



**Department of Energy**  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

JUL 30 1998

98-SCD-066

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, N.W., Suite 700  
Washington, D.C. 20004

Dear Mr. Chairman:

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD (DNFSB) RECOMMENDATION 92-4 IMPLEMENTATION PLAN (IP), REVISION 2N, COMMITMENT 5.2.3(c) "DEVELOP CRITERIA TO ASSESS WHETHER PRIVATIZATION CONTRACTORS' AND NON-PRIVATIZED CONTRACTORS' AUTHORIZATION AGREEMENTS ARE ADEQUATELY INTEGRATED"**

The U.S. Department of Energy, Richland Operations Office (RL) has completed Commitment 5.2.3(c) in the subject IP. The attached deliverable provides a letter report identifying the criteria of acceptability for the Authorization Agreements among RL, the Hanford Tank Waste Remediation System (TWRS) Privatization Contractor, and the non-privatized Hanford contractors (Project Hanford Management Contract Team). The attachment to this letter describes the development of criteria to assess whether the TWRS Privatization Contractors and non-privatized contractors Authorization Agreements are adequately integrated. These criteria were developed to ensure that safety will be maintained during transfer of equipment and materials. The intent of developing the criteria is to enable evaluation of the Authorization Agreements at the interface points to the Privatization Contractors Authorization Bases. The attached report develops initial criteria based on interfaces as known early in the development of treatment concepts.

RL has completed the action identified under this milestone and proposes closure of this commitment.

If you have any questions, please contact me, or your staff may contact Jackson Kinzer, Assistant Manager for the TWRS, on (509) 376-7591.

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Wagoner".

John D. Wagoner  
Manager

TWR:SAW

Attachment

The Honorable John T. Conway  
98-SCD-066

-2-

JUL 30 1998

**ORIGINAL SIGNED BY  
LLOYD L PIPER  
DEPUTY MANAGER**

cc w/attach:

J. M. Owendoff, EM-1

C. A. Peabody, EM-4

M. W. Frei, EM-30

R. G. Lightner, EM-38

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M. B. Whitaker, S-3.1

**HANFORD TANK WASTE REMEDIATION SYSTEM**

**INITIAL CRITERIA FOR THE U.S. DEPARTMENT OF ENERGY, RICHLAND  
OPERATIONS OFFICE AUTHORIZATION AGREEMENTS WITH  
PRIVATIZATION CONTRACTORS AND NON-PRIVATIZED CONTRACTORS**

# CRITERIA FOR AUTHORIZATION AGREEMENT INTEGRATION

## I. BACKGROUND

This document describes the initial criteria for assessing adequate integration of safety provisions for the workers, public, and environment during retrieval and treatment of high-level mixed waste stored in tanks at the U.S. Department of Energy (DOE), Richland Operations Office (RL), Hanford Site. Initial waste treatment is planned to be carried out by a Privatization Contractor under a regulatory process, which is different than that presently used for waste storage and retrieval. It is necessary that the interfaces between the several regulated Contractors be managed in a manner that provides assurance of integrated safety.

As currently operated, the Tank Waste Remediation System (TWRS) is conducting a storage mission. The nuclear safety regulatory framework of this operation is authorized by RL under the provisions of DOE Orders and Rules. A change in mission is being implemented under which storage and retrieval will be authorized by the RL Manager using classical DOE processes and privatized waste processing will be authorized for the Manager, by a special Regulatory Unit (RU). The special RU will regulate in a manner similar to the Nuclear Regulatory Commission (NRC). This hybrid regulatory approach is envisioned to be an element of evolution for RL nuclear facilities to be ultimately regulated directly by the NRC.

The provisions of this approach are detailed in contract specific documents authorized by the DOE Under Secretary for this purpose. In general, the Privatization Contractor is expected to provide the initiative to safely and effectively connect its facility and operations with the existing site. Because in the Privatization contract differing physical processes, contracting arrangements, and regulatory processes will be used, several features of interface with other Hanford Site Contractors must be managed to assure adequate protection of the worker, public, and environment. The Privatization contract also details a mechanism by which interfaces are systematically identified, necessary exchange protocols developed and ultimately the respective authorization agreements modified to support uninterrupted safety during each interface transaction. This document identifies the currently known interfaces and criteria for assuring that they are adequately integrated.

