
Enterprise Information Management (EIM) Cataloguing Information Procedure

Directive No:
CIO 2135-P-01.1CIO Approval:
August 2019Review Date:
August 2021

*Issued by the EPA Chief Information Officer,
Pursuant to Delegation 1-19, dated 07/07/2005*

**Enterprise Information Management (EIM)
Cataloguing Information Procedure**

1. PURPOSE

To require cataloguing for advancing the discovery, access, and sharing of information produced by, funded by, or received per regulated reporting and/or federal-wide requirements and subsequently held or cataloged in information management systems by the Environmental Protection Agency (EPA or the Agency) in support of the Enterprise Information Management Policy (EIMP) and White House and Office of Management and Budget (OMB) guidance including:

- [Executive Order 13642](#), "Making Open and Machine Readable the New Default for Government Information," May 9, 2013 (or Open Data EO 13462)
- [OMB Memorandum M-13-13](#), "Open Data Policy - Managing Information as an Asset," May 9, 2013
- Open, Public, Electronic, and Necessary (OPEN) Government Data Act, included as Title II of the Foundations for Evidence-Based Policymaking Act ([H.R. 4174](#)), Public Law No: 115-435, January 14, 2019.

2. SCOPE

This procedure applies to:

- Information, regardless of the format, produced by, funded by, or received per regulated reporting and/or federal-wide requirements and subsequently held or cataloged in information management systems by the EPA. This includes, but is not limited to, research, programmatic, operational, administrative information, as well as those that are considered Confidential Unclassified Information (CUI) resources information. CUI includes, but is not limited to, current and future standards for classifications of information and data such as:
 - Enforcement Confidential
 - Attorney-Client Privilege
 - Confidential Business Information (CBI) / Trade Secret
 - CBI contract materials
 - Scientific research not yet published
 - Personally Identifiable Information (PII)
- All EPA organizations, officials, and employees engaged in official EPA business, including but not limited to those EPA employees who administer contracts or extramural funding agreements (e.g., grants) and (2) individuals or non-EPA organizations who design, develop, compile or maintain information, as defined by this policy, in support of EPA's mission if they use Agency resources and if the requirements set forth in section 6 of this policy are part of a binding contract, an extramural funding agreement, or a regulatory or federal-wide requirement.

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The procedure is a high-level document so it is applicable to the wide array of information types. Registry/repository specific standards, technical specifications, standard operating procedures (SOPs), and other guidance will be developed as needed and nested underneath this procedure.

Effective Dates

The procedure is effective immediately for all new dataset development, and those datasets identified as part of the inventory process required by [OMB Memorandum M-13-13](#), "Open Data Policy - Managing Information as an Asset," May 9, 2013. The procedure becomes effective for all other information types once catalogs for those information types become operational.

The procedure will be reviewed and, if appropriate, recertified three years from the issue date, unless superseded or rescinded prior to that date.

3. AUDIENCE

The audience for this procedure includes all EPA organizations, officials, employees and individuals or non-EPA organizations, if applicable, who create or manage information that supports the Agency's mission.

4. BACKGROUND

Over the last several decades the Federal government increasingly recognized the importance of sharing information assets to meet mission needs and making this information more accessible to all stakeholders, including the public. In recognition of this need, EPA established the EIMP which requires all applicable information, regardless of format (whether electronic (including the Internet) or paper-based), be created, collected, maintained, and managed to promote discovery, access, and sharing.

Recognizing metadata and metadata catalogs (or registries) are critical to meet this objective, EPA developed a series of enterprise registries and repositories for many of its information assets. Agency controls were not sufficient to ensure Agency operations took full advantage of the registries and repositories to catalog their information assets. As a result, Agency staff, stakeholders, and the public face challenges to (1) identify the complete inventory of EPA information assets, (2) easily discover and access the full array of EPA information assets, and (3) take advantage of all information and analytical services.

