

No.14/03/2025-UR&SI-II-Part(1) [E:281015]
Government of India
Ministry of Power
Shram Shakti Bhawan, Rafi Marg, New Delhi-110001

Dated the 22nd October, 2026

To,

1. The Secretaries of all Ministries/Departments of Government of India
2. The Chief Secretaries/Administrators of all States/Union Territories
3. The Principal Secretaries/Secretaries (Energy/Power) of all States/Union Territories
4. The Chairperson, Central Electricity Regulatory Commission, and the Chairpersons of all State Electricity Regulatory Commissions/Joint Electricity Regulatory Commissions
5. The Chairperson, Central Electricity Authority
6. The CMDs/MDs of all Central/State Generating Companies (GENCOs) Transmission Companies (TRANSCOs) and Distribution Companies (DISCOMs)
7. The CMD, Grid India, and the heads of all State/Regional Load Despatch Centres

Subject: Circulation of the “National Electricity Data Sharing Framework, 2026”.

Madam/Sir,

The Ministry of Power has prepared a **National Electricity Data Sharing Framework, 2026 (NEDSF) (copy enclosed)** after wide stakeholder consultations, for a secure and standardised sharing of electricity sector data. The intent of the voluntary Framework is to facilitate the sharing of data within and across the entities in the power sector value chain. It provides for constitution of a Data Governance Committee and appointment of a Data Governance Officer to oversee the implementation of the framework.

2. You are requested to circulate the **NEDSF, 2026** to all entities within your organisation/department and encourage adoption of the framework, as a ready template for data sharing.

3. This issues with the approval of the Competent Authority.

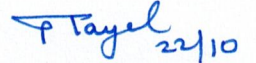
Encl: As above

Yours faithfully,


(Pranav Tayal)
Director, UR&SI
Tel: 011- 2371 7737
Email: director-ursi@gov.in

Copy to:

- i. PPS to Secretary, MeitY – for kind information,
- ii. PPS to Secretary (Power)
- iii. PPS to Secretary (Coordination), Cabinet Secretariat - for kind information
- iv. PPS to Secretary, MNRE– for kind information
- v. Director General, CERT-In; Director, NCIIIPC; – for kind information
- vi. Director General, NIC
- vii. All Additional Secretaries/ Joint Secretaries/ Chief Engineers, MoP
- viii. Chief Information Security Officer (CISO), MoP
- ix. Director General, All India DISCOMs Association (AIDA)
- x. Director (Media), MoP – for wide publicity,
- xi. Shri L. P. Sharma, DDG, NIC – for placing the Framework on the Ministry of Power website for information of all stakeholders.

 22/10

(Pranav Tayal)

Director, UR&SI

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National Electricity Data Sharing Framework, 2026

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1. Preamble

India's electricity sector generates large volumes of operational, planning, commercial, and consumer data across generating companies, Load Despatch Centres, transmission licensees, distribution licensees, Electricity Regulatory Commissions, and other Government agencies. These datasets are presently fragmented, follow inconsistent formats, and lack a unified access and standardisation framework.

The National Electricity Data Sharing Framework provides broad principles and institutional structures to enable structured, secure, and transparent data sharing in the electricity sector by sectoral entities - supporting access while protecting Critical Information Infrastructure. Adoption of this Framework, whether in full or in part, shall be entirely voluntary for the sectoral entities. To create an ecosystem for data sharing across the country, a National Electricity Data Division (NEDD), housed in the Central Electricity Authority (CEA), shall be constituted, and a National Electricity Data Portal (NEDP) shall be established under the Framework, leveraging the existing National Power Portal (NPP).

2. Background and Context

2.1 Key Entities in the Electricity Data Ecosystem

Stakeholder	Examples	Indicative Role in Data sharing
Generating Companies	Central/State/private generators (IPPs)	Submit/use operational and capacity data
Transmission Licensees	Inter-State and intra-State licensees	Submit/use network and connectivity data
Distribution Licensees	State-owned and private DISCOMs	Submit/use consumer, outage, reliability, billing, and asset data
Load Despatch Centres	State Load Despatch Centres, Regional Load Despatch Centres, National Load Despatch Centre, Renewable Energy Management Centres (REMC)	Submit/use scheduling, forecasting, and market data
Electricity Regulatory Commissions	Central Electricity Regulatory Commission (CERC), State Electricity Regulatory Commissions (SERC), Joint Electricity Regulatory Commissions (JERCs)	Submit/use regulatory information (Tariff petitions, orders)
Government Agencies	Central Electricity Authority (CEA), Central Transmission Utility (CTU), State Transmission Utilities (STU)	Infrastructure planning and other operational information
Market Bodies	Power exchanges, trading licensees, Over-The-Counter (OTC) platforms	Market information
Emerging and other Entities	Distributed Energy Resource (DER) operators and aggregators, EV charging infrastructure operators, Battery Energy	Submit/use data pertaining to distributed

Stakeholder	Examples	Indicative Role in Data sharing
	Storage System (BESS) operators, peer-to-peer energy traders, State Nodal Agencies (SNAs) under various schemes, Qualified Coordinating Agencies (QCA), Demand and Generation aggregators	energy resources, storage etc.
Government	State and Central Government	Planning and policy formulation
Research & Academic Institutions	IITs, NITs, IISc, think tanks, and R&D and academic institutions	Research, modelling, and publications
Technology Solution Providers	AI/ML companies and start-ups, technology companies and platform providers	Technological solutions

** The list is indicative and not exhaustive*

2.2 Data Issues Today

- Inconsistent metadata across agencies.
- Different data definitions used by entities.
- No standardised classification of datasets.
- Limited visibility for regulators, policymakers, and researchers.
- Gaps in data quality, completeness and machine-readability of published datasets.

