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1	1	Cog. Mgr. A. M. Umek H6-35 3/11/96	J. D. Thomson H6-35	1	1
		QA			
		Safety			
		Env.			

18. R.O. Fordham 3-8-96
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19. 3/11/96
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TWRS Safety and Technical Integration Risk Management Plan

R. A. Fordham
S. C. Klimper

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Abstract: The objectives of the Tank Waste Remediation System (TWRS) Safety and Technical Integration (S&TI) programmatic risk management program are to assess, analyze, and handle risks associated with TWRS S&TI responsibilities and to communicate information about the actions being taken and the results to enable decision making. The objective of this TWRS S&TI Risk Management Plan is to communicate a consistent approach to risk management that will be used by the organization.

Release Approval Date

Release Stamp

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TWRS SAFETY AND TECHNICAL INTEGRATION

RISK MANAGEMENT PLAN

Prepared by:	R. A. Fordham	Ruth A. Fordham 3-8-96
	S. C. Klimper	Scott C. Klimper 3-8-96
Reviewed by:	N. G. Awadalla	N G Awadalla 3/8/96
	D. A. Seaver	Dan A Seaver 3/8/96
Approved by:	J. D. Thomson	J D Thomson
	A. M. Umek	A M Umek

TWRS SAFETY AND TECHNICAL INTEGRATION RISK MANAGEMENT PLAN

1.0 INTRODUCTION

1.1 Purpose

The objectives of the Tank Waste Remediation System (TWRS) Safety and Technical Integration (S&TI) programmatic risk management program are to assess, analyze, and handle risks associated with TWRS S&TI responsibilities and to communicate information about the actions being taken and the results to enable decision making. The objective of this TWRS S&TI Risk Management Plan (RMP) is to communicate a consistent approach to risk management that will be used by the organization.

This RMP should be used in conjunction with the higher-level TWRS RMP, the TWRS Risk Management List (RML), and other TWRS S&TI plans and technical documentation, such as the Systems Engineering Management Plan and the TWRS Risk Management Procedure.

1.2 Scope

The TWRS S&TI organization is responsible for the management of safety and technical data development and integration. These responsibilities include the application of systems engineering, integration of design baselines, approval delegation of design authority within TWRS, providing plant systems and process engineering, assessment of tank integrity, and providing design authority for safety analysis reports and related analyses. In addition, TWRS S&TI is responsible for determining programmatic risk acceptance criteria. This RMP applies to the management responsibilities assigned to the TWRS S&TI organization by the TWRS program.

1.3 Management Organization and Responsibilities

This section of the plan describes the organizational structure and staff responsibilities for the TWRS S&TI programmatic risk management program.

1.3.1 TWRS S&TI Director

The TWRS S&TI Director is the lead manager for the TWRS S&TI risk management program. The Director is responsible for the management and execution of the program and will ensure that the following responsibilities are assigned within the organization:

- Designating a risk management point-of-contact (POC).
- Ensuring technical staff is assigned to establish and maintain a risk database.
- External coordination of risks affecting other TWRS organizations and system functions.
- Using TWRS S&TI risk management information in decision making.

1.3.2 Risk Management POC

A TWRS Technical Integration staff member will be the primary POC for TWRS S&TI risk management activities. The POC is responsible for working with the TWRS S&TI Director and TWRS S&TI management and key personnel to assess, analyze, and handle risks that are associated with TWRS S&TI activities. The POC is responsible for supervising risk management activities which include:

- Interviewing management and key personnel to identify risks associated with their activities.
- Training management and key personnel in risk management methodology.
- Supporting the establishment and maintenance of a risk database.
- Making recommendations to management to ensure informed risk decisions are made.
- Preparing and distributing risk status reports.
- External coordination of risks affecting other TWRS organizations and system functions.
- Integration of external risks having an impact on the POC's organization and system functions.
- Providing risk management expertise to guide, support, and expedite risk management activities.

1.3.3 Risk Database Administrator

A TWRS Technical Integration staff member will act as the Risk Database Administrator and is responsible for assisting with risk management activities which include:

- Establishing and maintaining risk database media.
- Safeguarding backup information.
- Working with the POC to train management and key personnel in risk management methodology.
- Working with the POC to guide, support, and expedite risk management activities.
- Working with the POC to select the approach, methods, and techniques used for risk assessment/risk analysis.

