DOE/RL-94-111

Tri-Party Agreement Strategic Data Management Plan

Date Published
September 1994

United States
Department of Energy
P.O. Box 550
Richland, Washington 99352

Approved for Public Release

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ACRONYMS

CAB	Coordinating Action Board
CDCC	Chemical Data Coordinating Council
CAD	computer aided design
DOE	U.S. Department of Energy
Ecology	State of Washington Department of Ecology
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ERDF	Environmental Restoration Disposal Facility
ERS	Environmental Release Summary
FY	Fiscal Year
GIS	geographic information systems
GPS	global positioning systems
HDAB	Hanford Data Administration Board
HEIS	Hanford Environmental Information System
HGIS	Hanford Geographic Information System
HLAN	Hanford Local Area Network
ICM	Information and Communications Management
MSDS	Material Safety Data Sheets
NAVD88	North American Vertical Datum of 1988
PAMS	Photo and Audio/Visual Management System
RHA-MIS	Records Holding Area-Management Information System
RL	U.S. Department of Energy, Richland Operations Office
SDCC	Spatial Data Coordination Council
SDTS	Spatial Data Transfer Standards
SID	Site Infrastructure Division
STI	Strategic Transition Initiatives Division
Tri-Party Agreement	Hanford Federal Facility Agreement and Consent Order
TPA	Tri-Party Agreement
TWRS	Tank Waste Remediation System
USACE	United States Army Corps of Engineers
WM	Waste Management

TRI-PARTY AGREEMENT STRATEGIC DATA MANAGEMENT PLAN

SEPTEMBER 1994

EXECUTIVE SUMMARY

The Vision for Tri-Party Agreement (TPA) Data Management is to provide an environment where every person has the information needed to do their job. Therefore, Hanford Site data management must ensure that the right information gets to the right people in the right place at the right time in the right form at the right cost.

The *Tri-Party Agreement Strategic Data Management Plan* provides direction to program managers and support staff for effective data management. The Plan identifies strategies and establishes requirements for achieving effective management of data related to the Tri-Party Agreement. The result of an effective data management plan is a cost-effective operation with a vehicle for evaluating performance.

A successful data management program at the Hanford Site depends on existing infrastructure of essential resources, including strategic plans, policies and procedures, tools and methods, and commitment of management and employees.

1.0 INTRODUCTION

Throughout this document, the Hanford Federal Facility Agreement and Consent Order[1], an agreement originally signed in 1989 by the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), and the State of Washington Department of Ecology (Ecology), is referred to as the Tri-Party Agreement.

The *Tri Party Agreement Strategic Data Management Plan* is built on the assumption that information is a Hanford Site resource and a primary deliverable to our customers. Therefore, effective management is critical for the Hanford Site to meet internal and external demands for data, which are the basis for decisions and the vehicle through which actions are implemented and reported.

1.1 BACKGROUND

For nearly 50 years, the Hanford Site produced nuclear materials for the nation's defense programs. Today, the mission of the Hanford Site is to become a world leader in environmental cleanup. The mission will be

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[1]The *Hanford Federal Facility Agreement and Consent Order*, as amended, also known as the Tri-Party Agreement, is an agreement of the Washington State Department of Ecology, the U.S. Environmental Protection Agency, and the U.S. Environmental Protection Agency.

accomplished by sharing scientific and technical information and forming partnerships with private industry with a benefit being the economic diversification of the region. The framework for this enormous project is the historic Tri-Party Agreement, other agreements, and all applicable federal, state, and local laws.

The overall Hanford Site mission includes Waste Management (WM), Environmental Restoration (ER), Technology Development, Multi-Program Laboratory, Special Initiatives, General Site Support, and Facilities Transition Management. The business functions supporting these mission areas span a wide range of activities, including regulatory compliance, engineering, technology development, administrative services, waste management operations, sample collection and analysis, environmental characterization, facility operations, oversight activities, procurement, design, etc. The Systems Engineering approach is currently being used to better define Site missions, functions, and activities.

1.2 PURPOSE

The purpose of the *Tri Party Agreement Strategic Data Management Plan* is to identify and plan strategies that will enhance and improve the flow of data to Tri-Party Agreement customers. The plan supports a cultural change from managing technology to managing information because information is vital to meeting the overall Hanford Site mission.

This document is the foundation for program-specific data management plans and establishes future TPA Data Management milestones.

1.3 SCOPE

Data management involves the planning, organization, control, and operation of data resources to conduct business. It creates an environment that recognizes the significance of data management by establishing methods and tools for effective data management. This Plan addresses data and/or information, manual and automated, managed by the U.S. Department of Energy, Richland Operations Office (RL) and it's contractors to meet Tri-Party Agreement business objectives and missions. (Data consists of discrete facts about persons, places, things, or events that the Site creates, stores, updates, changes, deletes, shares, or uses. Information is an aggregation or synthesis of data which is used for decision making. The terms data and/or information are generally used interchangeably throughout this document since all principles discussed apply to both.)

1.4 VISION AND STRATEGIC GOAL

The vision for TPA Data Management is to provide an environment where every person has the information needed to accomplish his or her work. A person will be able to access information easily and quickly, and will not

receive more or less information than is needed to be effective and efficient. Data will be traceable to its source and of known quality throughout its life. In other words, the goal for effective data management is:

> *To ensure that the right INFORMATION gets to the right PEOPLE in the right PLACE at the right TIME in the right FORM at the right COST.*

The following principles lay the foundation for an effective data and information management environment, which will help achieve the TPA Data Management goal:

- Manage data and information from a business perspective
- Collect data only once
- Gather and maintain data with known and appropriate quality control and defensibility
- Establish and enforce data standards
- Share data based on need
- Enable internal and external stakeholders to access data
- Control and protect data and information
- Provide common tools and methods for managing data
- Educate employees and customers in their data management responsibilities
- Obtain Regulator and Hanford Site senior management support.

1.5 STAKEHOLDER VALUES

The values expressed by Tri-Party Agreement regulators, Program Managers, and other stakeholders are summarized as the following:

- Data and information must be available and accessible in order to be useful. It must be retrievable easily and quickly, with appropriate cross-referencing.
- Redundancy of data, data management processes, and data/information systems should be minimized or avoided. Data needs to be appropriately integrated and shared.
- Data and information should be accurate, current, complete, reliable, defensible, verified, and validated. Its quality should be as high as required and must be documented.
- Information and data are key management resources and they must be managed based on the business mission, goals, and requirements, rather than technology or equipment.

- Data should be managed from its creation, have a single, traceable source, and remain consistent as it is used.

- Employees and their organizations are accountable for data and information, and have specific responsibilities for managing it effectively.

- Data needs to be protected from loss, unauthorized alteration and inappropriate release.

- The information, systems, and related processes should be easy to use and understand (i.e., user-friendly). In turn, the customer must be knowledgeable about the uses and specific limitations of the data sets used to prevent extraneous conclusions based on inappropriate data uses.

The values expressed echo the TPA Data Management goal stated in Section 1.4. Stakeholders want the right data and information to be collected and retrieved, to a level which matches the need so that cost effectiveness is achieved, and they want it to go to the right people at the right time.

2.0 DATA MANAGEMENT ENVIRONMENT

2.1 BUSINESS ENVIRONMENT

Data support the business functions of the Hanford Site and are a major product. Almost all Hanford Site activities rely on the use of information resources. The scope of work performed at the Hanford Site requires the creation, collection, maintenance, tracking, management, analysis, and archiving of data. The work activities require the use of data in multiple forms, including text, numeric data, formatted reports, and images. The data may be electronic or manual and often exist in large volumes.

2.2 TPA DATA MANAGEMENT PROGRAM

Implementation of data management concepts and practices depends on the following:

- Formal policies, procedures, guidelines

- An effective organization structure and resources

- An active implementation plan

- An appropriate skill base of tools, methods, and people

- Commitment of management and employees.

Establishment and implementation of a centrally coordinated TPA Data Management program provide the mechanism for enabling the Site to manage and use data and information in a manner that most effectively supports the business.

The TPA Data Management vision and goal can be realized through translation of data management concepts into specific activities. The TPA Data Management program provides a framework for coordinating and integrating the activities associated with TPA Data Management. Employees and organizations can effectively manage their data with assistance from the program infrastructure. A key ingredient to successful implementation of the TPA Data Management program is each individuals commitment to improve the data/information environment. Figure 1, TPA Data Management, is a graphic presentation of the Site data management organization.

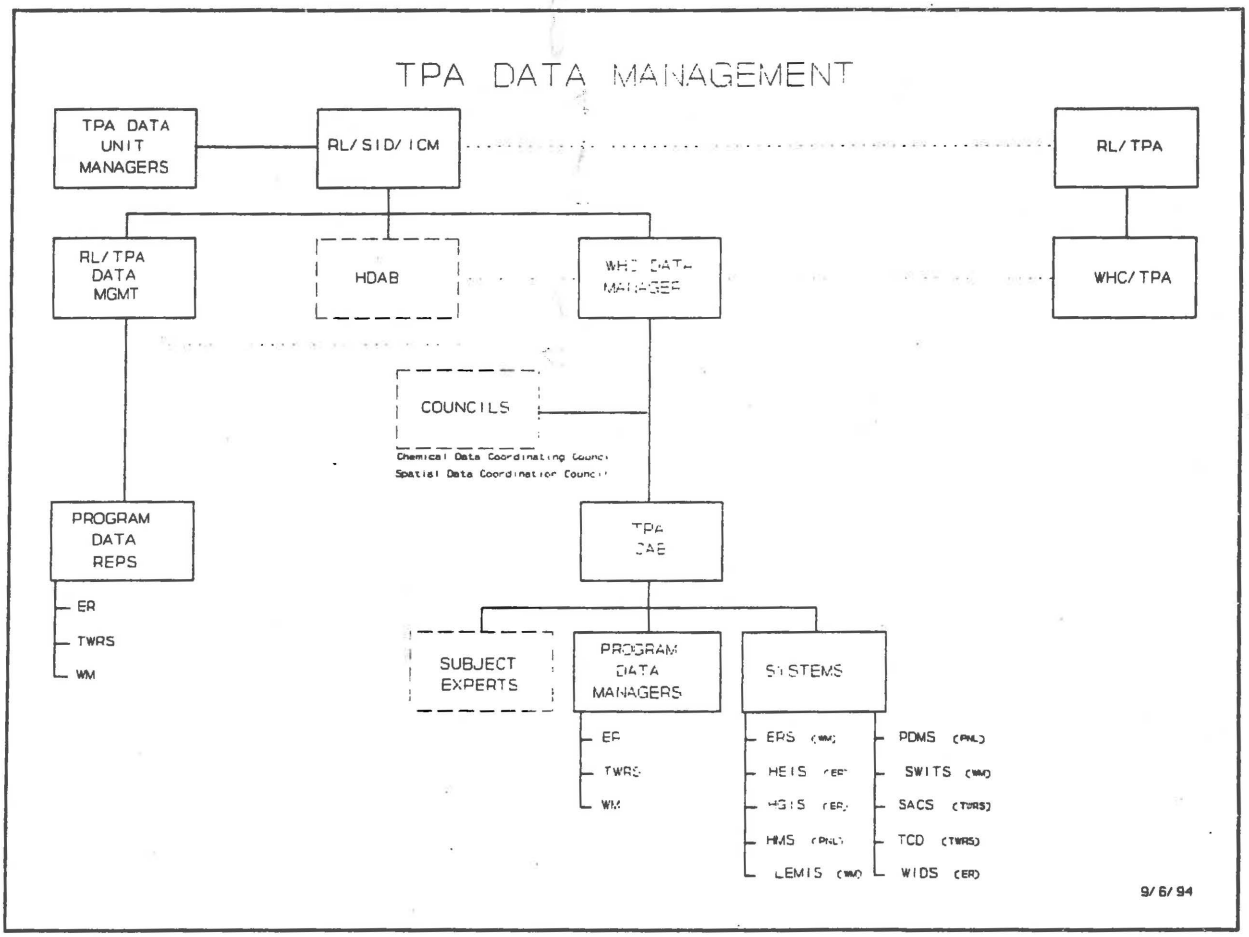

Figure 1 TPA Data Management

The following paragraphs detail the functions of the data management organization:

RL/TPA

The RL/TPA and Environmental Programs Staff oversees and in concert with the WHC/TPA division, facilitates implementation of the Tri-Party Agreement to ensure that Tri-Party Agreement milestones and requirements are completed on schedule. Data Management Milestone M-35-00 is assigned to the RL Site Infrastructure Division (SID).

RL/SID/ICM

SID's charter is to provide management direction and to coordinate the development and implementation of Sitewide infrastructure modernization activities. This includes Information Resource Management, one aspect of which is data management. As such, the Information and Communications Management (ICM) Team, within SID has been assigned the responsibility to complete milestone M-35-00. ICM's function is to manage the Sitewide data administration program, direct and evaluate Sitewide information resource management activities, and direct all information management activities for RL contractors and RL offices and divisions.

RL/TPA DATA

The RL/TPA Data Management team consists of an RL-SID representative and RL representatives from each of the major programmatic areas, Environmental Restoration (ER), Tank Waste Remediation System (TWRS), and Waste Management (WM). This team defines, directs, and monitors activities specifically related to the Tri-Party Agreement, Section 9.6, and associated Data Management Milestone M-35-00.

WHC DATA MANAGER

WHC Data Standards and Administration is the functional organization responsible for developing, implementing, and monitoring TPA and WHC Data Management activities and practices performed with review and input from the Hanford Data Administration Board (HDAB).

HDAB

The HDAB objective is to provide for consistency, completeness, accessibility, accuracy, and protection of data resources. The HDAB consists of the Site data administrator, RL data administrator, and contractor representatives. The Site data administrator is responsible for formulating policy, standards and guidance and for coordinating the implementation of multi-contractor and Sitewide data administrative program activities. Contractor and RL data administration facilitate the implementation of the Sitewide and organization unique data administration program activities within their respective organizations, review and recommend Hanford Site standards and procedures, and review proposed information systems for compliance with Site standards.

TPA CAB

The Tri-Party Agreement Coordinating Action Board (CAB) was formed to provide coordinated management of the TPA-related databases and TPA manual data records. Activities apply to all required Tri-Party Agreement technical data/information, and databases identified by TPA Data Management customers. Membership consists of subject experts, system managers, and program data managers.

COUNCIL

Additional Sitewide councils that contribute to the TPA Data Management infrastructure are: The Chemical Data Coordinating Council (CDCC) and the Spatial Data Coordination Council (SDCC).

The SDCC was formed to ensure coordinated management of spatial data on the Hanford Site, and ensure operation compatibility between spatial data systems used by contractors, vendors and customers. The SDCC is the focal point for spatial data acquisition, maintenance, and management applications. Spatial data applications include technologies such as automated mapping systems, facilities management systems, geographic information systems (GIS), and global positioning systems (GPS), land-based surveying, and aerial photography.

The CDCC was formed at the request of a previous committee that successfully established eight Sitewide chemical/analyte naming standards. The CDCC addresses a wide range of issues including the need for several data standards, the need for acquiring commonly used software packages for Sitewide use, the resolution of excess chemical problems, the resolution of Sitewide chemical hygiene data problems, the identification of emergency response chemical inventory requirements, and the coordination of chemical bar codes so that they can be used by multiple groups.

