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**ENVIRONMENTAL
RESTORATION
PROGRAM**

**Readiness Review Plan
for the In Situ Vitrification
Demonstration of Seepage Pit 1
in Waste Area Grouping 7**

MANAGED BY
MARTIN MARIETTA ENERGY SYSTEMS, INC.
FOR THE UNITED STATES
DEPARTMENT OF ENERGY
UCN-17560 (6 7-91)

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Energy Systems Environmental Restoration Program
ORNL Environmental Restoration Program

**Readiness Review Plan
for the In Situ Vitrification
Demonstration of Seepage Pit 1
in Waste Area Grouping 7**

Date Issued—May 1995

Prepared by
ISV Demonstration of Seepage Pit 1
Field Readiness Team
Oak Ridge National Laboratory
Oak Ridge, Tennessee

Prepared for
U.S. Department of Energy
Office of Environmental Restoration and Waste Management
under budget and reporting code EW 20

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MARTIN MARIETTA ENERGY SYSTEMS, INC.

for the
U.S. DEPARTMENT OF ENERGY
under contract DE-AC05-84OR21400

**Readiness Review Plan for the In Situ Vitrification Demonstration
of Seepage Pit 1 in Waste Area Grouping 7**

Approvals

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FRT Team Leader

5/4/95
Date

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PREFACE

This readiness review plan was prepared for the In Situ Vitrification Treatability Study to be demonstrated at Seepage Pit 1 in Waste Area Grouping 7, in accordance with the requirements of Martin Marietta Energy Systems, Inc., Environmental Restoration Waste Management Programs Intersite Procedure ER/C-P1610, "Conducting Readiness Reviews." The work will be performed under Work Breakdown Structure 1.4.12.61.07.20 (Activity Data Sheet 3307, Waste Area Grouping 7). This document provides the Environmental Restoration Program with information concerning the methodology for conducting the readiness review and the criteria that have been established for assessing and approving the project's readiness to proceed with the planned demonstration.

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ABBREVIATIONS

DOE	U.S. Department of Energy
ER	environmental restoration
HAZWOPER	Hazardous Waste Operations and Emergency Response
ISV	in situ vitrification
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Operations (DOE)
FRT	Field Readiness Review Team
RRB	Readiness Review Board
WAG	waste area grouping

EXECUTIVE SUMMARY

A treatability study is planned that encompasses the application of in situ vitrification (ISV) to at least two segments of the Oak Ridge National Laboratory Seepage Pit 1 during the third quarter of fiscal year 1995. Before the treatability study can be initiated, the proposed activity must be subjected to an Operational Readiness Review (ORR). ORR is a structured methodology of determining readiness to proceed as outlined in Martin Marietta Energy Systems, Inc. (Energy Systems), Environmental Restoration Waste Management Procedure ER/C-P1610, which provides Energy Systems organizations assurance that the work to be performed is consistent with management's expectations and that the subject activity is ready to proceed safely.

The readiness review plan provides details of the review plan overview and the scope of work to be performed. The plan also identifies individuals and position responsibilities for implementing the activity. The management appointed Readiness Review Board (RRB) has been identified.

A Field Readiness Review Team (FRT), a management appointed multidisciplinary group, has been established (1) to evaluate the ISV treatability study, (2) to identify and assemble supporting objective evidences of the readiness to proceed, and (3) to assist the team leader in presenting the evidences to the RRB. The specific FRT responsibilities include preparing the readiness criteria, obtaining documentation to satisfy the requirements of the readiness review, and approving all documentation. The FRT is made up of individuals from various disciplines related to the safe implementation of the ISV demonstration.

A major component of RRB is the formulation of readiness review criteria months before the operation. The detailed criteria, which must be approved by the RRB, will be used to evaluate the project's readiness to proceed.

A comprehensive readiness review tree (a positive logic tree) is included, which identifies the activities required for the development of the readiness criteria. The readiness review tree serves as a primary aid to ensure that all of the elements required for readiness are identified. The readiness review tree serves as a tool to prevent the omission of an item that could affect system performance.