Responsibility for technical and business management of the TWRS Privatization Contractor is separated from the organizations responsible for protecting the safety and health of the workers and public. The RL TWRS Waste Disposal Division (WDD) coordinates all technical, logistics, and systems interfaces necessary to support waste treatment operations, and assists with integration of the Privatized Contractor's business and management interactions. TWRS WDD will not directly manage any of the operations of the privately owned facilities.

Responsibility for technical and business management of the TWRS Non-Privatized Contractor is fully under the authority of the RL TWRS Assistant Manager. RL TWRS directly manages all operations of the government owned facilities. This includes all tank farm operations with the exception of any feed staging tanks transferred to the Privatized Contractor.

The lead responsibility for regulating the radiological, nuclear, and process safety of the TWRS Privatization Contractors is assigned to the Office of Radiological, Nuclear, and Process Safety Regulation (known as the "Regulatory Unit"), which is completely independent of the procurement and business aspects of the contracts. The RU confirms the safety adequacy of technical, logistics, and systems interfaces within its charter for authorization and oversight. The RU reports directly to the RL Manager and will institute a safety and health protection approach that is well structured, staffed by fully qualified and experienced personnel, and is disciplined in its operation. The single focus of the RU is the safety and health protection of the workers and public.

The full responsibility for regulating the radiological, nuclear, and process safety of the TWRS Non-Privatized Contractors is under the direct authority of the RL Manager. Day to day operational safety responsibility is delegated to the RL TWRS Assistant Manager with oversight from RL Quality, Safety, and Health Programs Division (QSH).

A regulatory management tool, called for in the Privatization contract to provide structure to management of safety standards, including for interfaces, is the Authorization Agreement. On July 24, 1998, an Authorization Agreement was signed for the TWRS storage mission. The agreement is intended to be expanded to cover retrieval and to be integrated with a similar agreement between the RU and the Privatization Contractor for waste processing. "Authorization Agreements for Defense Nuclear Facilities and Activities," Defense Nuclear Facilities Safety Board (DNFSB)/TECH-19, provides the DNFSB's perspective on an approach for preparing Authorization Agreements.

The criteria for ensuring integration between adjacent Authorization Agreements described in this document are considered to be an initial set that will evolve as the waste processing approach is further developed. Activities being considered for this purpose are in very early stages of development. Therefore, the descriptions of interfaces are generalized in this document and are based on those described in the TWRS Privatization contract.

Known interface requirements are defined in the Privatization Contractor's contract and the Project Hanford Management Contract (PHMC) Contractor Functions and Requirements document. Interface requirements are defined in detail in Contract Specifications, Interface Descriptions, and in the Interface Control Documents (ICD). RL, the PHMC Contractor, and the Privatization Contractor worked to establish the details within ICDs through the Integrated Product Teams between September 25, 1996, and January 26, 1998. These ICDs have continued to evolve through the Privatization contract negotiation period and will be maintained and mature through the life of the project.

The Authorization Agreements and Authorization Bases are integrated through specific requirements specified at interfaces. For example, tank waste feed is a deliverable by the PHMC Contractor to the Privatization Contractor. Tank waste feed is staged by the PHMC Contractor in accordance with their approved Authorization Basis. The tank waste characteristics are described by specifications. Interface Descriptions provide top level requirements for managing the interface and developing ICDs, and ICDs provide the detailed description regarding administrative and physical aspects of the transfer. The Privatization Contractor receives tank waste feed in accordance with the above requirements, which conform to the Privatization Contractor's Authorization Basis. Waste treatment within the Privatization Contractor's facility is performed in accordance with their Authorization Basis.

