2. Civil	CI	2. NVO/SHD	N	o Duplications modified as needed
3. Mechanical	ME	3. NTSO	E	
4. Structural	ST	4. WMPO	J	
		5. Weston	K	
5. Architectural	AR	6. SAIC	T	Reviewer's Consecutive Comment Numbers 001 thru 999
		7. Corps of Eng.	C	
6. Electrical	EL	8. MSHA	M	
		9. BOM	B	
7. Mining	MI	10. REECO	R	
		11. Los Alamos	A	
8. Shaft	SH	12. USGS	G	
		13. Sandia	S	
9. Specifications	SP	14. LLNL	L	
		15. NVO/SSD	D	
		16. NVO/HPED	H	

- o Ascending numbering within each designated category (9 categories above)

4.3 Review Record Memorandum

The Review Secretary collects and prepares and the Review Chairman shall issue a final report in the form of a Review Record Memorandum (RRM) to the WMPO and each reviewing organization on the final comment resolution. The RRM shall be signed by the SAIC Technical Assessment Review Committee Chairperson. This memorandum shall be issued 30 calendar days after the final joint resolution meeting.

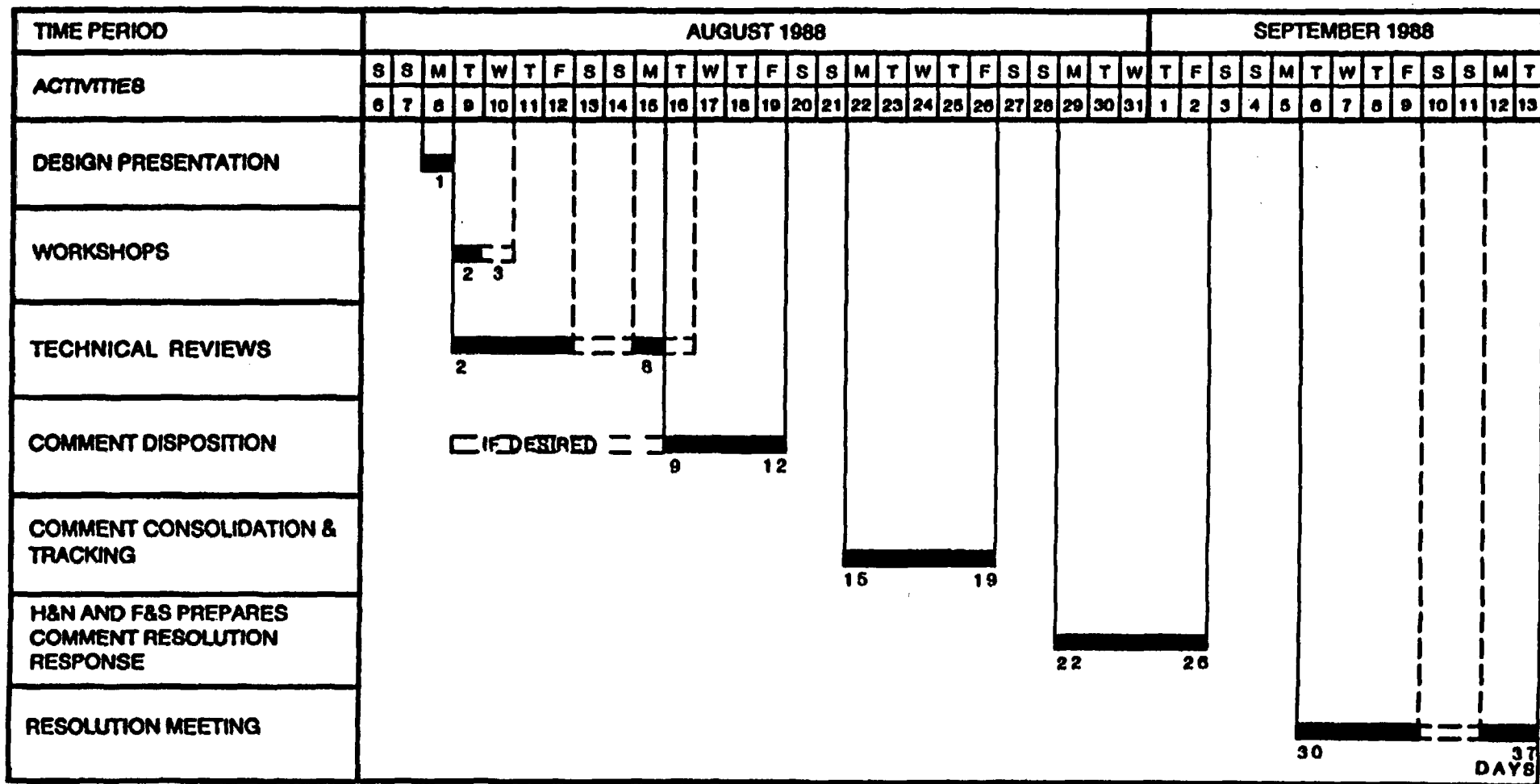
5.0 SCHEDULE/ACTIVITIES

All major milestones required to meet the current review schedule are shown on (Figure XIV) of this Plan. The Review activities in Henderson, Nevada, will be scheduled as follows:

5.1 Calendar Days Activities

<u>Calendar Day</u>	<u>Activity</u>
1	Review Presentation Meeting
2 - 8	Review and Workshops
9 - 12	Review and completion of comment disposition by SAIC
15 - 19	Comment consolidation and tracking by SAIC
22	Comment due to A/Es
22 - 26	Comment response preparation by H&N and F&S
30 - 37	Comment resolution with review organization representatives and A/Es
67	SAIC RRM to the WMPO and reviewing organizations

FIGURE XIV - ESF TITLE I - 100 PERCENT TECHNICAL ASSESSMENT REVIEW SCHEDULE



6.0 Acronyms

A/Es	Architect/Engineers
B of M	U.S. Department of Interior, Bureau of Mines
COE	U.S. Army Corps of Engineers
DOE/HQ	U.S. Department of Energy/Headquarters
DOE/NVO	U.S. Department of Energy/Nevada Field Operations
DOE/NVO-HPED	U.S. Department of Energy/NOV-Health Physics and Environmental Division
DOE/NVO-SHD	U.S. Department of Energy/NVO-Safety and Health Division
DOE/NVO-SSD	U.S. Department of Energy/NVO-Safeguards and Security Division
DOE/NTSO	U.S. Department of Energy/Nevada Test Site Operations
DOE/OCRWM	U.S. Department of Energy/Office of Civilian Radioactive Waste Management
DOE/OGR	U.S. Department of Energy/Office of Geologic Repositories
DOE/WMPO	U.S. Department of Energy/Waste Management Project Office
DRS	Discipline Review Sheet
ESF	Exploratory Shaft Facility (Surface, Shafts, Underground)
F&S	Fenix and Scisson, Inc.
GRD/APP. E	OCRWM Generic Requirements for a Mined Geologic Disposal System/Attachment I, Appendix E, Generic Requirements for Exploratory Shaft Facility (ESF) Design, Construction, and Operations
H&N	Holmes and Narver, Inc.
Los Alamos	Los Alamos National Laboratory
LLNL	Lawrence Livermore National Laboratory
MSHA	Mine Safety and Health Administration
NNWSI	Nevada Nuclear Waste Storage Investigations
NRC	U.S. Nuclear Regulatory Commission
QA	Quality Assurance
RCS	Reviewers Comment Sheet
REECO	Reynolds Electrical and Engineering Co., Inc.
RIB	Reference Information Base
RRM	Review Record Memorandum
SAIC	Science Applications International Corporation
SDRD	Subsystems Design Requirements Document
SNL	Sandia National Laboratories
TAR	Technical Assessment Review
TARC	SAIC Technical Assessment Review Committee
TRC	SAIC Technical Review Committee
TARP	Title I - Technical Assessment Review Plan for the ESF at 100 Percent Design
UNLV	University of Nevada - Las Vegas
UNR	University of Nevada - Reno
USGS	U.S. Geological Survey

TECHNICAL ASSESSMENT REVIEW NOTICE

N-QA-010
7/88

To John Linehan, U.S. Nuclear Regulatory Commission Date 7/28/88

Technical Area to be Reviewed Exploratory Shaft Facility Title I Design at 100 Percent Design Completion (Preliminary Design). See Plan for specific area of review responsibility.

WBS No.: 1.2.6.1

Review Date 8-8-88 Location Henderson, NV Time 8:00 a.m.

Technical Assessment Review Chairperson G. Kenton Beall (at 794-7829)


Based on review of the qualification documentation, this Technical Assessment Review Chairperson is qualified to execute the responsibilities of QMP-02-08 with respect to the scope and purpose of this Review.

Scope of Technical Assessment Review: Assess the Architect-Engineers specifications for the surface and underground works in satisfaction to the design basis requirements as provided by DOE/WMPO.

(See attached Plan)

Purpose of Technical Assessment Review: A WMPO Management Review to assess the accomplishment of the items identified in QMP-02-08 Section 3.1 and DOE Order 4700.1.

(See attached Plan)

Signed 
Michael E. Spaeth
Technical Project Officer
for NNWSI
Science Applications
International Corporation

Attachments: Title I - Technical Assessment Review
Plan for the Exploratory Shaft Facility
(ESF) at 100 Percent Design Completion

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(See attached Plan)

Purpose of Technical Assessment Review: A WMP0 Management Review to assess the accomplishment of the items identified in QMP-02-08 Section 3.1 and DOE Order 4700.1.

(See attached Plan)

Signed



Michael E. Spaeth
Technical Project Officer
for NNWSI
Science Applications
International Corporation

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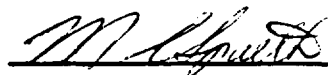
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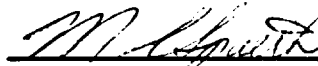
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(See attached Plan)

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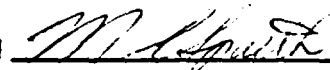
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