The Strategic Transition Initiatives Division (STI) is also developing a Strategic Transition Initiatives Implementation Plan. This plan will identify certain initiatives that involve multiple contractors or Sitewide functions (i.e., information management, data management). Selected initiatives will use a common approach for planning, understanding, redesigning and implementation. Where possible, the initiatives will report through and be supported by the DOE-RL activity owner. Each initiative will be led full-time by a DOE-RL manager, supported as needed by Hanford Site Contractors and outside consultants. As identified, leaders of each initiative will develop planning documents, which include schedules and deliverables.

STI has identified the following four activities for special emphasis:

- Infrastructure/Site Services
- Information Management
- Training
- Procurement.

The Information Management initiative is in the early formulation phase. The intent of this initiative is to implement the *Strategic Plan for Hanford Site Information Management*. STI is defining the work scope, the initiative team composition, and the budget.

3.0 STRATEGIES

The strategies of this Plan are presented in terms of the driving issue, which should be resolved when the strategies are implemented, current status and proposed actions to implement the strategies. Work has begun on some of the initiatives.

3.1 DEVELOP A STRATEGIC PLAN FOR HANFORD SITE INFORMATION MANAGEMENT

The Strategic Plan for Hanford Site Information Management[2] was inspired, in part, by the latest renegotiations of the Tri Party Agreement. While the Tri-Party Agreement does not specifically call for this plan, it is essential to develop a comprehensive and aggressive plan for managing not only TPA-related information, but all information at the Hanford Site. Information at the Hanford Site is critical to making key technical, management, and regulatory decisions and must be managed as an asset.

A February 1994 facilitated workshop, attended by RL, contractors, and regulator staff evaluated Information Management for the purpose of creating the Strategic Hanford Site Information Management Plan. The basis for the vision, mission, issues, goals and strategies included in the plan are a direct result of this workshop.

The plan was authored by a multi-contractor team, reviewed by workshop attendees, and revised. It includes Sitewide information management issues and contains strategies that address the following:

- Sitewide management and control processes for information management
- Sitewide leadership to ensure effective information management
- The data collection process
- Information access and delivery mechanisms
- Information analysis processes that support customer needs
- Hanford Site information architecture.

PLANNED ACTIONS

• Publish *Strategic Plan for Hanford Site Information Management*	September 1994
• Brief DOE-HQ on Strategic Plan	September 1994
• Assign implementing actions to appropriate Hanford Site organizations	October 1994

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[2]*The Strategic Plan for Hanford Site Information Management*, DOE/RL-94-69, is a document of the U.S. Department of Energy, Richland Operations Office, Richland, Washington.

3.2 DEVELOP HANFORD SITE DATA MANAGEMENT PLAN

Tri-Party Agreement Milestone M-35-03 calls for data management plans for TWRS, ER, and WM. These programs will develop data management plans for the following functional areas:

- Environmental Restoration
- Health Services
- Engineering
- Technology Development
- Environmental Surveillance
- Facilities
- Nuclear materials
- Tank Waste Remediation
- Analytical Services
- Liquid Effluents
- Solid Waste.

Each Data Management Plan will address the elements of the Data Management Plan Template[3]. Together, the plans will support the Site data and information management needs and identify the current and required information for each program or function.

These Data Management plans are currently under development and will be consolidated into the Hanford Site Data Management Plan. The Hanford Site Data Management Plan will identify the mission-driven information requirements, which will be used as the basis for implementing future information systems.

PLANNED ACTIONS

• Completion of Hanford Site Data Management Plan	January 1995
• Deliver Hanford Site Data Management Plan to Regulators	March 1995

[3]A copy of the Data Management Plan Template was provided to the EPA and Ecology Data Management Unit Manager.

3.3 DOCUMENT TPA DATA MANAGEMENT STATUS AND PLANNED ACTIONS

This section addresses specific requirements that were documented in Tri-Party Agreement Milestone M-35-02. The actual text of Milestone M-35-02 is contained in the boxed sections for ease of reference. Where appropriate, items will be included in future revisions of the *Strategic Plan for Hanford Site Information Management* and the *Hanford Site Data Management Plan.*

> A. IDENTIFICATION OF TPA RELATED DATA, TPA DATA USERS, PURPOSES OF DATA USE, INFORMATION TO BE INDEXED AND ACCESSED, AND AN IMPLEMENTATION SCHEDULE.
>
> B. SITE STANDARDS FOR DATA MANAGEMENT, GIS SPATIAL DATA, LOCATIONAL DATA COLLECTION, ETC.
>
> C. DATA MANAGEMENT ORGANIZATIONAL STRUCTURE TO IMPLEMENT THE PROCESSES DEFINED IN THIS PLAN.
>
> D. THE FOLLOWING TEN DATA MANAGEMENT INITIATIVES WILL BE EVALUATED AND WHERE APPROPRIATE IMPLEMENTATION ACTIONS AND SCHEDULES WILL BE INCLUDED IN THE STRATEGIC DATA MANAGEMENT PLAN. THE INITIATIVES ARE:
>
> - LOCATIONAL DATA COLLECTION STANDARDS
> - DATABASE DOCUMENTATION AND LISTING OF EXISTING SYSTEMS UPDATE
> - DATA REFERENCE SEARCH INFORMATION SYSTEM
> - EII PROCEDURES UPDATE
> - DIGITAL GIS BASE MAP DATA COLLECTION
> - SITEWIDE ORTHOPHOTOGRAPHY PROGRAM
> - MONUMENT CONTROL NETWORK SYSTEM
> - ENGINEERING SURVEY DATA COLLECTION STANDARDS
> - STANDARD WELL ID/NAMING AND LOCATION COORDINATES
> - HISTORICAL DATA MANAGEMENT.

3.3.1 TRI-PARTY AGREEMENT ITEM A DESCRIPTION

> IDENTIFICATION OF TPA RELATED DATA, TPA DATA USERS, PURPOSES OF DATA USE, INFORMATION TO BE INDEXED AND ACCESSED, AND AN IMPLEMENTATION SCHEDULE.

CURRENT STATUS

In November 1993, a survey of Hanford Site databases was completed and the *Tri-Party Agreement Databases, Access Mechanism and Procedures*[4] document (DOE/RL-93-69) was published, which identified TPA-related databases. See Appendix A for system abstracts from this document. The abstracts contains functions performed, purpose of the database, scope of the data, type of data, and date the data could be directly accessed by the Tri-Party Agreement regulators via a computer.

The document will be updated as required to reflect changes and identify new TPA-related databases. The *Hanford Site Data Management Plan* will be reviewed to identify additional/new TPA-related databases. A process will be developed to evaluate if a database is TPA-related and to obtain necessary approvals for release of data to the regulators.

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[4]*The Tri-Party Agreement Databases, Access Mechanism and Procedures*, DOE/RL-93-69, is a document of the U.S. Department of Energy, Richland Operations Office, Richland, Washington.

PLANNED ACTIONS

- Update, as appropriate, *Tri-Party Agreement Databases, Access Mechanism and Procedures* — December 31, 1994
- Develop process for continuous reevaluation of TPA-related databases — April 31, 1995

3.3.2 TPA ITEM B DESCRIPTION

SITE STANDARDS FOR DATA MANAGEMENT, GIS SPATIAL DATA, LOCATIONAL DATA COLLECTION, ETC.

CURRENT STATUS

The HDAB manages the Hanford Site data standards process and approves Site data administration standards. All Hanford Site contractors are required to follow the standards unless a waiver has been granted. All Site data standards are listed in the Data Standards Library, which is available to all contractors and staff on the Hanford Local Area Network (HLAN).

Procedures and instructions for standards approval and publication have been established by the contractors and the HDAB. That process begins when an individual proposes a standard or a revision to an existing standard. WHC Data and Standards Administrations, as administrator of the process for the Site and all contractors, then formalizes the standard and identifies the expected scope. The HDAB reviews the standard if it will involve multiple contractors or is to be utilized Sitewide. If a single contractor will be involved or affected by the standard, they are identified and notified. The proposed standard is posted on HLAN for a 90-day review. At the end of 90 days, no comments will result in the approval of the standard. If extensive comments are received, the process begins again as if it were a new standard. Comments that reflect only minor changes to the proposed standard will begin a new 90-day review and comment cycle. A standard cannot be approved without following this process. An approved standard that affects a single contractor is forwarded to that contractor for implementation. When a standard is approved that will affect multiple contractors or is to be utilized Sitewide, RL/SID issues a compliance letter to the contractors.

Standards that may be of particular interest and/or pertain to TPA-related work are:

- Data Naming Convention
- Hanford Drawing Number
- Waste Site Name
- Chemicals Analytes Identifiers
- CAD Code
- CAD File Identifier
- Geodetic Elevation Data
- Plane Coordinates
- Bar Code Location Identifier
- Spatial Data Transfer Standards.

Detailed information on these standards and all the Hanford Site standards can be found in Appendix B. Some of these standards are also discussed within 3.3.4 TPA Item D Description.

Data standards have been classified into data value standards and protocol standards categories, which are defined as the following:

- A **data value standard** identifies units of measure, coded or abbreviated names or identifiers, and other values that must have the same meaning, content, and format to all Hanford Site users. Data value standards apply to all automated and manual systems unless an exception has been granted by the HDAB. A standard business name is used to establish a unique name. The name is formed following the Hanford Site Standard Naming Convention.

- A **protocol standard** identifies a method, regulation, agreement, or external standard adopted for compliance. Protocol standards may lead to data value standards that will be documented separately where deemed beneficial.

NOTE: Not all data elements identified in a protocol standard are documented as data value standards but adherence is still be expected.

PLANNED ACTIONS

- Creation of additional standards — As required

3.3.3 TPA ITEM C DESCRIPTION

DATA MANAGEMENT ORGANIZATIONAL STRUCTURE TO IMPLEMENT THE PROCESSES DEFINED IN THIS PLAN.

CURRENT STATUS

The TPA Data Management Program at the Hanford Site continues to evolve to achieve the technical excellence required to manage information as an asset. The organizational structure is described in detail in section 2.2 TPA Data Management Program.

PLANNED ACTIONS

- Information Management Process Improvements and Organizational Structure recommendations will be made by the Information Management Transition Initiatives team. — Estimated report date: September 1995

3.3.4 TPA ITEM D DESCRIPTION

THE FOLLOWING TEN DATA MANAGEMENT INITIATIVES WILL BE EVALUATED AND WHERE APPROPRIATE IMPLEMENTATION ACTIONS AND SCHEDULES WILL BE INCLUDED IN THE STRATEGIC DATA MANAGEMENT PLAN. THE INITIATIVES ARE:

- LOCATIONAL DATA COLLECTION STANDARDS
- DATABASE DOCUMENTATION AND LISTING OF EXISTING SYSTEMS UPDATE
- DATA REFERENCE SEARCH INFORMATION SYSTEM
- EII PROCEDURES UPDATE
- DIGITAL GIS BASE MAP DATA COLLECTION
- SITEWIDE ORTHOPHOTOGRAPHY PROGRAM
- MONUMENT CONTROL NETWORK SYSTEM
- ENGINEERING SURVEY DATA COLLECTION STANDARDS
- STANDARD WELL ID/NAMING AND LOCATION COORDINATES
- HISTORICAL DATA MANAGEMENT.

3.3.4.1 INITIATIVE LOCATIONAL DATA COLLECTION STANDARDS DESCRIPTION

Establish standards to be followed by all organizations collecting locational information at the Hanford Site. This will ensure that during the collection of locational information that standards and guidelines will be followed to assure accuracy and usability of the information.

A set of minimum standards for information needs associated with all X, Y, and Z coordinate data (surveyed or GPS) will be defined. Some examples of the ancillary information to be carried include: accuracy; coordinate type; type of collection method used; data collector; and the intended use and application.

CURRENT STATUS

Two Hanford Site standards were approved. One specifies the state plane coordinate system to which horizontal points shall be referenced. The other specifies the vertical datum to which all vertical points shall be referenced. The state plane coordinate system is the Washington coordinate system of 1983, south zone (1991), per RCW 58.20 and WAC 332-130. Vertical datum is the North

American Vertical Datum of 1988 (NAVD88). These two data standards are in the Data Standards Library, which is accessible via the Hanford Local Area Network (HLAN). RL directed all Site contractors to comply with these standards in a letter dated March 1994[5].

Besides these standards, RL requires contractors to use the Spatial Data Transfer Standards (SDTS) by the U.S. Department of Commerce, Federal Information Processing Standards Publication 173, as the set of minimum standards for information needs (ancillary information) associated with location/survey data.

The data maintained by the Hanford Environmental Information System (HEIS) and the Hanford Geographic Information System (HGIS) are based on these standards. The standards are being followed by the United States Army Corps of Engineers (USACE) in the Site Monument Control Network and other Hanford Site contractor current mapping activities.

PLANNED ACTIONS

- No planned actions, this initiative has been completed.

3.3.4.2 DATABASE DOCUMENTATION AND LISTING OF EXISTING SYSTEMS UPDATE DESCRIPTION

Undertake a full inventory of existing data management systems, their location, information contained in them, and the source of their information. With the existing and growing databases on the Hanford Site, an effort to understand what computer/automated systems exist on Site needs to occur. This task should be assigned to all contractors. Their respective management should assign and require this task to be fulfilled internally.

CURRENT STATUS

The WHC System Data Directory, which has just completed a yearly update cycle, provides information for more than 1200 (active and inactive) data systems used within WHC. Data systems include information systems, database applications, and scientific codes. All new systems are registered during their concept development phase. Information on the trustee, purpose, scope, data contents, etc., about each system is documented. This system is being expanded in FY 1995 to include systems from all contractors.

The TWRS organization has initiated an inventory of all TWRS data, which are being conducted by consultants. Additional attributes not in the WHC System Data Directory are being collected and documented.

The *Tri-Party Agreement Databases, Access Mechanism and Procedures document* (DIR/RL-93-69) was written and released in November 1993 with an abstract for each TPA-related database. The document will be updated as required to reflect changes.

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[5] Letter dated March 10, 1994 to Hanford Site contractors from M.B. Hitt, Acting Director of Site Infrastructure Division.

PLANNED ACTIONS

• TPA-related database metadata provided to TPA regulators	March 31, 1995
• Expanded WHC directory to a Hanford Site Data Directory	April 1, 1995
• TWRS data inventory completed	April 1, 1995
• Update *Tri-Party Agreement Databases, Access Mechanism and Procedures* and thereafter as required.	December 30, 1995

3.3.4.3 DATA REFERENCE SEARCH INFORMATION SYSTEM DESCRIPTION

Create a system to provide information regarding Site characterization historic documents, records, and photography that directly relate to TPA activities.

All resulting information gathered needs to be indexed, referenced, and automated. This will reduce redundant data collection of historic documents on closely associated operable units, and thus save valuable research time and costs.

CURRENT STATUS

Specific types of documents are automated to provide greater retrievability. These documents include photography systems, records management systems, computer aided design (CAD) systems, etc., that index and store attributes that directly relate to the specific type of data. With the specific type documentation available, there is no need for a central data reference search information system.

WHC created a company historian position. The historian, after intensive research, found that:

1) no large pockets of unidentified data exists

2) the small pockets that do exist are currently being sorted and transferred to the Records Holding Area-Management Information System (RHA-MIS)

3) historic data can be found if you know where to look (the historian can be used as a resource to find historic data). See 4.4.10 Historic Data Management comments for additional information.

Record material from the field classified as Quality Assurance, is required to be tracked and stored. The RHA-MIS system maintains an index of these documents. Additionally, other documents, i.e., solid waste, training records, maintenance, and Material Safety Data Sheets (MSDS) (from the Hanford Environmental Health Foundation) are also tracked and indexed using the RHA-MIS system. Scanning of actual documents and maintaining them on optical disk for on-line access, which is done with several historical records, is also provided by the RHA-MIS system.