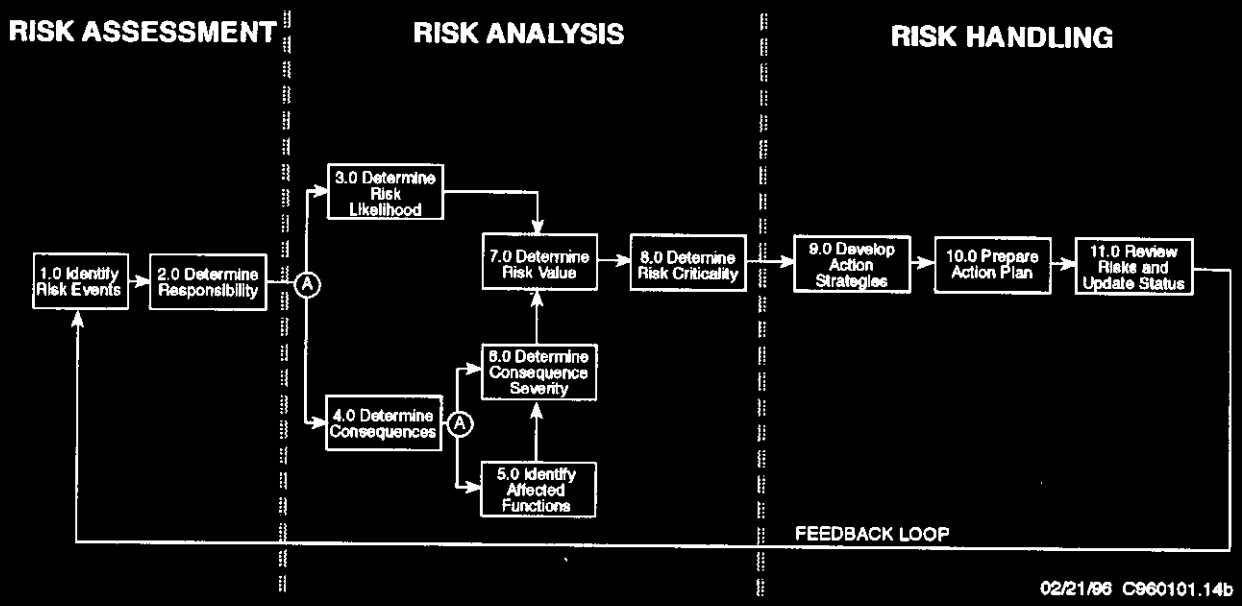
1.3.4 TWRS S&TI Managers

Each TWRS S&TI manager is responsible for working with the Director and the POC on a weekly basis to assure that risk items are identified and captured accurately in the risk database.

2.0 IMPLEMENTATION

A Programmatic Risk Information System (PRIMS) has been developed to record and track risk information. The database application has features that provide for tracking historical risk data, maintaining a risk management list, and recording qualitative and numerical likelihood and severity data that can be used in the analysis process. Section 4.0 of TSEP-04, "Risk Management" (Interim) Procedure, describes guidelines for how risks will be assessed, analyzed, handled, and archived in PRIMS.

Training for management and key personnel shall be conducted on the process used to identify, assess, and handle risks. This will ensure consistency with the rest of TWRS and will expedite the remaining risk management activities. This training will discuss the Risk Assessment, Risk Analysis, and Risk Handling process steps shown in the following figure (see Section 4.0, TSEP-04):



2.1 Risk Assessment

Risk assessment consists of the initial steps taken to identify a manageable set of risk events for the project and to assign management and technical staff responsibility (see Section 4.2, TSEP-04).

Risk events should be evaluated for their level of impact. Those risk events accepted as being relevant to the program should be placed on the RML. After establishing a list of risks, management and staff responsibilities must be determined.

A draft S&TI RML has been prepared using input from management and key personnel. Interviews shall be conducted with management and key personnel to ensure appropriate items have been identified on the RML and that the responsibility for that item has been assigned. This database shall be maintained by the Risk Database Administrator and updated using input from these interviews.