All deficiencies identified in the review will be determined as prestart findings and must be resolved before the project is permitted to proceed. The final approval of the readiness to proceed will be the decision of RRB.

1. INTRODUCTION

1.1 PLAN OVERVIEW

When Environmental Restoration (ER) Program management determines that a readiness review of an activity is necessary, ER Waste Management Procedure ER/C-P1610, "Conducting Project Readiness Reviews," requires that the activity follow a review process to determine when it is ready to proceed to the next increment of work. This policy has been implemented to minimize risks that could jeopardize mission success. The policy requires this activity to have a management-approved readiness plan that (1) describes the activity under review, (2) defines the scope of the process, (3) identifies the team members, (4) establishes organizational responsibilities, (5) defines the methodology and criteria to be used for determining readiness, and (6) defines the events that must take place to complete the process.

This plan is for the readiness review of the in situ vitrification (ISV) treatability study to be demonstrated by melting two adjacent sections in Seepage Pit 1 in Waste Area Grouping (WAG) 7. The review will determine the project's readiness to proceed with the melt and complies with ER Waste Management procedure ER/C-P1610. This plan was prepared by the ISV Field Readiness Review Team (FRT) to provide ER Program management and the ISV treatability study demonstration Readiness Review Board (RRB) with information on the team's plan for ensuring that the ISV of Seepage Pit 1 is ready for implementing (start of vitrification) when the readiness review is complete. This plan, along with the reports to be prepared for RRB, will enable RRB to assess the project's readiness to proceed successfully and safely in accordance with ISV and ER Program objectives.

1.2 PLAN SCOPE

The ISV treatability study of Seepage Pit 1 is designed to demonstrate vitrification as the selected remedial alternative leading to the closure of the several seepage pits and trenches in WAG 7. The demonstration will establish the field-scale technical performance of ISV for (1) attaining the required depth, nominally 15 ft, to incorporate source contamination within and beneath the pits; (2) demonstrating field capability for the overlapping melt settings that are necessary to achieve fused melt segments; (3) demonstrating off-gas handling technology for accommodating and minimizing the escape of Cs-137; (4) demonstrating adequate site characterization techniques to predict ISV melting kinetics, processing temperatures, and product durability; and (5) promoting public acceptance of ISV by coordinating the treatability study within the regulatory closure process.

The purpose of the review is to verify the readiness of the ISV demonstration to proceed with the melting of two adjacent segments of Seepage Pit 1. The scope of the review is limited to the review of the ISV preparation activities to determine (1) if adequate trained personnel are available to perform the tasks, (2) if adequate project documentation and management controls are available to ensure the melt is conducted safely and properly, (3) if adequate equipment is available to generate the melt, and (4) if proper instrumentation and methods are available to assess the success of the vitrification.

Because technical accuracy and quality of documents are addressed during document reviews before approval, FRT and RRB are not required to determine the technical accuracy or quality of the project documents. However, any errors or areas of inadequacy found during the review will be addressed, and FRT will ensure that they are properly handled. FRT will be dissolved when RRB determines that the project is ready to proceed with the demonstration and the Oak Ridge National Laboratory (ORNL) ER Program site manager has approved continuation.

1.3 DOCUMENT ORGANIZATION

Chapter 2 of this plan describes the ISV demonstration in more detail. Chapter 3 describes the assigned responsibilities for the management of the ISV demonstration of Seepage Pit 1. Chapter 4 describes the methodology for conducting the readiness review and the criteria categories that have been established for assessing the completion of the review. Chapter 5 describes the team members' responsibilities and criteria elements for monitoring the project's state of readiness. Readiness review criteria will be developed and added to this plan as appendixes.