As needed by the Hanford Site customers, historical photos are being put into the Photo and Audio/Visual Management System (PAMS). See 4.4.10 Photography under Historic Data Management for additional information. The HGIS has identified some aerial photographs that are digitized and, in some cases, rectified to spatial coordinates for use in Waste Site identification and location. Also included as a part of the photo set are orthophotos for the Environmental Restoration Disposal Facility (ERDF), and 300 and 1100 areas.

PLANNED ACTIONS

- High Level Aerial Photos of the Site October 1994

3.3.4.4 EII PROCEDURES UPDATE DESCRIPTION

Disseminate the data and locational standards and guideline to the users in the field. Coordinate EII instructions and data collection to ensure EII's are reviewed and updated to incorporate data management changes, standards, and guidelines for managing information.

CURRENT STATUS

RL sent a letter in March 1994 to all contractors reminding them of the requirement to comply with Site standards. Adherence to these standards will be reviewed during routine audits and RL surveillances. Each contractor is responsible for guaranteeing that all standards are followed and that all effected employees are aware of the standards they must follow. All data standards are located on HLAN for access by all contractors and employees.

A quality assurance plan is being prepared for all Hanford Site Contractors to ensure consistency in the quality of all field sampling activities. The *Hanford Sampling and Field Analysis Quality Assurance Plan* is scheduled to be completed by May 1, 1995. Upon release of the plan, procedures (such as the EIIs) will be modified to ensure consistency in sample collection requirements among all Hanford Site Contractors.

PLANNED ACTIONS

- Field Sampling Quality Assurance Plan Written May 1, 1995

3.3.4.5 DIGITAL GIS BASE MAP DATA COLLECTION DESCRIPTION

Provide the necessary base map information to carry out compliance and cleanup activities at the Hanford Site. This milestone will ensure TPA participants an accurate, dependable and controlled set of base map data.

CURRENT STATUS

A requirements analysis for base maps was completed over a year ago and agreed to by Ecology and the EPA. Areas to be covered by the base maps were prioritized, and data collection and cleanup were initiated. To date, the following coverages are provided to Ecology via HGIS in the format requested (Arc/Info): Administrative boundaries, topography, waste sites, site infrastructure, facilities, transformation, geology, wells, soils, land cover, land use, vegetation, habitat (plant and animal species), wetlands, special projects, contaminant plumes, water tables, survey network, and risk assessment grids. Data are stored so that it will be compatible with the Spatial Data Transfer Standards and meet, as reasonably possible, the metadata requirements as required by this Federal Government regulations.

A review is currently underway to determine the requirements for managing spatial information on a Sitewide basis whose scope is greater than what is currently in the HGIS. Integration and implementation are projected to take several years to complete.

There is no mechanism in place today to accommodate spatio-temporal data, nor has there been an effort in the past to establish either quality or completeness assessments of the data sets. Therefore, it is not possible to state that true historical data are or are not available. Some data having historical dates are available.

PLANNED ACTIONS

Determine requirement for spatial data.

3.3.4.6 SITEWIDE ORTHOPHOTOGRAPHY PROGRAM DESCRIPTION

Establish a comprehensive, usable and long-term Site-wide historical record of the Hanford Site. The orthophotography will provide the Site with a single up-to-date source for all geographic baseline information from which to obtain automated spatial information.

CURRENT STATUS

A Hanford Site orthophotography program is being established to provide a single baseline source of information. A five-step plan is being initiated to create an orthophotography program across the entire Hanford Site. The purpose of the program is to:

1) provide a baseline for environmental restoration
2) provide a historical record
3) provide a medium from which to automate.

Orthophotography for the entire Site will be performed routinely. The orthophotography will provide a historical record of the Site's progress. For operable and investigative units, orthophotography at the larger scale will be made available one year prior to the first Tri-Party Agreement milestone related to that unit. Orthophotography shall be reshot following completion of remediation for that unit.

PLANNED ACTIONS

- Orthophotography routinely performed — As required

3.3.4.7 MONUMENT CONTROL NETWORK SYSTEM DESCRIPTION

With the transition from the Hanford Plant Coordinates from the Washington State Plane Coordinate system, one up-to-date official survey monument system needs to be adopted by all contractors and used in all engineering and GPS survey work conducted on Site. This will enable a more uniform collection standard, and have assurance that all information collected meets that standard.

CURRENT STATUS

RL has contracted USACE to create a monument system for the Hanford Site using the Site standards. This monument system is available on the HGIS. All spatial data being collected for the ER program will be required to use this new system for any survey or spatial data measurements. All measurements will be taken, per Hanford Site standards, in NAD83 for the horizontal datum and NAVD88 for the vertical datum.

The monument control network is being established to support the ER Wellhead Surveying Task. Approximately 328 km (204 mi) of a secondary vertical control network was completed in May 1993 during Phase 1, 2, and 3 of the Wellhead Surveying task. This network was surveyed to a minimum of Second Order Class II accuracy standards. Approximately 97 km (60 mi) of additional supplemental vertical control will be completed by the end of this fiscal year with monuments identified at one mile intervals to support the FY 1994 Wellhead Surveying program of approximately 1320 wells. This network will be surveyed to a minimum of Second Order Class II accuracy standards and tied into the secondary vertical control network previously established in 1993. References, witness posts, and detailed descriptions will be provided for each monument. Approximately 760 wells will be surveyed in FY 1995, and a supplemental network has been established as discussed above in support of this effort.

Before the old local monument system can be converted to the new standards, several points, such as conversion methods and degree of accuracy requirements, must be resolved.

PLANNED ACTIONS

- Monuments to support well surveys — September 30, 1995
- Conversion old local monument system to new — As Needed

3.3.4.8 ENGINEERING SURVEY DATA COLLECTION STANDARDS DESCRIPTION

Develop procedures and guidelines for engineering survey data collection, recording, and storage. At present, engineering surveys are conducted on Site without regard to the importance or cost associated with the collection or generation of locational information.

CURRENT STATUS

The SDCC consisting of all Hanford Site contractors, RL, and USACE was formed in FY 1994 to identify and approve all survey data collection standards.

The SDTS and associated metadata standard define most of the data elements to be gathered during the collection of any survey data. ER program data will meet these standards to the extent they are defined for all new surveys including the current set of Site 1 to 24,000 flyovers scheduled this summer through the USACE.

PLANNED ACTIONS

- No actions planned at this time.

3.3.4.9 STANDARD WELL ID/NAMING AND LOCATION COORDINATES DESCRIPTION

Adopt a unique Site-wide naming standard for well designations at the Hanford Site. These standards will be maintained and available in an on-line computer system. This system would also function as a cross reference table between existing standards and previous standards, and would also store the official X, Y, and Z coordinate location to be used by all other computer systems.

CURRENT STATUS

A Well Identification standard is currently being developed for approval as a Site standard. The proposed Well Identification will be the Location Bar Code Number, which was approved May 28, 1992, as a Site standard. This Standard is located in the Data Standards Library. RL will issue a letter to all contractors for compliance once the Well Identification standard is approved.

Currently HGIS and HEIS contain well data. Both systems will adopt the new standard. Cross reference between the old and new well identifiers will also be stored in HEIS.

PLANNED ACTIONS

- Site Well Identification standards approved January 31, 1995

3.3.4.10 HISTORIC DATA MANAGEMENT DESCRIPTION

TPA INITIATIVE DESCRIPTION

> Establish a Site historical data management system. As TPA activities develop, a system describing how the Site looked, where buildings were located before D&D activities, and where historic waste sites existed will need to be developed.
>
> At present, when buildings are removed from an area, the buildings are also removed from the engineering drawing without regard to its historical or environmental significance. In some cases these same buildings and their footprints are later classified as waste sites. Numerous types of historic information need to be saved, inventoried and tracked:
>
> Photography
> CAD Infrastructure Drawings
> Written Documents
> Borehole Logs

CURRENT STATUS

A company historian position was created within WHC. This position helps Site organizations to preserve the institution memory, locate, document, and identify historical data required to accomplish the Hanford Site mission. All aspects of historic preservation are included in the historian tasks. The historian is also the liaison with other sites: the U.S. Department of Energy-Headquarters, universities, and others interested in historical information (including the Tri-Party Agreement regulators). The historian does not maintain a library but acts as a finding aid and relies on data stored in existing Site repositories.

See Section 3.3.4.3 Data Reference Search Information System for additional information on systems that will be storing historical data.

- PHOTOGRAPHY

PAMS is currently used to record and track photographs. The System was upgraded in 1993 to automate the tracking of photo projects and pictures. Data loads started in January 1994. All photo projects are captured by the system; however, only priority picture images are being loaded. A complete loading of photos taken before 1994 is not planned due to workforce and funding constraints. However, photos retrieved manually in the course of work will be stored in the system if requested.

Note of understanding: Photos in and of themselves do not constitute information subject to an audit. The photos become auditable when used within documents, and the document carries the responsibility of historical archiving.

- CAD INFRASTRUCTURE DRAWINGS

From a historical standpoint, it is possible to track modifications to Site facilities by researching past revisions of drawings and their outstanding change paper.

At this time, all released CAD drawings are copied to 35 mm aperture cards and stored in the 3707D building. The cards are placed in a vault and access is controlled. All revisions of released drawings are stored in this fashion. If a released drawing is revised, an aperture card is made for the new revision.

- WRITTEN DOCUMENTS

  Record material from the field classified as a Quality Assurance record is required to be tracked and stored. The RHA-MIS maintains an index of these documents. This system is available to all Site personnel.

- BOREHOLE GEOGRAPHICAL AND LITHOLOGIC DRILLERS LOGS

  Official logs are stored and recorded in the RHA-MIS. This system provides indexing capabilities.

PLANNED ACTIONS

• Historical photographs loaded into PAMS	As required
• RHA-MIS will be upgraded to meet needs	As required

4.0 PLANNED ACTIONS RECAP

• Update *Tri-Party Agreement Databases, Access Mechanism and Procedures*	December 31, 1994 and thereafter as required
• Develop process to evaluate TPA-related databases	January 31, 1995
• Creation of additional Site data standards	As required
• Expanded WHC directory to a Hanford Site Data Directory	April 1, 1995
• TWRS Data Inventory Completed	April 1, 1995
• TPA-related database metadata provided to Tri-Party Agreement regulators	March 31, 1995
• Field Sampling Quality Assurance Plan Written	May 1, 1995
• Orthophotography routinely performed	As required
• Monuments to support well surveys	September 30, 1995
• Site well identification standards approved	January 31, 1995
• Historical photographs loaded into PAMS	As required
• RHA-MIS will be upgraded to meet needs	As required

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TRI-PARTY STRATEGIC DATA MANAGEMENT PLAN

APPENDIX A

TPA-RELATED DATABASE ABSTRACTS

TPA-RELATED DATABASE ABSTRACTS

SYSTEM NAME: Environmental Release Summary System (ERS)

PURPOSE:
The ERS reports estimated releases of radionuclides to the environment during specified time periods, from specified locations.

FUNCTIONS PERFORMED:
- Maintains database of radionuclides concentrations by specified location and time
- Calculates and reports releases of radionuclides releases

SCOPE OF DATA:
Samples from WHC facilities (100, 200/600, and 300/400 Areas).

TYPES OF DATA:
- Radiological analyses of effluent and environmental samples i.e.,
  - Stack emissions
  - Waste streams
  - Ambient air samples
  - Standing water samples
  - Soil and vegetation samples

VALIDATION PROCEDURES USED:
WHC-IP-0697-1, *Effluent Monitoring Program - 200 600 Areas*, (Manley 1992)

DATABASE HARDWARE:
PC

DATABASE SOFTWARE:
FORTRAN

COMPUTER ACCESS DATE:
Not planned. Access to data will be through hard copy reports.

Current Reports
- Annual Effluent Information System/Onsite Discharge Information System Report (This report includes information from all DOE Sites.)
- Cumulative Decayed Inventories for Hanford Waste Disposal Sites
- On-demand report by sampling points, data type, time periods and location
- Air Emissions Report to EPA
- Environmental Release Report to RL

COMPUTER ACCESS PROCEDURES:
N/A (see Computer Access Date)

SYSTEM NAME: Hanford Environmental Information System (HEIS)

PURPOSE:
HEIS provides computer-based access to quality-assessed Hanford Site environmental sample data.

FUNCTIONS PERFORMED:
- Sample number assignment
- Sample scheduling and tracking
- Data storage
- Database query and report generation
- Interface to HGIS

SCOPE OF DATA:
Analytical data and associated metadata

TYPES OF DATA:
- Groundwater
- Soils (surface and geologic)
- Biota
- Waste Site
- Atmospheric
- Wells
- Water Levels
- Samples
- Locations
- Constituents

VALIDATION PROCEDURES USED:
WHC-SD-EN-SPP-002, *Data Validation Procedures for Chemical Analysis*, (Bechtold 1992)
WHC-SD-EN-SPP-001, *Data Validation Procedures for Radiological Analysis*, (Clark 1993)

DATABASE HARDWARE:
Sequent

DATABASE SOFTWARE:
Oracle

COMPUTER ACCESS DATE:
Currently available

COMPUTER ACCESS PROCEDURES:
WHC-EP-0372, Rev. 1, *Hanford Environmental Information System - HEIS Users Manual, Rev 1 and Vol 1*, (Schreck 1991)

SYSTEM NAME: Hanford Geographical Information System (HGIS)

PURPOSE:
HGIS stores spatial data to support Hanford Site cleanup.

FUNCTIONS PERFORMED:
- Store data
- Display data
- Model data
- Prepare reports

SCOPE OF DATA:
- National Priorities List (NPL) data for the Hanford Site
- Sitewide Data - Hanford Site and 50 mile radius

TYPES OF DATA:

NPL AREA	Site WIDE	DATA
x	x	Orthophotography maps
x	x	Administrative boundaries
x	x	Topography
x	x	Waste Sites
x	x	Infrastructures
x	x	Facilities/buildings
x	x	Transportation
x	x	Hydrogeology
x	x	Wells
x	x	Hydrography
x	x	Historic
	x	Utilities
	x	Climate
	x	Geology
	x	Land use
	x	Land cover
	x	Soils
	x	Plant and animal species
	x	Population

VALIDATION PROCEDURES USED:
N/A

DATABASE HARDWARE:
SUN

DATABASE SOFTWARE:
Arc-Info

COMPUTER ACCESS DATE:
Not planned. Volume of data precludes HLAN access. Data is shared currently via magnetic tape.

COMPUTER ACCESS PROCEDURES:
HGIS Technical Manual (under development)

SYSTEM NAME: Hanford Meteorological System (HMS)

PURPOSE:

HMS provides 24-hour-a-day meteorological and climatological support for emergency response, weather forecasting, climatological data, and special meteorological requests to RL and Hanford Site contractors.

FUNCTIONS PERFORMED:

- Surface observations
- Weather forecasting
- Data collection
- Data archival
- Data summarization

SCOPE OF DATA:

Data is collected every 15 minutes from 28 locations around the Hanford Site and surrounding area.

TYPES OF DATA:

- Wind speed and direction
- Temperature
- Precipitation
- Pressure
- Sky cover
- Obstructions to visibility
- Weather (rain, snow)
- Relative humidity

VALIDATION PROCEDURES USED:

N/A

DATABASE HARDWARE:

IBM RISC/System 6000

DATABASE SOFTWARE:

C, FORTRAN, UNIX, Windows

COMPUTER ACCESS DATE:

Not planned. Access to data will be through hard copy reports.

