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

DATA STANDARDS POLICY

1. PURPOSE

This Data Standards Policy establishes principles, responsibilities, and requirements for the development, maintenance, and implementation of data standards within the jurisdiction of the U.S. Environmental Protection Agency (EPA). This policy supports the Agency's Enterprise Architecture and Quality System for Environmental Data and Technology by underscoring EPA's commitment to improve data quality and promote data interoperability, exchanges, sharing and the ability to effectively use the data in situations other than originally intended.

2. SCOPE AND APPLICABILITY

This policy applies to all EPA organizations, IT project managers, application developers, contracting officers and their technical representatives as well as grantees, contractors and other agents working on behalf of EPA who design, develop, compile, operate, or maintain EPA information collections developed for environmental program support.

3. AUDIENCE

The audience for this Policy includes the EPA Chief Information Officer (CIO), Senior Information Officials (SIOs), Information Management Officers (IMOs), Regional Administrators, IRM Branch Chiefs, Senior Program Managers, System Managers, Application Developers, IT Project Managers, Data Standard Stewards, Contracting Officers and their representatives, and any person involved in data management in EPA or transferring or exchanging data with EPA, including contractors and grantees on behalf of EPA. All state tribes and localities are encouraged to accept these provisions when operating under a trading partner agreement or other interagency agreement.

4. BACKGROUND

Data standards are documented consensus-based agreements on the format and definition of common data. Data standards are issued by the EPA Chief Information Officer. EPA's Data Standards Program promotes efficient sharing of environmental information among the Agency, federal partners, states, tribes, and other information trading partners, through the cooperative development of data standards to foster the use of consistently defined and formatted data elements and sets of data values. Data standards are a part of the Enterprise Architecture and EPA's Quality System for Environmental Data and Technology.

The use of common terminology and common data element definitions enables the integration of databases, and promotes more efficient and effective use of data by users of commonly defined data from disparate sources. By using data standards, EPA managers and the public can more quickly and accurately conduct environmental assessment and analyze environmental data, maximize use of resources, and be assured of greater data integrity. The goal of the program is to ensure all Agency information systems and data exchange efforts use approved data standards.

In 1995, the Reinventing Environmental Information initiative directed EPA to develop the data standards used in core business areas and implement them in all of EPA's major national information systems. Data standards are used internally in data exchanges between EPA programs and systems, and externally between states and tribes participating in the Exchange Network.

In response to increasing emphasis on electronic government, emergency response and homeland security programs, there is a growing need for data standards to meet interoperability and data sharing needs across the federal government, and with our national and international partners.

5.   AUTHORITY

1. National Technology Transfer and Advancement Act of 1995
   (A-119 is one of the results of this act)

2. OMB Circular A-130, "Management of Federal Information Resources," Revised Nov. 30, 2000.

3. OMB Circular-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards in Conformity Assessment", Revised Feb 10, 1998.

4. 15 CFR Part 6 Subtitle A. Standardization of Data Elements and Representations.

5. Information Security Management Act of 2002.

6. Enterprise Architecture Policy, EPA Order 2120.3.

7. Systems Life Cycle Policy, EPA Order 2100.5

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6. POLICY

1. EPA shall develop data standards based on specific business needs. All EPA standards shall be developed with a community of interest through a collaborative consensus-driven process. In accordance with federal directives, existing consensus-based international, national, federal, industry, or consortium data standards shall be identified, adapted or adopted for EPA use, where possible. EPA shall develop its own standards only when such external consensus data standards do not exist.

2. EPA shall develop, implement, maintain and oversee the use of data standards for two purposes:

   a. data exchange within an EPA Program Office, by two or more EPA offices, between EPA and federal agencies, or between EPA and international partners. These data standards are developed, approved, and promulgated by EPA according to the Chief Information Officer (CIO) mandated approval process. Data standards internal to EPA programs are governed by program offices.

   b. data exchange with partners across the Exchange Network. These standards are developed, approved, and promulgated through the Exchange Network in collaboration with Network partners and promulgated by EPA according to the same CIO mandated approval process mentioned above. EPA shall use Exchange Network Data standards in Exchange Network data exchange flows and tools.