2. IN SITU VITRIFICATION TREATABILITY STUDY DEMONSTRATION OF SEEPAGE PIT 1 (WAG 7)

The treatability study for in situ vitrification of Seepage Pit 1 in WAG 7 is a high priority demonstration project, consisting of a field-scale demonstration of in situ vitrification by melting two adjacent cells. The treatability study will support the alternatives assessment for ORNL WAG 7, containing the seven seepage pits and trenches, for which ISV technology is the selected baseline closure technology.

The treatability study will provide the necessary information on design, implementation, and performance of ISV technology for these and similarly contaminated soil sites. Seepage Pit 1 was selected for the treatability study because of its limited size (30,000 ft³) and radionuclide inventory (87 Ci of mixed fission products).

The major objectives, before the melt, were the completion of design and fabrication of the ISV off-gas filter system and collection hood for the field-scale demonstration; completion of Seepage Pit 1 site characterization; and completion of all environmental, safety and health documents and approvals (including all required permits) for the actual demonstration.

The initial demonstration effort (melt), scheduled for February 2, 1995, with completion on March 9, 1995, was delayed because of insufficient funding authorization for completion of the construction of the off-gas filter system and collection hood. Upon securing additional funding, the scheduled start date for the ISV demonstration is June 30, 1995, with a completion date of August 18, 1995, and an interim treatability study report submitted to the U.S. Department of Energy (DOE) on November 3, 1995.

The details of the many activities that compose the in situ vitrification treatability study are presented in the work plan. Further analyses of hazards and risk are documented in the site-specific health and safety plan, which the Readiness Review Team will be reviewing. ISV technology is quite well developed and existing documentation addresses the risks, hazards, and engineering designs associated with high electrical voltage, high temperature, and regular industrial safety concerns. Unique to this ISV project is the nature and level of radioactive contamination in Seepage Pit 1. Concerns for potential exposures of ISV operating personnel and planned or inadvertent airborne releases of radioactive contamination dominate the ER programmatic risk. These will be reviewed by the readiness review team and will be addressed in the hazards analyses and accident scenarios contained in the health and safety plan.

3. PROJECT MANAGEMENT

The following personnel are responsible for managing and supporting the in situ vitrification treatability study demonstration of Seepage Pit 1 and this readiness review:

H. L. Boston, ORNL Environmental Restoration Program site manager
W. D. Brickeen, ORNL Program remediation manager
R. Howard, WAG 7 facility manager
B. J. Spalding, WAG 7 project technical manager
C. A. Taylor, WAG 7 project manager
J. T. Sweeney, DOE-Oak Ridge Operations (ORO) ORNL ER Program manager

The responsibilities of FRT established for this project and the responsibilities of these personnel are discussed in the following sections.

3.1 ENVIRONMENTAL RESTORATION PROGRAM

H. L. Boston, the ORNL ER Program site manager, is responsible for the overall direction of this project and all other ORNL ER Program activities.

W. D. Brickeen, ORNL ER Program remediation manager, reports through S. B. Garland to H. L. Boston and is responsible for remediation activities at ORNL.

B. P. Spalding, project technical manager, reports programmatically to C. A. Taylor and is responsible for all technical aspects of the project.

C. A. Taylor, project manager, reports programmatically to W. D. Brickeen and is responsible for all project activities.

3.2 FACILITY MANAGER

R. Howard, the facility manager, is responsible for surveillance and maintenance activities in WAG 7. L. S. Hawk is responsible for implementing the readiness review for the ISV treatability study demonstration at Seepage Pit 1. Through J. H. Hooyman, R. J. Howard reports to H. L. Boston, director of ORNL ER Program.

3.3 OTHER ORGANIZATIONS

There are several ORNL divisions and Martin Marietta Energy Systems, Inc. (Energy Systems), organizations responsible for specific items of the ISV treatability study demonstration at Seepage Pit 1. Each group reports through its line of management and supports this project in a matrix system. The other ORNL divisions and Energy Systems organizations include Health Physics, Engineering, Hazardous Waste Operations and Emergency Response (HAZWOPER), Chemical and Analytical Services Division, Quality Assurance, Industrial Hygiene, Industrial Safety, Information Management Services, and ER Program Documentation Management.

