National Power Portal

Providing comprehensive framework for Power Sector data capture and dissemination

National Power Portal (NPP) has been envisaged by the Ministry of Power, Government of India to create a unified platform for collation and dissemination of Indian Power Sector information.

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National Power Portal (NPP) is a unified system developed for Indian Power Sector to facilitate online data capture/ input (daily, monthly, annually) from generation, transmission and distribution utilities in the country and disseminate the power sector's information (operational, capacity, demand, supply, consumption etc.) through various analysed reports, graphs, statistics etc., for generation, transmission and distribution at all India, regional, state level for central, state and private sector.

NPP was launched by Shri R. K. Singh, Hon'ble Minister of State (Independent Charge) for Power and New & Renewable Energy, on 14th November 2017.

Functional Modules

The portal comprises of the following modules under Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) of Rural Electrification Corporation and Integrated Power Development Scheme (IPDS) of Power Finance Corporation.

- Installed Capacity
- Generation
- Transmission
- Fuel Management
- Urban Distribution
- Rural Distribution

Data Collation and Dissemination

Data is being collected through forms, bulk data upload using Json format and web services under NPP. Data flows from various power sector utilities through the internet to NIC Cloud where data is analysed and disseminated in forms of various Analytical Reports, Dashboard and Mobile Apps.

Technologies Used

The portal has been designed and developed using Open Source Technologies with front-end 'SPRING/Hibernate' and for back-end, 'Postgres' is used. SMS and email services will be used to send alerts, messages to utilities to improve and expedite the data entry process.

Feeder data with Input energy, category-wise consumers (domestic/agriculture/industrial/government etc.), energy billed, energy consumed, amount billed and amount collected is being collected through a standard json file on monthly basis, which is scheduled and processed in the night.

Capacity, generation and fuel data are being collected through web services from large CPSUs (NTPC, NHPC etc.) and also through input forms from GENCOs and TRANSCOs.

Stakeholders

- Ministry of Power
- Central Electricity Authority
- Power Finance Corporation
- Rural Electrification Corporation
- Generation Utilities
- Transmission Utilities
- Distribution Utilities

Integration with Other Applications

NPP is integrated with associated systems of Central Electricity Authority, Power Finance Corporation, Rural Electrification Corporation and other

Data capture workflow

Dashboard of National Power Project
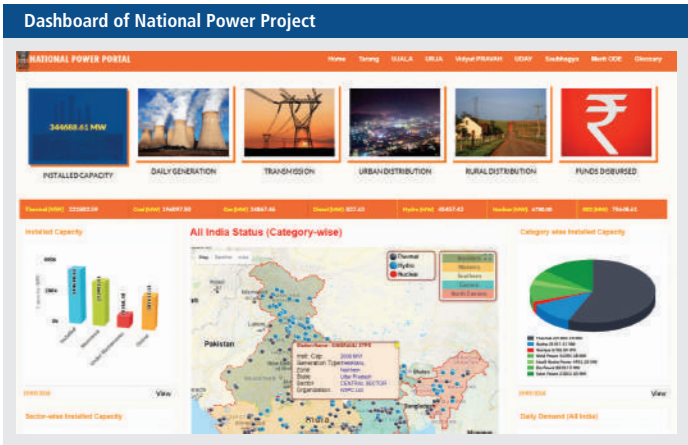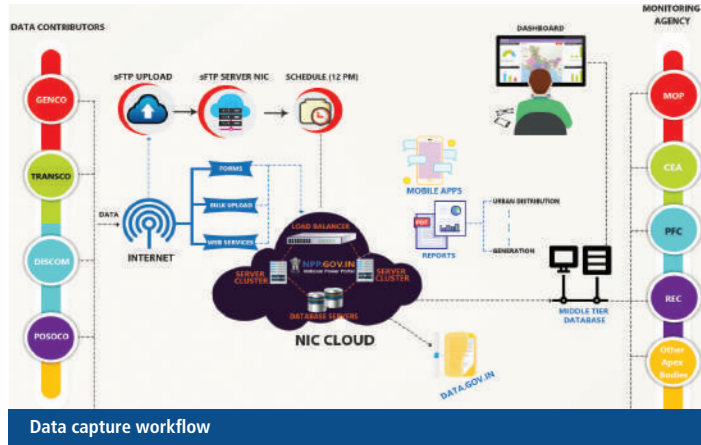
major utilities and would serve as single authentic source of power sector information to apex bodies, utilities for the purpose of analysis, planning, monitoring as well as for public users. The Ministry of Power (MoP) has designated Central Electricity Authority as the nodal agency for implementation of NPP.

Salient Features

The system is available 24x7 and ensures effective and timely collection of data. It standardises data parameters and formats for a seamless exchange of data between NPP and respective systems at utilities. It also facilitates data collection at source, minimises manual data entry and optimises cost by maintaining common IT infrastructure.

Dashboard

The NPP Dashboard has been designed and developed to disseminate analysed information about the sector through GIS enabled navigation and visualisation chart windows on capacity, generation, transmission, distribution at national, state, DISCOM, town, feeder level and scheme-based funding to states. The system also facilitates various types of statutory reports required to be published regularly. The Dashboard would also act as a single point interface for all Power Sector Apps launched earlier by the Ministry such as TARANG, UJALA, VIDYUT PRAVAH, SAUBHAGYA, URJA and MERIT ORDER DESPATCH.

National Workshop Held

A National Level Workshop was organised at the Convention Centre, Scope Complex, New Delhi on 27th September 2018 and was attended by delegates and participants from Power Finance Corporation (PFC), Rural Electrification Corporation, Generation, Transmission and Distribution utilities from all over the country. Shri Ajay Kumar Bhalla, Secretary (Power), appreciated the efforts made for NPP and emphasised its significance.

In her address, Dr. Neeta Verma, DG, NIC, highlighted the emerging technologies and their relevance in addressing issues of the power sector. Shri GK Gaur, DDG, NIC, explained the scope, coverage, architectural overview, design and functioning of NPP.

A brochure on NPP was released by the Secretary on this occasion and a short film on NPP was also screened.

Accessibility

The Dashboard can be accessed by visiting the website, *https://npp.gov.in* while the website, *https://npdms.gov.in* is meant for utilities to enter data.

Way Forward

•➔ Integration of new and renewable energy data •➔ Integration of real time data from SCADA systems •➔ Enhanced frequency of power supply status •➔ Data Analytics for informed decision making •➔ Predictive modeling and use of AI technology for better performance of the Power Sector ▪

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> **National Power Portal is created to provide updated information on Indian Power Sector through a single platform. Its integration with various Apps (Tarang, Ujala, Vidyut Pravah, Urja, Merit) enriches the resource base. It promises availability of quality data to the stakeholders including researchers and industries. NPP's data repository provides opportunity for intervention of emerging technologies such as AI, Machine Learning, and Deep Learning in optimum utilisation of power sector resources and addressing complex operational issues in functioning of the sector.**
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> **G.K. GAUR**
> **Dy. Director General, NIC**
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