3. Scope of the Framework

This Framework may be adopted by the following entities for all electricity sector data created and maintained:

- Generating companies (including captive)
- Transmission licensees
- Distribution licensees
- Load Despatch Centres (LDCs)
- Electricity Regulatory Commissions
- Central and State agencies including CEA, CTU, STU and Grid India
- Energy markets participants including Power exchanges, OTC platforms, QCA, Aggregators, REMCs, trading licensees.

The Framework covers operational, planning, financial, technical, reliability, asset, market and other relevant datasets. Such data may be shared in accordance with the provisions of Electricity Act, 2003, Information Technology Act, 2000, Digital Personal Data Protection Act, 2023, and other applicable laws, Rules, Regulations including CEA (Cyber Security in Power Sector) Regulations, 2026 and Guidelines issued from time to time. This framework, or the mechanism adopted by an entity in pursuance of this framework, would not affect the existing requirement of data sharing as provided under any law, rule, or regulations. It is guided by the principle that data collected once should be reused many times. Data Issuers should endeavour to meet reporting and sharing requirements from existing submissions and systems rather than

through fresh collection. The datasets designated as non-shareable by the Data Issuer will remain beyond the scope of this framework.

4. Objectives

- a) Enable secure, structured sharing of and access to electricity sector data for planning, operations, regulation, and research.
- b) Standardise classification of the datasets.
- c) Establish a transparent institutional mechanism for effective implementation of the Framework including defining principles of classification and levy of fees.
- d) Provide for anonymisation and de-identification of consumer-related or Personally identifiable data by the Data Issuer before publication/sharing.
- e) Enable inter-sector data sharing by ensuring interoperability with adjacent sectors (transport, urban planning, climate action, financial services) and compatibility of metadata with the India Datasets platform (data.gov.in).
- f) Enable data sharing with third-party service providers through a consent mechanism aligned with the India Energy Stack or similar.
- g) Build capacity and awareness among Data Issuers and Data Requestors on classification, de-identification, cybersecurity and responsible use.

5. Critical definitions, roles and responsibilities

Term	Description
CEII - Critical Electricity Infrastructure Information	Electricity system information whose disclosure could compromise power system security and stability, grid reliability, have cybersecurity implications or may lead to damage to physical infrastructure.
NEDD - National Electricity Data Division	Division, housed in CEA, maintaining the National Electricity Data Portal for Public dataset publication and discovery.
NEDP - National Electricity Data Portal	National digital platform providing publicly accessible electricity sector datasets in standardised, machine-readable formats. It will also act as a shared platform for any Data Issuer willing to onboard for the purposes of this Framework.
Data Issuer Portal	The Digital interface developed/used by the Data Issuer for the purposes of this Framework.
DPDP Act	Digital Personal Data Protection Act, 2023.
Interoperability	Capability of different datasets to be machine-readable, communicable through secure APIs or any other mechanism.
Data Issuer	Entity that creates, collects, maintains, or operationally controls a dataset - responsible for its accuracy, classification, integrity, secure storage and lifecycle management.
Data Requestor	Any individual, institution, or organisation seeking access to datasets under this Framework.

Term	Description
API - Application Programming Interface	Defined under the National Open API policy issued by Ministry of Electronics and Information Technology (MeitY).
API Setu	Open API platform developed by MeitY to enable swift, transparent, secure and reliable information sharing across applications, while promoting innovation and interoperability.
NIC API Exchange Platform (NAPIX)	Centralised API management platform developed and maintained by the National Informatics Centre (NIC), Government of India.
India Urban Data Exchange (IUDX)	Initiative of the Ministry of Housing and Urban Affairs, Government of India to provide a data exchange platform to Indian cities.
India Energy Stack (IES)	Foundational Digital Public Infrastructure (DPI) launched by the Ministry of Power to unify, digitise, and modernise India's power sector.
Anonymisation	Irreversible process of transforming personal data into a form in which a data principal cannot be identified, whether directly or indirectly, even when combined with other information, having regard to factors such as time, cost and available technology.
Secure Data Environment (SDE)	A controlled platform, sandbox or enclave in which approved users can access and analyse data without downloading it, subject to restrictions on re-identification, onward sharing and publication of outputs.
User Agreement / Data Sharing Agreement	The formal agreement between the Data Issuer and a Data Requestor specifying purpose, permitted use, terms of agreement for usage of data, security obligations, and deletion terms.

5.1 Role of the National Electricity Data Division(NEDD) :

5.1.1 The NEDD shall:

- a) establish and maintain the National Electricity Data Portal for the publication and discovery of datasets, including metadata of Public datasets of onboarded Data Issuers
- b) issue principles of classification, and classification mechanism, checklists and examples, to guide consistent classification across Data Issuers
- c) issue indicative guidance on access fees
- d) indicate format for Data Requestor access logs
- e) establish and operate, where so designated, the standing authenticated channels for Government, regulatory and R&D institution access

f) expose the Tier 1 catalogue of the NEDP for harvesting by national data platforms and facilitate listing of AI-ready de-identified datasets

g) coordinate with the Ministry of Power and sectoral data issuers on interoperability of metadata standards, API specifications and data exchange protocols ; and

h) consolidate stakeholder inputs for the periodic review of the Framework

5.1.2 National Electricity Data Governance Committee (NEDGC): The following committee shall be constituted:

S. No.	Member	Role
1	Chairman, CEA	Chairperson
2	Joint Secretary (IT&CS), Ministry of Power	Member
3	Representative from Ministry of New and Renewable Energy, not below the rank of Joint Secretary	Member
4	Director General, All India DISCOMs Association (AIDA)	Member
5	Director, Grid India	Member
6	Chief Information Security Officer (CISO), MoP	Member
7	2 representatives from Industry bodies to be nominated by MoP	Members
8	Chief Engineer (IT), CEA	Member Convenor

The Committee may co-opt members from other stakeholder organisations, as required.