3.4 DEPARTMENT OF ENERGY

J. T. Sweeney, the DOE-ORO ORNL program manager, is responsible for the overall DOE management of ER activities at ORNL.

3.5 DOE READINESS REVIEW BOARD

3.5.1 DOE Readiness Review Board Charter

The DOE RRB is an independent review team established by DOE-ORO to ensure a project's readiness to proceed. RRB members may participate in FRT meetings as observers to facilitate a shortened review cycle. The RRB has established a goal of providing a 1-day review and approval recommendation after receipt of notification of project readiness from the FRT.

3.6 FIELD READINESS REVIEW TEAM

3.6.1 Field Readiness Review Team Charter

FRT is a management-appointed, multidisciplined group that has been established to perform the following:

- evaluate the ISV treatability study demonstration of Seepage Pit 1 regarding its state of readiness to proceed with the melt,
- evaluate the training requirements and training certification of the operators,
- identify and assemble supporting objective evidence of readiness, and
- assist the team leader in presenting the evidence of readiness to RRB.

Specific FRT responsibilities include the following:

- preparing the readiness review plan,
- preparing the readiness criteria,
- obtaining documentation to satisfy the requirements of the readiness review,
- voting on and approving the documentation,
- evaluating activity status and completion, and
- monitoring and determining the state of readiness and reporting the information to Facility Manager L. S. Hawk.

Specific team leader responsibilities include the following:

- presenting the state of readiness to RRB,
- training in ER Waste Management procedure ER/C-P1610, and
- presiding over FRT.

3.6.2 Team Members

FRT is composed of members who are knowledgeable of the subject activity and outside requirements. The team leader is trained in the readiness review process, and representatives from Quality Assurance and Environmental, Safety, and Health are on the team.

FRT consists of the following members:

L. S. Hawk, team leader
 B. P. Spalding, treatability study project manager
 C. A. Taylor, WAG 7 project manager
 C. Clark, Health and Safety
 J. W. Jones, Quality Assurance
 E. R. Barham, Industrial Hygiene
 W. C. Hayes, Health Physics
 B. E. Copeland, HAZWOPER
 J. R. Stokely, Analytical Chemistry
 J. L. Lawhorn, K-25 Engineering
 C. E. Mulkey, Office of Environmental Compliance
 W. T. Thompson, Engineering
 L. L. Sherfey, Engineering Technology Center, Battelle Pacific Northwest Laboratory
 R. Howard, facility manager

In addition to the FRT members previously mentioned, the following people have been identified to provide additional expertise and support to FRT and to serve as FRT alternate members:

D. G. Rowland, HAZWOPER
 P. W. Allen, Health Physics

3.7 FRT INTERFACE WITH READINESS REVIEW BOARD

FRT is responsible for reviewing and providing RRB with the verification data necessary to demonstrate the readiness of the ISV treatability study demonstration of Seepage Pit 1 to proceed with the melting of three adjacent cells. FRT will make this information available in meeting minutes and in meetings held to review readiness.

RRB is responsible for reviewing the data, evaluating the risks associated with proceeding with the ISV melts, and making recommendations to DOE-ORO ER Program manager regarding the project's readiness to proceed.

4. REVIEW METHODOLOGY

4.1 READINESS REVIEW PROCESS

The operational readiness process is a management tool that establishes and verifies an activity's state of readiness. A flow chart of the operational readiness process utilized in this readiness review is presented in Fig. 1. The process began with the creation of this plan and the initial readiness criteria. Detailed criteria will be formulated by FRT, approved by RRB, and used to evaluate project readiness. The process concludes with RRB's documented recommendation on proceeding with the ISV demonstration.

