Chapter-II

Power Sector- Performance Audit

Chapter II

2 Power Sector

Performance Audit

Working of Haryana Vidyut Prasaran Nigam Limited

Haryana Vidyut Prasaran Nigam Limited (Company) was incorporated in August 1997 to plan, establish, operate and maintain an integrated and efficient power transmission network in State of Haryana. While the total financial implication of this Performance Audit is ₹ 682.19 crore, some of the significant audit findings are as under:

Highlights

The transmission losses of the Company decreased from 2.62 *per cent* during 2014-15 to 2.05 *per cent* during 2018-19. The Company achieved the targets fixed by the Haryana Electricity Regulatory Commission (HERC) during the years 2017-19.

(Paragraph 2.6)

30 out of the 32 projects, commissioned by the Company during the years 2014-19, were delayed in completion ranging between 3 and 98 months. Consequently, the realisation of Return on Equity and Depreciation amounting to ₹ 228.02 crore on transmission assets valuing ₹ 950.18 crore, completed with delays, was deferred.

(Paragraph 2.7.2.1)

The Company did not achieve the norms of Transmission System Availability (TSA) fixed by the HERC during 2015-18. Due to this, full transmission cost could not be recovered, besides revenues were reduced to the extent of ₹ 15.51 crore.

(Paragraph 2.8.3)

The Company could not fully avail the World Bank loans available at cheaper rates, due to poor pace of project implementation, and resorted to costlier funding arrangement with Rural Electrification Corporation which cost the Company ₹ 24.63 crore. In addition, the Company had to bear ₹ 31.32 lakh on account of front end fee on un-availed portion of World Bank loan.

(Paragraph 2.10.2)

In disregard to Bank Guarantee (BG) terms, the Company released all advance payments to one out of the two guarantee issuing banks, as a result, it could not recover ₹ 9.57 crore from one of the BG issuing Bank.

(Paragraph 2.10.5)

There was late filing of Aggregated Revenue Requirements (ARRs) by the Company leading to delay in finalisation of transmission charges by HERC for 2014-15 to 2017-18. As a result the Company could not recover transmission charges of ₹ 2.11 crore from short term open access consumers.

(Paragraph 2.11.1)

Electricity consumers of the State were subjected to undue burden of ₹ 168.64 crore during 2014-19 due to inefficiencies of the Company relating to non-synchronous commissioning of sub-stations and transmission lines, under utilisation of transmission capacity and non-passing of benefits of Advance Against Depreciation and interest waiver.

(Paragraph 2.12.1)

Profitability of the Company was adversely affected by ₹ 70.08 crore during 2014-19 due to inefficiencies like non-achievement of Transmission System Availability, availing mid-term loan against Government guarantee without carrying out cost benefit analysis, delayed filing of ARR, non-claiming of holding cost timely and non-adherence to working capital norms .

(Paragraph 2.12.2)

2.1 Introduction

Haryana Vidyut Prasaran Nigam Limited (Company) was incorporated in August 1997 to plan, establish, operate and maintain an integrated and efficient power transmission network in State of Haryana. Planning of intra-state transmission system is done by the Company in co-ordination with Central Electricity Authority (CEA), Central Transmission Utility and generating/Distribution Companies (DISCOMs). The Company is required to file Aggregated Revenue Requirement (ARR) to Haryana Electricity Regulatory Commission (HERC) every year for determination of components of expenditure including Capital expenditure, Operation and Maintenance expenditure, Return on Equity (ROE) and Depreciation on assets *etc.* to determine the tariff for transmission of power.

2.2 Organisational Set up

The management of the Company is vested in Board of Directors (BoDs) comprising a Chairman, a Managing Director, three whole time directors and four part time directors, appointed by Government of Haryana (GoH). Managing Director is the chief executive of the Company. Organisation chart of the Company is given in ***Appendix 2.***

2.3 Audit Objectives

Objective of the performance audit was to assess whether:

- Transmission projects were planned as per requirement and executed without time and cost overrun;

- Operation and maintenance of transmission system was carried out economically, efficiently and effectively to ensure supply of smooth and disturbance free power with optimum utilisation of system;

- Grid management and disaster management was efficient and effective;

- Effective coordination mechanism existed between Company and DISCOMs;

- Effective financial management existed to ensure optimum utilisation of funds; and

- Tariff proposals are made accurately and in a timely manner.