The importance of the registries and repositories increased with the release of [Executive Order 13642](#), "Making Open and Machine Readable the New Default for Government Information," May 9, 2013 and [OMB Memorandum M-13-13](#), "Open Data Policy - Managing Information as an Asset," May 9, 2013. The Open Data Policy requires agencies to:

- Update their inventory of information resources (as required by [OMB Circular A-130](#)) to include an enterprise data inventory, if it does not already exist, that accounts for datasets used in agency information systems

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- Document and share with stakeholders and the public the data schema and dictionaries

Because of the Agency's investment in enterprise registries and repositories, EPA is well positioned to meet this challenge. The EIMP sets requirements for EPA offices to establish or improve metadata and apply standards to facilitate discovery and use of EPA information. This procedure and its supporting documents define how offices are expected to catalogue their information so that metadata and associated electronic linkages to the information can be accessed.

5. AUTHORITY

- [CIO Procedure 2135.0](#), "Enterprise Information Management Policy (EIMP)," March 3, 2015
- [OMB Circular A-130](#), "Managing Information as a Strategic Resource," July 26, 2016
- [OMB Circular A-119 Revised](#), "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," February 10, 1998
- [Clinger-Cohen Act](#) (Information Technology Management Reform Act) of 1996, Public Law 104-106, Division E, February 10, 1996
- [Paperwork Reduction Act of 1980](#), as amended by the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35)
- [Government Paperwork Elimination Act of 1998](#) (Pub. L. 105-277, Title XVII)
- [Executive Order 13642](#), "Making Open and Machine Readable the New Default for Government Information," May 9, 2013
- [OMB Memorandum M-13-13](#), "Open Data Policy - Managing Information as an Asset," May 9, 2013
- Open, Public, Electronic, and Necessary (OPEN) Government Data Act, included as Title II of the Foundations for Evidence-Based Policymaking Act ([H.R. 4174](#)), Public Law No: 115-435, January 14, 2019.

6. PROCEDURE

Information under the scope of the EIMP must:

- Be catalogued in the appropriate registries or repositories as defined in this procedure as applicable
- Conform to the standards, technical reference standards, or specifications for the applicable registries or repositories

EPA's Environmental Dataset Gateway (EDG) was enhanced to create and maintain the enterprise dataset inventory as required by [Open Data EO 13462](#). EPA datasets under the purview of the EIMP must be registered in the EDG to maintain the inventory. Datasets associated with databases/systems that are required to be catalogued in the agency information systems registry must also be catalogued in EDG. All datasets shall meet the minimum metadata requirements outlined in the "EIM Minimum Metadata Standards" and applicable program specific standards (e.g., geospatial or open government).

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All EPA datasets and databases under the purview of the EIMP must have a data dictionary catalogued in the Agency's enterprise data element registry. Cataloging the definitions of data elements within data dictionaries in the EPA enterprise data element registry promotes consistency and reuse of data across EPA datasets, databases, and data systems.

Dataset schema must be catalogued in the Agency's enterprise reusable component registry. Reusable components related to information resources (e.g., code, Application Programming Interfaces, schema, widgets) must also be registered within the EPA enterprise reusable component registry to promote reuse by EPA staff and all stakeholders including the public. All the current enterprise data registries listed in this procedure can be accessed via the [System of Registries](#) home page. All these registries are available to the public, meeting the requirements of EO 13462.

Registries and repositories other than those cited in the procedure will be established as necessary to support EPA's mission and business needs and may be developed at the program level. Steps for cataloguing in a registry or repository will be addressed in the specific technical specifications, standards, or guidance for that registry or repository. All other information that are catalogued in registries or repositories other than those specifically cited in this procedure shall meet the minimum metadata requirements outlined in the "[EIM Minimum Metadata Standards](#)". All registries may have extended standards based on the requirements of the registry.

In order to protect the privacy and security of the public, businesses, and US Government staff and operations, some types of information assets may be deemed sensitive and will not be made public. Programs responsible for ensuring that these types of sensitive information are secure will determine the appropriate system or file and method of cataloguing and assigning metadata.