4.2 READINESS REVIEW CRITERIA

The readiness criteria will be used to judge whether the ISV treatability study demonstration of Seepage Pit 1 is ready for implementation. Detailed criteria have been defined for each activity being evaluated. FRT can develop a more comprehensive readiness review tree (a positive logic tree) to identify the activities that require development of readiness criteria.

4.2.1 Readiness Review Tree For The ISV Treatability Study Demonstration of Seepage Pit 1

The comprehensive readiness review tree will serve as a primary aid to ensure that all of the elements required for readiness are identified. The readiness review tree serves as a tool to prevent the omission of an item that could affect system performance. The events at the top of the logic tree are major elements of readiness. Along with these events are the categories of readiness criteria that will be evaluated. A brief description of the major elements of readiness follows. The detailed readiness review criteria statements and operations checklist are presented in Table 1, which directly correlates with the readiness review tree in Fig. 2.

- Personnel. Adequate personnel are available and trained to perform tasks associated with ISV.
- Procedures and management control. Adequate procedures and management controls are in place to ensure that the ISV is performed according to procedures and safely.
- Facility and equipment. Adequate equipment is available to perform the ISV melt, and adequate approved laboratories are available to perform the postmelt analyses.

4.2.2 Readiness Review Criteria Documentonn

Specific statements defining the standards by which the project will be judged as being ready to proceed with the ISV demonstration will be developed for the criteria elements in the logic tree. FRT will collect documentation according to the criteria statements and will vote on the readiness of the criteria. When the documentation has been approved by FRT, the team leader will present it to RRB for review and approval.

Fig. 1. The operational readiness process.

Table 1. In Situ vitrification treatability study readiness review operations checklist, April 1995

Criteria number	Criteria	Prestart	Poststart	Status	Evidence	Verified by (sign/date)	Team chairman (sign/date)
1	Has the ISV Work Plan been approved by regulatory agencies?	X		Complete	Letters from both State and EPA approving work plan	Brian Spalding	
2	Has a ISV operations run plan been prepared and approved?	X		In preparation	Copy of approved run plan	Brian Spalding	
3	Has a safe operating procedure been produced for the large-scale ISV equipment?	X		Draft completed and reviewed with approval pending.	Copy of approved safe operating procedure for large-scale ISV equipment	Brian Spalding	
4	Has a safe operating procedure been produced for the new off-gas collection hood?	X		In preparation	Copy of approved safe operating procedure for large-scale off-gas hood	Brian Spalding	
5	Has a final design for the large-scale off-gas hood been approved?	X		60% design to be completed 3/7/95	Memo re: design completion	Brian Spalding	
6	Has off-gas hood been received, assembled, and tested?	X		Awaiting design completion	Memo re: hood testing complete	Brian Spalding	
7	Have project procedures for off-gas system component and product sampling been prepared?	X		In preparation	Copies of procedures included in QA Project Plan	Brian Spalding	
8	Has a waste management plan been approved?	X		Final draft in preparation	Copy of approved waste management plan	Brian Spalding	
9	Have ISV operator training requirements been determined?	X			Copy of approved site-specific health and safety plan	Brian Spalding	
10	Have ISV operator training requirements been fulfilled?	X		Training in progress	Copies of training certificates and certification of site specific training	Mike Naney	

Table 1 (continued)