2.4 Audit Criteria

The audit findings are evaluated against audit criteria sourced from the following:

- Electricity Act, 2003, National Electricity Policy and Plan; Manual of transmission planning of CEA, Indian Electricity and State Grid Codes;

- Directions from GoH / Ministry of Power (MoP) and norms/guidelines issued by HERC/CEA;

- Company's annual plans and project reports, agenda and minutes of BoDs meetings and Company's circulars, manuals and Management Information System reports; and

- Standard procedures for award of contracts and Tariff proposals filed with HERC and its orders.

2.5 Scope of Audit and Methodology

The last performance audit on "Transmission Activities" of the Company was included in the Report of the Comptroller and Auditor General of India on Public Sector Undertakings (Social, General and Economic Sectors) for the year ended 31 March 2012, Government of Haryana. The Report was discussed by the Committee on Public Undertakings (COPU) which made three [1] recommendations contained in its 62nd Report. The recommendation on delayed construction of power evacuation line has been dropped by COPU on its compliance. The recommendation on non-utilisation of 220 kV sub-station Batta was still pending (April 2020), though the sub-station has now been put to use. The recommendation of COPU to expedite recovery of HUDA claims was also pending (April 2020).

[1] i) Delayed construction of power evacuation lines for third unit of Indra Gandhi Super thermal Power Project Jhajjar, ii) Construction of 220 kV sub-station Batta without load and iii) non-recovery of HUDA claims.

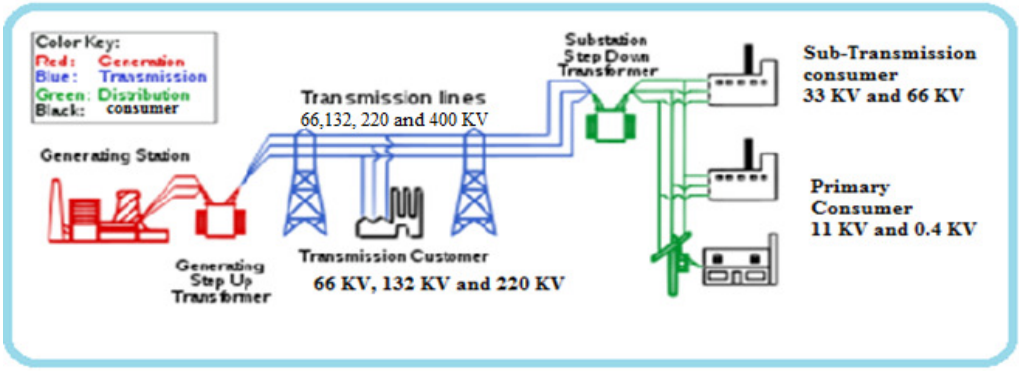
The present performance audit, conducted during November 2018 to July 2019, assessed performance of the Company during the period 2014-15 to 2018-19. Audit examination involved scrutiny of records of different wings at the head office of the Company, State Load Dispatch Center (SLDC), three out of six Transmission System (TS) circles[2], one out of two Civil Maintenance-cum-Construction (CMC) circles[3] and one out of two metering and protection circles[4], selected through stratified random sampling without replacement by using Interactive Data Extraction and Analysis (IDEA) tool.

The audit objectives were discussed (April 2019) with the Management during entry conference. Audit findings were reported (February 2020) to the Management and Government of Haryana and discussed (10 June 2020) in the exit conference which was attended by the Additional Chief Secretary (Power) to Government of Haryana and Managing Director of the Company. Views expressed by the Company and Government have been considered and incorporated in this Performance Audit Report.