2.2 Risk Analysis

Risk analysis consists of the steps taken to determine the likelihood of an event occurring and the consequences if it does occur, including risk likelihood, consequence severity, risk value, and whether a risk is to be considered critical or not critical. Section 4.3, TSEP-04, details the process used for this analysis.

Risk likelihood is the probability that an unwanted event will occur if no further action is taken to prevent it from happening. It is expressed qualitatively as low, medium, or high. The methods used to rate risks can be qualitative as well as quantitative.

Consequences are the negative effects should an unwanted risk event occur. Consequences can be determined by building possible event scenarios or by using a more formal analysis approach. As part of preparing a list of consequences, system functions impacted by a risk must be determined.

Consequence severity is the magnitude of the effect if an unwanted risk event occurs. This consequence severity is categorized as low, medium, or high.

Risk values are magnitude guidelines determined at the intersection between risk likelihood and consequence (see Risk Value Matrix, Section 4.3.5, TSEP-04) and are used as an interpretive measure of the programmatic impact. These risk values are rated very low, low, medium, high, and very high. The magnitude of an event with a low likelihood and a low consequence is very low, which means the event should not require intensive management attention. However, if the magnitude of an event is very high, the event should be considered as being critical to TWRS S&TI.

Risk criticality is a subjective indicator of the need to intensively manage, or not intensively manage, a risk based on its programmatic impact.

2.3 Risk Handling

Risk handling consists of the set of risk management actions taken or decisions made to address the identified risks, including the planning for specific actions in response (see Section 4.4, TSEP-04). Risk handling requires continuous management attention.

Action strategies may be developed to address risk issues as determined by the Director and/or POC. These actions generally fall into one or more of the categories of avoid, control, accept (assume), and transfer as detailed in Section 4.4.1, TSEP-04.

The status of each TWRS S&TI risk item should be determined and categorized by red, amber, or green:

- Any risk item identified as **RED** (major deviation exists between risk handling and schedule and/or budget; management intervention is required) shall be reviewed and statused by management on a weekly basis.

- Any risk item identified as **AMBER** (minor deviation exists between planned risk handling and schedule and budget) shall be reviewed and statused on a weekly basis.

- Any risk item identified as **GREEN** (risk handling is on schedule and within budget) shall be reviewed and statused on a monthly basis.

The TWRS S&TI organization plans to use the RML database as a management tool to identify potential risks jeopardizing cost, schedule, and technical performance and to identify and implement actions to mitigate those risks. The TWRS S&TI organization plans to review the RML in the following manner:

- The Director will lead a review of red risk items each Monday at the TWRS S&TI Plan-of-the-Week meeting, staff meetings, or other vehicle of communication so deemed appropriate by the Director. The revised RML will be distributed Monday afternoon.

- Tuesday through Thursday, the POC will conduct meetings with individual managers and/or key personnel to check the accuracy of the updated RML, review any red risk items and/or add new critical risks items to the RML, and refine the RML.

- Each Friday, the POC and the Director will review the updated RML in preparation for Monday's meeting. The updated RML will be distributed to individual managers and key personnel before Monday's meeting.

3.0 IMPLEMENTATION SCHEDULE

- Implement Risk Management training - February 26, 1996 (Complete).

- Conduct management and key personnel interviews - March 1996.

- Update RML database - March 1996.

- Distribute initial RML for use and comment to management and key personnel - March 18, 1996.

- Followup interviews with management and key personnel for RML refinement - Ongoing after March 1996.

- Evaluate RMP for necessary changes based on personnel use and upated procedures - May 1996.

4.0 REFERENCES

WHC-SD-WM-SEMP-002, Revision 0, "Tank Waste Remediation System Systems Engineering Management Plan, dated February 5, 1996.

WHC-SD-WM-PMP-018, Revision 0, "Tank Waste Remediation System Risk Management Plan," dated October 16, 1995.

WHC-SD-WM-RPT-201, Revision 0, "Tank Waste Remediation System Risk Management List, dated October 16, 1995.

TSEP-04, "Risk Management" (Interim) Procedure, DRAFT, dated August 22, 1995.

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