Criteria number	Criteria	Prestart	Poststart	Status	Evidence	Verified by (sign/date)	Team chairman (sign/date)
11	Has site safety and health officer and alternates been identified and approved?	X			Copy of Site Safety and Health Officer Approval Form	Brian Spalding	
12	Has project NEPA documentation been approved?	X		Complete	Copy of letter from F. C. Komegay to B. L. Kimmel with Project Review Summary	Brian Spalding	
13	Has a Site-Specific Health and Safety Plan been approved?	X		Draft issued 2/28/94	Copy of approved Site-Specific Health and Safety Plan	Brian Spalding	
14	Have hoisting and lifting operations been reviewed by Safety Department?	X			Copy of approved Site-Specific Health and Safety Plan	Brain Spalding	
15	Has site grading and preparation been completed by MK-Ferguson?	X		Certified for construction package submitted to MK-F 2/3/95	Memo re: site grading and covering completion	Brian Spalding	
16	Has site electrical line upgrade from 2.4 to 13.8 kV been completed?	X		in progress	Memo re: electrical line completion	Brian Spalding	
17	Has electrical power monitoring system been procured?	X		Received July 1994.	Copy of receiving report	Brian Spalding	
18	Has the requirement for an air emissions permit exemption been reviewed?	X		Discussions started with environmental compliance	Copy of correspondence from Environmental Compliance to B. P. Spalding	Brian Spalding	

Table 1 (continued)

Criteria number	Criteria	Prestart	Poststart	Status	Evidence	Verified by (sign/date)	Team chairman (sign/date)
19	Has a quality assurance project plan been prepared and approved?	X		Draft being revised in response to comments	Copy of approved Quality Assurance Project Plan	Brian Spalding	
20	Have procured HEPA filter been tested at K-25 HEPA Filter Test Facility?	X		Procurement pending	Copy of testing results with receiving reports	Brian Spalding	
21	Have all electrical circuits been inspected and tested?	X		Awaits site assembly	Memo re: site electrical inspection completed by ORNL Electrical Services Dept.	Brian Spalding	
22	Has off-gas pipe line been completed between hood and process trailer?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
23	Has roughing filter in off-gas hood been assembled and tested?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
24	Have prefilter HEPAs been installed ?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
25	Have thermocouples been placed in ground around first melt position?	X		Incomplete	Memo re: criteria complete	Mike Naney	
26	Have off-gas vent pipes been positioned under and around first melt position?	X		Incomplete	Memo re: criteria complete	Mike Naney	
27	Have melt tracers been placed in first melt position?	X		Incomplete	Memo re: criteria complete	Mike Naney	

Table 1 (continued)

Criteria number	Criteria	Prestart	Poststart	Status	Evidence	Verified by (sign/date)	Team chairman (sign/date)
28	Have off-gas monitoring equipment been installed and inspected?	X		Incomplete	Memo re: criteria complete	John Trabalka	
29	Have perimeter air samplers been installed and inspected?	X		Incomplete	Memo re: criteria complete	John Trabalka	
30	Is site communications equipment operational including two-way radios and cellular phones?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
31	Have safety documentation requirements been identified and satisfied?	X		First draft	Job hazard analyses section in Site Safety and Health Plan.	Brian Spalding	
32	Has an operational sampling plan been prepared?	X		Included in Quality Assurance Project Plan	Approved copy of Quality Assurance Project Plan	Brian Spalding	
33	Are area and off-gas hood video monitoring systems functional?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
34	Have portable tanks been installed and connected to collect waste scrub solution?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
35	Are data acquisition systems and all sensors functional?	X		Incomplete	Memo re: criteria complete	Mike Naney	
36	Has potable toilet been installed in support zone?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
37	Are all access controls, radiological zones, and safety zones established and marked correctly?	X		Incomplete	Memo re: criteria complete	Mike Naney	

Table 1 (continued)

Criteria number	Criteria	Prestart	Poststart	Status	Evidence	Verified by (sign/date)	Team chairman (sign/date)
38	Has a site walkthrough been completed by readiness review team?	X		Incomplete	Memo re: criteria complete	Rick Howard	
39	Have fire department and laboratory shift supervisor completed site walkthrough?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
40	Have thermocouples been placed in ground around second melt position?		X	Incomplete	Memo re: criteria complete	Mike Naney	
41	Have off-gas vent pipes been positioned under and around second melt position?		X	Incomplete	Memo re: criteria complete	Mike Naney	
42	Have melt tracers been placed in second melt position?		X	Incomplete	Memo re: criteria complete	Mike Naney	
43	Has a conduct of operations applicability matrix been approved by DOE?	X		Matrix being developed	Approved matrix	Chris Taylor	
44	Is the ISV operations team available?	X	X	Incomplete	Memo re: criteria complete for initial availability only	Brian Spalding	
45	Has an ISV project manager been appointed for the project?	X		Complete	Memo re: criteria complete	W. D. Brickeen	
46	Has a project management plan been included in the work plan?	X		Complete	Copy of approved work plan	Brian Spalding	
47	Has a records management plan been included in the quality assurance plan?	X		Included in pending QAPjP	Copy of approved plan	Brian Spalding	