2.6 Transmission process and transmission assets

Major elements of transmission systems are transmission lines and sub-stations[5], which cater to power demand of downstream network of distribution licensees. To reduce loss and increase efficiency during transmission, power generated at relatively low voltage (11 kV) is stepped up (voltage is increased) before transmission and then stepped down to low voltage for distribution to consumers. A pictorial representation of transmission process is given below:

GENERATION ⇨ TRANSMISSION ⇨ DISTRIBUTION



Increased demand for power as per projected load growth necessitates construction of new sub-stations, capacity augmentation of existing sub-stations and laying of new transmission lines. Transmission network of the Company at

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2 TS circles Gurugram, Hisar and Rohtak were selected from six TS circles at Faridabad, Gurugram, Hisar, Karnal, Panchkula and Rohtak.

3 CMC circle Hisar was selected from two CMC circles at Hisar and Panchkula.

4 Metering and Protection circle Delhi was selected from two CMC circles at Delhi and Dhulkot (Ambala).

5 Sub-stations are interface between distribution grid and transmission systems. They step down voltage in the transmission lines to the level suitable for distribution.

beginning and at the end of 2014-19 is depicted below:

Chart 2.1: Transmission lines added during 2014-19

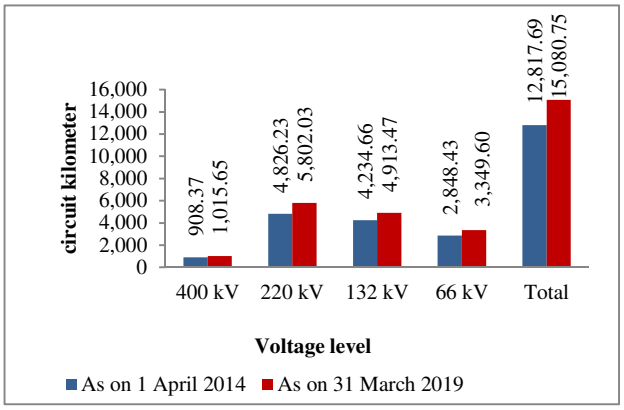
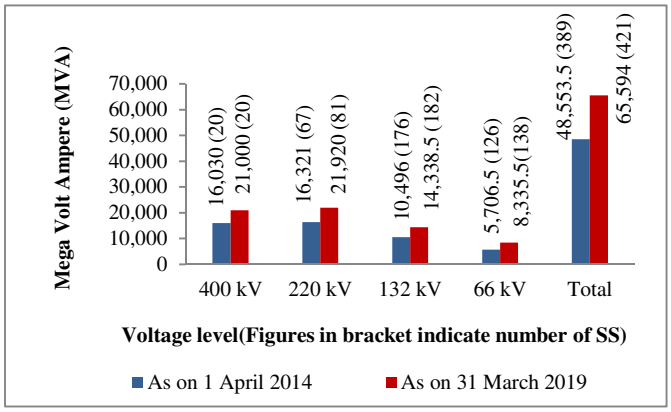


Chart 2.2:Transformation capacity added during 2014-19



Source: Information provided by the Company

Thus, during the years 2014-19, the Company constructed 2,263.054 circuit kilometers[6] (15,080.747 circuit kilometers – 12,817.693 circuit kilometers) transmission lines and added 17,040.5 MVA (65,594.0 MVA – 48,553.5 MVA) transformation[7] capacity through construction of 32 new sub-stations and augmentation of existing sub-stations.

The transmission loss targets fixed by HERC *vis-à-vis* achievement made by the Company during the period 2014-19 are mentioned below:

Table 2.1: Transmission loss targets *vis-à-vis* achievement

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Transmission loss target (in *per cent*) fixed by HERC	2.50	2.48	2.46	2.44	2.42
Actual Transmission Loss (in *per cent*)	2.62	2.70	2.31	2.26	2.05

The transmission losses of the Company decreased from 2.62 *per cent* during 2014-15 to 2.05 *per cent* during 2018-19. The Company achieved the targets fixed by HERC during the years 2016-19.