5.1.3 Terms of Reference for National Electricity Data Governance Committee:

a) Oversee the implementation and adoption of the Framework across the power sector;

b) undertake an annual sectoral review of the Framework,

c) coordinate with MeitY, Cabinet Secretariat and other stakeholders.

d) Facilitate the Data Sharing Procedure for data with CEA including approving classification of datasets, deciding escalation of requests, overseeing audits, maintaining a data-sharing risk register and adjudicating data-breach incidents

5.2 Data Issuer Responsibilities

5.2.1 The Data Issuer may designate a Data Governance Officer (DGO) not below two levels from the head of the institution/organisation, preferably at the level of Chief Engineer in the power sector. The DGO shall:

a) Ensure the implementation of the Framework at the entity level

b) Monitor and process incoming data requests within prescribed timelines

c) Manage user agreements or non-disclosure agreements, as required, on behalf of the Data Issuer

d) Act as point of contact for grievance handling

5.2.2 The Data Issuer may constitute a Data Governance Committee (DGC) with the DGO as member secretary / convenor. The DGC shall facilitate the entity-level Data Sharing Procedure, approve classification of datasets, decide requests escalation, oversee audits, maintain a data-sharing risk register and adjudicate data-breach incidents.

5.2.3 The Data Issuer may also ensure the following with respect to datasets being shared:

- a) Ensure machine readability of data along with version control, timestamp and traceability
- b) Maintain retention schedules and ensure archival, anonymisation, or destruction at end of lifecycle
- c) Review the classification of datasets annually or as per requirement.

5.2.4 The Data Issuer may levy reasonable access fees which should be published on the portal. The fee model can be subscription-based, per-request, or any other structure as deemed fit. However, so as to ensure that the fees does not act as a barrier to access, the following may be factored in:

- a) All data classified as Public may be made available free of cost for viewing and download purposes.
- b) Charges may be levied in case of API-based or bulk transfer for commercial purposes.
- c) Reduced or zero fees to apply for academic institutions, training institutes seeking data for research purposes.
- d) No fees may be levied for requests by Central/State Government, CEA, Regulatory Commissions, or other Government Authorities and R&D institutions
- e) The charges may be reviewed annually.
- f) The NEDD may issue an indicative guideline for levy of fees.
- g) The charges may be based on the operational cost of offering the data, except where higher fees are sought for commercial use. The initial costs of enabling the system for data sharing are expected to be covered through the Annual Revenue Requirement (Clause 10) or other one-time support mechanism.

5.2.5 The Data Issuer may share data under the Framework through the Data Issuer portal or through NEDD after onboarding or through national data exchange platforms (such as API Setu, Entity Locker, DigiLocker, eSankhyiki, Microdata, etc.).

5.3 Data Requestor Responsibilities

The Data Requestor shall comply with the User Agreements or Non-Disclosure Agreements signed with the Data Issuer. Such agreements shall, inter alia, ensure that access to and use of the dataset is restricted solely to end users that are registered Indian entities.

The clauses that may be considered for the User Agreement for the data requestor include:

- (i) Purpose limitation - use only for the declared Purpose Code; secondary use needs written amendment;
- (ii) Data fields limited to those approved;
- (iii) No re-identification, onward sharing, resale or linking with other datasets to identify consumers or assets;
- (iv) Data classified under Tier 2 (Access Controlled) shall be processed and stored within the territory of India. Where cloud services are used, the data shall be hosted in India by a cloud service provider empanelled by the Ministry of Electronics and Information Technology (MeitY), subject to applicable laws, policies and security requirements. -Security - encryption in transit and at rest, RBAC, MFA; ISO 27001 or equivalent;
- (v) Audit rights of the Data Issuer on [7] days' notice;

- (vi) Breach notification to Appropriate Authority and the Data Issuer as per CERT-In reporting requirements;
- (vii) Retention and deletion with a deletion certificate within [30] days of expiry;
- (viii) Data Requestor may share derived datasets or insights with the Data Issuer; Governing law and jurisdiction in India.

5.4 Grievance Redressal Mechanism

To ensure transparency and fairness in data access governance, a two-level grievance redressal mechanism may be established.

The Data Requestor may apply in the portal if they have any grievance regarding access to data, including rejection of or delay in processing a request, classification of a dataset, access fees, or conditions attached to access. The DGO and grievance contact points may be prominently published on the Data Issuer portal. The following grievance redressal framework is prescribed:

Level	Authority	Scope & Responsibilities	Timelines	Escalation / Outcome
Level 1	Data Governance Officer (DGO)	a) Initial review of grievance; b) Examine decision and ensure compliance; c) Issue reasoned response	Decide within [14] working days	Escalation to Level 2 within [14] working days if dissatisfied.
Level 2	Data Governance Committee	a) Appellate review of Level 1 decision; b) Ensure fairness and accountability; c) Issue final determination	Decision within [14] working days of escalation	Final decision issued as a written speaking order

All decisions communicated at each level may be in writing and shared digitally. They may state the reasons for the determination and be communicated to the Data Requestor through the portal. A Data Requestor's right to approach any court or statutory authority of competent jurisdiction is not affected by the operation of this mechanism.

