



OPAI Consortium

Data Sharing Work Group

Jack White, EPRI

Jacqueline Rosati, EPRI

May 18, 2026

10:00a.m. EDT



Agenda



Objectives & Scope



Work Group Progress & Timeline



Discussion



Use Cases & Test Cases



Discussion



Term Sheet Cont. & Template



Discussion



Objectives and Scope

Data Sharing Work Group Objectives

OPAI has identified and surveyed interest from OPAI members on 17 use cases with expression of interest from 38 utilities and technology providers



Enable Data Sharing

Enable responsible data sharing to support energy-specific AI tool/solution development



Legal Terms

Collaboratively develop contractual templates to facilitate data and information sharing based on type of info. shared. Include security mechanisms appropriate for data and information shared.



Security Mechanisms

Define appropriate transmittal, storage requirements. Leverage synthetic data, anonymization and aggregation options



Progress and Timeline

Data Sharing Work Group Timeline

OPAI Work Groups have been hard at work identifying use cases and surveying members to determine. OPAI use cases and priorities. The first two use cases have been identified and will need templates to enable data sharing in June 2026.



Use Cases and Test Cases

Use Cases and Expression of Interest

Asset	Use Case	Utilities Interested	Technology Providers Interested	Team Member Count	Meets Multiple Utility Multiple Tech Provider?
Distribution	Domestic Outage Detection and Analytics using Advanced Metering Infrastructure (AMI)	OPPD, NRECA	Microsoft, Dviz, UtilityAPI, EPRI	6	Yes
Distribution	Advanced Metering Infrastructure (AMI) Data Historical Backcast and Forecast		UtilityAPI	1	
Distribution	Advanced Metering Infrastructure (AMI) Data Validation		UtilityAPI	1	
Grid	Asset Image Analytics / Vegetation Management	Chubu Electric Power Co, NRECA, NPPD	IFS, Dviz, Watchfully, Circular Solar, SAP, EPRI	9	Yes
Grid	Digital Twin Model Validation	ERCOT	TII	2	
Grid	Electric Vehicle Charging Infrastructure Data Analysis	OPPD	TII	2	
Grid	Transformer Overload Analysis	OPPD, NRECA, Consumers	SAP	4	1 tech provider needed
Grid	Outage Management System Log Retrieval		TII	1	
Grid	Reliability Index Analytics		TII	1	
Grid	Energy market Price Forecasting		TII	1	
Grid	Grid Extreme Weather Event Forecasting		TII	1	
Grid	Grid Constraint Forecasting		TII	1	
Grid	Asset Rating Analytics	NPPD		1	
ICT	Cyber Anomaly Detection for Operational Technology (OT) Systems	OPPD	Leidos	2	
Power Plant	Steam Generators Predictive Monitoring	NRECA	E-signal.ai, SAP	3	1 utility needed
Solar	Solar Photovoltaic (PV) Image Based Defect Detection		TII	1	
All	Engineering Technical Knowledge Retrieval	Avangrid		1	

17 Use Cases
38 Expressions of Interest

Expression of Interest:
A Willingness to Participate in OPAI Co-Development: Provide Data, Provide Human Resources or System Access/Licenses, Design Expertise

Threshold:
Multiple Utilities + Multiple Tech Providers



Prioritized Use Cases



Domestic Outage Detection and Analytics using Advanced Metering Infrastructure

- AI detects and analyzes customer-level outages using real-time AMI ping data, consumption drops and voltage anomalies.
- The system automatically clusters affected meters and identifies likely fault zones.
- Insights support faster fault localization and crew dispatch
- Historical data is used to identify patterns in domestic outage behavior.



Asset Image Analytics/ Vegetation Management

- AI –powered computer vision systems analyze images from various sources including drone inspections, thermal cameras and ground-based photography to assess equipment condition and identify maintenance needs.
- Machine learning models detect visual anomalies such as corrosion, mechanical damage, vegetation encroachment and thermal hot spots across diverse asset types including transmission lines, substations and generating equipment.
- The system uses deep learning techniques to classify, detect types, assess severity levels and track condition changes over time through comparative image analysis.
- Advanced image processing algorithms extract quantitative measurements from visual data including conductor sag, insulator contamination levels and structural deformation to support engineering assessments and maintenance planning.

Compliance, Export Control, and Other Clauses

Nuclear Quality Assurance (NQA-1)

Quality Processes for Nuclear Projects

Projects involving nuclear facilities must maintain quality processes aligned with ASME NQA-1 standards to ensure safety and reliability.

Key NQA-1 Requirements

NQA-1 requires document control, configuration control, software quality assurance, audits, and corrective actions for nuclear safety.

Quality Program Implementation

Receiving parties must implement and maintain a documented quality program consistent with NQA-1, accessible for review.



Third Party Intellectual Property

Compliance with Licenses

Receiving Party must comply with all applicable third-party licenses when using shared data materials.

Restrictions on Use

Modification, sublicensing, or reverse engineering of third-party materials is prohibited without express permission.

Limited Project Use

Use of third-party content is strictly limited to the project scope under applicable terms.



Export Control

Export Administration Regulations

Parties must comply with EAR regulations covering items under Commerce Control List and EAR99 classifications.

EAR99 Classification

Items not on the Commerce Control List are classified as EAR99 but require due diligence on destination and end-use.

DOE Part 810 Authorization

Nuclear technology assistance requires specific authorization under DOE Part 810 before export or transfer.



Compliance with Laws and Regulations

Adherence to Applicable Laws

Parties must comply with laws covering infrastructure protection, privacy, and public records.

Information Protection Standards

Compliance includes NERC CIP controls for grid data and federal information-handling programs.

Export and Assistance Regulations

Parties must follow export controls and nuclear assistance rules where applicable.



Governing Law and Dispute Resolution

Governing Law Specification

Agreements must clearly specify the governing law and jurisdiction to apply in case of disputes.

Tiered Dispute Resolution

Dispute resolution may involve negotiation, mediation, and ultimately litigation or arbitration as structured steps.

Formal Clause Example

A formal clause example includes governing law, negotiation attempts, and court jurisdiction for unresolved disputes.



Term and Termination

Effective Date and Duration

Agreements must specify the start date and length of the term clearly to manage expectations.

Termination for Convenience

Contracts should allow termination upon notice, providing flexibility for parties to end the agreement.

Survivability Clauses

Certain provisions like confidentiality, IP rights, and export controls remain effective even after termination.



Other Clauses

Entire Agreement Clause

This clause confirms the contract and its exhibits constitute the full and complete agreement between the parties.

Amendments and Assignment

Amendments require written consent by both parties and assignment is restricted without prior written approval.

Other Standard Clauses

Clauses like No Waiver, Severability, and Counterparts protect contractual integrity and outline procedural rules.



Conclusions

01

Comprehensive Clause Coverage

All key proposed clause language sections were covered to ensure thorough data sharing agreements.

02

Supporting Compliance

Agreements were designed to be compliant with regulations, protecting all parties involved.

03

Safeguarding Interests

The agreements aim to safeguard interests and ensure clarity between sharing parties.



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