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## Consumer-centric approach to E-Governance in Electrical Utilities: UPCL Case Study

by

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### ***Executive Summary***

*Successful delivery of public services online has rapidly become a benchmark of effective public sector management. It also increases the Government's accountability to citizens, greater public access to information and brings about an efficient and cost effective Government. The first step to E-Governance is change management within the Government, enhancing citizens' access to information and improving G2C (Government-to-Citizen) interactions. The key challenge is to reinvent Government systems, sometimes called Government Process Re-engineering (GPR) in order to deliver efficient and cost effective services. In this article, the author shares his experiences of various operational, technological and other challenging issues in the implementation of E-Governance application in UPCL and the benefits derived thereof, as a nodal officer.*

### **Introduction**

Uttarakhand Power Corporation Ltd (UPCL) - a premiere power distribution utility of the state of Uttarakhand came into existence in February, 2001. UPCL is catering to almost 12 lakh electrical consumers in various categories all over the state. It has one of the most stringent "Guaranteed Standards of Performance" (GSOP) in electricity distribution services in India. It is a kind of "Service Level Agreement (SLA)" between UPCL and its consumers in the matter of quality of electricity supply and service standards of electricity distribution, which is approved by the Uttarakhand Electricity Regulatory Commission (UERC).

As a major reforms initiative under the State E-Governance Plan, Uttarakhand Power Corporation Ltd (UPCL) has successfully completed a pilot project on Centralized Utility Approval System (CUAS) for the processing and allotment of new electricity connections, disconnections and reconnections. The concept is based on the delivery of integrated utility services virtually at the doorstep of electricity consumers, using ICT (Information and Communication Technology) as the enabler, in an efficient, transparent and cost-effective manner.

## Centralized Utility Approval System (CUAS)

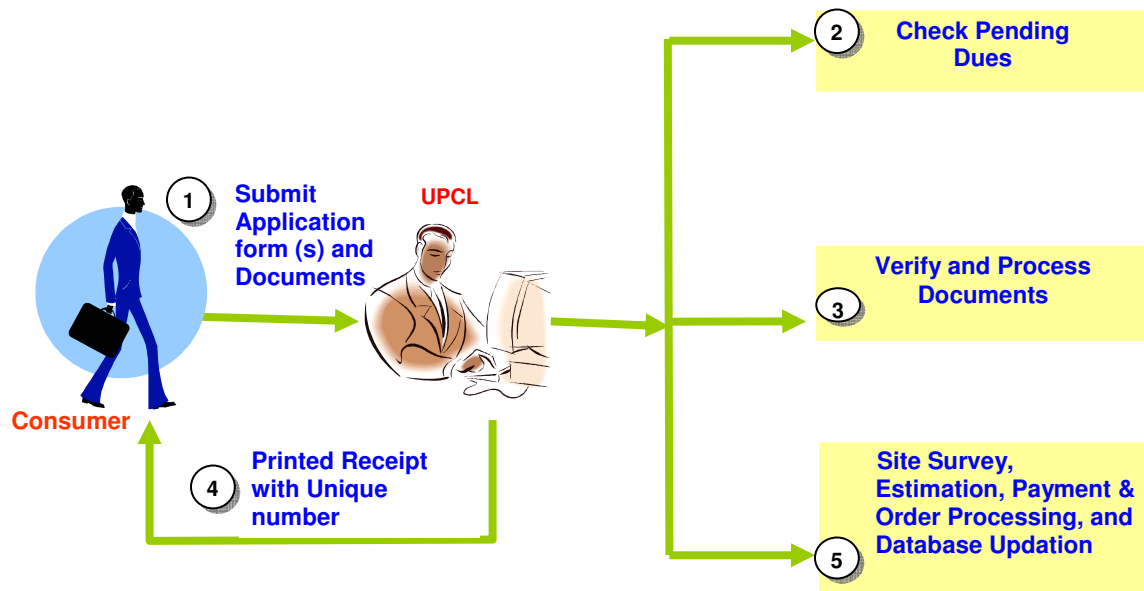
Centralized Utility Approval System (CUAS) is a one such E-Governance initiative successfully adopted by UPCL to automate the service delivery mechanism for the release of new electricity connections to its consumers, in a centralized, simplified and transparent manner. The development of the above system was the result of an extensive Business Process Re-engineering (BPR) exercise which involved Gap Analysis, Business Process Mapping, Redesigning Workflows and pilot project implementation.

The CUAS application developed in UPCL is a departure from the traditional model by way of delivering services through a more consumer-friendly single-window system, with clearly marked boundaries of roles and responsibilities of the UPCL functionaries towards its consumers. It is a three-tier web-based application on J2EE framework and Oracle database, aligned with the utility's business process perspective.

### Value Engineering in E-Governance

Value Engineering has been the central concept during application development, whereby every business function, systems and processes were analyzed in order to achieve the desired objective at the lowest total cost of ownership (TCO) consistent with the requirements of performance, reliability, quality and maintainability in service delivery.

The E-Governance project running successfully in Dehradun Town is set to be replicated in other towns and rural Subdivisions. The simplified workflow for CUAS model for new electricity connection processing by UPCL is illustrated in *Fig.1*.