6. Data Classification

The data classification framework is applicable only to data that has been designated as shareable by the Data Issuer. Classification under this Framework shall not restrict or delay access to any data mandated to be made public under any Central or State Act, rules or regulations; such data shall remain available in accordance with the mandating instrument. The following classification of data is made under the framework

6.1 Classification Matrix

Tier	Description	Access	Indicative Examples
Tier 1: Public	Datasets that may be placed in the public domain	Open	Installed capacity, aggregated renewable statistics, state-level generation mix, annual energy balance summaries

Tier	Description	Access	Indicative Examples
Tier 2: Access Controlled	Datasets that can be accessed by Data Requestor after a registration process.	Registration and KYC process may be mandated. (E.g. - PAN, CIN, DIN etc.)	Detailed load flow cases, feeder-level operational data, unaggregated outage data, anonymised smart meter and other consumer meter data at various levels, certain industrial feeder data

Feature	Tier 1: Public	Tier 2: Access Controlled
Eligibility	Public	Any registered Indian entity
Registration / KYC Required	No	Yes
API / Secure Data Environment Access	Allowed for bulk/API modes, subject to registration	Allowed with secure data access link.
PII Data (if any)	No	No
Approval required	No	Yes (Auto-approval for Government, Regulatory and R&D institutions entities as Data Requestor)
Mandatory User Agreement	No	May be (depending on dataset)

In case of bulk data transfer for Public data through APIs, data dumps or any other mode, the Data Issuer may require registration.

The Data Issuer may decide on requests within [7] working days of receipt and where approved, provide access within [14] working days from the decision.

6.2 Criteria for Classification

The Data Issuer may classify all datasets based on the principles issued by NEDD. An indicative Data Classification matrix is enclosed as Annexure A. The NEDD may issue classification handbook, checklists and worked examples from time to time to guide consistent classification across issuers.

6.3 Data De-identification

The Data Issuer shall undertake de-identification of personally identifiable information (PII) and other datasets, wherever required, before sharing. De-identification does not alter the classification of the original dataset; the resulting derived dataset shall have its own classification. De-identification should be uniform or process-driven to avoid different inferences of the same data.

The Framework recognises the following de-identification techniques:

- (i) **anonymisation**, involving irreversible removal or transformation of identifiers such that re-identification is not reasonably possible;

- (ii) **pseudonymisation**, involving replacement of direct identifiers with surrogate keys, with the corresponding key held separately;
- (iii) **tokenisation**, involving replacement of sensitive values with non-sensitive tokens;
- (iv) **aggregation**, involving conversion of individual records into group-level statistics, subject to a minimum cell size of ten for public release, or a higher threshold determined by the Data Issuer based on re-identification risk;
- (v) **value banding**, involving conversion of precise numerical values into appropriate ranges;
- (vi) **spatial displacement**, involving reduction in the precision of location data, with street- and building-level coordinates removed;
- (vii) **suppression**, involving removal of attributes where adequate protection cannot otherwise be ensured.

The minimum thresholds and methodology for testing of re-identification risk shall be as per the applicable guidelines of MeitY, and shall be applied by the Data Issuer before release of a derived dataset.

Where the Data Issuer does not have adequate de-identification capability, the de-identification may be undertaken through data processors identified by the NEDD in coordination with MeitY, with the Data Issuer remaining accountable for the de-identified output-.

7. Processes and Workflows

(Indicative Data Sharing Design Principles and Data Issuer Portal Design Principles are enclosed at Annexures B and C respectively)

7.1 Data hosting and Access

Data hosting will remain with the concerned Data Issuer, except where Public datasets are voluntarily published through NEDD for immediate public access.

7.2 Modalities for Data Exchange

- a) The Data Issuer may provide access to Access Controlled datasets to Data Requestors through APIs, Secure Data Environments, or any other suitable mechanism, using such technical modalities as deemed appropriate based on dataset characteristics, system capabilities, and access authorisation levels, preferably in line with the National Open API Policy or other-Government of India data transfer mechanisms.
- b) API endpoints and formats as and when developed under the India Energy Stack may be utilised where applicable.
- c) APIs developed for data exchange, and API endpoint structures for Access Controlled datasets, may be published on the portal of the Data Issuer or the NEDP, leveraging API Setu or NAPIX-.
- d) Data exchange may also be carried out through data exchange platforms developed by States or IUDX, or through bulk data transfer, through data dumps-, as required.
- e) Secure Data Environments (SDEs) may be established or designated by Data Issuers as controlled environments for the secure access, storage and analysis of electricity sector data for research, innovation, planning, policy formulation and AI development, without requiring the transfer or download of underlying datasets. Preferential access may be considered for eligible Indian developers and start-ups, subject to applicable laws and the prescribed eligibility and access criteria. Access to an SDE shall be governed by appropriate safeguards, including

restrictions on data download, re-identification, onward sharing and unauthorised disclosure.f) Data Issuers operating legacy systems that are not natively API-capable may develop and deploy data wrappers to enable interoperable access to such datasets. These wrappers will be designed as per India Energy Stack architecture or similar.