COMPUTER ACCESS PROCEDURES:

N/A (see Computer Access Date)

SYSTEM NAME: Liquid Effluent Monitoring Information System (LEMIS)

PURPOSE:

LEMIS schedules, documents, and records sample collection activity and sample results obtained from each of the effluent streams that discharge to the soil column.

FUNCTIONS PERFORMED:

- Schedule sample events
- Prepare sample authorization forms
- Store analytical results

SCOPE OF DATA:

- All liquid effluent streams on the Hanford Site

TYPES OF DATA:

- Identification and location of waste streams and sample collection points
- Identification, frequency, and location of samples
- Laboratory results of sample collection analysis from each waste stream by location and date
- Analytical methods
- Field sample collection information

VALIDATION PROCEDURES USED:

WHC-CM-5-3, *Sample Management Administration*, Sections 2.0 and 2.4, (WHC 1992b)

DATABASE HARDWARE:

SUN

DATABASE SOFTWARE:

Oracle

COMPUTER ACCESS DATE:

September 30, 1993

COMPUTER ACCESS PROCEDURES:

LEMIS Users Guide (under development)

SYSTEM NAME: Project and Data Management System (PDMS)

PURPOSE:
PDMS supports surface environmental surveillance activities for the Hanford Site.

FUNCTIONS PERFORMED:
- Sample scheduling
- Sample tracking
- Storage of analytical results
- Support of data analysis activities (graphics, statistics, data reporting, quality assurance)

SCOPE OF DATA:
The Hanford Site and surrounding area, except for the various facilities on Site.

TYPES OF DATA:
- Air
- Water
- Foodstuffs
- Soil
- Vegetation
- Sediment
- Wildlife
- External radiation surveys and thermoluminescent dosimeter surveys
- River flow rate, and temperature

VALIDATION PROCEDURES USED:
N/A

DATABASE HARDWARE:
Sequent

DATABASE SOFTWARE:
Oracle

COMPUTER ACCESS DATE:
February 1, 1994 via HEIS (PDMS system is being replaced by HEIS)

COMPUTER ACCESS PROCEDURES:
WHC-EP-0372, Rev. 1, *Hanford Environmental Information System - HEIS Users Manual, Rev 1 and Vol 1*, (Schreck 1991)

SYSTEM NAME: Solid Waste Information and Tracking System (SWITS)

PURPOSE:

SWITS supports the solid waste management program in managing radioactive mixed and hazardous solid waste treatment and storage and eventual disposition onsite or offsite.

FUNCTIONS PERFORMED:

- Provide real-time inventories for onsite treatment, storage, and disposal facilities
- Track waste shipments onsite and offsite
- Provide regulatory reports for federal and state agencies
- Provide information in support of remediation activities

SCOPE OF DATA:

Container-specific radioactive and nonradioactive solid waste data from onsite and offsite facilities from 1944 to present. SWITS information includes waste characterization, shipment, location history, and final disposition.

TYPES OF DATA:

- Radionuclides, quantity
- Chemical and physical components
- Storage location
- Shipment and manifest data
- EPA dangerous waste numbers

VALIDATION PROCEDURES USED:

N/A

DATABASE HARDWARE:

SUN

DATABASE SOFTWARE:

Oracle

COMPUTER ACCESS DATE:

April 1, 1994

COMPUTER ACCESS PROCEDURES:

SWITS Users Manual (under development)

SYSTEM NAME: Surveillance Analysis Computer System (SACS)

PURPOSE:

SACS is the central, long-term data storage system (database) for WHC tank farm surveillance data. SACS has the flexibility for future additions of data types.

FUNCTIONS PERFORMED:

- Instantaneous analysis of
  Current
  - Surface liquid levels
  - Temperature data
  - Vapor space dome pressure
  - Vapor space gas composition

  Planned
  - Liquid observation well data
  - Drywell/lateral data

SCOPE OF DATA:

Surveillance data of underground nuclear waste tanks that are located in the Hanford Site's 200 areas.

TYPES OF DATA:

Measurements from surface level and temperature sensors

VALIDATION PROCEDURES USED:

N/A

DATABASE HARDWARE:

SUN

DATABASE SOFTWARE:

Oracle

COMPUTER ACCESS DATE:

May 31, 1994

COMPUTER ACCESS PROCEDURES:

SACS Users Manual (in development)

SYSTEM NAME: Tank Characterization Database (TCD)

PURPOSE:
TCD was developed initially to support a leave/retrieve decision for tank waste. Under revised TPA Milestone 10, TCD also supports final disposal decisions for tank waste and performs characterization requirements.

FUNCTIONS PERFORMED:
Maintain tank waste content data.

SCOPE OF DATA:
TCD Includes physical properties and all laboratory analysis results for single-shell tank core, double-shell tank core, double-shell tank supernatant grout candidate tanks, and grout feed tanks.

TYPES OF DATA:

- Core sample analytical results including
  - Qualifiers
  - Flags
  - Spike recovery
  - Rheology
- Inventory of tank contents

VALIDATION PROCEDURES USED:
WHC-CM-5-3, *Sample Management Administration*, Sections 2.0 and 2.4, (WHC 1992b)

DATABASE HARDWARE:
Sequent

DATABASE SOFTWARE:
Oracle

COMPUTER ACCESS DATE:
January 30, 1994

COMPUTER ACCESS PROCEDURES:
WHC-EP-0372, Rev. 1, *Hanford Environmental Information System - HEIS Users Manual, Rev 1 and Vol 1*, (Schreck 1991)

TCD Users Manual (under development)

SYSTEM NAME: Waste Information Data System (WIDS)

PURPOSE:
WIDS provides a traceable source of historical, radiological surveillance, hazardous chemical, and environmental characterization data for all waste Sites at the Hanford Site. WIDS provides valid, reliable, and traceable waste Site data that is essential to long-range waste management and environmental planning.

FUNCTIONS PERFORMED:
The official source of Hanford Waste Site information. The system gathers, stores, and disseminates Waste Site information. WIDS prepares reports and provides historical data.

SCOPE OF DATA:
Contains information on all Hanford waste Sites from start up through current data, including items such as septic systems and solid waste management units (EPA defined).

TYPES OF DATA:
- Waste Site
  - Name and location
  - Physical description
  - Waste description including inventories if available

VALIDATION PROCEDURES USED:
N/A

DATABASE HARDWARE:
PC

DATABASE SOFTWARE:
PARADOX

COMPUTER ACCESS DATE:
Currently available through shared copies of the database.

COMPUTER ACCESS PROCEDURES:
A formal document does not exist. Instructions have been provided to Ecology and EPA SPCs.

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TRI-PARTY AGREEMENT STRATEGIC DATA MANAGEMENT PLAN

APPENDIX B

This report documents proposed and approved data standards. These standards have been categorized as data value standards, protocol standards and glossary information. The standards are listed by the standard business name. The standard business name is used to establish an unique name. The name is formed following the Site Naming Convention as found in WHC-CM-2-6 Section 3.6 "Business Naming Standard". The naming convention is used to support commonly accepted data management methods. Aliases or user names are also identified within each standard.

- A **data value standard** identifies units of measure, coded or abbreviated names or identifiers, and other values that must have the same meaning, content, and format to all WHC or Hanford users. They apply to all automated and manual systems unless an exception has been granted by the Data Administration Council.

- A **protocol standard** identifies a method, regulation, agreement, or external standard adopted for compliance. Protocol standards may lead to data value standards that will be documented separately where deemed beneficial.

NOTE: Not all data elements identified in a protocol standard will be documented as data value standards but adherence will still be expected.

PROPOSED DATA VALUE STANDARDS - IN 90 DAY REVIEW CYCLE

The following have been proposed data value standards and are in the 90 day review process.

If no comments, changes, disagreement or etc. with a proposed standard is received by DSA in 90 days the standard will officially be accepted as a company standard requiring compliance as per CM-2-6 Data Value Standards.

The Trustee identified for the standard can be contacted for any discussions or questions but only contact through DSA will officially interrupted the 90 day review cycle.

DATA VALUE STANDARD FOR:
HANFORD MATERIAL SAFETY DATA SHEET NAME (D)

STANDARD BUSINESS NAME: Hanford Material Safety Data Sheet Name

USER NAMES: MSDS name

SCOPE: Hanford Site

DEFINITION: The Material Safety Data Sheet (MSDS) name is assigned to each MSDS to identify the product that corresponds to the manufacturer information contained in the MSDS with a unique Hanford MSDS number already assigned to it. The MSDS name is assigned using Hazardous Materials Information Section (HMIS) Task, HTSK110-76.

STATUS/DATE: To be developed

At the written request of DOE-RL, the effort for distributing MSDSs at the Hanford Site is currently under review by a working group made up of representatives from BCSR, DOE, HEHF, KEH, PNL, and WHC. Recommendations made by this working group may require vast changes to the current MSDS distribution system, including the current method of assigning a name to each MSDS. Final direction is expected by January 1, 1993.

TRUSTEE: Environmental Heath Services (HEHF)

OFFICIAL LIST/FILE: Material Safety Data Sheet Number System (HEHF)

FORMAT/VALIDATION RULES: TBD

BUSINESS RULES: TBD

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: HTSK110-76

	Approved by:	Date	
Trustee:	Ed Beck	9/21/92	DSA Contact:
DA:			P.J. Brulotte
Comments:			

DATA VALUE STANDARD FOR:
HANFORD MATERIAL SAFETY DATA SHEET NUMBER (D)

STANDARD BUSINESS NAME: Hanford Material Safety Data Sheet Number

USER NAMES: MSDS number

SCOPE: Hanford Site

DEFINITION: Hanford Material Safety Data Sheet (MSDS) numbers uniquely identify MSDSs for chemical products used at the Hanford Site. The Hanford MSDS number is assigned using Hazardous Materials Information Section (HMIS) Task, HTSK110-76.

STATUS/DATE: To Be developed

At the written request of DOE-RL, the effort for distributing MSDSs at the Hanford Site is currently under review by a working group made up of representatives from BCSR, DOE, HEHF, KEH, PNL, and WHC. Recommendations made by this working group may require vast changes to the current MSDS distribution system, including the current method of assigning unique numbers to each MSDS which may mean changes to format/validation and business rules. Final direction is expected by January 1, 1993.

TRUSTEE: Environmental Heath Services (HEHF)

OFFICIAL LIST/FILE: Material Safety Data Sheet Number System (HEHF)

FORMAT/VALIDATION RULES:

BUSINESS RULES:

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: HTSK110-76

	Approved by:	Date	
Trustee:	E.D. Beck	9/21/92	DSA Contact:
DA:			P.J. Brulotte
Comments:			

DATA VALUE STANDARD FOR:
STANDARD LABOR CATEGORIES (D)

STANDARD BUSINESS NAME: Standard Labor Categories

USER NAMES: Category of Labor Codes, Labor Codes

SCOPE: Hanford Site

DEFINITION: Standard Labor Categories' code uniquely identify the type of labor resource that is assigned to complete a scope of work. This coding structure is built to compliment the DOE requirement of identifying the type of labor required by the Site to complete the clean up mission.

STATUS/DATE: On Hold

TRUSTEE: Planning & MCS Development, OA230

OFFICIAL LIST/FILE: The official list of standard codes will be maintained on the Financial Data System's Tables. This file can be made available on Soft Reporting.

FORMAT/VALIDATION RULES: Format; length - 4 Characters, Type - Alphanumeric

BUSINESS RULES: All requests for changes to the standard labor codes will be processed through the Trustee.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: Resource Table Development procedure (DRAFT)

	Approved by:	Date	
Trustee:	P. J. Bence	05/01/94	DSA Contact:
DA:	M. K. Britton		R. L. Aikens
Comments:			

APPROVED STANDARDS

The following have been approved and are official standards, (D) data value standards, or (P) protocol standard.

DATA VALUE STANDARD FOR AREA IDENTIFICATION (D)

STANDARD BUSINESS NAME: Area Identification

USER NAMES: Commonly referred to as "Area"

SCOPE: Hanford Site, i.e., DOE, HEHF, KEH, PNL, WHC

DEFINITION: Area identifications are assigned for the purpose of designating the general location where Hanford Activities take place, Government property is used or stored, and people associated with Hanford are located.

In May 1991 when the difference between government owned and non-government land or facility intelligence was built into the code.

STATUS/DATE: Rule Modification Approved 9/26/91 by DOE-RL
Original - Approved as of 4/28/89

TRUSTEE: WHC Facility Management & Site Planning (FMSP) has the authority to determine the area identification for any DOE owned or leased facility and to assign new identifications as needed. Any questions pertaining to Areas and their identification should be addressed to FMSP.

OFFICIAL LIST/FILE: The official list of Area Identifications is maintained by FMSP. Any questions regarding the use of this list should be addressed to FMSP.

RULES:

1. All government owned or leased Hanford related facilities on the Hanford reservation or within the metropolitan Tri-Cities are assigned an area/owner identification by WHC Facility Management & Site Planning. No other identification may be used when referencing these areas.
2. Area identification for government owned land on the Hanford Site will begin with a numeric character.
3. Area identification for non-government land will begin with an alpha character.
4. Area identifications shall not exceed six characters. They shall be comprised of only upper case alpha characters (A through Z) and numeric characters (0 through 9). Special characters are not allowed. Leading and embedded spaces are not allowed.
5. They shall be left justified.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: None

	Approved by:	Date	
Trustee:	S.W. Seiler	9/26/92	DSA Contact:
DA:	M.K. Britton	9/26/92	P.J. Brulotte
Comments:			

DATA VALUE STANDARD FOR BAR CODE DATA IDENTIFICATION (D)

STANDARD BUSINESS NAME: Bar Code Data Identification

USER NAME: Data identifier

SCOPE: Hanford Site

DEFINITION: A specific code, consisting of one to four characters, that denotes the general category of the data that follows. The data identifier is part of the bar code but is not considered part of the data.

STATUS/DATE: Approved on 10/29/90

TRUSTEE: Data Standards and Administration assigns and tracks all data identifiers under the auspices of the Machine Readable Code Council.

OFFICIAL LIST/FILE: Data Standards and Administration maintains a list of data identifiers, who they are assigned to and their intended use.

RULES:

1. Data identifiers are assigned by Data Standards & Administration based on the Federation of Automated Coding Technologies (FACT) Data Identifier Standard.
2. All bar codes used at WHC shall include an assigned data identifier. Exemptions are granted by the Machine Readable Code (MRC) Council.
3. All bar code reading equipment shall be programmed to verify that the bar code being read has the proper data identifier.
4. They may be a single alpha character or one, two, or three numeric characters followed by a single alpha character.
5. They immediately precede the data field of the bar code and are part of the label but are not considered part of the data. The first alpha character on the bar code label is always the last (or only) character of the data identifier.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	P.J. Brulotte		DSA Contact:
DA:	M.K. Britton	10/29/90	P.J. Brulotte
Comments:	Approved as Site standard 11/24/92		

DATA VALUE STANDARD FOR BAR CODE DATA QUALIFIER (D)

STANDARD BUSINESS NAME: Bar Code Data Qualifier

USER NAME: Data qualifier

SCOPE: Hanford Site

DEFINITION: A two character code unique for a given data identifier, used to provide additional significance to the data encoded within the bar code.

STATUS/DATE: Approved on 10/29/90

TRUSTEE: Data Standards and Administration assigns and tracks all data qualifiers in accord with the Machine Readable Code Council.

OFFICIAL LIST/FILE: Data Standards & Administration maintains a list of assigned data qualifiers.