The Company collects transmission charges (tariff) from DISCOMs at the yearly rates approved by HERC. These transmission charges are worked out by dividing total transmission cost by number of units (kWh) transmitted. For determination of transmission cost, the Company files petition with HERC

6 Circuit kilometer means one kilometer of electrical transmission or distribution circuitry including all necessary conductors, insulators and supporting structures required to provide a complete circuit or double circuit;

7 Transformation capacity is the aggregate capacity of all transformers at sub-stations of the Company.

under seven cost components[8]. Therefore, any unjustified claim on these account and/or cost increase due to inefficiency on the part of Company results in higher transmission cost and consequent unjustified burden on the consumer by way of higher tariff.

Audit Findings

2.7 Project planning and implementation

2.7.1 Project Planning

The system expansion is planned gradually as per the load growth scenario projected by DISCOMs on the basis of historical load data. On the basis of proposal of DISCOMs, planning wing of the Company approves the construction of new Sub-Stations (SSs), transmission lines and augmentation of existing infrastructure.

2.7.1.1 Transmission network planning

The transmission capacity in terms of new SSs planned and achievement/ completed by the Company during 2014-15 to 2018-19 is as under:

Table 2.2: Year-wise details of number of sub-stations planned and completed

Year	No. of SSs under construction at beginning of the year	No. of additional SSs planned for construction during the year	No. of SSs scheduled for completion during the year including time overrun	Number of SSs completed during the year	Number of SSs not completed at the end of the year as per schedule
1	**2**	**3**	**4**	**5**	**6=4-5**
2014-15	34	4	27	5	22
2015-16	33	4	28	9	19
2016-17	28	15	19	5	14
2017-18	38	3	15	8	7
2018-19	33	4	16	5	11
Total		**30**		**32**	

Source: Information provided by the Company.

It was observed that

- All the 32 SSs commissioned during 2014-19 were from those 34 SSs which were under construction at the beginning of 2014-15. Of these 34, two[9] SSs were yet to be completed.

- Out of the 30 SSs planned during 2014-19, work in respect of only 20 SSs had been awarded. Of the 20 works awarded, the scheduled

[8] (i) Return on Equity (ROE), (ii) Interest and financing charges on debt, (iii) Interest on working capital, (iv) Depreciation, (v) Operation and Maintenance expenses, (vi) Foreign exchange rate variation, (vii) All statutory levies and taxes, if any, excluding taxes on income.

[9] Roj-ka-Meo and HSIIDC Rai.

completion date of nine SSs was up to 31 March 2019.

Audit analysis of shortfall in planned achievements showed delay in award and execution of works as the main causes.

The table below shows the delay in completion of sub-stations during 2014-19:

Table 2.3: Delay in completion of sub-stations

Delay in months	No. of sub-stations
No delay	2
6-11	4
12-23	5
24 and above	21
Total	**32**

Source: Information provided by the Company

Capital expenditure (CAPEX) approved by HERC and incurred by the Company during five years ended 31 March 2019 is detailed below:

Table 2.4: Year-wise CAPEX proposed and incurred by HVPNL and allowed by HERC

Year	CAPEX proposed (₹ in crore)	CAPEX allowed by HERC (₹ in crore)	CAPEX incurred (₹ in crore)	Percentage of CAPEX incurred to CAPEX allowed
2014-15	1,296.30	833.70	629.68	75.52
2015-16	1,501.70	774.40	468.78	60.53
2016-17	1,036.20	718.20	462.20	64.36
2017-18	929.90	733.20	364.00	49.65
2018-19	1,131.58	792.10	788.50	99.55
Total	**5,895.68**	**3,851.60**	**2,713.16**	**70.44**

Source: Compiled from tariff orders of HERC.

The Company could not incur capital expenditure allowed by HERC in any of the five years due to poor project implementation, as discussed in succeeding paragraphs.