RL is committed to develop criteria to assess whether the Authorization Agreements between the Privatization Contractor, the PHMC Contractor Team, the RU, and RL, are integrated sufficiently to ensure safety will be maintained during transfer of equipment and materials for Privatization (e.g., Tank 241-AP-106). The intent of developing the criteria is to enable objective evaluation of the ICDs developed by the Privatization Contractor and the affected Hanford Site parties at the interface points to the Privatization Contractor Authorization Bases. The criteria will aid in identification of critical control features, which should be incorporated in the affected Authorization Agreements.

Two types of interfaces are considered of greatest importance. These are physical and management systems interfaces. Physical interfaces are those where property, waste or treated products are exchanged between the Privatization Contractor and RL or the PHMC Contractor. Management system interfaces are those integrated safety management-implementing mechanisms that must be coordinated in order for both Contractors to conduct activities in an integrated manner.

## **II. INITIAL TWRS PRIVATIZATION PHYSICAL INTERFACE CRITERIA**

This section briefly describes the physical interfaces between the Privatization Contractor and RL or the PHMC Contractor Team. Initial top level criteria are described that will be used by RL for assessing adequate integration of safety for the workers, public, and environment.

1. Raw Water – RL will provide raw water to the privatized facilities for processes and fire protection. Because this water will be used for fire protection, the interface is important to safety. This system will be subject to design and operation consistent with an approved ICD.

### Criteria

TWRS coordinated oversight confirms:

- The ICD provides for fire protection.

RU oversight confirms:

- Privatization Contractor Authorization Basis assumption are reflected in an ICD that provide assurance that Privatization Contractor fire protection requirements will be fulfilled by adequate reliable provision of raw water from RL and the PHMC Contractor.
2. Potable Water – RL will provide potable water to the privatized facilities for domestic use. Existing site processes will be used for this interface.
  3. Radioactive Solid Waste – Low-level, low-level mixed, transuranic (TRU), and TRU mixed solid wastes will be generated by the privatized facilities and transferred to the PHMC Contractor for management and disposal.

#### Criteria

TWRS coordinated oversight confirms:

- Radioactive solid waste transfers are in accordance with the Hanford Site Solid Waste Acceptance Criteria, HNF-EP-0063 (Revision 5) or current successor criteria specified in the ICD.

RU oversight confirms:

- The Privatization Contractor Authorization Agreement establishes requirements for transfer, transportation, and waste management of radioactive solid waste.
4. Dangerous Waste – Non-radioactive dangerous waste will be generated by the privatized facilities and sent to an offsite Resource Conservation & Recovery Act (RCRA) permitted treatment, storage, and disposal facility. Because RL will not accept these wastes, no safety criteria are needed.
  5. Non-Radioactive, Non-Dangerous Liquid Effluents – Uncontaminated waste water which meets interface acceptance criteria will be discharged directly to the 200 Area Treated Effluent Disposal Facility (TEDF).

Provisions of the RU approved Authorization Basis will ensure the absence of radioactive contamination in this effluent pathway. The requirements established by the TEDF arise from State of Washington permit requirements for non-radiological contaminants that are applicable to the Hanford Site as a whole.

### Criteria

TWRS coordinated oversight confirms:

- Transfers of non-radioactive, non-dangerous liquid effluents to TEDF meets the requirements of the 200 Area Treated Effluent Disposal ICD (WHC-SD-WO49H-ICD-001) and the State of Washington Waste Discharge Permit, ST4502.
6. Radioactive, Dangerous Liquid Effluents – Dilute radioactive and/or dangerous process liquid waste effluents may be generated which require treatment to meet interface acceptance criteria for discharge to the Liquid Effluent Retention Facility (LERF) and/or to the Effluent Treatment Facility (ETF) for subsequent treatment.

### Criteria

TWRS coordinated oversight confirms:

- Radioactive, dangerous liquid waste transfers are in accordance with the ETF Acceptance of Feed Streams for Treatment at the LERF/ETF Complex as specified in WHC-SD-ETF-WAC-001 or current successor criteria specified in the ICD.