RULES:

1. All bar codes used at WHC shall include an assigned data qualifier. Exemptions are granted by the Machine Readable Code (MRC) Council.
2. Data qualifiers are assigned by Data Standards & Administration.
3. All bar code reading equipment shall be programmed to verify that the bar code being read has the proper data qualifier.
4. The data qualifier is the last two characters of the bar code, immediately following the data.
5. The data qualifier shall be unique for a give data identifier but may be repeated for a different data identifier.
6. If the data being coded on a bar code is such that duplicate bar codes will not exist, the Machine Readable Code (MRC) Council may determine that a data qualifier is not required.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	P.J. Brulotte		DSA Contact:
DA:	M.K. Britton	10/29/90	P.J. Brulotte
Comments:	Approved as Site standard 11/24/92		

DATA VALUE STANDARD FOR:
BAR CODE LOCATION IDENTIFIER (D)

STANDARD BUSINESS NAME: Bar Code Location Identifier

USER NAMES:

SCOPE: Hanford Site

DEFINITION: All bar code labels used to identify a location that use the FACT standard data identifier of "1L" ie. building, room, tank farm, specific area on a tank.

STATUS/DATE: Approved May 28, 1992

TRUSTEE: Data Standards and Administration

OFFICIAL LIST/FILE: Location Code Identifier File (DS&A Office) contains information on who was assigned bar code location identifiers.
System using bar code labels will be responsible for maintaining specific location information.

FORMAT/VALIDATION RULES:
1. Five characters long
2. Four characters will be numeric (0 thur 9)
3. One character will alpha (A thur Z)
4. The alpha character can be in any of the five positions
4. Contains no spaces or special characters
5. The FACT data identifier is "1L"
6. There is no data qualifier for the bar code

EXCEPTION: The following system contain "1L" data qualifier prior to the development of the standard and are given waiver from the standard.
Air Sample Filter Sample Envelope -
has 4 character number the first digit "A" thur "Z"
Hazardous Material Data Base -
20 character alpha numeric code

BUSINESS RULES:
1. DSA will assign all identifier codes to users.
2. DSA will maintain a register of all assigned codes.

SECURITY/PRIVACY LEVEL: none

SUPPORTING PROCEDURES:
WHC-CM-2-6 Data Administration
WHC-CM-3-8 Software Practices

	Approved by:	Date	
Trustee:	P.J. Brulotte	5/28/92	DSA Contact:
DA:	M.K. Britton	5/28/92	P.J. Brulotte
Comments:	Approved as Site standard on 11/24/92		

DATA VALUE STANDARD FOR:
BUILDING NUMBER (D)

STANDARD BUSINESS NAME: BUILDING NUMBER

USER NAMES: Building

SCOPE: Hanford Site

DEFINITION: Official reference identifier for Hanford Site assigned or leased buildings. Each building has an Building Number and a Building Common Name. The Building Number and the Building Common Name for a given building may be identical. The Building Number will remain the same for the life of the building, however, the Building Common Name may be changed whenever a need arises.

STATUS/DATE: Approved on April 28, 1989

TRUSTEE: Westinghouse Site Planning (Tracking Code R4540000) has the authority to determine the building number for any DOE owned or leased building and to assign new numbers as needed. They also maintain additional information pertinent to each building.

OFFICIAL LIST/FILE: The official Authority File for the Building Number for interface with other systems is in the Hanford FacilitiesCORE (HFC) which is available via Soft Reporting. Any questions regarding the use or format of this file can be answered by calling the Data Trustee.

RULES: The following rules govern the format of Building Number:

1. They shall not exceed eleven characters.
2. They shall not contain any leading or embedded spaces.
3. They shall be comprised of upper case alpha characters (A through Z), numeric characters (0 through 9) and one special character the hyphen (-). The hyphen may only be used as described in rule 4.
4. A hyphen may be used only to separate one sub-field from another sub-field when the last character from the first sub-field and the first character from the second sub-field are both alpha characters (A through Z) or both are numeric characters (0 through 9). The hyphen should only be used if it is required for clarity.
5. They shall be left justified.
6. No Roman numerals shall be used.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	S.W. Seiler		DSA Contact:
DA:	M.K. Britton	4/28/89	R.J. Ulrich
Comments:	Definition updated from WHC-CM-2-6		

DATA VALUE STANDARD FOR:
CAD CODE (D)

STANDARD BUSINESS NAME: CAD CODE

USER NAMES: CADCODE

SCOPE: Hanford Site

DEFINITION: The Computer Aided Design Code (CAD CODE) is a compoSite code assigned to each CAD data set to provide information on the contractor, present data set location, and the hardware and software used to create the data set.

STATUS/DATE: Approved 1/18/92

TRUSTEE: Hanford Plant Standards Drawing/Specification Committee - Committee contact can be made through, ISM/CAD (KEH); Design Services Support (WHC); or Design & Drafting Services (PNL).

OFFICIAL LIST/FILE: Data Set Archival System

RULES:
1. All CAD "H" and "SK" generated drawings shall have a CAD Code designator.
2. The CAD Code will be in the format as defined in SDC-1.3 General Design Criteria Preparation and Control of Engineering and Fabrication Drawings.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: SDC-1.3 General Design Criteria Preparation and Control of Engineering and Fabrication Drawings

	Approved by:	Date	
Trustee:	B.M. Gessel/T.O. Hagget		DSA Contact:
DA:	M.K. Britton	1/6/92	P.J. Brulotte
Comments:	Submitted by Bryon M. Gessel (KEH)		

DATA VALUE STANDARD FOR:
CAD FILE IDENTIFIER (D)

STANDARD BUSINESS NAME: CAD FILE IDENTIFIER

USER NAMES: CADFILE

SCOPE: Hanford Site

DEFINITION: The Computer Aided Design File (CADFILE) identifier is a unique file code assigned to each CAD data set to allow the cross-referencing of CAD generated engineering drawings to specific data sets. This is a compoSite code made up of area/facility designator, drawing number, and sheet number.

STATUS/DATE: Approved 1/18/92

TRUSTEE: Hanford Plant Standards Drawing/Specification Committee - Committee contact can be made through, ISM/CAD (KEH); Design Services Support (WHC); or Design & Drafting Services (PNL).

OFFICIAL LIST/FILE: Data Set Archival System

RULES:
1. CAD generated "H" and "SK" drawings shall have a CAD FILE Identifier
2. The Cad File Identifier will be in the format as defined in SDC-1.3 General Design Criteria Preparation and Control of Engineering and Fabrication Drawings.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: SDC-1.3 General Design Criteria Preparation and Control of Engineering and Fabrication Drawings

	Approved by:	Date	
Trustee:	B.M. Gessel/T.O. Hagget		DSA Contact:
DA:	M.K. Britton	1/6/92	P.J. Brulotte
Comments:	Submitted by Bryon M. Gessel (KEH)		

DATA VALUE STANDARD FOR: CONTAINER IDENTIFICATION NUMBER (D)

STANDARD BUSINESS NAME: CONTAINER IDENTIFICATION NUMBER

USER NAMES: CIN

SCOPE: Hanford Site

DEFINITION: A unique number assigned to a container used for storing solid waste when it arrives on the Hanford Site.

STATUS/DATE: Approved/June 28, 1994

TRUSTEE: Restoration & Upgrade Programs/Systems Engineering

OFFICIAL LIST/FILE: Solid Waste Information and Tracking System (SWITS), Container Management Program (CMP).

FORMAT/VALIDATION RULES: Seven digits constructed as follows:

YYXXXXX where

YY = The year the containers are input into the CMP.

XXXXX = A sequential number indicating the total number of containers received in the associated year.

For example, a container with the identification number of 9400025 would be the twenty-fifth container input into the CMP in the year 1994.

BUSINESS RULES:

- Each container on the Hanford Site that could be employed for waste shall receive a unique Container Identification Number (CIN) in the form of a Code 39 bar code. For those containers that are a part of the CMP and have a CIN bar code label attached, that CIN will be used as the Primary package identification number (PIN) to track that container throughout its life cycle.

- The CIN bar code label will be the ONLY container identification bar code label attached to a container, unless the container is a non-CMP container in which case the generator will apply their own bar code label using their generator specific PIN format as describe in WHC-EP-0063-4.

- Unless exempted by the Storage Disposal Approval Record, WHC Solid Waste Disposal requires that onsite waste packages be labeled with a CIN bar code label.

- In addition to the CIN bar code label, the container may be marked with a generator specific identifier (PIN or Facility). This identifier allows for easy identification of the source of the waste. The placement of the generator specific PIN or Facility on the container can be either by paint or as a non-bar code label.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: WHC-EP-0063-4, Hanford Site Solid Waste Acceptance Criteria

	Approved by:	Date	
Trustee:	D. L. Hagel	04/11/94	DSA Contact:
DA:	M. K. Britton	03/28/94	S. B. MCCargar
Comments:			

DATA VALUE STANDARD FOR:
CHEMICAL ABSTRACT SERVICE NUMBER (D)

STANDARD BUSINESS NAME: Chemical Abstract Service Number

USER NAMES: CAS No, Chemical Abstract Service Registry Number, Registry Number

SCOPE: Hanford Site

DEFINITION: Is a unique number for a specific chemical substance as identified by the Chemical Abstract Service. A number is also assigned to chemical compounds (e.g. an acid know only in its salt form), ring parents (ring system known only in their substituted form), and compounds registered because of contracts of the CAS with the American Federal Government.

STATUS/DATE: Approved 2/3/93

TRUSTEE: Hanford Technical Library (PNL)

OFFICIAL LIST/FILE: Chemical Abstract Services Registry Handbook

FORMAT/VALIDATION RULES:

1. Ten digits long
2. Arranged in three groups aaabb-bb-b
3. Contains dashes as shown above
4. "a" digits are right justified with leading spaces
5. "a" digits can be all blank
6. "b" digits must have a 0 thur 9 character, no spaces
7. Validation formula:
   - (a) Number the CAS number digits start at the second digit from the right and number to the left using consecutive numbers beginning with 1.
   - (b) Multiply each digit by the number assigned above and then add all products together to obtain a sum.
   - (c) The last digit to the right of the sum must be the same as the last digit to the right for the CAS number.

     This check does not tell you if the CAS number is the correct one for a chemical. It only tells you if the CAS Number fits the formula used in valid CAS Numbers.

eg. CAS Number 1332-58-7

```
 (a)      6543 21

 (b)       6 X 1 =  6
           5 X 3 = 15
          4 X 3 = 12
          3 X 2 =  6
          2 X 5 = 10
           1 X 8 =  8
         ==============
                57
(c)  7 = 7
```

BUSINESS RULES:

1. The services contains all chemical substances which have been reported since the beginning of 1965.
2. The registry numbers are computer assigned in chronological order
3. New numbers are generated annually
4. A number may be replaced or deleted by Chemical Abstract Services

SECURITY/PRIVACY LEVEL:

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	J.R. Judy		DSA Contact:
DA:	M.K. Britton	02/02/93	P.J. BRULOTTE
Comments:			

PROTOCOL STANDARD FOR:
CHEMICALS ANALYTES IDENTIFIERS (P)

STANDARD BUSINESS NAME: Chemicals Analytes Identifiers

USER NAMES:

SCOPE: Hanford Site

DEFINITION: Chemicals is defined as chemicals including isomers, trade name products, and mixtures and solutions created on Site. Analytes is defined as either the chemical constituent or the physical property for which an analysis has been requested (e.g. pH, Conductivity, Temperature, etc.). Some Hanford Analytes are unique to the Hanford Site. Different national, international accepted standards and a locally developed standard will be used to assign name and numbers to chemicals and analytes. Each of these standards have associated data value standards that provide detail information on format, etc. Data Value Standards References:

International Union of Pure and Applied Chemistry (IUPAC) Name
Chemical Abstracts Service (CAS) Number
Hanford Material Safety Data Sheet (MSDS) Number
Hanford Material Safety Data Sheet (MSDS) Name
Hanford Chemicals Number
Hanford Chemicals Name

STATUS/DATE: Approved 2/3/93

TRUSTEE: Data Standards and Administration (WHC)

OFFICIAL LIST/FILE: N/A

FORMAT/VALIDATION RULES: Not applicable - See specific data value standards for details

BUSINESS RULES:

1. One of the following must be used for the number of a chemical:
   a. For Pure Substances and constituents use CAS Number, or Hanford Chemical Number
   b. For Products use Hanford MSDS Number.
2. One of the following must be used for the naming of a chemical:
   a. For Pure Substances and constituents use IUPAC Name, or Hanford Chemical Name
   b. For Products use Hanford MSDS Name.
3. Preference for assigning the identifier is CAS Number with IUPAC Name, Hanford MSDS Number with Hanford MSDS Name, and then Hanford Chemical Number with associated name.
4. When ever possible, mixtures of chemical are to be broken down and reported by components via 1a or 2a.
5. Use chemical not pharmaceutical version of IUPAC names
6. IUPAC name have a one to one relationship with CAS numbers
7. Hanford Chemical Name or number is used only if none of the other standards identify the chemical.

8. Products that have not been assigned an Hanford MSDS number are exempt from this standard. (These are products waiting to be assigned a Hanford MSDS when proper documentation is received.) Once a Hanford MSDS number is assigned, names and numbers are to be changed to meet the standard.

SECURITY/PRIVACY LEVEL:

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	M.K. Britton	02/02/93	DSA Contact:
DA:	M.K. Britton	02/02/93	P.J. Brulotte
Comments:			

PROTOCOL STANDARD FOR:
DATA NAMING CONVENTION (P)

STANDARD BUSINESS NAME: DATA NAMING CONVENTION

USER NAMES: Business Naming Standard

SCOPE: Hanford Site

DEFINITION: A method to provide a common, consistent vocabulary for naming data resources on the Hanford Site. Names are required for data objects (i.e. data entities or relationships) or attributes, and are identified in the process of creating data models and designs.

Attribute. A single fact or characteristic about a business object. When implemented in computer systems, attributes are generally called "data elements."

Business Entity. A person, place, thing, or event of interest to the business about which facts are recorded.

Business Relationship. A named association or connection between two business entities.

Business Object. A business entity or a business relationship.

STATUS/DATE: Revised August 22, 1994

TRUSTEE: Site Data Administration

OFFICIAL LIST/FILE: *Hanford Site Data Naming Convention*

FORMAT/VALIDATION RULES:

1. Business Entity - The syntax of a business entity name is:

   Qualifier (0, 1, or more) + Noun (1)

   The noun should be a simple noun in singular form. Qualifier(s) should be used as necessary to uniquely identify the object being named. Qualifier(s) provide needed clarification by providing additional detail. No punctuation, prepositions, or conjunctions are allowed in the name. The terminology of the user should be used.

   Some examples of entity names are: Employee, Store Order, Waste Tank.

2. Business Relationship - The syntax of business relationship name is:

   Qualifier (0, 1, or more) + Noun (1 or more)

   A relationship is generally given a name meaningful to the user. For example, the user name for the relationship between entities "Warehouse" and "Item" could be "Inventory." If the user does not have a name, one of the following guidelines may be used.

   a. Use a verb that best describes the relationship and add an action suffix (e.g., -ion, -ance, -ment, -age, -ing).

b. Concatenate the names of the two participating entities.

e.g., the relationship between "Warehouse" and "Item" could be named a) "Storage" (store + age) or b) "Warehouse Item."

Relationship names also may require qualifying words to assure that they will be well understood. For example, "Physical Inventory" could be chosen as the user name in place of "Inventory." All nouns should be in the singular form and no prepositions, conjunctions, or punctuation are allowed.