Table 1 (continued)

Criteria number	Criteria	Prestart	Poststart	Status	Evidence	Verified by (sign/date)	Team chairman (sign/date)
48	Have radiation work permits been issued for specific tasks?		X	Incomplete (RWP are issued daily)	Copy of approved radiation work permit	Brian Spalding	
49	Has an excavation permit been issued for the site project?	X		Complete	Copy of approved excavation permit	Brian Spalding	
50	Have USQD issues been evaluated?	X		Incomplete	Memo re: criteria complete	Brian Spalding	
51	Has startup letter been issued by DOE readiness review board?	X		Incomplete	Copy of approval letter	Larry Hawk	
52	Has post-ISV sampling equipment been procured?		X	Incomplete	Memo re: criteria complete	Brian Spalding	
53	Has post-ISV sampling been completed?	X		Complete	Copy of approved quality assurance plan	Brian Spalding	
54	Has a laboratory for ISV sample analyses been identified and approved in the QAPjP	X		Complete	Copy of approved quality assurance plan	Brian Spalding	

Note: The criteria numbers on this table directly correlate with **Fig. 2. Operational readiness criteria logic tree.**

Fig. 2. Operational readiness criteria logic tree.

5. MONITORING THE STATE OF READINESS

5.1 TEAM MEMBER RESPONSIBILITIES

FRT is responsible for developing the readiness review plan and the readiness criteria. FRT also is responsible for collecting documentation according to the criteria and for evaluating the project's status with respect to the criteria. While team members are responsible for all areas addressed, they also may be assigned designated areas of responsibility for collecting and organizing review elements. These areas of responsibility are established as an organizational tool to aid in the efficiency of collecting criteria documentation. The final readiness determination of each criterion rests with FRT, and the team will vote on each final determination. Note that the key discipline representative must concur with the ultimate action taken and be in attendance at the final resolution vote.

5.2 ACCEPTANCE CRITERIA

The major acceptance criteria elements used to determine the state of readiness for the ISV treatability study demonstration of Seepage Pit 1 are shown in the logic tree (Fig. 1). The detailed readiness review criteria statements are presented in Table 1. RRB will review the criteria elements and the detailed statements developed by FRT for completeness and adequacy. RRB will approve the criteria elements and their detailed statements when it is satisfied that the readiness review adequately addresses all the requirements for proceeding with the ISV demonstration. The criteria statements and the logic tree will be appended to this plan when they are approved by RRB.

The FRT team leader will present each criterion's FRT-approved documentation to RRB for review and approval. The project's readiness review will be completed when RRB has approved all criteria documentation and has recommended to the ORNL ER Program site manager that the project proceed with the ISV melts without restrictions.

Any deficiencies identified in the review that could impact health, safety, or the environment will be classified as prestart findings and will be resolved before the project will be allowed to proceed. If RRB determines that an identified deficiency is not a restart finding and does not pose an unacceptable risk to the successful performance of the project, it may identify the deficiency as a poststart finding and allow the project to proceed before resolution. For RRB to recommend proceeding with unresolved deficiencies, any list of poststart findings must be manageable and relatively small compared with the overall review. FRT must prepare a plan and a schedule for resolving the poststart findings that must be approved by RRB. RRB retains the right to stop the process if the poststart findings are not resolved to its satisfaction.

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- 13-14. P. T. Owen
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