RU oversight confirms:

- The Privatization Contractor Authorization Agreement establishes the requirements for safe transfer of radioactive dangerous liquid effluent from the Privatization Contractor to the PHMC Contractor.
7. Non-Dangerous Solid Wastes – Non-radioactive, non-dangerous wastes will be sent to an external treatment, storage, and disposal facility. Because RL will not accept these wastes, no safety interface criteria are needed.
8. Liquid Sanitary Wastes – The privatized facilities will design, permit, install, operate, and deactivate any needed sanitary waste treatment system. Because RL will not accept these wastes, no safety interface criteria are needed.
9. Land for Siting – Land for siting privatized facilities will be provided by RL. Safety interface criteria are needed for land use and environmental considerations.



### Criteria

RU oversight confirms:

- Appropriate conditions shall be incorporated in the Privatization Contractor Authorization Agreement to ensure that the National Environmental Policy Act (NEPA) requirements are appropriately considered by the Contractor.

TWRS coordinated oversight confirms:

- The ICD provides for appropriate land use and environmental considerations.
- NEPA requirements are fulfilled by the Privatization Contractor and the PHMC Contractor as appropriate.

10. Deactivated Facility and Site – Upon completion of processing operations deactivated facilities will be transferred to RL for surveillance and maintenance, decontamination/decommissioning, and RCRA closure. Safety interface criteria are needed for this function.

### Criteria

TWRS coordinated oversight confirms:

- The ICD incorporates safety criteria for facility transfers to RL.

RU oversight confirms:

- Defined and accepted processes and protocols for turning facilities over to RL are incorporated into the Privatization Contractor Authorization Agreement and shall include nuclear, radiological, chemical, industrial and process safety, environmental, and permit condition parameters.
11. Electricity – Power will be provided to the Privatization Contractor facility. Site electricity supplies may be depended upon for hazard control purposes and as such may be important to safety in the Privatization Contractor Authorization Basis. The supply of electricity is subject to operation consistent with the provisions of the approved ICD.

## Criteria

TWRS coordinated oversight confirms:

- Authorization Agreements and the ICD provide assurance that Privatization Contractor electrical demands are reliably fulfilled by adequate reliable provision of electric power if depended on for hazard control.

RU oversight confirms:

- Protocols and processes for initiating, maintaining, and interrupting electrical power are defined in the Privatization Contractor Authorization Agreement.
12. Roads and Rails – The primary roads and RL rail system provide access to the 200 Area. No direct rail link will be provided to the privatized facilities. Private road access to the Privatization site will be provided from existing Hanford Site roads. No specific safety interface criteria are needed.
  13. Immobilized High-Level Waste (IHLW) – The privatized facilities will produce IHLW sealed in canisters suitable for interim storage and future placement in a geologic repository. All aspects of this activity will be controlled by approved Authorization Bases and Agreements on both the Privatization and PHMC Contractor sides of the interface. Authorization Agreements will be developed prior to operations. An interim agreement may be developed with the Privatization Contractor, as appropriate, for limited operational activities that occur prior to vitrification operations.

## Criteria

TWRS coordinated oversight confirms:

- The PHMC Contractor Authorization Basis shall provide for acceptance, transportation, handling, and storage of IHLW prior to any waste transfers.
- The ICD provides for safe transfers of IHLW.

RU oversight confirms:

- The Privatization Contractor Authorization Agreement establishes requirements for safe transportation and handling of IHLW.
14. Immobilized Low-Activity Waste (ILAW) – The privatized facilities will produce ILAW sealed in steel boxes for storage and disposal on the Hanford site. All aspects of this activity will be controlled by approved Authorization Bases on

both the Privatization and PHMC Contractor side of the interface. Both Authorization Bases are in preparation.

Criteria

TWRS coordinated oversight confirms:

- The PHMC Contractor Authorization Basis provides for transportation, handling, and disposal prior to any waste transfers.
- The ICD provides for safe transfer of ILAW.

RU oversight confirms:

- The Privatization Contractor Authorization Agreement establishes requirements for safe transportation and handling of ILAW on the Privatization Contractor site.