3. Attribute - The syntax of an attribute name is:

Business Object Name (1) + Qualifier (0, 1, or more) + Class Word (1)

The business object name is the name of either a business entity or a business relationship about which the attribute is a fact. The class word specifies the general nature of the attribute and is required. The class word must come from the list of standard class words in Table 1 or Data Standards and Administration must approve the class word. Qualifiers of the class word may be necessary to ensure clarity of meaning.

Some examples of attribute names are:

(Business Object) + (Qualifier) + (Class Word)

Store Order	Delivery	Date
Inventory	Stored	Quantity
Customer		Name

4. Class Words

Class words provide definitive categories to be used when defining the basic nature of attributes. The current approved list of standard class words and their definitions is found in Table 1. Table 1 also identifies whether the class words apply to simple attributes, compoSite attributes, or both. (An attribute is simple if there is no business need to decompose it into other attributes. For example, "Employee Name" is a compoSite attribute if the business has a need to further decompose it into other attributes, such as "Employee Last Name," "Employee First Name," and "Employee Middle Initial.")

5. Standard Abbreviations

As each data resource is assigned a standard name, it also receives a standard abbreviation. The standard abbreviation is created by concatenating in order the abbreviations for the individual words in the standard name. The standard abbreviations for each class word are listed in Table 1. Other abbreviations should follow existing Hanford Site or national standards as appropriate. As a guideline, only the first letter of each word abbreviated should be capitalized. This will facilitate the reading and understanding of standard abbreviations. For example, the standard name "Current Employee Annual Salary Amount" might be abbreviated as "CurrEmpAnnlSalAmt."

BUSINESS RULES:

1. The standard business name shall be the official name by which business entities, relationships, and attributes are known at the Hanford Site.

2. The standard names and abbreviations for data resources need to be unique.

3. A business object or attribute may have a variety of alias names in the user's everyday terminology. In addition, nonstandard names for data elements and data structures will occur in systems or application packages. These non-standard names or aliases must be documented by cross-referencing them to the standard business name.

4. The technical names of business objects and attributes for system specification (requirements) and implementation should be derived from the standard business name.

SECURITY/PRIVACY LEVEL:

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	C.F. Wagner	04/21/94	DSA Contact:
DA:	M.K. Britton	06/09/94	S.B. McCargar
Comments:			

Table 1. Standard Class Words. (sheet 1 of 3)

CLASS WORD	SIMPLE AND/OR COMPOSite	MEANING
Amount (Amt)	S	A numeric monetary amount.
Address (Addr)	S+C	A place (e.g., building, post office box, mail stop, electronic mail box, etc.) where something is or could be located or placed.
Code (Cd)	S+C	A predefined alphanumeric value that represents other values. It is formulated by a systematic use of symbols, letters, and/or numbers.
Coordinate (Coord)	S	Data that identifies place(ment) using some kind of (implied) grid system.
Count (Cnt)	S	A numeric nonmonetary accumulation; the number of things being counted.
Data (Data)	C	A set of attributes, data elements, or fields having some unifying relationship and regarded as a unit.
Date (Dt)	S+C	A calendar date identifying a specific chronological instance.
Description (Desc)	S+C	Narrative data that has variable content and unpredictable structure, and does not name someone or something. Used to assign meaning or definition.
Factor (Ftr)	S	A quantity expressed in a whole number and decimal percent that is typically used in computing other quantities.
Flag (Flg)	S	A code limited to only two conditions.
Group (Grp)	C	A set of attributes, data elements, or fields having some unifying relationship and regarded as a unit.
Identifier (Id)	S+C	A unique (alphanumeric) value that identifies a person, place, or thing.
Image (Img)	S+C	A graphic drawing, design, or pattern (possibly sound) stored as an image.
Index (Idx)	S	A numeric value used for comparing.

Table 1. Standard Class Words. (sheet 2 of 3)

CLASS WORD	SIMPLE AND/OR COMPOSite	MEANING
Indicator (Ind)	S	A code that has binary values only such as Yes or No, On or Off, 0 or 1.
Initial (Init)	S+C	A letter character representing the first letter in a word like a name. May also be more than one letter if more than one name is involved.
Location (Loc)	S+C	A geographic Site or place where something is or could be located or placed.
Matrix (Mtx)	C	An ordered set of elements. If the set is one dimensional, it is interpreted as an array of elements. May also be multi-dimensional.
Measure (Meas)	S	Numeric data that identifies a dimension, quantity, or capacity that can be measured and used as a standard of comparison between properties, such as length, area, volume, weight, mass, speed, and temperature.
Month (Mo)	S	Actual month (e.g., fiscal or calendar) - a subdivision of time.
Name (Name)	S+C	Alphanumeric data that identifies (perhaps nonuniquely) a person, place, thing, idea, or concept.
Number (No)	S+C	Alphanumeric data that is used as a code or identifier.
Percent (Pct)	S	Numeric data that represents the ratio between two other data values, expressed as a percentage.
Quantity (Qty)	S	A specified number of things; something serving as the object of a mathematical operation. It identifies a numeric value of some kind.

Table 1. Standard Class Words. (sheet 3 of 3)

CLASS WORD	SIMPLE AND/OR COMPOSite	MEANING
Rate (Rt)	S	Quantity per some unit of measure used to calculate another quantity or amount.
State (St)	S+C	A stable, identifiable mode of behavior occurring during a period of time. An object's state remains constant until an event causes it to change.
Table (Tbl)	C	A two dimensional array of data, typically described by columns and rows in which the row-column intersection is described as a cell.
Text (Txt)	S	Alphanumeric data that has variable content and unpredictable structure and does not name someone or something.
Time (Tm)	S+C	A duration or period of time or a specific instant when something occurs.
Title (Ttl)	S	A formal name that denotes position, rank, or a general heading of a publication, work of art, etc.
Type (Tp)	S+C	A descriptive word (not a code) that identifies a category.
Unit (Ut)	S	Information about the type of value or unit of measurement, such as feet, square meters, cubic centimeters, fahrenheit.
Year (Yr)	S	Actual year (e.g., fiscal or calendar) - a subdivision of time.

Class words can be recommended to Data Standards and Administration for inclusion in the list of approved Site class words. A definition and rationale for including the class word should be provided.

PROTOCOL STANDARD FOR:
ELECTRONIC DATA INTERCHANGE (P)

STANDARD BUSINESS NAME: ELECTRONIC DATA INTERCHANGE

USER NAMES: EDI

SCOPE: Hanford Site, National Standard

DEFINITION: Electronic Data Interchange (EDI) is a the computer application to computer application transmission of routine business documents or information in a standard format. EDI is most often applicable to business functions such as purchasing or accounts payable/receivable, and is used for transactions conducted between companies such as freight bills, shipment status, bill of lading, etc.

STATUS/DATE: Approved June 24, 1994

TRUSTEE: Material Systems

OFFICIAL LIST/FILE: American National Standards Institute Accredited Standards Committee X12 (ANSI ASC X12)

BUSINESS RULES: Any transactions performed using EDI shall conform to the X12 data and format standard.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	J. N. DeLaHunt	07/06/94	DSA Contact:
DA:	M. K. Britton	07/11/94	S. B. MCCargar
Comments:			

DATA VALUE STANDARD FOR:
EMPLOYEE PAYROLL NUMBER (D)

STANDARD BUSINESS NAME: EMPLOYEE PAYROLL NUMBER

USER NAMES: PAYNO
PAYROLL NUMBER

SCOPE: Hanford Site

DEFINITION: Payroll numbers uniquely identify personnel within a given company for human resource/payroll tracking and reporting. Payroll numbers are used by various applications to track personnel since payroll number is an efficient key for uniquely identifying employees.

STATUS/DATE: Revised - May 28, 1992
Approved - January 31, 1992

TRUSTEE: The Human Resource departments of each contractor. WHC trustee is Employment Operations.

OFFICIAL LIST/FILE: The Human Resource/Payroll systems of each contractor.
WHC - The Westinghouse Human Resources (WHR) system
PNL - The Battelle Human Resources (HR) system
KEH - The Kaiser Human Resources/payroll (KHR) system.
HEHF - The Hanford Environmental Health Human Resource system.
RL - The Department of Energy-Richland Office Human Resource system.

FORMAT/VALIDATION RULES:
1. The number is unique
2. All numbers are left justified
3. Alpha characters are upper case
4. Leading and embedded spaces are not allowed
5. Specific Company Formats:

WHC: Payroll numbers are five characters in length, alpha-numeric and start with a 4, 5, 6, 8, or 9.
PNL: Payroll numbers are five characters in length, alpha-numeric and start with a 3.
KEH: Payroll numbers are seven characters in length and alpha-numeric (two characters, a dash, and four more characters).
HEHF: Payroll numbers are five characters in length and alpha-numeric (first character numeric, second character alpha, and the final three numeric).
DOE: Payroll numbers are six characters in length and alpha-numeric (first two characters equal "US" and the final four numeric). They are used for Hanford tracking only.
SWE: Payroll numbers are seven characters in length, alpha-numeric, and are automatically generated by the PeopleCORE database system (first character a "S" and the remaining numeric). Note:they are used for Hanford tracking only.

BUSINESS RULES:

1. A number is never reassigned to another person.
2. A former employee rehiring into a company is reassigned their original payroll number.
3. A payroll number is required by and assigned to all Hanford Prime Contractors.

SECURITY/PRIVACY LEVEL: Payroll numbers are considered sensitive when they are combined with the employee's name.

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:			DSA Contact:
DA:	M.K. Britton	5/28/92	K.K. Friday
Comments:	Revised HEHF's Payroll Number Format		

PROTOCOL STANDARD FOR:
GEODETIC ELEVATION DATA (P)

STANDARD BUSINESS NAME: Geodetic Elevation Data

USER NAMES: The North American Vertical Datum of 1988 (NAVD88)

SCOPE: All Hanford Site

DEFINITION: A vertical control datum (a set of fundamental elevations to which other elevations are referred) established for vertical control in the United States by the general adjustment of 1988.

STATUS/DATE: Revision Approved 11/25/93

TRUSTEE: Central Engineering/Survey (KEH)

OFFICIAL LIST/FILE: The official list of benchmark elevations for the Hanford Site is maintained by Kaiser Engineers Hanford, Survey Department.

BUSINESS RULES: The new general adjustment of the North American Vertical Datum of 1988 (NAVD88) is a minimum-constraint adjustment of Canadian-Mexican-U.S. leveling observations which was performed holding fixed the height of the primary tidal benchmark, referenced to the new International Great Lakes Datum of 1985 (IGLD 85) local mean sea level height value, at Father Point/Rimouski, Quebec, Canada. The datum is not mean sea level, the geoid, or any other equipotential surface.
SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: DOE 6430.1A, 0202; Geodetic Glossary, National Geodetic Survey, Rockville, MD.

	Approved by:	Date	
Trustee:	A. K. Lewis		DSA Contact:
DA:	M. K. Britton	11/25/93	R.J. Uhlrich
Comments:			

DATA VALUE STANDARD FOR:
HANFORD CHEMICAL NAME (D)

STANDARD BUSINESS NAME: Hanford Chemical Name

USER NAMES: Hanford Chemical Name, Hanford Chemical Analyte Name, Hanford Analyte Name

SCOPE: Hanford Site

DEFINITION: Some Hanford Analytes are unique to the Hanford Site. There are analytes that do not have an IUPAC name, an Material Safety Data Sheet (MSDS) name, or a Chemical Management System (CMS) name. A Name will be assigned to these other "Hanford Chemical" analytes for use by all Hanford Contractors.
STATUS/DATE: Approved 2/3/93

TRUSTEE: Environmental Data Management (WHC)

OFFICIAL LIST/FILE: Hanford Environmental Information System (HEIS)

FORMAT/VALIDATION RULES: The format for Hanford Chemical Names shall be
1. Length up to 75 characters Long
2. They will be comprised of both upper and lower case alpha characters (a through z), numeric characters (0-9), spaces and dashes
3. Name will be left justified.

BUSINESS RULES:
1. The chemical analyte and physical property names found in the Handbook of Chemistry and Physics, Lange's Handbook of Chemistry, Kirk-Othmer, and other standard technical references for Chemistry and Physics available at the Hanford Technical Library may be used to establish name for Hanford Chemical analytes.

SECURITY/PRIVACY LEVEL:

SUPPORTING PROCEDURES: The initial procedures for the Hanford Chemical analyte names may be found in the Operator's Manual for the Hanford Environmental Information System (HEIS), WHC-SP-0660.

	Approved by:	Date	
Trustee:	R.D. Fox		DSA Contact:
DA:	M.K. Britton	02/02/93	P.J. Brulotte
Comments:			

DATA VALUE STANDARD FOR:
HANFORD CHEMICAL NUMBER (D)

STANDARD BUSINESS NAME: Hanford Chemical Number

USER NAMES: Hanford Chemical Number, Hanford Chemical Analyte Number, Hanford Analyte Number

SCOPE: Hanford Site

DEFINITION: Some Hanford Analytes are unique to the Hanford Site. There are analytes that do not have an Chemical Abstract Services number, an Material Safety Data Sheet (MSDS) number, or a Chemical Management System (CMS) number. A Number will be assigned to these other "Hanford Chemical" analytes for use by all Hanford Contractors. Chemicals is defined as chemicals including isomers, trade name products, and mixtures and solutions created on Site. Analytes is defined as either the chemical constituent or the physical property for which an analysis has been requested (e.g. pH, Conductivity, Temperature, etc.).

STATUS/DATE: Approved 2/3/93

TRUSTEE: Environmental Data Management (WHC)

OFFICIAL LIST/FILE: Hanford Environmental Information System (HEIS)

FORMAT/VALIDATION RULES:
1. Ten characters alpha numeric
2. First three characters will be "HCN"
3. They will be comprised of upper and lower case alpha characters (A through Z), numeric characters (0-9) and spaces.
4. Number will be left justified.

BUSINESS RULES:

SECURITY/PRIVACY LEVEL:

SUPPORTING PROCEDURES: The initial procedures for the Hanford Chemical analyte numbers may be found in the Operator's Manual for the Hanford Environmental Information System (HEIS), WHC-SP-0660.

	Approved by:	Date	
Trustee:	R.D. Fox		DSA Contact:
DA:	M.K. Britton	02/02/93	P.J. Brulotte
Comments:			

DATA VALUE STANDARD FOR:
HANFORD COMPANY ABBREVIATION CODE (D)

STANDARD BUSINESS NAME: Hanford Company Abbreviation Code

USER NAMES:
COMPANY IDENTIFICATION
COMPANY EMPLOYED ID
EMPLOYEE PAYROLL KEY CODE
CONTRACTOR INDICATOR CODE
FINANCIAL INDICATOR CODE

SCOPE: Hanford Site

DEFINITION: An unique abbreviation of a company's name that is associated with the Hanford Site for use in computer systems or documents where full titles are not practical. This includes the U.S. Department of Energy, Richland Field Office (RL), companies under prime contract to RL, sub-contracting companies, and other companies who have employees that are supported or tracked by Site services (i.e. Plant mail, Telephone services, or Dosimetry).

Currently, three variations (5 characters, 2 characters, and 1 character) for company abbreviations exist. These are discussed under the rules sections of this standard.

STATUS/DATE Approved May 28, 1992

TRUSTEE: Hanford PeopleCore Control Board

The Board will administer the official file. Abbreviations will be assigned by others as appropriate.

OFFICIAL LIST/FILE: Hanford PeopleCORE

A history of the single and two-character alphanumeric abbreviation codes are maintained by PNL's Dosimetry system and HEHF's medical system.