7.3 Metadata Requirements

A Data Issuer may prepare and publish metadata for each dataset following NEDD guidelines. The Metadata may be published for each data set on the digital portal. The metadata should preferably be in conformance to Metadata and Data Standards (MDDS) issued by MeitY and National Metadata Structure (NMDS) issued by MoSPI, based on requirements assessed by the Data Issuer. Metadata should be discoverable through published API formats, registries or other machine-readable means. An indicative scheme for metadata is as below:

- a) Description and Purpose - Brief explanation of the dataset, and its purpose
- b) Schema - Structure of the dataset including key fields, identifiers, and data format as maintained by the Data Issuer.
- c) Source and methodology - origin of the data (generating system or process) and method of compilation, estimation or measurement
- d) Update cycle and revisions - frequency of updates (real-time, daily, monthly, etc.) and treatment of revisions to published data
- e) Classification - Indicating whether the dataset is Public or Access Controlled, with date of last classification review
- f) Units, concepts and definitions - measurement units and definitions of key terms used
- g) Coverage and reference period - geographic and entity coverage and the period to which the data relates
- h) Known limitations - data-quality caveats and known gaps
- i) Contact point - the DGO or other designated contact for the dataset
- j) Access and licence - mode of access, API endpoint where applicable, and terms of use
- k) Retention period - period for which the dataset is retained

7.4 End to End Data Process Flow

- a) Classification and metadata: the Data Issuer classifies each dataset (Clause 6) and publishes its metadata, and API endpoint structures for Access Controlled datasets, on the portal (Clause 7.3).
- b) Request: the Data Requestor registers (Clause 7.5) and submits a request through the portal.
- c) Decision: the DGO decides the request within the timelines at Clause 6.1, recording reasons for any refusal.
- d) Agreement and access: On approval, the User Agreement is executed (Clause 5.3) and access is provided through the approved modality (Clause 7.2).
- e) Closure: On expiry of the validity period, the Data Requestor deletes the data and furnishes a deletion certificate.
- f) The DGO may maintain a digital Data Access Register recording every Tier 2 request, the requestor, purpose, datasets and fields approved, mode of dataset access, validity period, decision date and receipt of the deletion certificate. A summary (number of requests received, approved, refused, pending beyond timeline) may be published on the portal quarterly.

7.5 Registration on Portal

The Data Issuer may make use of the national data exchange platforms such as API Setu for sharing Public and Access Controlled datasets, and DigiLocker or Entity Locker for verification of Data Requestors. These platforms have in-built registration, KYC, and end-to-

end online approval processes. Registration shall be required for Tier 2 data, and for bulk API access to Tier 1 data.

Alternately,

- a) Each Data Issuer may facilitate a system of registration of the Data Requestor on the portal
- b) Any individual affiliated with an institution/organisation may register themselves on the portal and access the Access Controlled datasets as per defined sharing mechanisms.
- c) The Data Issuer may establish/ deploy required KYC mechanism. KYC may comprise - Individuals: Aadhaar/DigiLocker-based e-KYC or PAN; Entities: CIN / GSTIN / Udyam / LLPIN or Government-provided ID, the name of the authorised representative empowered by Board resolution or equivalent instrument, and a domain-verified official e-mail ID of the entity; Government entities: domain-verified .gov.in / .nic.in e-mail or Parichay/e-Praamaan SSO; academic or research domains registered by ERNET India. Registration may be a one-time process valid for [2] years, after which renewal is required.

7.6 Metadata Inventory and Publication Timelines

To ensure that the request-based data access architecture under this Framework is effective, every Data Issuer, upon adoption of this framework, may publish a comprehensive data inventory as per the following indicative timelines:

- a) Within [12] months of the effective date of this Framework, every Data Issuer may publish on the portal a complete metadata catalogue of all datasets it holds, with the metadata at Clause 7.3 for each dataset.
- b) Within [18] months of the effective date of this Framework, every Data Issuer may ensure that metadata for all Public datasets is also discoverable through the NEDP in a standardised machine-readable format.
- c) Data Issuers may update their published dataset inventory / catalogue at least once every [6] months. Any new dataset created or acquired after the initial publication may be added to the inventory and classified before it is first shared, and in any case within [90] working days of creation.

7.7 Government and Regulatory Access

Central and State Governments, the Central Electricity Authority, the Electricity Regulatory Commissions and other statutory authorities may access shareable datasets through standing authenticated channels established by the Data Issuer or the NEDD - with domain-verified registration, purpose logging and audit trails. For access to Tier 2 datasets in case of such transactions, domain verified official email ids or other approved Government authentication mechanism may be used and, upon multi-factor authentication, automated approvals granted.

7.8 Linkage with National Data Platforms

- a) The NEDD shall, through the NEDP, and Data Issuers may, expose-Tier 1 catalogues for harvesting by the India Datasets platform (data.gov.in) and the National Data and Analytics Platform (NDAP), consistent with the National Data Sharing and Accessibility Policy (NDSAP).
- b) AI-ready, de-identified datasets may be listed on AIKosh under the applicable data-provider agreements.
- c) Individual-record data fetches, as and when enabled with the maturity of the India Energy Stack consent architecture referred to in Clause 4(f), may route through API Setu/NAPIX and registered consent managers.

8. Electricity Data Reference Model and Format

Central Electricity Authority (CEA) shall formulate the data structure and format for publication of the datasets. CEA may issue or update data format specifications periodically, and data Issuers should ensure that their datasets remain aligned with the current applicable specifications.

9. Inter-Sector Data Sharing

The electricity sector is increasingly interconnected with adjacent sectors including transport, urban planning, climate action, and financial services. Data generated within the electricity ecosystem has significant value for planning and decision-making in these sectors, and vice versa.

(a) Data Issuers should ensure that Public datasets published on the NEDP or Data Issuer portals are made available in machine-readable formats compatible with the India Datasets platform (data.gov.in).

(b) Cross-sector data requests shall be subject to the same classification, registration, and user agreement requirements applicable to intra-sector requests.

