

# BPA Policy 240-4

## Asset Information Governance

### Table of Contents

1. Purpose & Background .....	2
2. Policy Owner .....	2
3. Applicability .....	2
4. Terms & Definitions .....	2
5. Policy.....	4
6. Policy Exceptions .....	7
7. Responsibilities .....	7
8. Standards & Procedures .....	9
9. Performance & Monitoring .....	9
10. Authorities & References .....	9
11. Review .....	10
12. Revision History .....	10



## 1. Purpose & Background

This policy provides the operating principles and standards under which Bonneville Power Administration (BPA) manages information about its physical assets and related data.

Quality asset information allows BPA to manage its assets with the highest reliability and improved financial performance, while informing investment decisions. In addition, it assists to manage risks, improve services and outputs, demonstrate regional stewardship, demonstrate compliance, improve organizational sustainability, and improve efficient and effective processes and procedures to achieve organizational and strategic objectives. This policy will refer to the physical asset lifecycle and the information lifecycle for the asset's data, which are distinct.

## 2. Policy Owner

The Chief Operating Officer is the owner of this policy. The Agency Asset Manager develops, implements, and manages this policy on behalf of the Chief Operating Officer.

## 3. Applicability

This policy is applicable to all electronic and non-electronic data regarding BPA's physical assets, governed by BPA Policy 240-1, *Asset Management*, in the asset categories of Transmission, Power Services, Fleet, Facilities, Information Technology, and Environment, Fish & Wildlife. All personnel who use, access, modify, manage, or maintain physical asset-related data must adhere to all requirements and associated procedures embodied by this policy.

## 4. Terms & Definitions

- A. **Asset Hierarchy:** A framework for segmenting an asset base into appropriate classifications.
- B. **Asset Information:** The data about a physical asset that is used to inform decisions and management of the asset (defined by the Institute of Asset Management (IAM)).
- C. **Asset Information Governance Board (AIGB):** The cross-agency leadership and governance board with decision-making authority over asset information related actions.
- D. **Asset Register:** A systematic record of the existence of a physical asset with unique identifiers that is used as the basis for asset management activities.
- E. **Data:** A collection of individual facts. In information terms, a string of characters, numbers, or symbols.

<b>Organization</b> Asset Management (K)	<b>Title</b> Asset Information Governance	<b>Unique ID</b> 240-4		
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- F. **Data Dictionary:** A description of the contents of a database, together with textual definitions of data elements and objects, as well as physical representation information; a collection of metadata. Many kinds of products in the data warehouse arena use a data dictionary, including database management systems, modeling tools, middleware, and query tools.
- G. **Data Steward:** One who manages a system’s facts or information to ensure that they can be used to draw conclusions or make decisions. Data Stewards are accountable for specific data categories/domains that, alone or in conjunction with other data categories/domains, generate information critical to BPA's operations.
- H. **Data Stewardship:** The management and oversight of an organization's data as information assets to help provide business users with high-quality data that is easily accessible in a consistent manner.
- I. **Data Stewardship Coordination Working Group (DSCWG):** The agency-wide group which develops and coordinates data stewardship practices and processes, and monitors BPA’s internal policies related to these activities.
- J. **Information Owner (IO):** An official with operational authority for specified BPA information (including responsibility for establishing controls for its generation, collection, processing, dissemination, storage and disposal); generally a business unit manager or designate.
- K. **Information System Owner (ISO):** An official responsible for the overall procurement, development, integration, modification, or operation and maintenance of one or more cyber systems. These responsibilities include identifying and documenting the following items within the system security plan (SSP): the operation of the information system; unique threats to the information system; and any special protection requirements identified by the ISO for each information system they are responsible for.
- L. **Physical Asset:** ISO 55000, *Asset Management, Overview, principles and terminology*, defines an asset as an “item, thing or entity that has potential or actual value to an organization.” BPA has adapted this definition to: “A physical item or thing including hardware and software applications; whether or not the asset is owned by BPA, and by minimizing their lifecycle costs, the asset has value for BPA’s customers and stakeholders.” In addition, an asset must generally meet the following principles: it is owned, leased, or BPA has tangible interest in the asset; it has a lifecycle all its own that we track; BPA performs or pays for the maintenance on the asset; and BPA has regulatory reporting or compliance guidelines for the asset.
- M. **Source of Record:** The definitive source for a specific data type, element, or piece of information. Typically, this is the point of creation or first ingestion into a BPA Structured Electronic Information System.