15. Entrained Solids – Entrained solids separated from the Low- Activity Waste (LAW) feed will be transferred to PHMC Contractor via pipelines. This interface controls the exchange of radioactive waste material separated from liquid feed waste that is not immobilized by the Privatization Contractor’s treatment process. All aspects of this activity will be controlled by approved Authorization Bases and Agreements on both the Privatization and PHMC Contractor sides of the interface. The exchange is subject to operation consistent with the provisions of the approved ICD.

Criteria

TWRS coordinated oversight confirms:

- The PHMC Contractor Authorization Basis provides for TRU entrained solids waste transfer and waste receipt prior to any waste transfers.
- The ICD provides for safe transfer of entrained solids.

RU oversight confirms:

- The Privatization Contractor Authorization Agreement establishes requirements for safe management of entrained solids.

16. LAW Feed – Liquids and entrained solids will be transferred to the privatized facilities for treatment. All aspects of this activity will be controlled by approved Authorization Bases on both the Privatization and PHMC Contractor sides of the interface. Modification of the existing TWRS Authorization Basis is currently underway to provide for waste retrieval and feed transfer.

### Criteria

TWRS coordinated oversight confirms:

- The PHMC Contractor Authorization Basis provides for retrieval and feed transfer prior to any waste feed delivery.
- The ICD provides for safe transfer of LAW feed.

RU oversight confirms:

- The Privatized Facility Authorization Agreement contains provisions for safe receipt and transfer of LAW feed.

17. High-Level Waste (HLW) Feed – HLW feed will be transferred to the privatized facilities for treatment. All aspects of this activity will be controlled by approved Authorization Bases and Agreements on both the Privatization and PHMC Contractor sides of the interface. Modification of the existing TWRS Authorization Basis is currently underway to provide for waste retrieval and feed transfer.

### Criteria

TWRS coordinated oversight confirms:

- The PHMC Contractor Authorization Basis provides for retrieval and feed transfer prior to any waste feed delivery.
- The ICD provides for safe transfer of HLW feed.

RU oversight confirms:

- The Privatized Facility Authorization Agreement contains provisions for safe receipt and transfer of HLW feed.

18. Waste Feed Tank – Custody and operational control of a specific double-shell tank is planned to be transferred to the Privatization Contractor as a waste receipt-staging tank. After project completion, this tank will be returned to the operational custody of the PHMC Contractor. All aspects of this activity will be controlled by approved Authorization Bases and Agreements on both the Privatization and PHMC Contractor sides of the interface.

### Criteria

RU and TWRS coordinated oversight confirms:

- The PHMC Contractor Authorization Basis for operation of waste feed tanks is based on a valid hazard and accident analysis considering actual waste properties and tank equipment condition. Technical Safety Requirements (TSR) for the Privatization Contractor operation of the waste feed tanks are approved by the RU.
  - The ICD provides for safe exchange of waste feed tank custody.
19. Air Emissions – Treated gaseous wastes from the operation of waste treatment services will be discharged to the atmosphere from the privatized facilities. The Privatization Contractor's facilities will be permitted under the site-wide air-operating permit for Hanford.

### Criteria

TWRS coordinated oversight confirms:

- Air emissions are covered appropriately by Hanford Site permits.

RU oversight confirms:

- Air emissions are in accordance with the Privatization Contractor Authorization Agreement.

## **III. INITIAL TWRS MANAGEMENT SYSTEM CRITERIA**

As the Privatization initiative progresses, it is necessary to assure all interfaces are evaluated to assure effective safety management. As the program matures and facility designs are refined, additional areas of physical interface will be identified and management systems will be relied upon to provide integrated safety management. As additional or changed physical interfaces are defined, the ICDs will be appropriately modified. Significant interaction is expected between the development of ICDs and Safety Management Systems. Figure 1 depicts a system of logic planned to be used to refine safety management for both new interfaces and those described in Section II.

Management systems will be relied upon in concert with the Integrated Safety Management System (ISMS). Figure 2 depicts the basic concept of ISMS, which provides the management framework for the PHMC Contractor.