(c) The NEDD shall coordinate with the Ministry of Power, and relevant sectoral data bodies to ensure interoperability of metadata standards, API specifications, and data exchange protocols across sectors. Where data exchange standards/ APIs have been developed under the India Energy Stack, these may be adopted for inter-sector data exchange involving electricity datasets.

(d) Specific inter-sector data sharing use cases of national importance, including electric vehicle charging infrastructure planning, building energy efficiency programmes, climate reporting, and green finance, may be identified by the Ministry of Power from time to time. Data Issuers holding datasets relevant to such use cases should proactively publish or make available the required datasets in accordance with this Framework.

10. Cost implications on regulated entities

The implementation of the Framework may require modifications in existing systems with some expenditure involvement. While the utilities/Data Issuers may develop their own portals, or onboard themselves on NEDP, ERCs should enable passthrough in Annual Revenue Requirement (ARR) after prudence checks. The ARR route may be for creation of necessary infrastructure or set-up for enablement of data sharing. The operational costs may be recovered through fees levied for accessing data.

11. Cybersecurity Compliance

The NEDD and all Data Issuers shall comply with the applicable laws, rules, regulations including CEA (Cyber Security in Power Sector) Regulations, 2026, policies, and guidelines issued by the Government of India, including those issued by the Ministry of Electronics and Information Technology, the Ministry of Power, NCIIPC, CEA, CSIRT-Power and CERT-In, as issued from time to time.

Prior to making any hosting infrastructure operational, including hardware, software, network components, and data processing environments, comprehensive cybersecurity testing shall be conducted as per applicable guidelines. Such testing shall include vulnerability assessment and penetration testing, security configuration review, and validation of access control and encryption mechanisms. Infrastructure shall not be made live until testing has been completed and identified vulnerabilities have been remediated to an acceptable residual risk level.

Breach and incident management: On becoming aware of any breach or compromise of shared data, the Data Requestor shall notify the concerned Data Issuer's DGO without delay following CERT-In guidelines. The NEDD and the Data Issuer shall also report the incident to the appropriate authorities as per CERT-IN guidelines. Any person, including a Data Requestor, may report suspected misuse or breach of shared data through the Data Issuer portal or the NEDP. Such reports shall be routed immediately to the DGO and the Chief Information Security Officer (CISO) of the Data Issuer for action in accordance with the Data Issuer's incident response procedure and CERT-In reporting requirements. Incidents of misuse or breach shall be adjudicated by the Data Governance Committee .

12. Capacity Building and Awareness

NEDD, in coordination with Power Sector training institutes, shall conduct periodic capacity-building programmes for DGOs, dataset owners within Data Issuers, IT/OT teams and authorised Data Requestors covering data classification, lawful basis for sharing, consent, de-identification and re-identification risk, cybersecurity, User Agreements, grievance handling, breach reporting, audit logging and responsible use of AI/ML.

13. Review and Monitoring:

The DGO of each Data Issuer may conduct an annual review covering:

- (a) Dataset inventory - additions, deletions, reclassifications;
- (b) Active User Agreements - renewals, expiries, revisions/modifications, deletion certificates received;
- (c) Alignment with CEA formats and MDDS/NMDS - gaps;
- (d) Audit-log anomalies and purpose violations;
- (e) DPDP compliance updates;
- (f) Fee receipts and expenditure;
- (g) Grievances received and disposed with timelines.
- (h) Cybersecurity compliance, in coordination with the CISO of the respective Data Issuer.

14. Review of Framework

The Ministry of Power shall periodically review this Framework, including its scope, in the light of implementation experience, stakeholder feedback and technological developments, based on inputs consolidated by the NEDD, and issue revisions or clarifications as required.

Annexure A: Classification Matrix

An indicative matrix for classifying electricity sector datasets may be seen below:

1. Primary Classification considerations

#	Dimension
1	Personally Identifiable Information
2	Operational Sensitivity
3	Infrastructure Exposure
4	Market Sensitivity
5	Physical and Cybersecurity Risk
6	Re-identification Risk

2. Indicative Decision Matrix

Dimension	Indicative datasets	Classification
Personally identifiable information	Aggregated state / district level consumption statistics, published tariff schedules, consumer category counts including anonymised smart meter data at state/district level	Public
	Anonymised smart meter interval or load profile data, consumer complaint registers (name removed), billing analytics	Access Controlled or Public as per sensitivity
Operational sensitivity	Annual plant availability factors, published load-despatch reports, generation mix statistics	Public
	Intra-day scheduling data, 15-min area control error logs	Access Controlled
Infrastructure exposure	General transmission corridor maps, substation district-level count, published network expansion plans	Public
	Substation single-line diagrams (non-critical), asset inventory by voltage class	Access Controlled
Market sensitivity	DAM and RTM clearing prices (post-settlement), published annual revenue requirement (ARR), AT&C loss figures in tariff orders	Public

Dimension	Indicative datasets	Classification
	Utility-specific bilateral contract summary terms, generator-wise variable-cost data used in merit-order despatch	Access Controlled
Physical & cyber security risk	Generic cyber-hygiene advisories, published cybersecurity regulations	Public
	Anonymised incident reports (sector-wide learning)	Access Controlled
Re-identification risk	District-level or state-level aggregated consumption, category-wise consumer counts	Public
	Feeder-level data; high-value industrial feeder consumption; time-series isolating rooftop solar installations	Access Controlled

3. Basic Principles:

- a) Personally identifiable datasets may be shared after de-identification as per the DPDP Act or in an aggregated manner subject to the reidentification risk dimension.
- b) The classification of datasets under this Framework will be in accordance with all extant laws, rules or regulations regarding data sensitivity.
- c) Before any bulk release, a PII removal checklist shall be completed and documented. Actions, inter alia, include:
 - Removal of direct identifiers - consumer name, consumer/account number, meter serial number, Aadhaar, PAN, mobile, e-mail, bank account used for subsidy/DBT, premises address and GPS coordinates;
 - Generalisation of quasi-identifiers - sanctioned load to bands, address to feeder/ward/district, connection date to year;
 - Suppression or aggregation of sensitive attributes - subsidy category, arrears/disconnection status, lifeline/BPL status.