Some information may only be catalogued at the program level or research level as it may not be appropriate to share those resources with a larger community. Examples of limited access information include, but are not limited to: Confidential Business Information (CBI) / Trade Secret, scientific research not yet published, Controlled Unclassified Information (CUI), and Personally Identifiable Information (PII).

7. ROLES AND RESPONSIBILITIES

The roles and responsibilities directly related to this procedure are outlined in this section.

Chief Information Officer (CIO):

- Issues the procedure and all subsequent updates or revisions
- Ensures guidance is provided for implementation and for the conduct of oversight throughout the Agency

CIO Senior Advisory Council (CIO SAC):

- Reviews EIMP related procedures and recommends [dis]approval to the CIO
- Makes recommendations for technical standards and specifications, and guidance under the EIMP

Senior Information Officials (SIOs):

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- Oversee the implementation of the procedure within their organization
- Ensure that datasets are identified within their Office and Region and catalogued within the enterprise dataset registry; and other information resources are identified and cataloged within appropriate registries/repositories
- Create program information catalogs as necessary and appropriate

Quality Staff (QS):

- Ensure this procedure is accommodated during project or program planning as part of the program review process

Metadata Coordinators:

- Maintain EPA registry and repository metadata template(s) to ensure they fit EPA and customer needs and comply with the EIMP

Dataset Managers and / or Data Stewards:

- Participate in the development and maintenance of relevant program, regional office, laboratory, or national data and metadata management procedures as appropriate
- Follow registration, metadata, and life cycle management requirements identified in EIMP related procedures, standards, technical specifications, and SOPs
- Work with Data Owners to plan the life cycle of data and metadata in compliance with EPA enterprise architecture requirements, including collection or acquisition requirements; management of data flows among EPA and its partners and contractors; and metadata processing, storage, access, maintenance, and retirement / archiving
- Oversee the implementation of such plans throughout the data life cycle
- Provide outreach, support, and technical assistance as appropriate to ensure the proper implementation of metadata requirements over the data life cycle

Data Owners:

- Ensure necessary funding for data management and upkeep, including provision for the management of metadata in compliance with the procedure

EPA Registry / Repository Administrators:

- Grant appropriate roles and responsibilities to all users of their assigned registry / repository
- Activate metadata records posted to their assigned registry / repository within three (3) business days per the registry / repository standards / technical specifications / SOPs
- Provide technical support for registry / repository system administration and data harvesting

All EPA Organizations, Employees and individuals or non-EPA Organizations, if applicable:

- Follow all outlined procedures when handling EPA information

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8. RELATED INFORMATION

- [CIO Policy 2133.0](#), "Data Standards Policy," June 28, 2007
 - [CIO Policy 2155.4](#), "Interim Records Management Policy," August 22, 2018
 - [CIO Policy 2171.0](#), "Information Access Policy," January 24, 2008
 - [CIO Standard 2135-S-01.0](#), "Enterprise Information Management Policy (EIMP) Minimum Metadata Standards," March 3, 2015
 - [EPA Environmental Dataset Gateway \(EDG\) Governance Structure and Standard Operating Procedure](#), Version 4.0, 4/25/2018
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9. DEFINITIONS

- **Non-EPA organization:** An entity that has entered into a contract, extramural funding agreement, or a regulatory or federal-wide requirement with EPA, which can include, but is not limited to EPA contractors, grantees, States, Tribes, localities, regulated parties, volunteer organizations, cooperative agreement holders, other federal governmental agencies, intergovernmental organizations, or educational institutions ([CIO Policy 2106.0](#), "Quality Policy," October 20, 2008) if the requirements set forth in section 6 of this policy are part of a binding contract or other funding agreement.
 - **Cataloguing:** The process of adding or updating information metadata into an information registry and / or repository.
 - **Information:** For purposes of this policy, the term "information" means any communication or representation of knowledge such as facts, data, or opinions in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms. ([OMB Circular A-130](#), "Managing Information as a Strategic Resource," July 26, 2016)
 - **Registry:** An application that stores metadata for querying and can be used by any other application in the network with sufficient access privileges. A registry is an index of a data or metadata repository which is made up of all the data providers' data and reference metadata sets within a community, distributed across the Internet or similar network. The registry services are not concerned with the storage of data but rather with providing visibility into the data and reference metadata and information needed to access the data and reference metadata.
(<https://stats.oecd.org/glossary/detail.asp?ID=7078>)
 - **Repository:** A central place where data is stored and maintained. It can be a place where multiple [databases](#) or [files](#) are located for distribution over a [network](#), or a repository can be a location that is directly accessible to the user without having to travel across a network. (<https://www.webopedia.com/TERM/R/repository.html>)
 - **Metadata:** Metadata is structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage an information resource.
([Project Open Data Metadata Schema v1.1](#))
 - **Standard Operating Procedure (SOP):** Written procedure prescribed for repetitive use as a practice, in accordance with agreed upon specifications aimed at obtaining a
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desired outcome. (<http://www.businessdictionary.com/definition/standard-operating-procedure-SOP.html>)