<u>FIVE CHARACTER ABBREVIATION</u>
FORMAT/VALIDATION RULES:
1. Can be up to five characters in length (i.e., RL, WHC, BCSR, KELLY)
2. The abbreviation must be unique - can be the same as the two-character abbreviation if for same company (i.e., RL)
3. The format is alphanumeric
4. Special characters are not recommended
5. Leading and embedded spaces are not allowed
6. Only upper case characters are used

BUSINESS RULES:
1. The abbreviations are agreed upon codes between RL and the contractors.
2. All contractors associated with Hanford are required to have a 5 character abbreviation.

TWO CHARACTER ABBREVIATION

FORMAT/VALIDATION RULES:

1. Two alphanumeric characters
1. The abbreviation must be unique
3. No special characters or blank spaces
4. Only upper case characters are used

BUSINESS RULES:

1. A two character abbreviation assignment is optional.
2. The two character abbreviation is required when an employee of that company is badged and assigned a dosimeter.
3. The two character abbreviation is administered by the Hanford PeopleCORE Control Board.
4. Medical services and Site dosimeter tracking must concur with assigned abbreviations.

ONE CHARACTER ABBREVIATION

FORMAT/VALIDATION RULES:

1. It is a single alphanumeric character
2. The abbreviation must be unique

BUSINESS RULES:

1. A one character abbreviation is required by and assigned only to prime Hanford contractors or the RL office.
2. The abbreviation is assigned by PNL's Site dosimeter tracking.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	P.L. Blowers	5/28/92	DSA Contact:
DA:	M.K. Britton	5/28/92	K.K. Friday
Comments:			

DATA STANDARD FOR: HANFORD DRAWING NUMBER (D)

STANDARD BUSINESS NAME: HANFORD DRAWING NUMBER (HDN).

USER NAMES: Some examples of drawing types include H, SK, M, W, AEC, AC, D, EP, P, SP Series Drawings.

SCOPE: Hanford Site

DEFINITION: A standardized format for the input of an engineering drawing number into an automated system application.

The purpose of this Data Standard is to implement a Sitewide standard format for drawing numbers. In the past, each Site automated system has had its own unique format for storing drawing numbers.

STATUS/DATE: Approved April 27, 1994

TRUSTEE: WHC Configuration Management, with concurrence from IRM Document Support Services, will serve as trustee over the Hanford Drawing Number standard.

OFFICIAL LIST/FILE: The Record Blueprint File (RBF) will comprise the official list. A report from the RBF system is located in Soft Reporting (under RBF) and provides the Site record file of drawing numbers.

FORMAT/VALIDATION RULES:

1. Each drawing number shall be unique.

2. A Drawing Number shall not exceed eleven (11) characters.

3. All Drawing Numbers shall be comprised of three parts:

   Drawing Type - Two (2) upper case alpha characters. For new drawings, the characters shall be H or SK. The H shall be followed by a space. Older three (3) character types, such as AEC, are recorded using only two (2) characters (i.e., AC).

   Site Area Designator - Two (2) numeric characters, a zero shall lead a single character.

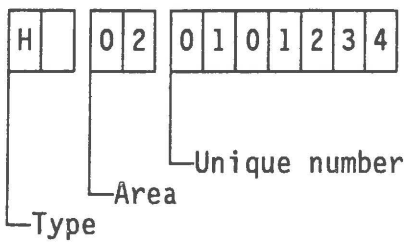
   Unique Number - Seven (7) numeric characters, zeros shall lead a number with less than seven characters.

4. Sheet Number and Revision Number are not included in the Drawing Number but shall be identified to ensure uniqueness of each drawing, sheet, and revision. The format is:

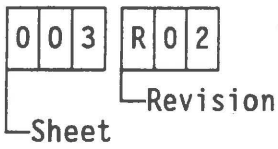
   Sheet Number - Three (3) numeric characters, zeros shall lead a number with less than three characters. For a new system development or reporting purposes, five characters should be acknowledged to accommodate existing sheet numbers that include a one or two character alpha suffix.

   Revision Number - Three (3) alpha/numeric characters. The first character is alpha and shall be R to imply a Reproducible (manual) drawing or C to imply a CAD drawing. The second and third characters are numeric, zeros shall lead a single character number. For a new system development or reporting purposes, four characters should be acknowledged to accommodate existing revision numbers that could exceed 99 revisions.

5. An illustration of the data value input of the Drawing Number follows:



6. An illustration of the data value input of the Sheet and Revision Numbers follows:



BUSINESS RULES:

1. All new drawings shall be input into an automated system using this standard.

2. Use of this standard will be mandatory on October 1, 1994.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:
Hanford Plant Standards, Standard Design Criteria, SDC-1.3, Preparation and Control of Engineering and Fabrication Drawings

	Approved by:	Date	
Trustee:	L.S. Legowik/ J.A. Highland	04/27/94	DSA Contact:
DA:	M.K. Britton	05/12/94	J. B. Schaffer
Comments:			

PROTOCOL STANDARD FOR:
HAZARDOUS MATERIAL TRANSPORTATION DATA (P)

STANDARD BUSINESS NAME: HAZARDOUS MATERIAL TRANSPORTATION DATA

USER NAMES:

SCOPE: Hanford Site, National Standard

DEFINITION: Data required by the Department of Transportation (DOT) for transporting hazardous materials. A hazardous material is defined as a substance or material determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce. Federal regulations define data for identification and classification of the hazardous materials.

STATUS/DATE: Approved/February 4, 1994

TRUSTEE: Transportation and Packaging (WHC)

OFFICIAL LIST/FILE: Codes of Federal Regulation Transportation 49 (49 CFR). This reference can be found in the Hanford Technical Library.

BUSINESS RULES: Any data used to track or accomplish transportation of hazardous materials from, to, or within the Hanford Site must conform to the requirements in the Codes of Federal Regulation Transportation 49. This includes specification of hazard class, proper shipping name, identification number, etc.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: Additional national regulations apply to specific categories of hazardous material data:

Hazardous waste must comply with 40 CFR, parts 261-262.

Air freight international shipments of hazardous materials must comply with IATA regulations.

DATA VALUE STANDARD FOR:
IUPAC NAME (D)

STANDARD BUSINESS NAME: IUPAC Name

USER NAMES: IUPAC NAME (International Union of Pure and Applied Chemistry Name)

SCOPE: Hanford Site

DEFINITION: A name assigned to chemicals and analytes that can be used for identification. Names are prepared by the Commission on the Nomenclature of Inorganic Chemistry of the International Union of Pure and Applied Chemistry.

STATUS/DATE: Approved 2/3/93

TRUSTEE: Hanford Technical Library (PNL)

OFFICIAL LIST/FILE: Handbook of Chemistry and Physics by CRC Press, Inc.

FORMAT/VALIDATION RULES:
1. Length up to 150 characters
2. They will be comprised of upper case alpha characters (A through Z), numeric characters (0-9) and special characters, () Left and right bracket, hyphens, commas and spaces
3. Subscripted numbers will be recorded as a regular number
4. Names will be left justified

BUSINESS RULES:
1. Use chemical not pharmaceutical version of IUPAC Name.
2. The purpose is to provide chemist with a word or set of words which is unique to the particular compound and which conveys at least its empirical formula and also, if possible, its principal structural features.
3. The name should be pronounceable and capable of being written or printed with and absolute minimum of additional symbols or modes of writing (e.g. subscripts or differing type-faces).

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	J.R. Judy		DSA Contact:
DA:	M.K. Britton	02/02/93	P.J. Brulotte
Comments:			

DATA VALUE STANDARD FOR:
MAIL STOP IDENTIFICATION NUMBER (D)

STANDARD BUSINESS NAME: Mail Stop Identification Number

USER NAMES: MSIN

SCOPE: Hanford Site

DEFINITION: Official reference identifier for Hanford Site mail locations. Each MSIN number identifies exact delivery locations for Mail Services. The MSIN number designates a place where the mail is to be delivered, it does not correspond to a person, organization or job description.

STATUS/DATE: Approved 03/15/93

TRUSTEE: Central Mail Services

OFFICIAL LIST/FILE: Hanford PeopleCORE (HPC) system

FORMAT/VALIDATION RULES:

1. They shall not exceed five characters.
2. They shall not contain any leading or embedded spaces.
3. Format
   a. 1st character — upper case alpha (A through Z)
   b. 2nd character — numeric (0 through 9)
   c. 3rd character — hypen (-)
   d. 4-5th characters — numeric leading zero required (00 through 99)

BUSINESS RULES:

1. The MSIN number may be changed by Mail Services to accomodate route changes.
2. In the event that a MSIN is no longer needed, that MSIN number will be retired for a period of six months.
3. Offsite and onsite mail generated for Hanford must have MSIN numbers included in the addressing in order to be delivered. Any mail without a MSIN number will be directed into a look up mode which slows down the delivery of the mail.
4. Any BULK RATE mail without a MSIN may be discarded.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	B. A. Ward		DSA Contact: KK Friday
DA:			
Comments:			

DATA VALUE STANDARD FOR:
ORGANIZATION COST CENTER CODE (D)

STANDARD BUSINESS NAME: ORGANIZATION COST CENTER CODE

USER NAMES: ORGANIZATION CODE
RECEIVER ORGANIZATION CODE
SENDER ORGANIZATION CODE
SUPPORT FROM CODE

SCOPE: Westinghouse Hanford Company (WHC)

DEFINITION: Organization cost center codes (organization codes) are used to identify the functional organization responsible for incurred cost. The organization cost center code is one of three primary codes used by the Financial Data System to identify all cost and budget transactions. The organization cost center code identifies the organization which initiates and authorizes the charging of a cost to a specific budget and work scope.

STATUS/DATE: Revised - May 28, 1992
Approved - October 21, 1991

TRUSTEE: This data element is managed by the Controller Department - Financial Data Control

OFFICIAL LIST/FILE: Financial Data System (FDS) Organization Table

FORMAT/VALIDATION RULES:
1. Composed of five characters
2. Second character is alphanumeric
3. All other characters are numeric
4. Code must be unique

BUSINESS RULES:
1. The first character represents the company division with the second through fifth characters representing division department, function, group, and section.
2. The code is assigned to each organizational section, so the hierarchy of codes reflects the management costing structure of a division (a code may be used for an organizational group <u>and</u> all of the lower level sections reporting to it.).
3. The organization cost center code is assigned by the Controller Department -Financial Data Control when an organization is created (e.g. when a manager is initially appointed).
4. Codes used within a given fiscal year are not reused for another organization within the same fiscal year.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:
WHC-CM-2-10 Organization Code Structure
WHC-EP-0388 Management Control System Description.

	Approved by:	Date	
Trustee:	P.J. Bence	5/28/92	DSA Contact:
DA:	M.K. Britton	5/28/92	K.K Friday
Comments:	Revised Format rule # 2		

DATA VALUE STANDARD FOR:
ORGANIZATION HIERARCHIAL IDENTIFICATION (D)

STANDARD BUSINESS NAME: ORGANIZATION HIERARCHIAL IDENTIFICATION

USER NAMES: TRACKING CODE

SCOPE: Westinghouse Hanford Company (WHC)

DEFINITION: Tracking codes uniquely represent the company's organization hierarchy for reporting relationships. The code is alpha/numerically sequenced to the lowest level in the hierarchy. It is the direct reporting organization to which an employee is assigned.

STATUS/DATE: Approved - October 21, 1991

TRUSTEE: Human Resources - Information Services

OFFICIAL LIST/FILE: The Westinghouse Human Resources (WHR) system maintains the cross reference of tracking codes to employees. A control organization file exists on a PC that regulates the management of tracking codes to managers.

RULES: The tracking code is an eight character code in the Westinghouse Human Resources system (WHR). The code makes up the management reports-to relationship from the top, company division, down through department division, function, group, section, and unit.

Tracking codes are assigned by Human Resources Information Services based on reorganizations, and developments of new management positions. Organizational restructuring is coordinated through the Compensation department. Management changes are communicated to Human Resources Information Services via an internal Human Resource form, "Request for Status Change".

Two other data elements are often used in conjunction with the tracking code. These are an employee's role within the company such as, manager, professional, secretary, technical, etc. and the level of management. The tracking code and the other two codes are used together on organization charts and for internal Human Resource system manipulation.

Format Rules: The tracking codes uniquely identify a management organization structure per WHC-CM-1-3. The format is: AXNNNNNN (A=alpha, X=alphanumeric, N=numeric)

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: WHC-CM-1-3

	Approved by:	Date	
Trustee:			DSA Contact:
DA:	M.K. Britton	10/21/91	K.K. Friday
Comments:			

DATA VALUE STANDARD FOR: ORGANIZATION TITLE ABBREVIATION (D)

STANDARD BUSINESS NAME: ORGANIZATION TITLE ABBREVIATION

USER NAMES: Organization Abbreviation, Site Directory Abbreviation, Site Organization Abbreviation, Department Acronym

SCOPE: WHC/BCSR/KEH

DEFINITION: Official organization title abbreviation for the first two layers below the WHC president.

STATUS/DATE:
Approved Modification - October 21, 1991
Approved - April 28, 1989

TRUSTEE: Human Resources Information Services (WHC HRIS) has the authority to determine the organization title abbreviation and to assign new abbreviations as needed based on official manager titles.

OFFICIAL LIST/FILE: The official Authority File for the Organization Title Abbreviation for interface with other systems is in the Hanford PeopleCORE (HPC) system.

FORMAT/VALIDATION RULES:
1. All abbreviations shall consist of no more than three characters.
2. Acceptable characters are limited to upper case characters "A" through "Z", and numeric characters "0" through "9". Special characters are not recommended.
3. The format is: XXX/YYY where "X" is first organization layer and "Y" is second organization layer.

BUSINESS RULES:
1. The official organization title abbreviation may be used without additional explanation in computer applications and onsite correspondence.
2. The first organization layer abbreviation will be unique.
3. Each second organization layer will be unique within it's first layer organization.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: WHC HR/HRIS Desk procedure

	Approved by:	Date	
Trustee:	D.E. Hansen		DSA Contact:
DA:	M.K. Britton	10/21/91	P.L. BLOWERS
Comments:	Trustee changed 9/1/92 from DSA to WHC/HR/HRIS & document form		

PROTOCOL STANDARD FOR:
PLANE COORDINATES (P)

STANDARD BUSINESS NAME: Plane Coordinates

USER NAMES: The Washington coordinate system of 1983, south zone (1991)
WCS83S(1991)
Lambert grid
Washington coordinate system
state plane coordinate system

SCOPE: All Hanford Site Contractors

DEFINITION: The Washington coordinate system of 1983 (1991) (WCS83(1991)) is the system of plane coordinates which has been established by the National Geodetic Survey (NGS) of the United States Department of Commerce for defining and stating the projected positions or locations of points on the surface of the earth within the state of Washington. The WCS83(1991) itself is based on the 1991 state wide readjustment by the NGS of geodetic positions on the North American Datum of 1983 (NAD83), now designated as NAD83 (1991). Datum parameters for the NAD83 established by the NGS have not changed. Defining parameters for the Washington coordinate system of 1983 (see next paragraph) have not changed. What has changed, due to the 1991 readjustment, are the geodetic coordinates (latitude and longitude) on the NAD83. The plane coordinates (north and east) are computed from the geodetic coordinates using algorithms supplied by the NGS. Therefore, if the geodetic coordinates change, new plane coordinates must be computed. For the purposes of this system the state is divided into a north zone and a south zone.

