

Review relating to Statutory Corporation

6.2 Computerised energy billing system of Ranchi Electric Supply Circle of Jharkhand State Electricity Board

Highlights

Jharkhand State Electricity Board (JSEB) is a Statutory Organisation set up for the development, operation and maintenance of a co-ordinated efficient and economic system of electricity in the State. A review of the computerised Energy Billing System of Ranchi Electric Supply Circle revealed that entire operations of billing right from meter reading to courier delivery of bills were assigned to three private agencies. These agencies prepared inaccurate bills and did not fulfill the contractual obligations. JSEB did not monitor their performance, as a result it lost a revenue of Rs 20.52 crore with blockage of Rs.85.74 crore.

Goal of Jharkhand State Electricity Board to achieve specific improvements and to increase the revenue by outsourcing was not met. Cost of outsourcing has increased by 45 per cent whereas number of consumers has increased by only 11 per cent.

(Paragraph 6.2.5)

JSEB did not demonstrate any ability to monitor performance of the three agencies. As against at least 10 per cent of meter readings to be cross-checked by JSEB, it checked only 0.32 per cent in January 2003 (Urban-I). Agency's meter reading, on an average, was 78.20 per cent incorrect with reference to that of the Board in the cases test-checked for one month in December 2003.

(Paragraph 6.2.5)

Change of rules and tariffs by the JSEB were not reflected in software that led to incorrect categorisation of consumers and consequential loss of revenue to JSEB- Rs 73.22 lakh.

(Paragraphs 6.2.7 and 6.2.9)

Blockage of fund of Rs 30.86 lakh due to anonymous consumers.

(Paragraph 6.2.8)

Accumulation of arrears of Rs. 85.43 crore against consumers

(Paragraph 6.2.10)

Loss of revenue of Rs 18.91 crore to JSEB due to cases becoming time barred.

(Paragraph 6.2.11)

Loss of revenue to Jharkhand State Electricity Board due to short assessment of Rs 22.74 lakh.

(Paragraph 6.2.12)

Loss of Rs 40.27 lakh due to non levy of Delayed Payment Surcharge on amount kept in abeyance.

(Paragraph 6.2.13)

Over payment of Rs 25.05 lakh to external agencies.

(Paragraph 6.2.14)

6.2.1 Introduction

Consequent upon the reorganisation of the states of Bihar and Jharkhand, a separate electricity board for Jharkhand, Jharkhand State Electricity Board (JSEB) was constituted in March 2001 under section 5(i) of Electricity (Supply) Act, 1948. JSEB is thus a statutory organisation, a body corporate created under the provisions of a Central Law. It is essentially a technical-cum- commercial agency setup for the development, operation and maintenance of a coordinated, efficient and economic system of electricity in the state. JSEB adopted rules and regulation of Bihar State Electricity Board vide resolution dated 20 March 2001. Under Section 18 of the Electricity (Supply) Act, 1948, JSEB is responsible for generation, transmission and distribution of electricity in an efficient and economic manner within the State of Jharkhand. For the revenue purposes, the JSEB is empowered to collect tariff from different categories of consumers as per latest tariff orders.

Ranchi circle, one of the highest revenue generating circles of the JSEB, has outsourced the entire operations of billing right from meter reading to generation of monthly bills to three private agencies for computation and generation of monthly electricity bills of the consumers. Individual FOXPRO based programs have been created by each of the three private agencies to generate electricity bills for all the consumers. The private agencies input information like meter reading (past and present), load, class of consumer, bill due date and other details that are used to generate monthly electricity bills for effective consumers. This information is also used by the agencies to generate periodical reports like consumer ledger, which are sent to the JSEB. Meter reading, which forms the basis of billing, has also been outsourced to the same agencies. In addition, the agencies are also responsible for courier delivery of the bills to the consumers.

6.2.2 Organisational set-up

JSEB consists of six members including the Chairman. Member (Finance) assists the chairman in cash management including billing and collection of revenue. Electrical Superintending Engineers of 13 Supply circles, Electrical Executive Engineers (EEE) of 34 supply divisions and Assistant Electrical Engineers of 110 supply sub-divisions assist JSEB headquarters in collection of revenue and in accounting. The generation of electricity bills is based on meter readings taken by Board authorities in 27 Electric Supply Divisions and meter reading taken by third party agencies in seven Electric Supply Divisions.

6.2.3 Audit objectives

Information technology based review on computerised billing package being used in JSEB was conducted for the period October 2002 to March 2004 in Electric Supply Divisions Urban I and Urban II of Ranchi Electric Supply Circle with a view to ascertain:

- The efficiency and effectiveness of the billing package in realising revenue from the consumers and
- Management of relationship by the JSEB with third party agencies to whom computerised billing process was outsourced so that business and revenue requirements of JSEB were achieved.

6.2.4 Scope and methodology of audit

For the purpose of this review, Electric Supply Circle, Ranchi under Ranchi Electric Supply Area was selected. This consisted of Urban-I, Urban-II and Ranchi Rural Electric Supply Divisions (ESDs). The work of meter reading, meter surveillance, computerised billing and bill distribution for Urban-I and Urban-II divisions was outsourced to three agencies – Prakriti Enterprises, Data Management Service Pvt. Ltd. And Vexcel Computer Pvt. Ltd. As per the contract, the three agencies were responsible for the work of meter reading, meter surveillance, computerised data logging and preparation of consumer bills and courier delivery of bills to consumers and to prepare and submit to the Board, Consumer Ledger and other related reports and statements and provide support/information/clarification in this regard as and when required. Hence, the entire work of billing which begins with meter reading at the consumer's premises and ends at delivery of monthly computerised bills to the consumers was entrusted to the third party service providers.

