

Electric Operations Asset Registry Governance

SUMMARY

This utility standard provides the requirements and methodologies that electric operations uses to govern the Asset Registry. Covered assets include assets that transport, store, protect, or (remotely) generate electric energy. Electric operations uses the Asset Registry as the authoritative digital information source for asset as-built attributes, electrical connectivity, and the spatial information that is required to manage, operate, and maintain PG&E’s electric transmission, substation, and distribution assets safely and effectively.

TARGET AUDIENCE

Any PG&E utility organization that uses electric operations’ Asset Registry information.

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REQUIREMENTS

1 Asset Registry Overview

1.1 The Asset Registry is PG&E’s authoritative information source for as-built, electrical connectivity, and spatial data required to manage electric assets throughout their lifecycle.

1.2 The Asset Registry supports [Electric Operations Policy: TD-04, “Electric Asset Management Commitment,”](#) and conforms with [Utility Standard TD-8012S, “Electric Operations Asset Management System \(AMS\) Documentation.”](#) This objective is achieved through a combination of the following:

1. Technology-based systems to capture and manage the digital asset records and attributes, and
2. A set of governed processes that support:
 - a. Identification of assets subject to the Asset Registry
 - b. Data collection, processing, and entry
 - c. Data synchronization and quality assurance

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1.2 (continued)

- d. Modification and correction of digital asset records and record attributes
- e. Asset inspection, and subsequent asset record/attribute updates
- f. Asset maintenance, and subsequent asset record/attribute updates
- g. Asset replacement, and subsequent asset record/attribute updates
- h. Asset disposition and record retention

2 The Asset Registry System

- 2.1 Each asset in the Asset Registry must have a defined system of entry. Electric Geographical Information Systems (GIS), specifically Electric Transmission GIS (ETGIS) and Electric Distribution GIS (EDGIS), are the preferred systems of entry. The only other programs allowed as an alternative system of entry are SAP and Bentley AssetWise (APM). See [TD-9212S, Attachment 1, "Defined Systems of Entry / Record," to this standard](#) for each asset family and class and their system of entry.
- 2.2 Each Asset Registry asset must have a defined system of record, for each of the following information types.
 1. Spatial Location
 2. Electrical connectivity
 3. As-Built inventory records and attributes

Electric GIS systems ETGIS and EDGIS are the preferred systems of record. See [Attachment 1](#) for each asset family and class and their system of record .
- 2.3 Specific asset registry records and attributes must be replicated from the system of record to other systems (primarily SAP), where that data is required to support asset lifecycle processes, including system inspection and maintenance. The specific replication requirements for each asset family and class will be defined in a supporting procedure.
- 2.4 The Asset Registry Data Quality Dashboard is being implemented to ensure data synchronization and to support quality assurance, across the systems of record, SAP, and other systems. With the Dashboard, users can see the defined data quality rules, and how they are implemented and maintained. Synchronization includes system integration, attribute replication, and data synchronization.
- 2.5 System integration, security, and access control allows access and use of Asset Registry data, which is managed based on the business process requirements and any data security restrictions.

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3 Assets in Scope

- 3.1 All critical electric assets **MUST** be accurately recorded in the Asset Registry. It is the responsibility of each physical electric asset family owner to adhere to the rules for conforming to this standard as follows:
1. Identify asset types that are critical assets, and therefore **MUST** be recorded in the Asset Registry.
 2. For all critical assets, identify all asset record fields and attribute fields that are considered mandatory in support of the asset lifecycle.
 3. Identify all required asset records and attribute fields that **MUST** be replicated in SAP to support the inspection and maintenance processes.

4 Processes and Governance

4.1 New Asset Families or Classes

The introduction of new asset families, or new asset classes within existing asset families, must follow the process established by electric asset excellence. The process includes identifying the responsible asset family owner, and establishing an associated Asset Management Plan. The asset family owner must follow the requirements defined in [Section 3.1](#).

4.2 Asset Registry Data Entry – As-Built Process

The electric as-built process, as defined in [Utility Standard TD-2050S, “Electric Distribution and Transmission Line As-Built Packages”](#), is the mechanism by which all electric assets are installed, altered, replaced, or removed. Follow the as-built process to enter Asset Registry data.

NOTE

The electric as-built process is currently under revision. The manual steps and data transcription from paper to digital format is a source of Asset Registry errors. Increasing the use of digital mobile applications, asset barcodes, and data population directly from the SAP sourcing system helps reduce both manual efforts and the errors it generates. Digital integration improves the accuracy of Asset Registry data.

4.3 Asset Registry Data Entry – Bulk Upload

In cases where existing electric Asset Registry data is not currently recorded in the target Asset Registry system of record, but may be in a non-approved system, data entry should be performed by a bulk file upload into the target system of record, with the appropriate quality and data acceptance checks.

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4.4 Asset Registry Data Modification – Map Correction Process

In cases where electric Asset Registry record and/or attribute data is found to be incorrect, (e.g., front line worker identifies mapped GIS asset does not correspond with physical asset) use the Map Correction processes outlined in [Utility Procedure TD-9001P-01 “Electric Distribution Map Corrections”](#) and [Utility Procedure TD-3330P-30 “Electric Transmission Geographic Information System RW Notification Process”](#) to submit and process the correction. The map correction is recorded in the GIS system, and replicated in other systems via automated synchronization, as appropriate.