Annexure B: Indicative Data Sharing Design Principles

1. Purpose and Applicability

This Annexure indicates architecture for secure sharing of data in respect of the National Electricity Data Portal and Data Issuer portals described in this Framework.

2. Architectural Principles

Principle	Requirement
Access tiering	Enforce tier-based access: Public, Access Controlled datasets
Auditability	Complete auditability and traceability across all transactions
Data protection	Encryption at rest and in transit; CEII segregation
Access control	Role-based, Time-bound and revocable access
Access Type/Mode	API-based, SDEs, data dumps, Data exchange Platforms like IUDX, as per requirement

3. Security Controls

- a) Establish a regular backup schedule (e.g., daily or weekly) and store encrypted backup copies in secure, other network sites, combining offsite, and offline
- b) Test backup restoration procedures periodically to ensure data recoverability and system resilience
- c) Develop and maintain a Business Continuity Plan (BCP) for identified critical applications providing the datasets under the Framework to ensure timely recovery and continuity of operations
- d) Ensure secure disposal of both physical and digital media using proper sanitisation or destruction methods.
- e) Assign unique user IDs to all individuals to avoid shared accounts and ensure full traceability of system activity
- f) Implement role-based access controls aligned with defined job responsibilities, following the principle of least privilege
- g) Review and update user access privileges periodically at least quarterly or immediately upon role changes, transfers, or employee exits, using a formal offboarding checklist
- h) Grant administrative privileges only when essential, and enforce segregation of duties across administrative, financial, and data functions
- i) Ensure alignment with guidelines, mandates from CERT-In, National Critical Information Infrastructure Protection Centre (NCIIPC) and Computer Security Incident Response Team (CSIRT) - Power
- j) Data Requestors shall maintain access logs of shared datasets in the standard log format specified in the NEDD guidance and furnish them to the Data Issuer annually or on demand, as provided in the user agreement.

Annexure C: Data Issuer Portal Design Principles

The Data Issuer portals or the National Electricity Data Portal should comply with the following requirements:

1. The design features should be capable of supporting the processes and workflows as per Clause 7 of the Framework.

Portal Access and Dataset Listing

Feature	Requirement
Information	URL identifying the Data Issuer; names the DGO with contact details
Public datasets	No registration required.
Access Controlled datasets	Require authenticated access after registration
Accessibility	Accessible from standard web browsers without proprietary software

For Bulk data transfer through API or data dump in case of public data, provision for registration to be included.

2. Registration:

- a) Provision for registration for any individual affiliated with an organisation based on KYC verification
- b) For Access Controlled datasets, additional check of institutional/ organizational verification may be added.
- c) Registration (identity verification) may be completed within [3] working days. Registration based on completed KYC may be processed on an automated or instant basis. Access to Tier 1 datasets may be automated/instant. Requests for Access Controlled datasets may require explicit approval of the Data Issuer within defined working days, tiered by dataset sensitivity. Requests not decided within the defined timelines may be escalated as a grievance under Clause 5.4.

3. Request Submission

Element	Details
Minimum form fields	Dataset name and classification tier; fields and granularity; geography and time period; declared purpose; intended outputs; preferred fulfilment mode; and, for Access Controlled requests only: purpose code; storage location of received data with an in-India storage and processing declaration; declaration of any intended use for AI/ML model training; retention and deletion schedule; and, for sensitive datasets, reference to a CERT-In empanelled security audit. The Tier 1 access path may remain form-free.
On submission	Unique request reference number generated; automated acknowledgment within [1] working day; incomplete submissions flagged with specific reasons before entering review queue

4. User Agreement Execution: The Portal should have provision for executing user agreements/non-disclosure agreements with timestamped records of all executed agreements. The NEDD shall make available a model power-sector User Agreement and mode-wise undertakings, adapted from MDSF Annexures IV and V, expressly as optional aids that Data Issuers may adopt or vary; no central approval or enforcement role is created. The model formats shall include clauses on purpose and field limitation, in-India storage and processing, prohibition of re-identification, onward transfer and resale, recipient audit-log maintenance and furnishing, breach notification, and deletion on purpose-completion evidenced by a deletion certificate.

5. Grievance Interface

Feature	Requirement
Grievance form fields	Request reference number; nature of grievance; supporting documentation; desired resolution
DGO notification	Within [1] working day of submission

6. Purpose Codes

Every request for Access Controlled data may carry a purpose code drawn from an indicative power-sector taxonomy to be published by the NEDD - covering, inter alia, system studies; network planning; market analytics; academic research; AI/ML training; journalism and civil-society use; and commercial product development - each code specifying its permissible and prohibited uses and carrying a commercial/non-commercial flag.