3. All data standards shall be reviewed no less than every two years by the appropriate Data Standard Stewards to ensure that they are current and relevant to Agency business practices.

4. All Agency information systems that exchange information shall implement applicable data standards in the most current version at the appropriate phase in the development life cycle but no later than the required implementation date specified in the standard unless a waiver has been obtained. When a new version of a standard is issued the old version is given a retirement date and should not be used after that date.

5. Implementation of data standards or the appropriate waiver shall be described in the lifecycle and solution architecture documentation for each applicable EPA system and documented in the Registry of EPA Applications and Databases (READ) in conformance with the READ record maintenance schedule.

6. All Agency approved data standards shall be registered in the Environmental Data Registry (EDR) according to EDR specifications and available for use from the EPA Data Standards web page.

7. The use of designated code sets that are a part of a data standard, e.g., U.S postal codes, are mandatory and must be used as appropriate unless a waiver has been granted.

8. The EPA shall provide centralized registries of data elements, XML schema and code sets, based on approved data standards, for use across multiple EPA business areas

to ensure consistent data quality, increased opportunities for integration and efficient management and use, e.g., the Facility Registry System, or the Substance Registry System.

9.   Validation and verification of data standards conformance is the responsibility of the Information Management Official (IMO) or the Information Resources Management Branch Chief (IRM BC) responsible for the system or application.

10   A data standards implementation evaluation report covering each of the EPA systems is required to be completed in READ. System managers track their compliance with standards and requests for waivers in this report. Semi-annually IMOs, IRM Branch Chiefs or their representatives validate that information in READ is correct.

11. Applications for waivers to data standards shall be submitted to the CIO in conformance with procedures developed and published by the Office of the CIO.

12. In accordance with OMB Circular A-119, EPA employees are encouraged to participate in national, international, and industry standards development organizations (SDOs) in order to represent Agency interests.

7.   RELATED DOCUMENTS

1. *Enterprise Architecture Policy*, EPA Order 2120.3
2. U.S. Environmental Protection Agency: *Baseline Architecture*, September 2002
3. U.S. Environmental Protection Agency: *Target Architecture*, December 2002
4. U.S. Environmental Protection Agency: *Enterprise Architecture Status Report 2003*, September 2003
5. *Business Reference Model (BRM) Version 2.0,* Federal Enterprise Architecture Program Management Office, June 2003
6. *Information Resources Management Policy Manual*, EPA Directive 2100B8
7. *Interim System Life Cycle (SLC) Policy*, Directive 2100.4
8. *Capital Planning and Investment Control (CPIC) Policy*, Directive 2100.2al
    Procedure: Obtaining a Waiver from an EPA IT Requirement

8.   ROLES AND RESPONSIBILITIES

EPA Deputy Assistant Administrators and Deputy Regional Administrators promote the use of data standards and ensure that applications/systems under their purview are in conformance.

Chief Information Officer (CIO) issues data standards, data standard revisions and conformance waivers. Promotes the use of data standards.

Quality Information Council (QIC) reviews draft data standards, major revisions of data standards and implementation guidance and makes recommendations to the CIO for approval. Assists in the resolution of waiver disputes.

Contracting Officers and their Representatives, e.g., Task Order Project Officers,

Alternate Task Order Project Officers ensure that all systems/ applications under their purview implement the appropriate data standards and comply with this policy and its procedures.

Senior Information Official (SIO) promotes the use of data standards and ensures that applications/systems under their purview are in conformance and submits a signed concurrence on all waiver requests for systems and applications regulated under the Capital Planning and Investment Control (CPIC) process.

Information Management Official (IMO) and the Information Resources Management Branch Chief (IRM BC) monitors compliance with this policy, reviews content for semi-annual "Data Standards Systems Implementation Progress Measurement Matrix" in READ. Submits any requests for waivers. Ensures that all systems/ applications under their purview implement the appropriate data standards and comply with this policy and its procedures.