4.5 Asset Registry Data Modification – Bulk Correction Process

In cases where electric Asset Registry record and/or attribute data is found to be incorrect or missing, due to a systematic error that can be clearly identified and corrected by a systematic replacement, a bulk correction within the affected system can be conducted. In general, the correction is to be made in the GIS system and updated in other systems via automated synchronization, as appropriate.

4.6 Asset Registry Data Modification – System Access

Given the critical nature of electric Asset Registry data, access control must be established and maintained for data entry and modification. Access control can be implemented based on role or user. Access control records must be maintained, identifying the role or user responsible for changes.

1. GIS system access to enter or modify Asset Registry data – in general, this is restricted to as-built and RW Map Correction roles.
2. SAP system access to enter or modify Asset Registry data – in general, Asset Registry data is to be entered into the GIS system and populated and synchronized into SAP via system integration. Access to directly modify Asset Registry data in SAP is restricted to only those roles and users necessary to properly maintain the system.

4.7 Asset Registry – Quality Assurance and Quality Control

1. Quality Assurance
 - a. The Asset Registry system owner, in consultation with stakeholders, implements controls that prevent defects in records entered into the approved Asset Registry systems.
 - b. Information technology (IT) personnel /developers of technology that systematically creates Asset Registry records are responsible for implementing controls that prevent defects in records.

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4.7 (continued)

2. Data Quality

- a. Tools to monitor data quality are required for all critical Asset Registry data dimensions on an ongoing basis.
- b. Perform data quality improvement initiatives when necessary to address identified Asset Registry data quality issues.

4.8 Asset Registry – Record Retention

Asset Registry records are considered Enterprise Records and must be managed and retained as required by [Corporation Standard: GOV-7101S, “Enterprise Records and Information Management Standard”](#).

END of Requirements

DEFINITIONS

Critical Electric Operating Assets: Generally, this includes all assets that are considered critical to providing electric services to PG&E customers. The assets must be managed and maintained. Specifically, each physical Electric Operations Asset Families Asset Management Plan identifies critical asset types.

System of Entry (SOE): A System of Entry is the technology system where data object attributes are entered, either by manual data entry, electronic data entry, or upload. In many cases, the System of Entry is the same as the System of Record, but not always.

System of Record (SOR): A System of Record is the single data source for a given data element, and is where the data object attributes are maintained, including data creation, updating, modifying, and deleting. The SOR is the data source used for audit or regulatory reporting purposes.

IMPLEMENTATION RESPONSIBILITIES

Electric Asset Knowledge Management (AKM) performs these actions:

- Communicates this standard to the appropriate audiences.
- Works with the electric asset family owners to develop an associated procedure to comply with this standard.
- Monitors compliance with this standard.
- Implements quality assurance for Asset Registry systems.

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IMPLEMENTATION RESPONSIBILITIES (continued)

The electric asset family owners perform these actions:

- Implement and comply with the requirements of this standard and associated procedure.
- Develop and maintain electric asset family specific procedures or procedure attachments to comply with this standard.

The Information Technology team performs these actions:

- Implements quality assurance for systems creating records through data collection.
- Works with electric AKM and related electric line of business stakeholders to establish and maintain the required Asset Registry systems, in support of the requirements to comply with this standard.
- Implements, monitors, and supports user and system access controls, in alignment with data security requirements.
- Supports the migration of Asset Registry data from non-approved systems into the target Asset Registry systems.

GOVERNING DOCUMENT

[Electric Operations Policy TD-04, "Electric Asset Management Commitment"](#)

COMPLIANCE REQUIREMENT / REGULATORY COMMITMENT

Records and Information Management:

PG&E records are company assets that must be managed with integrity to ensure authenticity and reliability. Each Line of Business (LOB) must manage Records and Information in accordance with the Enterprise Records and Information (ERIM) Policy, Standards and Enterprise Records Retention Schedule (ERRS). Each Line of Business (LOB) is also responsible for ensuring records are complete, accurate, verifiable and can be retrieved upon request. Refer to [GOV-7101S, "Enterprise Records and Information Management Standard"](#) for further records management guidance or contact ERIM at Enterprise_RIM@pge.com.

REFERENCE DOCUMENTS

Developmental References:

[Utility Standard: TD-8012S, "Electric Operations Asset Management System \(AMS\) Documentation"](#)

[Utility Standard TD-2050S, "Electric Distribution and Transmission Line As-Built Packages"](#)

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[Corporation Standard GOV-7106S, "Enterprise Records and Information Management Mission-Critical \(Vital\) and Business-Critical Records Standard"](#)

Supplemental References:

ISO 55000:2014, "Asset management – Overview, principles and terminology"

ISO 55001:2014, "Asset management – Management systems – Requirements"

ISO 55002:2014, "Asset management – Management systems – Guidelines for the application of ISO 55001"

PAS 55-1:2008, "Asset Management Part 1: Specification for the optimized management of physical assets"

PAS 55-2:2008, "Asset Management Part 2: Guidelines for the application of PAS55-1"

APPENDICES

NA

ATTACHMENTS

[Attachment 1, "Defined Systems of Entry / Record"](#)

DOCUMENT REVISION

NA

DOCUMENT APPROVER

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REVISION NOTES

Where?	What Changed?
NA	This is a new standard.