The Washington coordinate system of 1983, south zone (WCS83S), is a Lambert conformal conic projection of the GRS80 spheroid, having standard parallels at north latitudes 45° 50' and 47° 20', along which parallels the scale shall be exact. The origin of coordinates is at the intersection of the meridian 120° 30' west of Greenwich and the parallel 45° 20' north latitude. This origin is given the coordinates: N = 0 meters and E = 500,000 meters. These defining parameters are identical for the WCS83S(1991).

STATUS/DATE: Approved August 13, 1992

TRUSTEE: Central Engineering/Survey (KEH)

OFFICIAL LIST/FILE: The official list of plane coordinates for horizontal control stations on the Hanford Site is maintained by Kaiser Engineers Hanford, Survey Department.

BUSINESS RULES: The WCS83S(1991) provides the reference system for expressing a unique projected position on the surface of the earth in terms of a plane coordinate system. This makes it ideal as a geographic reference system which utilizes plane coordinates.

The important thing to note about the WCS83S is that it does not lie at ground level within the Hanford Site and is normally unsuitable for ground level, small tolerance applications. Its use is indicated for geographical reference and certainty of relocation, since it is integrated with the national horizontal network. Other horizontal coordinate systems may be required for particular uses and shall be referenced to the WCS83S(1991).

DOE 6430.1A requires that a minimum of two temporary control monuments be placed in new development areas, that they be tied to a third permanent or temporary monument, that the location and description of all temporary monuments in the immediate vicinity of new construction be provided on construction drawings, and that the location and description of the nearest permanent monument be provided on construction drawings. Permanent monuments are to be tied to WCS83S(1991) by ground distance, grid bearing, and elevation. This Order implies that temporary monuments are to be connected to WCS83S(1991) through permanent or other temporary monuments.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: DOE 6430.1A, 0202; Chapter 58.20 Revised Code of Washington (RCW); Chapter 332-130 Washington Administrative Code.

	Approved by:	Date	
Trustee:	A. K. Lewis		DSA Contact:
DA:	M. K. Britton	11/25/93	R.J. Uhlrich
Comments:			

PROTOCOL STANDARD FOR:
POSTAL MAIL ADDRESS (P)

STANDARD BUSINESS NAME: Postal Mail Address

USER NAMES: Business Mail
Letter Mail
Mailing Address
Home Address

SCOPE: Hanford Site

DEFINITION: Standard guidelines for the preparation of letter mail for successful processing on the latest high-speed automated mail sorting equipment from the US Postal Service.

STATUS/DATE: Approved 2/3/93

TRUSTEE: Central Mail Services

OFFICIAL LIST/FILE:
"Creative Solutions for your Business Needs: A Guide to Business Mail Preparation", Publication 25, USPS, August 1988.

"Postal Addressing Standards", Publication 28, USPS, May 1990.

BUSINESS RULES: Postal mail addresses generated at Hanford need to incorporate addressing standards as well as include consideration of new postal processing equipment and operational improvements. The postal automated processing system comprises of three categories of equipment: the Facing Identification Mark (FIM) for handling patterns; high speed optical character readers (OCRs) that read address blocks; and high speed bar code sorters (BCSs) that read bar codes for mail sorting.

Mail addressing standards include physical characteristics of letter mail for automation, e.g., mail piece dimensions and envelop material and construction; addressing format rules such as upper case printing, uniform left margins, no punctuation, the number of address lines and content, typographic tolerances, print quality, etc.; and Zip Code bar coding regulations for location, dimensions, and layout.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: United States Postal Service "Domestic Mail Manual".
WHC-CM-1-3 MRP 3.9 rev 3, "Mail Services".

	Approved by:	Date	
Trustee:	B. D. Byron		DSA Contact:
DA:	M. K. Britton	02/02/93	K. K. Friday
Comments:			

DATA VALUE STANDARD FOR:
ROOM NUMBER (D)

STANDARD BUSINESS NAME: Room Number

USER NAMES: Room, Work Area, Shop, Conference Room, Kitchen, Tool Area

SCOPE: Hanford Site General Purpose Facilities. Exempt are Programmatic Facilities.

DEFINITION: A General Purpose Facility is a nonprogrammatic facility which support Site activities (e.g., Administration, Maintenance, Security, etc). A room is an area separated by walls or partitions from other similar parts of the structure or building in which it is located. This space, located within a building or mobile office may or may not be occupied by personnel.

STATUS/DATE: Approved 2/3/93

TRUSTEE: OSS, Facilities Management and Site Planning

OFFICIAL LIST/FILE: Building Blockouts (CAD diagrams) maintained by Facilities Management, and maintained in Soft Reporting.

FORMAT/VALIDATION RULES:
1.Room Number 5 characters (alpha/numeric)
2.Suite Number 5 characters (alpha/numeric) [OPTIONAL]
3.Room Number and Suite Number are SEPARATE fields, connected by hyphen
4.Systems are not required to add the additional Suite Number [OPTIONAL] field (for leased facilities), however, if utilized, these two separate fields will be connected by with a hyphen: RRRRR-SSSSS

BUSINESS RULES:
1.All rooms will have a room number, assigned by the cognizant Facilities Management Engineer.
2.Room Numbers will not be used twice within the same building (exception: Leased Buildings utilizing the same room numbers within different suites).

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES:
WHC-CM-8-7, Section 165 "Charter- Facilities Management and Site Planning"
WHC-CM-8-7, Section 711 "Space Utilization and Assignment".

	Approved by:	Date	
Trustee:	Carol Payne		DSA Contact:
DA:	M.K. Britton	02/02/93	Paul Blowers
Comments:			

DATA VALUE STANDARD FOR: STRUCTURE NUMBER (D)

STANDARD BUSINESS NAME: Structure Number

USER NAMES: Structure
Tank Number
Septic Tank Number
Waste Tank Number

SCOPE: Hanford Site

DEFINITION: A unique number given to structures for identification purposes. Structures - Is any improvement that is not a building or a utility constructed on or in the land. Examples of structures include waste tanks, septic tanks, diversion boxes, etc. Structures excluded from this numbering methodology include roads, sidewalks, bridges and temporary structures.

STATUS/DATE: Approved 11/4/92

TRUSTEE: Westinghouse Site Planning

OFFICIAL LIST/FILE: Hanford FacilitiesCORE (HFC) which is available via Soft Reporting.

FORMAT/VALIDATION RULES:
1.They shall not exceed eleven characters.
2.They shall not contain any leading or embedded spaces.
3.They shall be comprised of upper case alpha characters, numeric characters and one special character the hyphen (-).
4.The hyphen should only be used if it is required for clarity.
5.They shall be left justified.
6.No Roman numerals shall be used.
7.Each number is unique

BUSINESS RULES:
1.Structure Numbers are assigned by WHC Site Planning.
2.The Structure number will remain the same for the life of the Structure.
3.Format and validation rules will be the same as for Building Number.
4.Old septic tank numbers documented via maps and regulatory documentation prior to this standard will be grandfathered and the numbers used as documented.
5.No structure number will be the same as a building number.
6.Once used a structure number will not be reused for another structure.

SECURITY/PRIVACY LEVEL: None
SUPPORTING PROCEDURES: WHC-CM-3-8; WHC-CM-1-3

	Approved by:	Date	
Trustee:	S.W. Seiler		DSA Contact:
DA:	M.K. Britton	11/05/92	P.J. Brulotte
Comments:			

DATA VALUE STANDARD FOR:
TANK FARM EQUIPMENT IDENTIFICATION NUMBER (D)

STANDARD BUSINESS NAME: Equipment Identification Number (EIN)

USER NAMES: Component, Component Name, Equipment Name, Master Equipment List Number, Component ID, Component Identification Number, Drawing Label Number, Equipment Piece Number, Machinery History Identification Number, Equipment Record Identification Number.

SCOPE: Tank Waste Remediation System (TWRS)

DEFINITION: A unique alpha numeric sequence given to Equipment Components for identification purposes. These Names will be used for the purpose of integrating current and future maintenance equipment data bases and engineering documents.

STATUS/DATE: Proposed May 5, 1993
Approved September 1, 1993

TRUSTEE: TWRS Maintenance assumes responsibility for implementing this standard in Tank Farms.

OFFICIAL LIST/FILE: Each facility will maintain an official list/file which will comprise their individual Master Equipment List.

FORMAT/VALIDATION RULES:
1. Each number shall be unique.
2. They shall not exceed eighteen characters including hyphens.
3. They shall not contain any leading or embedded spaces.
4. They shall be comprised of upper case alpha characters, numeric characters and one special character the hyphen (-).
   Note: The hyphen is a delimiter that acts as a visual aid on screens and reports. The component number may be stored electronically without the hyphens, as long as integrity of the four distinct parts is maintained.
5. Three hyphens will be used to delimit the number in four parts.
6. The first two characters shall designate the facility.
7. The second four characters shall designate the system (one to four characters).
8. The third four characters shall designate the component/equipment type.
9. The fourth five characters shall designate a unique sequence number.
10. The EIN shall be left justified.
11. No Roman numerals shall be used.

BUSINESS RULES:
1. EINs will be maintained by a designated coordinator or steward for a given facility.
2. The EIN designates a particular equipment function rather than a serial number. For example: A Continuous Air Monitor (CAM) will be removed for bench testing, but its identification label remains on the cabinet. The EIN on the label now refers to the replacement.
3. When required for clarity or tracking purposes a specific equipment serial number can follow the EIN if the serial number is separated from the EIN by an "*".
4. All Engineering Change Notices (ECN) and new revisions to H-2 drawings will only contain EINs which meet this standard. H-2 drawings issued before 9/3/93 will not be required to meet this standard.

5. Only EINs meeting this standard will be allowed on newly released drawings.
6. No EIN will be the same as a structure number or as a building number.
7. Once used an EIN will not be reused for another component location.
8. All Component Based Recall System (CBRS) records will be modified to meet this standard.
9. Use of this standard within TWRS will be mandatory on October 1, 1994.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: IP0844, IP0869, WHC-SD-WM-PLN-042 (Rev. 1)

	Approved by:	Date	
Trustee:	D. G. Shepard	08/27/93	DSA Contact:
DA:	M. K. Britton	08/27/93	J. B. Schaffer
Comments:			

DATA VALUE STANDARD FOR:
WASTE CONTAINER PACKAGE IDENTIFICATION NUMBER (D)

STANDARD BUSINESS NAME: WASTE CONTAINER PACKAGE IDENTIFICATION NUMBER

USER NAMES: CONTAINER PACKAGE ID, PIN

SCOPE: Hanford Site

DEFINITION: The unique package identification number assigned to the outer waste package and used for tracking all solid waste.

STATUS/DATE: Approved/June 28, 1994

TRUSTEE: Restoration & Upgrade Programs/Systems Engineering

OFFICIAL LIST/FILE: Solid Waste Information and Tracking System (SWITS)

FORMAT/VALIDATION RULES: Waste Container Package Identification Number shall not exceed 14 characters. The specific formats used are described below and depend on the source and/or program under which the waste packages are generated.

1. <u>Waste packages using containers that are part of the Container Management Program (CMP)</u>

   The seven digit Container Identification Number (CIN) will be used as the primary package identification number.

2. <u>Waste packages that are not part of the CMP (e.g., containers and packages that existed at the Hanford Site prior to the CMP or packages that are exempted from the CMP by authoriazation of the Storage/Disposal Approval Record)</u>

   Facility ID - Year - Sequence # where:

   Facility ID = an alpha-numeric code indicating the origin of the waste (building, plant, or project identifier).

   Year = a two digit number indicating the year the number is assigned.

   Sequence # = a sequential number that starts with 1 each year for each prefix code. For example, 222S-90-00385 indicates the 385th package assigned a PIN from the 222S building in 1990. Leading zeroes are recommended if the sequential number is less than 10000.

3. <u>Non-Hanford waste generators</u>

   WRM#-S#-XXXX where:

   WRM# = the four-character Westinghouse Radioactive Material (WRM) number issued by the U. S. Department of Energy Field Office, Richland to the various generators. (A new number is issued each fiscal year.)

   S# = the number of the shipment for that year (e.g., 01 would be the first shipment of the fiscal year, etc.).

XXXX = the specific package within the shipment previously designated (e.g. 0023 would be the 23rd package within a shipment). Leading zeroes are required.

4. For transuranic waste the format starts with RH (Westinghouse Hanford Company), BP (Battelle - Pacific Northwest Laboratory), or HF (small stream generators), followed by a maximum of 11 characters assigned by the waste generator.

BUSINESS RULES:

1. Each container on the Hanford Site that could be employed for waste receives a unique Container Identification Number (CIN) in the form of a Code 39 bar code. For those containers that are a part of the CMP and have a CIN bar code label attached, that CIN will be used as the Primary PIN to track that container throughout its life cycle.

2. The CIN bar code label will be the ONLY container identification bar code label attached to a container, unless the container is a non-CMP container in which case the generator will apply their own bar code label using their generator specific PIN format as describe in WHC-EP-0063-4.

3. Waste containers received from offsite will fall in the category of a non-CMP container and will continue to use the former PIN format as specified in WHC-EP-0063-4.

4. In addition to the CIN bar code label, the container may be marked with a generator specific identifier. This identifier allows for easy identification of the source of the waste. The identifier may consist of either a smart generator specific PIN/secondary package identification number, or a source facility identifier. The placement of the generator specific PIN or Facility on the container can be either by paint or as a non-bar code label.

SECURITY/PRIVACY LEVEL: None

SUPPORTING PROCEDURES: WHC-EP-0063, Hanford Site Solid Waste Acceptance Criteria.

	Approved by:	Date	
Trustee:	D. L. Hagel	04/11/94	DSA Contact:
DA:	M. K. Britton	03/28/94	S. B. MCCargar
Comments:			

DATA VALUE STANDARD FOR:
WASTE Site NAME (D)

STANDARD BUSINESS NAME: Waste Site Name

USER NAMES:

SCOPE: Hanford Site

DEFINITION: Official reference name for Hanford Site waste Sites. An identification number will be assigned to suspect waste Sites, waste Sites, solid waste management units and unplanned releases both on the Hanford Site and the surrounding community. (Refer to Building Number data value standard for facility and structure names.)

STATUS/DATE: 4/21/92 approved

TRUSTEE: Environmental Data Management

OFFICIAL LIST/FILE: The Waste Information Data System (WIDS)

RULES: The following rules govern the format of Waste Site Name

1.They shall not exceed fifteen characters.
2.They shall not contain any leading or embedded spaces.
3.They shall be comprised of upper case alpha characters (A through Z), numeric characters (0 through 9) and two special characters, the hyphen (-) and the ampersand (&).
4.They shall be left justified.
5.They shall not contain roman numerals.

ASSIGNMENT RULES:

1.The official waste Site name shall not change once it is issued.
2.If a building number exists, or if Facility Management & Site Planning (FMSP) has jurisdiction for naming the Site, such as a crib or burial ground, the waste Site name will be the same as the building number.
3.Existing, documented names (building numbers, drawings, permits, etc.) shall be checked for and used before creating new ones.
4.Waste Sites within a facility will begin with the facility number followed by two characters; "WS" for waste Site. The remaining characters will be assigned to create unique names, either sequential numbers specified by RR/ENV or already existing tank numbers.
5.The abbreviation "UPR" shall be used exclusively for the prefix of an unplanned release number.

SECURITY/PRIVACY LEVEL: None
SUPPORTING PROCEDURES:

	Approved by:	Date	
Trustee:	R.D. Fox	4/21/92	DSA Contact:
DA:	M.K. Britton	4/21/92	K.K. Friday
Comments:			

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