RL, in response to DNFSB Recommendation 95-2, has committed to implementing a plan that will institutionalize ISMS across the complex. The plan uses contract clauses

that require DOE and support Contractors to follow ISMS guiding principles and core functions (define work, analyze hazards, develop/implement controls, perform work, and provide feedback) to describe the approach for implementing and tailoring ISMS at the site, facility, and activity level.

RL TWRS and the PHMC Contractor maintain a facility level ISMS for purposes of: 1) program management; 2) management of environment, safety, and health (ES&H) controls; and 3) project oversight.

TWRS program management formulates projects and activities (*Define Work*) in accordance with the Hanford Site and TWRS missions as translated into the site work breakdown structure and financial management systems. The work definition is evaluated with respect to applicable federal and state requirements in accordance with the RL Functions, Responsibilities, and Authorities Manual and the PHMC TWRS Standards/Requirements Identification Document. The PHMC Contractor evaluates hazards associated with the work (*Analyze Hazards*) against occupational safety and health, nuclear safety, radiological control, environmental, and safeguards and security requirements to assure that the proper set of TSRs, administrative controls, and permitting requirements (*Develop/Implement Controls*) are developed. The requirements and controls are independently reviewed and approved by RL before work is authorized to proceed. TWRS has incorporated the requirements for work authorization into an Authorization Agreement that is incorporated into the PHMC Contract. A TWRS “docket” is maintained to control and manage changes to the basis for authorization of work, that may result from a new project or modifications to existing projects that may arise from Unreviewed Safety Questions (USQ) or other changes to the authorization basis proposed by the PHMC Contractor through an Engineering Change Notice process.

Readiness reviews are conducted prior to startup or restart of TWRS construction or operations projects as required. As work is performed (*Perform Work*) RL TWRS conducts project oversight functions including project management and reporting, monitoring, and assessing. RL TWRS and PHMC project management evaluate potential cost and schedule impacts versus baselines provided in project execution plans. The project managers evaluate the potential for occupational safety and health, nuclear safety, maintenance, and environmental impacts confronting the project during the course of work performance. The project managers are supported by facility representative surveillances, management walkthroughs, program assessments, and management assessments. Project manager’s routinely forward information on project progress and potential impacts (*Feedback*) for consideration by RL TWRS program management. If the status of performance indicates unplanned delays, costs, or risks to the public, workers, environment, or property, the information is fed to RL TWRS and PHMC Contractor management through the TWRS Risk Management System. The outcome may be the acceptance of the change in project risk, reprioritization of TWRS activities through the Integrated Priority List, changes in the project controls, improvement to ISMS processes and work practices, or amendment to the TWRS Authorization Agreement.

Specific management systems have been identified which may require interface between the Privatization Contractor and the PHMC Contractor. Examples of those management systems include the following:

- USQ process;
- Safety Issue Resolution;
- Configuration Management System;
- Emergency Preparedness;
- Fire Protection System;
- Training;
- Quality Assurance Program;
- Radiological Control Program;
- Safeguards and Security Systems; and
- Conduct of Operations.

The integration of the management systems in concert with the ICD assures the safe transfer of waste or treated product by formalizing communications, roles and responsibilities, and information transfer.

There are four basic groups of criteria RL would utilize to evaluate the effectiveness for the interface for the management systems. Those basic groups are: operability; integration; value added; and contractual consideration.

The operability criteria guides evaluation of the overall effectiveness of the management system in providing predictable consistent protection of the public, worker, and environment. Elements to be considered when applying the criteria include the following:

- Degree/necessary level of compatibility;
- Timelines of information transfer;
- Degree/level of formality of management system;
- Degree/level of evaluation method/applicability/compatibility by each Contractor;
- Degree/level of evaluation method/applicability/compatibility by RL;
- RL notification/reporting during transfers of information (transparent system versus RL serving as go-between, requirements basis);
- Impacts/evaluation of reliability, availability, and maintainability of management systems;
- Impacts to operating envelope (inclusive of design);
- Longevity/usage of management system; and
- Compatibility of configuration management of management systems.