The management while admitting the facts attributed (May 2020) various reasons such as non-finalisation of land, right of way issues, clearances from different departments like Forest, National Highway Authority of India and Railways and poor performance of contractors that led to delayed execution of projects resulting in less utilisation of allowed CAPEX. The fact, however, remains that huge time overruns would lead to consequential financial implications.

2.7.2 Project Implementation

2.7.2.1 Delay in award and execution of works

The Company has to plan and execute works of new/augmented sub-stations along with its associated transmission lines concurrently. The construction of a sub-station is approved by the Company on the basis of joint proposal submitted

by DISCOMs and concerned field unit of HVPNL. The construction of a sub-station and lines usually takes 12 to 15 months. In the event of time gap in completion of sub-station and its associated lines, the completed assets remain unutilised till completion of the associated asset. In terms of HERC Regulations, on commissioning of a SS/transmission lines without commissioning of both SS and associated lines, benefits of depreciation and Return on Equity (ROE) in respect of completed portion start accruing to the Company through tariff, though consumers are not benefited through improved power supply.

The charts below show the extent of delay and mismatch in construction of SSs and lines undertaken by the Company during 2014-19:

Chart 2.3: Delay in construction of sub-stations

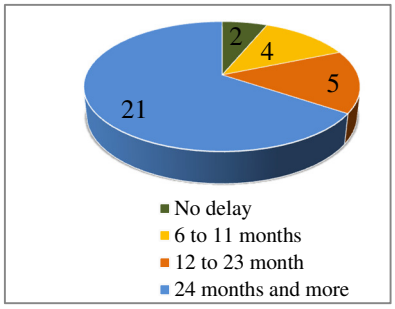


Chart 2.4: Delay in erection of transmission lines

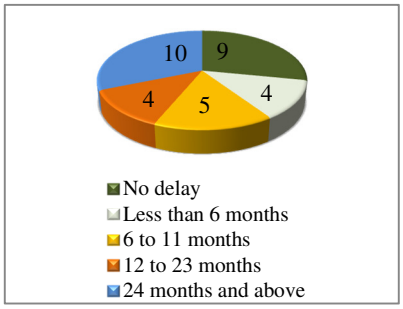
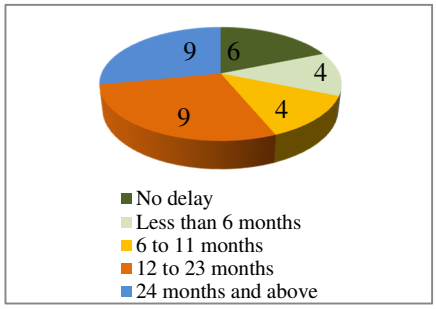


Chart 2.5: Time gap in commissioning of SSs and lines



In this regard, it was observed that:

- Company commissioned 32 projects (consisting of SSs and their associated transmission lines) during 2014-19, of which 30 were completed with overall delays ranging between 3 and 98 months. Audit analysed the delays at pre-award and post-award stages and noticed that while delays of three to 65 months[10] were at pre-award stage, delays of one to 62 months were during execution, as detailed in ***Appendix 3.***

- Main reasons for delayed and non-simultaneous completion of SSs and transmission lines were (i) commencement of works without completion of pre-bid activities such as conducting detailed survey, awarding works without ensuring availability of hindrance free work site, finalisation of layout drawings and delay in submission of proposal for forest clearance and (ii) not ensuring compliance of contract provisions by contractors.

  As a result of such delays, the realisation of ROE and depreciation amounting to ₹ 228.02[11] crore on transmission assets valuing ₹ 950.18 crore, completed with delays, was deferred ***(Appendix 3).***

10 After allowing six months for pre-award processing.

11 Calculated at 10.28 *per cent* (ROE is allowed by HERC at 10 *per cent* return on 50 *per cent* cost of the asset *i.e.,* at 5 *per cent* and Depreciation at 5.28 *per cent*) for the period of delay *i.e.,* scheduled completion to actual completion date.

