

EDSoft: Online Collection and Monitoring of Electricity Duty in Odisha

The EDSoft system radically enhances collection of electricity duty in the state of Odisha. The system builds consumer database, calculates Electricity Duty, facilitates e-payment, monitors arrear, exemption, export grants etc. ensuring transparency at all levels.



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Being one of the first states in the country to bring reforms in the power sector, state of Odisha is poised for ICT based governance in power sector. EDSoft has a unique distinction of being the ideal ICT based solution. Mandated by the Orissa Electricity (Duty Act) 1961, the Engineer-In-Chief (Electricity)-cum Principal Chief Electrical Officer is entrusted with the task of revenue collection through Electricity Duty (ED) apart from planning, managing and advising on various government schemes.

The restructuring and thus the spinoff of the huge power sector to various divergent but cohesive units like Generation, Transmission and Distribution led to formation of various independent units/organizations thus posing greater challenges before this advisory and implementing agency as demand for power and its state wide management have become an enormous task.

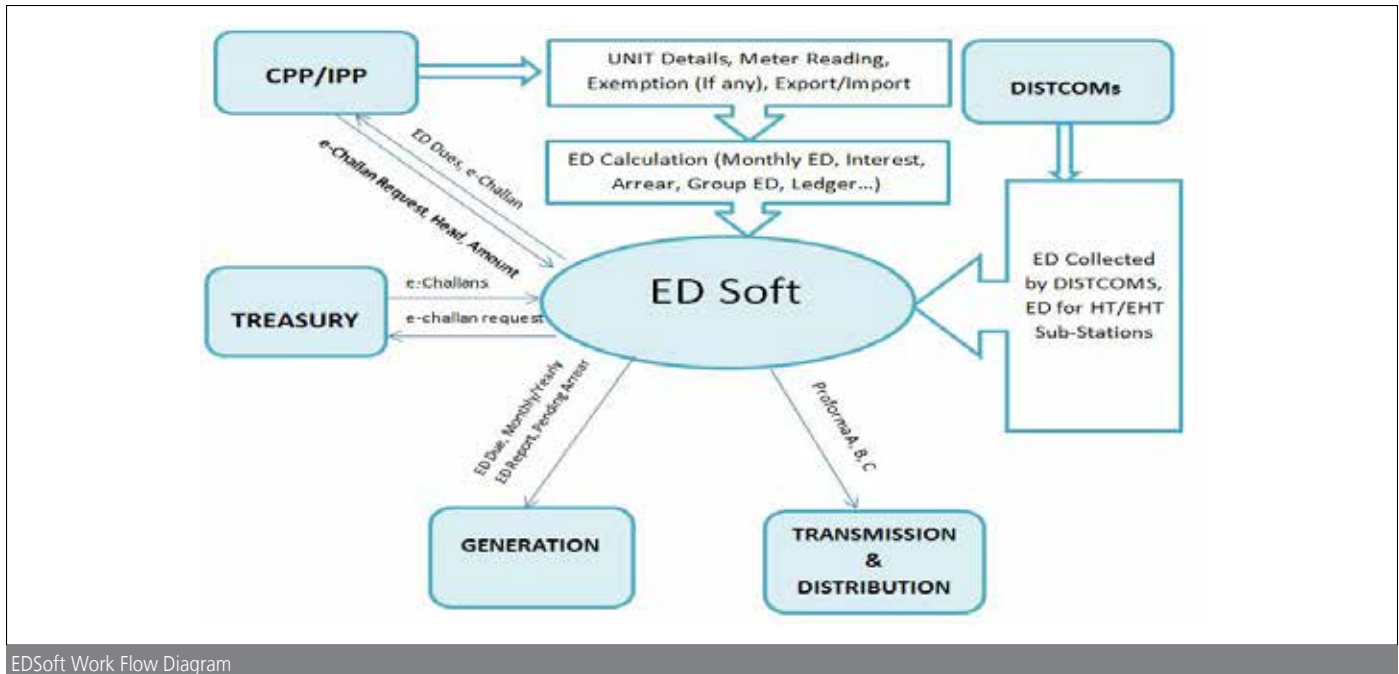
Entrusted with the task of Electricity Duty Collection from Generators as well as Transmission and Distribution (T & D) Organizations in the state to the substantial tune of 700 crore towards ED both from captive and non-captive sectors involving complex, complicated, time consuming calculations, the Engineer



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We truly appreciate the dedication and unstinted support of NIC for the development of Internet Platform as an e-Governance initiative of our department. The EDSoft developed under the e-Governance initiative have e-enabled us to monitor the organization more effectively thus resulting in the availability of an integrated and improved service delivery mechanism for the benefit of general public. Making use of this software, the Electrical Inspectorate has been able to identify the non-payment of ED to the tune of ₹ 4.00 crore approximately. Also it has enabled us to finalize calculation disputes of ED to the tune of ₹ 1500 crore since 1999.

With a skeletal workforce, the Internet Platform shall be definitely of great help in increasing the efficiency of our organization. We look forward to such future associations.



in Chief (Electricity) cum Principal Chief Electrical Inspector (Odisha) or EIC-PCEI partnered with NIC for coming up with an ICT solution to ensure easy and quick governance.