The integration criteria guides evaluation of all elements of the ISMS depicted in Figure 2. Integration considers the effect of each management system on the entire system. Elements to be considered when applying these criteria include:

- Integration with other management systems;
- Integration with other physical interfaces;
- Impacts/interfaces with the site and other projects; and
- External interfaces/requirements.

Value added criteria guides evaluation of the specific contribution of the management system. Continuous improvement to individual management systems requires that protection aspects are balanced with understanding of other values. Elements to be considered when applying the criteria include:

- Impacts/contributions to mission; and
- Relationship to overall risk.

Contractual criteria must be considered because of the fundamental relationship of the Authorization Agreements and the different types of contracts between RL and the Privatization and PHMC Contractors. Elements to be considered when applying the criteria include:

- Existence/elevation to contractual requirement if necessary;
- Evaluation of conflicting contractual requirements; and
- Impacts on other Contractors and contracts besides the PHMC Contractor.

Application of the criteria should be a function of the maturity of the system (e. g., new versus exiting), timing of the need (e. g., designs versus operation), and level of significance (e.g., direct impact on safety versus indirect).

RL will also evaluate at what point the management systems must have the criteria applied to assure incorporation with the contract, the Authorization Agreement, or the Safety Evaluation Report as appropriate.

#### **IV. FUTURE TWRS PHYSICAL INTERFACE CRITERIA**

ICDs define and establish control parameters for physical interfaces. These physical interfaces are the specific points of transfer between Contractors for which integrated safety must be assured. As new interfaces are defined, RL oversight activities will be focused on sufficient specificity to allow Safety Management Systems to be considered in amending Authorization Agreements. Criteria to be used in evaluating ICDs and specifications will include administrative procedures, permit and disposal requirements, physical interface, chemical characteristics, and radiological characteristics.

The administrative procedure criteria help identify which management system might be affected by a specific interface. Elements to be considered include:

- Information and documentation needs;
- Acceptance criteria (e.g., Quality Assurance);



- Schedule;
- Physical handling (who, what, when, where, and how); and
- Responsibilities (for maintenance, construction, etc.).

The permit and disposal requirements criteria incorporated, affected institutional and regulatory parameters including:

- Specific State and Federal requirements such as Washington Administrative Codes, Safe Drinking Water Act, Clean Air Act, Clean Water Act, etc.;
- Safety Authorization Basis;
- DOE Orders, Nuclear Regulatory Commission requirements;
- NEPA requirements; and
- Final End State.

The physical interface criteria require the interface to be sufficiently defined such that necessary management systems can be identified. Subcriteria to be considered include:

- Reliability;
- Availability;
- Maintainability;
- Buffer requirements (e.g., lag storage capacity);
- Schematic drawings (location, flange sizes, etc.);
- Quantity, size, mass, volume, etc.;
- Transportation and package requirements; and
- Pipeline transfer requirements (e.g., head pressure, flush volume, solids content).

The chemical characteristics criteria require the ICD to identify parameters of importance to hazard determination and control including:

- Corrosivity, ignitability, gas generation;
- Waste compatibility; and
- Processability.

The radiological characteristics criteria requires the ICD to identify parameters of importance to hazard determination and control including:

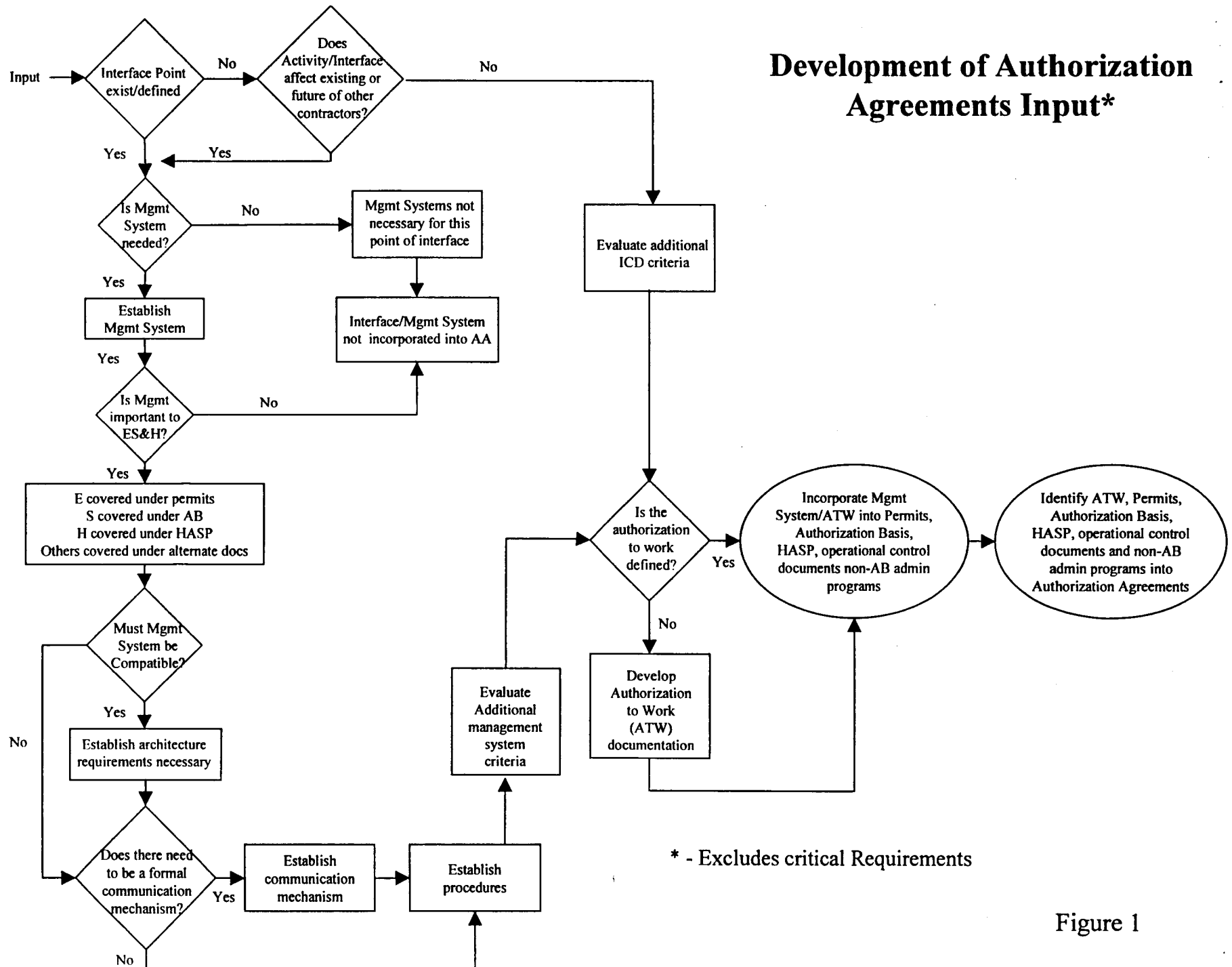
- Criticality;
- Dose; and
- Contamination.

## V. SUMMARY

RL is committed to develop criteria to assess whether Authorization Agreements between the Privatization Contractor, the PHMC Contractor, the RU, and RL are integrated sufficiently to ensure safety will be maintained during transfer of equipment and

materials for Privatization. The criteria will aid in identification of critical control features, which should be incorporated in the affected Authorization Agreements. Two principle interfaces were specifically examined: 1) Physical interfaces in which property, wastes, or treated wastes were exchanged; and 2) Management systems interfaces in which processes were developed to assure safety, health, and environmental compliance. Specific criteria were developed in conjunction for each type of interface. Interfaces of significant importance to ES&H will be documented with ICDs or referenced in the Authorization Agreement.

# Development of Authorization Agreements Input\*



\* - Excludes critical Requirements

Figure 1

# TWRS INTEGRATED SAFETY MANAGEMENT SYSTEM