- Further, the Company could not ensure synchronised completion of sub-stations and associated transmission lines in 26 out of 32 transmission projects. The time gap between completion of SSs and their associated lines ranged between one and 75 months[12] (***Appendix 3***) resulting in non-utilisation of completed assets till the completion of associated work. Though, these assets could not be utilised due to non-completion of associated assets, the HERC allowed tariff on account of depreciation and ROE thereon which resulted in unnecessary burden[13]of ₹ 43.83 crore on the state consumers without any benefit accruing to them (refer ***Appendix 3***). But in similar case as discussed in paragraph 2.7.2.4, the Central Electricity Regulatory Commission (CERC) had not allowed tariff due to non-completion of associated asset.

- Delay and mismatch in construction of SSs/ lines were also pointed out during previous Performance audit[14] of the Company. Instances of similar nature were observed and SSs/ lines remained unutilised.

  For assessing the impact of delayed commissioning of sub-stations on power evacuation, Audit test checked records in respect of 12[15] out of 32 SSs commissioned during 2014-19. It was observed that in nine of these sub-stations areas, the already existing transmission system remained over loaded during periods of delayed commissioning, due to which the Company imposed power cuts on the DISCOMs to prevent outage/ damage of its system. These power cuts resulted in non-evacuation[16] of 140.86 MUs of power valuing ₹ 38.25[17] crore, though it was available**.** Besides, the objective of supplying quality power (*i.e.*, smooth and disturbance free power) could not be achieved in terms of Transmission Planning and Security Standards. In case of remaining three sub-stations[18] there was no impact on the power supply as envisaged load growth did not materialise due to lack of demand for power in those areas.

The Management stated (May 2020) that the timeline for pre-award activities has now been approved in August 2019 by the BoDs. Regarding delayed and non-synchronised commissioning of SSs and lines, Management stated that it occurred mainly due to poor performance of contractors and right of way problems. The Company did not take appropriate action against the defaulter contractors.

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12 After allowing three months for commissioning of the associated sub-station or line.

13 As per accounting system, followed by the Company and allowed by the HERC, a sub-station or line is capitalised on completion irrespective of completion of its associated SSs/ lines and the benefit of depreciation and Return on Equity start accruing to the Company through tariffs.

14 Report of the C&AG of India on the PSUs of Government of Haryana for the year ended 31 March 2012.

15 220 kV SSs RGEC, HSIIDC Rai, Barhi, Bhattu Sottar, Hukmavali, Sector-20 Gurugram, Pinjore, A4 Faridabad, Sector-6 Sonepat, Sector-33 Gurugram, Sector-57 Gurugram and 132 kV SS Barsi.

16 Non-evacuation means non-supply of power to the consumers, though it was available in the grid for supply.

17 Calculated at the lowest per unit retail supply rates (ranging between ₹ 2.70 and ₹ 2.98) approved by HERC for respective years in which instance of non-evacuation of power were noticed.

18 (i) Sector 6 Sonepat, (ii) Sector 57 Gurugram and (iii) Sector 33 Gurugram,

Specific observations on construction of sub-stations and associated lines along with cases where significant delays and mismatch were observed are discussed in subsequent paragraphs.

2.7.2.2 Non-utilisation of 220 kV sub-stations / lines at Sonepat and Rai

The 220 kV lines created to feed the 220 kV sub-station Rai remained idle since beginning due to non-construction of the sub-station. The 220 kV sub-station sector 6, Sonepat along with associated lines remained idle due to non-availability of downstream system. The company had approved (July 2009) construction of two 220 kV sub-stations at Sector 6 Sonepat and Rai. The bids for the work were invited (July 2012) and awarded (January 2014) for ₹ 48.38 crore.