Data Standard Steward is responsible for ensuring that data standards under their purview are accurate and updated as needed.

EPA Programs, Regions, Laboratories, and Offices are responsible for following the directives issued in this policy.

EPA Grantees and IT Contractors ensure that all systems/ applications under their purview implement the appropriate data standards and comply with this policy and its procedures.

Exchange Network Leadership Council (ENLC) develops, maintains, and promotes data standards applicable to the Exchange Network

IT Project Managers and System Owners ensure that all systems/ applications under their purview implement the appropriate data standards and comply with this policy and its procedures.

9. DEFINITIONS

Code Set: A group of codes with pre-defined meanings. A code set may be controlled by an external group. Only values from a named code set may be used in specific data elements.

Community of Interest: A group that can be defined by their common interests, needs or goals, e.g., a group of scientists, database designers, analysts, librarians with a common interest in drinking water monitoring data.

Contracting Officers and their Representatives: An individual with authority to enter into, administer, and/or terminate contracts and make related determinations and findings on behalf of the Agency and their project management representatives, e.g., Task Order Project Managers (TOPOs), Alternate Task Order Project Managers (ATOPs), etc.

Data Standard: documented consensus-based agreement on the format and definition of common data.

Data Standards Systems Implementation Progress Measurement Matrix: a semi-annual report by system managers completed in READ which evaluates the implementation of applicable data standards in the systems under their control. The report is made available to all program offices and regions through READ.

Data Standard Steward: The subject matter or data standards expert responsible for the quality, accuracy and revision of a data standard(s). A data standard can have more than one steward if it cross programmatic lines or has both IT and programmatic relevance.

Environmental Data Registry (EDR): A metadata repository used to record information about data and data standards. http://www.epa.gov/edr

Exchange Network: A partnership of states, tribal entities, and EPA for the purpose of creating a network for the exchange of environmental information. The governance of the Network is shared by EPA and the states. http://exchangenetwork.net

Implementation of Data Standards: Implementation of a data standard is either the incorporation of a data standard into an application system or a documentation of the mapping of the application system data elements to the standardized data elements through an exchange protocol.

Required Implementation Date:
The date, stated in the data standard, by which the data standard must be incorporated into the system (directly or by mapping system/application data elements to the standardized data elements) or the date by which a waiver for each system/application not complying with the data standard shall be obtained and recorded.

Retirement Date: The date upon which a version of a data standard has been superseded by a new version. The old version should no longer be used unless a waiver is obtained and recorded.

Senior Information Official (SIO): The SIO in each headquarters and regional office will be the primary, central point of accountability for the effective oversight, coordination and management of information, information technology, and related issues.

Solution Architecture: A solution architecture describes how an individual information management system or information acquisition will comply with the requirements of EPA's target architecture.

System Lifecycle Documentation: A compilation of managerial documents, usually called the System Management Plan (SMP), in the life of an information system required by the System Lifecycle Management Policy. The required documentation varies by the classification of the system and changes over the life of system as it moves through the phases.

Waiver: An official approval issued by the CIO to defer or avoid conformance with a data standard.

10. WAIVERS

1. Waivers to the requirements of this Policy will be considered based on the applicability of the standards to the information system and needs of the developing office. All waivers must be justified and documented. (see "Procedures for Requesting Data Standard Conformance Waivers")

2. Any waiver requests for investments in the CPIC process must include a signed concurrence by the System Owner and Senior Information Official (SIO).

3. The Chief Information Officer will approve Data Standard Policy waivers.

11. RELATED PROCEDURES AND GUIDELINES

1. Procedures for Data Standard Development

2. Procedures for Data Standard Implementation

3. Procedures for Data Standard Maintenance

4. Procedures for Requesting a Data Standard Conformance Waiver

12. MATERIAL SUPERSEDED

This policy supersedes the IRM Policy Manual 2100, Chapter 5 Data Standards.

13. ADDITIONAL INFORMATION

For questions about this policy, please contact the Office of Environmental Information, Office of Information Collection, Data Standards Branch.

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and Chief Information Officer
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