- **Standard:** Universally or widely accepted, agreed upon, or established means of determining what something should be. Major classifications of this term include: (1) [Material](#) or substance whose properties are known with a level of [accuracy](#) that is sufficient to allow its use as a physical [reference](#) in calibrating or measuring the same properties of another material or substance. (2) [Concept](#), [norm](#), or [principle](#) established by [agreement](#), [authority](#), or [custom](#), and used generally as an example or [model](#) to compare or [measure](#) the [quality](#) or [performance](#) of a [practice](#) or [procedure](#). (3) Written definition, limit, or [rule](#) approved and monitored for [compliance](#) by an authoritative [agency](#) (or [professional](#) or recognized body) as a minimum acceptable [benchmark](#). This is the usual meaning of the plural term (standards). See also: Specification. (<http://www.businessdictionary.com/definition/standard.html>)
- **Specification:** Exact [statement](#) of the particular needs to be satisfied, or essential characteristics that a [customer](#) requires (in a good, [material](#), [method](#), [process](#), service, [system](#), or work) and which a [vendor](#) must deliver. Specifications are written usually in a manner that enables both parties (and/or an [independent](#) certifier) to [measure](#) the degree of [conformance](#). They are, however, not the same as [control limits](#) (which allow fluctuations within a range), and conformance to them does not necessarily mean [quality](#) (which is a predictable degree of [dependability](#) and uniformity). Specifications are divided generally into two main categories: (1) [Performance](#) specifications: conform to known [customer requirements](#) such as keeping a room's [temperature](#) within a specified [range](#). (2) Technical specifications: express the level of performance of the [individual](#) units, and are subdivided into (a) individual [unit](#) specifications which [state](#) boundaries (parameters) of the unit's performance consisting of a [nominal](#) (desired or mandated) [value](#) and [tolerance](#) (allowable departure from the [nominal value](#), (b) [acceptable quality level](#) which states [limits](#) that are to be satisfied by most of the units, but a certain percentage of the units is allowed to exceed those limits, and (c) [distribution](#) specifications which [define](#) an acceptable statistical distribution (in terms of [mean deviation](#) and [standard](#) Deviation) for each unit, and are used by a [producer](#) to [monitor](#) its [production](#) processes. See also: Standard. (<http://www.businessdictionary.com/definition/specification-spec.html>)

10. WAIVERS

- **Waiver Authority.** The Agency's CIO may grant waivers (directly or via delegated authority) to selected provisions of this procedure for sufficient cause.
- **Application Requirements.** Applications for waivers to specific provisions must be submitted to the CIO and shall contain:
 - Identification of the procedure provision
 - Detailed justification why the procedure cannot be applied or maintained
 - An assessment of impacts resulting from non-compliance
 - The signature of an Assistant Administrator (AA) and Regional Administrator (RA) responsible for the information in question
- **Notification.** The CIO will notify the requesting office in writing of the disposition of the waiver within 60 days of receipt

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11. MATERIAL SUPERSEDED

CIO 2135-P-01.0.

12. CONTACTS

For additional information about this procedure, please contact the EPA OMS-EI, Office of Information Management.

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and Chief Information Officer
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