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Page 3					

- N. **Structured Electronic Information System (SEIS):** Electronic information systems used by BPA to collect and maintain data or records in a structured format, typically as a database.
- O. **Unstructured Data:** Unstructured data is electronic information that is not contained in a database or SEIS and the policies, services and tools that aid in appropriately managing it (see BPA Policy 236-13, *Overview of Electronic Information Systems*).

## 5. Policy

Because Asset Information is critical to BPA’s mission, all SEISs, unstructured data and non-electronic data that contain asset data shall conform to all requirements for data governance, as described in BPA policies 434-1, *Cyber Security Program*; 236-300, *Enterprise Data Governance*; 240-1 (referenced above); and other data governance policies.

- A. Designation of Information Owner and Information System Owners:
  - 1. **Asset Information Data Governance:** Each SEIS shall have one designated IO, ISO, and designated Data Steward(s). IO, ISO and data steward assignments will be kept current and maintained in the Asset Information Management registry (AIM). Basic responsibilities of the IO, ISO, and Data Stewards will be further defined in BPA Policy 236-300, Data Governance.
    - a) The AIGB will identify and document IO assignments for asset-information-related SEISs. The AIGB will report IO assignments to the DSCWG.
    - b) The AIGB will ensure that a Continuity of Operations Plan (COOP) exists for all asset information-related SEIS.
    - c) IOs will receive training and/or materials outlining their designated responsibilities.
    - d) The IO will determine the level of data quality required for asset information, considering upstream and downstream users and processes.
  - 2. **Source of Record:** Data about assets will have a single Source of Record. BPA will have integrated systems to connect asset-related data across organizations.
- B. Appropriate Management of SEISs
  - 1. **Registration:** The ISO shall register all SEISs in BPA’s application for managing information systems (currently AIM).
  - 2. **SEIS Profiles:** The IO will collaborate with the ISO to ensure SEIS profiles are established and maintained, and to ensure all data-related requirements applicable at intake (including those from the data dictionary) are implemented as controls or other measures prior to operational use.

<b>Organization</b> Asset Management (K)		<b>Title</b> Asset Information Governance		<b>Unique ID</b> 240-4	
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3. **Service Level Agreements:** IOs and ISOs will create Service Level Agreements (SLAs) to define minimum data requirements for maintaining a SEIS in the operating environment.
  4. **Asset Register:** The IO will leverage existing asset registers unless a new asset register is approved by the AIGB.
    - a) IOs will establish integrated, consistent, and trustworthy data to ensure financial and non-financial asset registers are accurate and complete.
    - b) Asset registers will be managed in a manner that maximizes the interoperability of systems and efficient interactions between financial and non-financial asset management functions, considering upstream and downstream user requirements.
  5. **Architecture:** IOs will optimize use of the current SEIS prior to proposing architectural changes to that SEIS to meet existing or emerging requirements. The AIGB must approve new systems warranted through a successful business case or changes to systems that affect interoperability for asset Source of Record systems.
  6. **Audits:** Periodically or as needed, ISOs will ensure that SEISs are audited by Internal Audit or an equivalent according to the schedule, procedures, and standards established by Internal Audit.
- C. Identify and Manage Data by Key Data Elements
1. **Unstructured Data:** Managers will periodically review unstructured data to determine if there is value in maintaining it in a structured system. If the reviewed unstructured data is determined to be valuable, it will be integrated as structured data to the maximum extent possible.
  2. Significant changes or enhancements to key data elements must be submitted by IOs through the AIGB.
- D. Standards for Describing Data
1. Data description artifacts to describe data will be created and maintained. The AIGB will provide oversight to ensure implementation and compliance.
    - a) **Asset Hierarchy:** The agency will follow an asset hierarchy outlining the standards for identifying and classifying assets. The Asset Hierarchy defines the way assets are tracked at the agency level and the minimum attributes to be recorded for each asset.
    - b) **Asset Naming Convention:** The agency will establish an asset-naming convention that documents a consistent formatting standard that will be followed across interrelated systems, reporting, and communication platforms.