- Despite the land for the site of Rai sub-station not being finalised, two separate contracts for construction of two associated lines (*viz.* Deepalpur-Rai and Jhajji-Rai) were awarded (March 2012 and January 2014). The lines were commissioned (March 2016 and October 2017) at a cost of ₹ 42.42 crore and ₹ 17.90 crore respectively. Out of the two, only Deepalpur-Rai line is being partially utilised from March 2019. Thus, investment of ₹ 60.32 crore on construction of these lines remained unutilised till March 2019/December 2019 which put burden of ₹ 17.07 crore[19] on the consumers as the Company was allowed to recover Depreciation and ROE through tariff on these idle lines. The Management stated (May 2020) that availability of land was not in its control. Thus, when the land was not available, the work should not have been awarded.

- Interest free mobilisation advance of ₹ 52.31 lakh was also released (November 2014), though the site for Rai SS was not available. The advance was later adjusted after 22 months (September 2016) from the bills of the contractor for other part of the work when the work of Rai sub-station was excluded from the scope of the contractor's work which cost the Company ₹ 10.41 lakh[20]. Since the Company had exhausted its working capital limit permitted by HERC, any further claim of interest on working capital would not have been allowed in tariff.

- The 220 kV sub-station Sector 6, Sonepat, scheduled for completion in May 2015, could be commissioned only in June 2017 (payment up to June 2017: ₹ 19.23 crore) while the associated lines were commissioned in December 2016 at a cost of ₹ 4.82 crore. The sub-station and associated lines have not been put to use for 27 months and 36 months (up to December 2019), respectively due to non-availability of downstream load which had to be diverted to other sub-station owing

[19] (₹ 42.42 crore x 10.28 *per cent* x 3 years up to March 2019) + (₹ 17.90 crore x10.28 *per cent* x 26 months up to December 2019)

[20] Calculated on ₹ 52.31 lakh for 22 months at 10.85 *per cent per annum* rate of interest on working capital allowed by HERC for the year 2014-15.

to the delay in completion of this sub-station by the power distribution utility. As the HERC allows Company to recover ROE on the basis of capacity commissioned irrespective of actual utilisation, state consumers have been burdened by ₹ 6.43 crore[21] for these idle lines and sub-station. Had the Company worked in coordination with the distribution utility, the sub-station and lines could have been utilised.

2.7.2.3 Construction of 66 kV lines in Faridabad and Ballabgarh area

For construction of eight Nos. 66 kV transmission lines in Faridabad and Ballabgarh area, the Company awarded (March 2011) the work to M/s GET Power Limited Chennai at a cost of ₹ 28.57 crore. The work was to be completed by 4 February 2012. However, the work was completed after a delay of 5 years 10 months in December 2017. It was observed that:

- M/s GET Power Limited, Chennai did not even take up the work till scheduled completion date for which no reasons were found on record. The Company after lapse of more than two years from the scheduled completion date considering the dismal progress of the work (total value of work done ₹ 18.34 crore), terminated the contract in March 2014 and decided to complete the balance work at the risk and cost of the firm.

- The Company took eight months in award (January 2015) of the balance work (estimated cost ₹ 9.12 crore) to M/s Shyam Indus Power Solution Limited at ₹ 16.70 crore. The awarded cost was 84 *per cent* higher as compared to the estimated rates (₹ 9.12 crore) and 64 *per cent* to the old purchase order rate (₹ 10.23 crore) of M/s GET Power Limited without any justification for the higher rates. It was noticed that the Company has not adopted any policy for considering the reasonability of rates in such cases as adopted by its sister concerns (UHBVNL and DHBVNL) which require that in case the quoted rates are in excess of 10 *per cent* of the estimated cost, the rates are not considered reasonable and the bids are re-invited. Thus, due to non-adoption of any policy for considering the reasonability of rates, the award of work at higher rates, the Company did not have any financial coverage for recovery of risk and cost overrun of ₹ 5.44 crore[22] from M/s GET Power Limited as the performance bank guarantee (₹ 2.86 crore) and retention money (₹ 1.52 crore) available with the Company has already been adjusted.

- The balance work, which was to be completed by January 2016, could only be commissioned by December 2017, with a delay of more than 22 months. The reasons for this delay were inordinate delay in approval

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21 Calculated at 10.28 *per cent* on ₹ 4.82 crore for 36 months and on ₹ 19.23 crore for 30 months.