To tide over the problem, NIC Tech Team at Odisha State Centre in active consultation and co-ordination with Er. S. S. Pati (EIC (Electricity)-cum-PCEI formed a domain team for EDSoft with the objectives to:

- ensure that ED collections from Captive Generation Plants/Generators being carried out on self-declaration/meter reading submitted by the respective units.
- ED levied on auxiliary consumption of HT/EHT sub-stations.
- make certain that ED from different category of consumers being collected through distribution companies on monthly basis.

The restructuring as per the Odisha Electricity Reforms 1996 resulted in creation of organizations like WESCO (Western Electricity Supply

Company of Orissa Ltd.), NESCO (North Eastern Electricity Supply Company of Odisha Limited), SOUTHCO (Southern Electricity Supply Company of Odisha Limited) and CESU (Central Electricity Supply Utility of Odisha) from GRIDCO (Grid Corporation of Odisha Ltd.) apart from various IPP (Independent Power Producers) and state owned Hydro and thermal Power generation under OHPC (Odisha Hydropower Corporation Ltd.) and OPGC (Odisha Power Generation Corporation Ltd.) respectively. This invited greater challenge of co-ordination and revenue collection along with ensuring smooth functioning with regulatory body like OERC (Odisha Electricity Regulatory Commission). Therefore, these distribution and transmission corporate companies came under EDSoft scope apart from the domestic consumers.

EDSoft BACKGROUND

The electricity duty is levied by the State Government in accordance with

The Orissa Electricity (Duty) Act-1961, as amended from time to time. This amount is collected on behalf of the State Government for electricity consumed in the state and is deposited in the Government Treasury.

This entails redesigning of the existing processes, delivery mechanisms and backend computerization support.

EDSoft FOCUS

- To ensure correct and quick calculation of ED dues for each consumer, every month
- To eliminate inconsistencies in ED data, if any
- To generate the ED bill every month for each consumer, which was cumbersome in the manual system
- To bring transparency in ED calculation and create confidence among consumers
- For easy and prompt re-calculation of ED dues of a consumer in the event of change of any basic data due to court order, administrative decision

or any observed mistake in reporting/ data entry etc.

- Easy shorting/grouping of consumers as per desired requirement
- To ensure long-term preservation of all data with easy accessibility at any place, at any time and thereby explainable and convincing to any consumer/authority/court etc.
- To ensure Data security with adequate back up and privacy of all consumers with proper password protection
- Immediate accessibility of all required data by the Government for any policy decision and implementation etc.
- Easy and immediate calculation of Treasury Challans received in a month/year for a particular office under the particular head of accounts

EDSoft INSIGHT

- **Electricity Duty Calculation**
Electricity Duty is calculated after final meter reading and the export amount entered at the end of every month. For Captive power plants (CPP), who are self generators may export there excess generation through grids. On the other hand Independent power plants (IPP) have the main function of supplying power to the grid. The following is the process of ED calculation:
 - Meters of all consumers are read once every month. The final meter reading and the export amount is entered.
 - To arrive at actual consumption of the consumer, consumption registered by meter is multiplied by proportionality factor which is called Multiplying factor or MF.

• $MF = (\text{Adopted CT ratio} \times \text{Adopted PT ratio}) / (\text{Meter CT ratio} \times \text{Meter PT ratio}) \times \text{Meter Constant}$

• **Delayed Payment Charges-** In case electricity duty are not paid within the due date (within 30 days of the expiry of the month), delayed payment charges with 18% interest per annum on the total electricity duty is levied on the bill amount.

• **e-Payment of Treasury Challan-** The major challenge faced by the department is to recognize the fake challans and restrict them. To overcome this problem e-Payment of Treasury Challan has been introduced, where both individuals and industries can make challans online using net banking/debit card facilities.

Features Implemented

- Calculation of Multiplication Factor(MF)
 - Full or Part Meter reading
 - Archive information about Change of Meters
 - Handling of Exemption and Export Grant
 - Automatic Calculation of Export unit by Fractional Method
 - ED Arrear Handling
 - Automatic Arrear and Interest Calculation
 - Handling Colony ED
 - Billing adjustment for defective metering period
 - Automatic alert through Email/SMS for e-payment of Electricity Duty
 - Integration of Payment Gateway to receive online payment for Treasury Challans
- ### Major Deliverables
- List of consumers

- Monthly meter reading with generation of bills
- Pending arrear list
- Ledger maintenance (with interest calculations)
- Challan entry with verification

EDSoft ACHIEVEMENTS

- More than ₹ 4 crore have been immediately levied and realized under the jurisdiction of SE (P) – Cum- EI (G), Circle No-1, Keonjhar only due to transparency, which was totally undetected earlier due to data inconsistency.
- Around 13 certificate cases could be initiated in the current year against defaulting consumers in the above circle alone, due to undisputed and convincing bill generation.
- The department is able to send timely and correct reply to all Assembly/Parliamentary Questions after implementation of the module.
- All payment details are available for checking and securitization by the consumers.
- The new solution offers on the spot solution to any ED dispute by consumers, at field sites.
- The new solution facilitates immediate calculation of ED dues of the consumer and also assists in on the spot payment through online e-challan.
- The system is able to finalize arrear ED calculation dispute with M/S NALCO pending since November 1999 and involving an amount of ₹ 1500 crore approx.

For Further Information:

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