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2. **Data Dictionary:** The agency will maintain and follow a BPA data dictionary. All asset information data elements will be defined in the BPA data dictionary upon review and approval by the AIGB. BPA’s data dictionary will refer to and include the BPA Dictionary, as well as define the term’s data structure (e.g., defined ranges for numerical data, defined lengths of text strings and mandatory data fields).
  3. **Data description controls:** The agency shall develop data description controls that will ensure data is accurate, complete, timely, consistent, valid, and unique.
- E. Data Stewardship Council Affiliation
1. **Relationship with Data Stewardship:** The IO and ISO shall assign Data Steward(s) and comply with the DSCWG-established rules.
  2. **Apply Available Tools and Techniques:** Data Stewards will use appropriate tools and techniques to achieve the level of data quality identified by the IO.
- F. System and Content Access Management
1. **System and Content Access Management:** IOs will establish and implement permissions into SEIS consistent with individuals’ authority and agency standards, using CRUD (Create, Read, Update, and Delete) concepts or similar techniques.
  2. **Authenticate and Monitor Access:** IOs and ISOs will ensure all SEIS users are authenticated to ensure appropriate access and shall be monitored for inappropriate access.
- G. System Interoperability Management
1. **System interoperability:** In order to define a data-sharing environment that provides a single, accurate, and consistent source of data for asset management activities, the AIGB will ensure:
    - a) IOs provide adequate metadata to support the use of their data through SLAs.
    - b) IOs are responsible to integrate data with the Source of Record.
    - c) Data will be entered only once or transferred from another system.
    - d) ISOs design system interoperability so data uses a service-oriented or similar architecture (no point-to-point).
    - e) Develop a master data schema (a master system of record for a particular system entity) when more than one Source of Record contributes to a data domain.
    - f) If there is a Common Information Model (CIM) representing an industry-established specification (details for integration), IOs review and leverage the CIM, where possible. This includes standard exchange formats with internal and external parties.

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- g) BPA will follow the Information Governance & Lifecycle Management and related disciplines (data access, data quality, data integration, data governance, data modeling, etc.) in order to derive the full value from the information it contains and uses.
- h) BPA will develop data stewardship practices that enforce system-wide rules for the entry and management of data.

H. Other Considerations for Managing Asset Information

1. **Business Processes:** Managers or their delegates will act as process owners. Process owners will clearly define data inputs and outputs to directly support the organization’s operation. This will involve understanding which data is critical for each business process and how to effectively support and manage these processes. Process owners will utilize defined asset information for which there will be a business process in place to manage the data itself.
2. **Audit:** Periodic data audits will be performed by Internal Audit to verify compliance of asset data is provided within the agreed-upon standards and timescales; for example, on the completion of a capital project.

## 6. Policy Exceptions

Exceptions for situations not foreseen in this policy must be approved by the policy owner or their delegate.

## 7. Responsibilities

- A. **Information System Owner (ISO):** An ISO is a manager within the Information Technology (J) or Transmission Technology (TT) organizations with responsibility for technical support, operations, and maintenance of a SEIS (see BPA Policy 434-1, *Cyber Security Program*, for additional responsibilities).
- B. **Information Owner (IO):** An information owner must be the manager of the Office of Record for a SEIS and is responsible for ensuring that SEIS and the data/information assets contained within them are consistently identified, declared, classified, managed, maintained, and disposed. Also, the IO is responsible for the management of data across systems.
- C. **Data Steward:** A Data Steward defines business terms, records business rules, develops data quality metrics, and monitors data quality. Business Data Stewards are empowered by management to initiate action to create, maintain, and retire data to ensure information quality. While the data they manage may originate in or be the functional responsibility of one organization, the Business Data Steward ensures that the data meets information needs across the Agency. Business Data Stewards are key

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participants with those responsible for the development or maintenance of business policies, processes, projects, and procedures.

