

e-Manifest Requirements Baseline Overview

Baseline Requirement Sources

- Past Rule Notice and Comment
- Past e-Manifest face-to-face meetings and webinars summaries
- e-Manifest Pilot System Project
- CROMERR Regulation
- Other internal EPA discussions

Requirement Definition and Purpose

Definition

- Is a statement describing a service, feature or quality a product must provide
- Complete, accurate, managed software requirements are critical to successful project outcomes



Purpose

- Describe the system to be developed to two different audiences
 - Potentially non-technical customer
 - Technical product development team
- Forms the basis for —
 - Product to be developed
 - Commitment with the customer
 - Commitment with the development team

Good Requirements vs. Bad Requirements

- Good Requirements:

- Meet the needs of customers and stakeholders
- Identify and specify what is needed
- Are verifiable and testable
- Are all about clarity
- State WHAT needs to be implemented and not HOW

Good Requirement:

The average response time of the system shall be less than one second with up to 1,000 simultaneous users.

- Causes of Requirement Problems:

- Poorly documented or not documented
- Improper analysis
- Ambiguous, incomplete, not testable
- Wrong level of information
- Changes to requirements are undocumented and uncontrolled
- Not fully understood or agreed to by all affected groups
- Not detailed enough which leads to various interpretations

Bad Requirement:

The application must be extremely stable with numerous users logged in simultaneously.

e-Manifest Functional Areas

- EPA has categorized the e-Manifest system requirements into the following ‘functional areas’:
 1. Electronic Manifest Creation
 2. Electronic Manifest Workflow
 3. Data QA
 4. User Administration
 5. Electronic Manifest Format and Communications Standards
 6. Miscellaneous
 7. Data Access and Reporting
 8. Paper Manifest Processing
 9. User Fee e-Payment and e-Collection
 10. Security

Electronic Manifest Creation

- This area covers:
 - processes for initial manifest creation including needed data elements and user templates or waste profiles
 - the process from initial manifest creation until once the generator signs the manifest
- Examples of baseline requirements:
 - System shall assign a unique read only e-Manifest tracking number to a new electronic manifest
 - System shall support all manifest data elements (all data fields on the uniform HW manifest)
 - Generator signature must be CROMERR compliant
 - Offerers should be able to sign on behalf of a generator if they have personal knowledge of the shipment preparation

Electronic Manifest Creation

Examples of baseline requirements, continued:

- Manifest shall be in 'DRAFT' status until generator or offerer e-signs the Generator/Offerer Certification section of the manifest and changes it to 'READY FOR TRANSPORT'
- System shall support templates or other manifest creation short-cuts. Templates would include:
 - Generator identification information
 - Waste stream specific information such as DOT descriptions and waste codes for wastes that are normally shipped
 - Transporter and TSDf identification information
- Templates can be populated by a variety of means (e.g. use complete manifest for future template, upload data from local system to populate template)
- System shall support look up values for appropriate fields in the generator section (e.g. DOT descriptions, container type, units, waste codes)

Electronic Manifest Workflow

- This area covers:
 - requirements for the ‘chain-of-custody’ workflow for generators, transporters and TSDFs
 - data validation as the manifest is completed
 - offline and online mode requirements
 - electronic signature requirements
- Examples of baseline requirements:
 - Manifest data elements, signatures and operations must be completed in proper sequence without errors
 - Copies of record for key shipment statuses must be preserved
 - The system shall allow users to print electronic manifest forms at any time during the workflow
 - All electronic signatures within the workflow must meet CROMERR requirements

Electronic Manifest Workflow

Examples of baseline requirements, continued:

- After the Transporter Acknowledgment section has been e-signed and validated, the system shall modify the status of the electronic manifest from 'READY FOR TRANSPORT' to 'IN TRANSIT'
- The system shall support the ability for Transporters or other handlers to collect shipment data and perform e-signatures in an offline mode
- After the Designated Facility Certification section has been e-signed and validated, the system shall modify the status of the electronic manifest from 'IN TRANSIT' to 'RECEIVED/IN-PROCESS'
- The system shall allow authorized electronic manifest TSDf users to mark a particular electronic manifest record as 'ACCEPTED'
- The system shall distribute appropriate copies of the manifest and/or manifest data to user accounts and regulator systems

Data QA

- This area covers:
 - data quality assurance between handlers (e.g. discrepancy reporting)
 - QA between states and TSDFs
- Examples of baseline requirements:
 - The system shall provide for discrepancy reporting as well as allow users to indicate partial or full rejections
 - The system shall provide a means for users to update an electronic manifest
 - The system shall provide a means for states to QA manifest documents

User Administration

- This area covers:
 - requirements for setting up new users, managing users, and deleting users
- Examples of baseline requirements:
 - The system shall facilitate system account profile registration so that users may gain access to the system. Registrants will be required to enter, at a minimum, the following data elements:
 - Individual First and Last name,
 - Company Name,
 - Phone Number,
 - Email address,
 - RCRA Site ID number (optional)
 - The system shall require the requestor to specify the type of user account when completing the system account profile registration form. For example, author, organization administrator, signatory, etc.

Electronic Manifest Format and Communications Standards

- This area covers:
 - requirements for what standard formats or communications (encoding protocols, etc) are needed to support electronic manifest creation or data access and QA
- Examples of baseline requirements:
 - The system should adhere to a data exchange standard (e.g., XML schema or equivalent) to enable data exchanges with industry and state data management systems
 - The system should adhere to a presentation standard to enable individual e-Manifest display that is faithful to the appearance of paper form

Miscellaneous

- This area covers:
 - requirements that do not map to a functional area
- Examples of baseline requirements:
 - Look up table maintenance, for example, the system must maintain hazardous waste codes in a look up table, and allow users to mark codes for deletion

Data Access and Reporting

- This area covers:
 - what the system will need to do to provide access to the data and provide reports out to various users once manifest data is approved or “final” in the system
- Examples of baseline requirements:
 - The system shall allow authorized users to generate reports based on the manifest workflow’s status (e.g. DRAFT, READY FOR TRANSPORT, etc)
 - The system shall allow authorized users to generate standard and custom reports

Paper Manifest Processing

- This area covers:
 - requirements for what the system must do to process paper manifests
- Examples of baseline requirements:
 - The system shall allow paper manifest data with signatures to be uploaded/imported from designated facilities

User Fees and Security

- **User fee e-Payment and e-Collection:**
 - data, processes or other areas needed to facilitate user payments and fee collection
- **Security**
 - system security requirements
- Largely undefined at this point