*Fig. 1: Simplified Workflow of Centralized Utility Approval System (CUAS)*

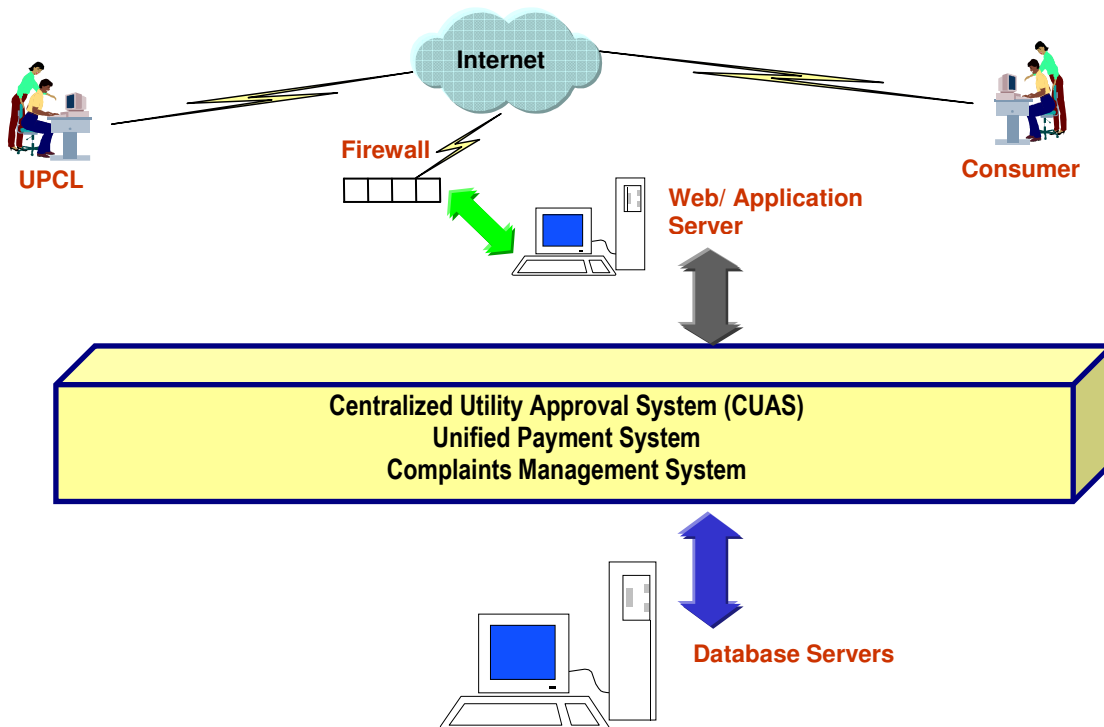
## Challenges faced in CUAS implementation

The objective of CUAS implementation was to improve the overall efficiency and effectiveness of new connection processing and its allotment to the electricity consumers, though ICT-enabled solution, leading to better consumer satisfaction. However, this was not without its share of challenges which had to be overcome, for example:

1. Manage change both in terms of process and technology requirements, while ensuring continuous and uninterrupted service deliveries.
2. Collaborate, capture, collate and integrate information across the organization, in delivering prompt services in a simplified and seamless manner.
3. Conduct extensive in-house training, as an on-going process, for the SDOs and other line staff of all the Distribution Subdivisions.

## E-Governance Architecture and Data Security

The three-tier model, for secured database access over the Internet using standard browser, is specially suited for an E-Governance application like CUAS, in a sense that the Presentation tier (Client), Business logic tier (Web/ Application Server) and Database tier (Database Server) are clearly demarcated and therefore easier to manage and operate. The CUAS system architecture is illustrated in *Fig. 2*.



*Fig. 2: System architecture of UPCL E-Governance Application CUAS*



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Data security was one of the major considerations in the web-based implementation involving Utility-Consumer interface, accessing data over the Internet. This issue was addressed at every level of application hierarchy using Firewall implementation, Access controls, Database authorization and Audit trails.

### **Benefits of E-Governance**

The tangible benefits that have accrued after implementing the E-Governance application- CUAS- in Dehradun Town is that unlike the earlier scenario, a consumer does not have to visit multiple offices or run from pillar to post to avail of the basic services like approvals for new electricity connections/ disconnections and reconnections. Adoption of a Single-window Centralized system has reduced the turnaround time and provided convenience to the consumers.

The E-Governance model adopted by UPCL is now set to be replicated in all other Urban and Rural Subdivisions, even in the remote areas all across the State of Uttarakhand. This model is a step forward in fulfilling UPCL's corporate vision to integrate all the Consumer-centric Utility services, serving them from a single window, while ensuring that the necessary process controls are not compromised. UPCL also benefits in terms of increased productivity, efficiency gains, reduced turnaround time for service delivery, better stakeholder value and improved image in consumer care.

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### ***About the author:***

*Mr Jayant Sinha is posted at Uttarakhand Power Corporation Ltd. (UPCL), as Head of Information Technology. He has over 23 years experience in implementing end-to-end IT solutions specific to the Power Industry, both in Generation and Distribution domains. He is an Engineering Graduate from BITS, Pilani and an Accredited Management Teacher (AMT) in Information Technology. His areas of specialization includes IT process re-engineering, Enterprise database solutions, Internets/ Intranets and Network security solutions. He has earlier worked with NTPC in various IT projects.*