Computerised data maintained by the three service providers relating to the billing process was analysed using a Computer Assisted Audit Technique namely IDEA 2001(Interactive Data Extraction and Analysis) and MS Excel. Questionnaires were utilised to elicit information from the Board on outsourcing issues, evaluation of controls and management of contract with the vendors. In addition, audit of files relating to tender and billing section of Ranchi Urban-I and Urban-II divisions was also undertaken.

Data from 144 transaction files and 108 master files were analysed by using IDEA 2001 as well as filtering in MS Excel. Besides examining the data, the existence and adequacy of general IT controls in the package being run by the three agencies was also assessed.

Audit Findings

These findings were discussed with the Secretary, Energy, Government of Jharkhand on 26 April 2005. The Secretary agreed with the audit findings and recommendations and assured that suitable action would be taken.

Major audit findings are discussed below:

6.2.5 Outsourcing issues

Cost benefit analysis of outsourcing was not done

According to the Notice Inviting Tender, JSEB entrusted the work of meter reading, meter surveillance and meter billing to third party agencies to increase revenue and to increase effectiveness and accountability process. No planning documents existed in JSEB that documented the services to be outsourced and the current and expected costs. No Cost Benefit Analysis before outsourcing was done. JSEB also had not developed performance indicators or benchmarks prior to outsourcing in order to monitor the quality of services provided by the agencies and to achieve its goal of increasing revenue and increasing the effectiveness and accountability process. Over the period of audit, the cost of outsourcing had increased by 45 *per cent* whereas number of consumers increased by only 11 *per cent*.

Penalty was not levied on defaults committed by outsourced agency

JSEB also did not demonstrate the ability to implement and manage the relationship with the three external agencies. JSEB was completely dependent on the three agencies for periodical reports. Even though the EEES, Urban-I and Urban-II Divisions claimed that monitoring of agencies' work was done, audit found that the Board did not have adequate mechanism to crosscheck or verify any of the reports prepared by the three agencies. Even though the contract provides for penalty, in no case was penalty ever levied; even for faulty meter reading. According to the agreement, JSEB to cross check at least 10 *per cent* of meter readings taken by the agency. During test check, Audit found that in the month of January 2003, JSEB cross checked only 159 meter readings of Urban-I Division which is 0.32 *per cent* of the total consumers. Records also showed that JSEB cross checked meter readings taken by agency of 211 CS-III consumers in December 2003, out of which 122 cases of short and 43 cases of excess meter readings were found. Thus, in 78.20 *per cent* of the meters checked, the reading taken by the agency was incorrect.

The Management stated (June 2005) that due to extreme shortage of staff, work of computerised energy billing was outsourced to competent agency. Management further stated that due to shortage of manpower, cost benefit analysis could not be done. Management also claimed that in the long term, outsourcing might prove economical.

The reply of the Management is not tenable as the agencies were not competent as was evident from their performance discussed above and in succeeding paragraph. The cost benefit analysis, before executing the agreement is a prime requirement of any contract which was completely ignored by JSEB. The claim that outsourcing might prove to be beneficial in the long term was unfounded in the absence of a cost benefit analysis.

6.2.6 Performance measurement and service level agreements

Though JSEB receives regular reports from service providers neither was any evidence available to indicate that JSEB uses these reports to manage the

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performance of service providers against agreed standards, nor was there any verification of the quality of these reports by the JSEB. Moreover, JSEB does not appear to have a performance measurement mechanism independent of regular reports from service providers.

Service Level Agreements, or similar documents, identify in a reasonably clear way the accountability arrangements between the agency and individual service providers. JSEB claimed that service level agreements were executed with the agencies but copies of agreements were not furnished to audit. In addition, there are no clearly identified personnel to manage the relationship with the external agency. Moreover, personnel dealing with the three agencies have no knowledge of IT and hence find it difficult to ensure compliance/detect violation of contract.

The management stated that the NIT prepared by the Board and agreements executed with the agencies had no provision to deploy IT personnel from the Board side. Management claimed that the Board had prepared scheme to train their staff in IT in future. The reply is not tenable as no 'Service Level Agreement' was executed. Further, Board is still contemplating imparting IT training to its staff.

6.2.7 Assessment of controls

Control activities are an integral part of an agency's planning, implementing, and reviewing processes. They are essential for proper stewardship and accountability of government resources and for achieving effective and efficient program results. General controls include the structure, policies, and procedures that apply to the agency's overall computer operations. It applies to all information systems, mainframe, minicomputer, network and end-user environments. General controls create the environment in which the agency's application systems operate.

It was observed in audit that two agencies (Prakriti Enterprises and Vexcel Computer Pvt. Ltd) had not laid down any computer security policy regarding safety of hardware and software. This could result in critical data being lost due to damage to software/hardware. Moreover, Audit found that there were no change management controls in place at the three agencies to modify the program due to any changes in business rules of the Board e.g. Changes in categories under new Low Tension Industrial Service (LTIS) [refer to para 6.2.9] where tariff notifications of 1993 and 2002 were not implemented till 2004. Thus the management has failed to assess the importance of control activities and no framework to assess control activities was put in place by JSEB.

The management noted the audit observation for future guidance.