Annexure D: Indicative Tier 1 Public Datasets

A. Generation - A.1 Installed Capacity

#	Dataset	Granularity	Frequency
1	All India installed generating capacity by fuel type	National / Regional / State	Monthly
2	Installed capacity by sector (Central, State, Private)	National / Regional / State	Monthly
3	Station-wise and unit-wise installed capacity (>25 MW)	Station / Unit	Monthly
4	RE installed capacity by state and technology	State / Technology	Monthly
5	Capacity additions - new units commissioned	National / State	Annual
6	Plant load factor and capacity utilisation	Station / Sector	Monthly
7	Forced outage rate by fuel category and sector	National / Sector	Annual

A.2 Generation Output

#	Dataset	Granularity	Frequency
8	Region/state/fuel/station-wise electricity generation (actual vs. programme)	Region / State / Station	Daily, Monthly
9	All India power generation summary by fuel category	National	Daily, Monthly
10	Category-wise and fuel-wise monthly generation report	National / Sector	Monthly
11	Historical growth of electricity generation	National	Annual
12	RE generation by state and technology	State / Technology	Monthly

A.3 Outage and Availability

#	Dataset	Granularity	Frequency
13	Daily outage report - coal, lignite, and nuclear units	Unit-level	Daily
14	Daily outage report - hydro units	Unit-level	Daily
15	Thermal and nuclear units out of grid for more than 15 days	Unit-level	Rolling daily
16	Region-wise plant availability report (>25 MW)	Region / Station	Daily

A.4 Coal and Fuel

#	Dataset	Granularity	Frequency
17	Daily coal stock position at thermal stations (days of stock)	Station-level	Daily
18	Monthly coal supply and consumption at thermal stations	Station / Sector	Monthly
19	Hydro reservoir level - major reservoirs linked to generating stations	Reservoir / Station	Daily
20	Annual fuel-wise energy balance	National	Annual

B. Transmission

#	Dataset	Granularity	Frequency
21	All India transmission line length at ≥ 220 kV by voltage level and region	National / Regional	Quarterly
22	Transmission and transformation capacity at ≥ 220 kV (MVA)	National / Regional	Quarterly
23	Progress of ISTS transmission lines under construction	Project-level	Monthly
24	Substations commissioned (≥ 220 kV)	National / Regional	Monthly, Annual
25	Transmission lines commissioned (≥ 220 kV)	National / Regional	Monthly, Annual
26	Inter-regional power flows - actual energy exchanged between regions	Regional	Monthly
27	Transmission losses at national and regional level (%)	National / Regional	Annual

C. Distribution

#	Dataset	Granularity	Frequency
28	State-wise and DISCOM-wise AT&C losses	State / DISCOM	Quarterly
29	Electricity consumption including de-identified smart meter interval data at various levels	DISCOM / Feeder / National	Quarterly
30	Per capita electricity consumption - state-wise	DISCOM	Annual
31	Number of electricity consumers by category - state-wise	DISCOM / Category	Annual
32	Electrified villages and households - state-wise and scheme wise	State	Annual
33	DISCOM financial performance - ACS-ARR gap, aggregate loss	DISCOM	Annual

#	Dataset	Granularity	Frequency
34	SAIDI and SAIFI aggregated at DISCOM level	DISCOM	Quarterly
35	Distribution transformer failure rates - state-wise aggregate	State	Annual

D. Energy Demand and Supply, Grid Operations

#	Dataset	Granularity	Frequency
36	Monthly energy supply and demand - All India and region-wise	National / Regional	Monthly
37	Energy balance - requirement, availability, surplus/deficit	National / Regional / State	Quarterly
38	Peak demand met and peak deficit - region-wise and state-wise	National / Regional / State	Quarterly
39	National and state-level electricity demand forecast (5-year)	National / State	Annual
40	Hours of supply per day - state-wise and category-wise (urban, rural)	State / Category	Annual
41	Grid frequency profile and deviations	National / Regional	Monthly
42	Transmission line loading and congestion status	National / Regional	Monthly
43	Ancillary services deployment and reserves position	National	Monthly
44	Transmission system availability and reliability indices	National / Regional	Quarterly
45	Inter-regional power transfer capability and utilisation	Regional	Monthly
46	Energy storage utilisation and availability	National	Monthly
47	Forecast accuracy of load and renewable generation	National / Regional	Quarterly

E. Renewable Energy

#	Dataset	Granularity	Frequency
48	State-wise cumulative and incremental RE installed capacity (solar, wind, small hydro, biomass)	State / Technology	Monthly
49	Rooftop solar - state-wise cumulative capacity and installations	State	Monthly
50	RE generation data and as % of total generation	National / State	Monthly, Annual

#	Dataset	Granularity	Frequency
51	Pumped hydro storage - installed and under construction	National	Annual

F. Tariff and Regulatory

#	Dataset	Granularity	Frequency
52	Average cost of supply and average billing rate - DISCOM and state-wise	DISCOM / State	Annual
53	Approved tariff schedules by consumer category - state-wise	State / Category	On tariff revision
54	CERC tariff orders for central generating stations	Station / Utility	On notification
55	Day-ahead market (DAM) and Real-Time market (RTM) clearing price and volume summary	National / Zone	Daily
56	State government subsidy to DISCOMs - state-wise aggregate	State	Annual

G. Schemes

#	Dataset	Granularity	Frequency
57	Saubhagya scheme progress - state-wise households electrified	State	Monthly
58	RDSS scheme progress - state-wise physical and financial	State	Quarterly
59	Smart metering rollout - state-wise and DISCOM-wise	State / DISCOM	Quarterly

H. Planning and Policy Documents

#	Dataset	Granularity	Frequency
60	National Electricity Plan - Volumes I (Generation) and II (Transmission)	National	Once in 5 years
61	All India Electricity Statistics - Annual General Review	National	Annual
62	Growth of Electricity Sector in India publication	National	Annual
63	National Electricity Policy and National Tariff Policy - notified documents	National	On notification
64	Optimal generation capacity mix study and reports	National	Periodic
65	Market Monitoring reports	National	Monthly