- D. **Category Asset Manager:** BPA has identified six asset categories: Transmission, Fleet, Federal Hydro, Facilities, Information Technology, and Environment, Fish & Wildlife. Asset categories are led by Category Asset Managers. Category Asset Managers, along with their staffs, develop and implement asset management strategies, plans, processes, and policies for their asset categories. With regards to this policy, Category Asset Managers collaborate with IOs to ensure asset information data quality using the measures of timeliness, accuracy, completeness, validity, consistency, relevancy, and uniqueness. Category Asset Managers are responsible for prioritizing decisions to meet the relevant system needs of the organization. They are also responsible for assigning process owners.
- E. **Process Owner:** Manager or their delegate who acts as the subject matter expert for the underlying function, business process, and information that a system supports. The Process Owner may be involved in the development of business rules, controls, or other requirements of a system that serve to ensure data quality and system integration pertaining to the information for which the Process Owner is responsible.
- F. **Agency Asset Manager:** The Agency Asset Manager leads the development and monitors implementation of agency-level asset-related policies and processes. The Agency Asset Manager advises Category Asset Managers on developing their asset management strategies, establishes the schedule, and coordinates the agency-level review process, as well as communicating the agency’s common approach to Asset Management.
- G. **Asset Information Governance Board (AIGB):** The AIGB provides cross-agency leadership and governance for asset information related actions. The AIGB is responsible for developing policy and coordinating and directing business processes across the enterprise to mature and maintain Bonneville’s asset information. The AIGB reports to and receives overall guidance and direction from the Enterprise Board. With regards to this policy, the AIGB is responsible for approving the asset information terms in the BPA Data Dictionary, approving exceptions outside the existing enterprise information system architecture, monitoring the health of asset information systems, and the overall alignment of asset information processes and standards.

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					Page 8



## 8. Standards & Procedures

### A. Standards

Asset information data quality will follow Institute of Asset Management (IAM) data quality measures, including accuracy, completeness, consistency, validity, timeliness, and uniqueness.

### B. Procedures

The Asset Category Manager will ensure that:

1. Procedures are established for their asset category, referencing the approved Asset Information Strategy and IAM data quality standards;
2. Processes and procedures related to assets are established to ensure alignment with the asset register and data dictionary, and to allow information to be shared and utilized effectively and efficiently between financial and non-financial asset management functions; and
3. Procedures are established for:
  - a) IO Identification, Documentation and Management;
  - b) Data Steward Identification, Documentation and Management;
  - c) Data Dictionary Standards and Procedures; and
  - d) Asset Naming Conventions.

## 9. Performance & Monitoring

- A. The Agency Asset Manager will track the development of supporting artifacts (data dictionary, single source of record, etc.) to track the effectiveness of this policy's initial implementation.
- B. The AIGB will review draft procedures for adherence to asset information management program principles, standards, and processes.

## 10. Authorities & References

- A. The Institute of Asset Management, *Asset Management – an anatomy*, Version 3 December 2015
- B. The Institute of Asset Management, *Asset Information Strategy, Standards and Data Management*, Version 1.1, October 2015
- C. The Institute of Asset Management, *Asset Management Policy, Strategy and Plans*, Version 1.1, October 2015
- D. ISO 55000-2014, *Asset Management – Overview, principles and terminology*

<b>Organization</b> Asset Management (K)	<b>Title</b> Asset Information Governance	<b>Unique ID</b> 240-4		
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- E. ISO 55001-2014, *Asset Management – Management Systems – Requirements*
- F. ISO 55002-2014, *Asset Management - Management Systems -- Guidelines for the Application of ISO 55001*
- G. [BPA Asset Information Strategy, April 2018](#)
- H. BPA Policy 236-200, *Unstructured Data*
- I. BPA Policy 236-300, *Enterprise Data Governance*
- J. BPA Policy 434-1, *Cyber Security Program*

## 11. Review

This policy will be reviewed biannually or when determined to be necessary due to significant changes. The Agency Asset Manager, in consultation with the Asset Information Governance Board, is authorized to modify this policy.

## 12. Revision History

Version	Issue Date	Brief Description of Change or Review
1.0	12/3/2018	New policy

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				Page 10	