22 Additional cost recoverable from the defaulting contractor due to execution of balance work at higher rates (Actual completion cost of balance work including actual payment to contractor, material supplied by the Company and work carried out through others contractors. (₹ 20.05 crore)- cost of balance work (₹ 10.23 crore)- Amount recovered by encashment of Performance Bank Guarantee (₹ 2.86 crore) and already recovered retention money (₹ 1.52 crore).

of route plan, obtaining the forest clearance and supply of material by HVPNL.

The Management elucidated (May 2020) the detailed process followed for various approvals but did not offer any specific reasons for delay and re-award of work at higher rates.

2.7.2.4 Creation of power evacuation lines from 800 kV high voltage direct current sub-station, Bhadson, Kurukshetra of PGCIL

The Company, approved (October 2013) construction of downstream lines consisting of Loop In Loop Out (LILO[23]) of one circuit each of existing 220 kV Pehowa-Kaul and Bastara-Kaul D/C (Double Circuit) lines from 800 kV HVDC[24] sub-station, Bhadson, Kurukshetra to be constructed by PGCIL[25] having dedicated power evacuation system for HVPNL comprising of eight dedicated bays and two step down transformers[26]. Though PGCIL completed their work in March 2017, the Company could complete evacuation lines in September 2019 after delay of 30 months.

It was observed that:

- The Company awarded (July 2016) the work of construction of lines after lapse of 33 months from date of approval to M/s Isolux Ingenieria S.A., Spain for ₹ 40.32 crore to be completed in 18 months *i.e.,* by January 2018.

- The Company did not take timely action against the firm despite performance of the firm being behind schedule since beginning. The contract was terminated six months after complete stoppage (April 2017) of work in October 2017 *i.e.,* after a lapse of 14 months from the contract date.

- The Company took five months to assess the balance work and awarded (March 2018) the contract at the risk and cost of defaulting firm, for ₹ 46.60 crore with contractual completion date of September 2019. The delay in termination resulted in cost overrun of ₹ 6.61[27] crore. Though the lines have been completed (September 2019) and energised, the risk and cost amount of ₹ 6.96[28] crore (based on re-awarded value) as per contract could not be recovered till date (February 2020).

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23 Loop in loop out – if a new SS is inserted between two existing SSs, the transmission line for new inserted SS is called LILO or when a transmission line passing nearby to a sub-station or generating station is used to tap it, the system used is called LILO.

24 High Voltage Direct Current

25 Power Grid Corporation of India Limited (a Government of India PSU).

26 Step down transformers are used for stepping down the higher voltage level to lower voltage level for further transmission/ distribution

27 Re-awarded cost ₹ 46.60 crore - ₹ 39.99 crore cost of balance work.

28 Additional cost recoverable from the defaulting contractor due to execution of balance work at higher rates as claimed by the Company.

- Interest bearing advance of ₹ 4.03 crore given to the firm in October and December 2016 was recovered by encashment of Bank Guarantee (BG), however, interest of ₹ 41.76 lakh could not be recovered as the Company did not ensure coverage of interest in BG amount.

- The CERC while discussing (tariff order dated 22 February 2018) PGCIL claim for tariff in respect of PGCIL's portion of assets, refused tariff to safeguard consumers' interest (as referred in para 2.7.2.1). However, it directed that the interest and incidental expenditure[29] during construction period incurred by PGCIL should be borne by the Company till completion (September 2019) of the evacuation lines.

The Management intimated (May 2020) that efforts are being made to recover the risk and cost amount.

2.7.2.5 Delay in construction of 220 kV sub-station at Roj-ka-Meo and associated lines

The Company approved (April 2013) creation of 220 kV Gas Insulated Sub-station at Roj-ka-Meo with associated LILO line from 220 kV sub-station Sector 72, Gurugram to Rangla Rajpur. The Company awarded separate works for sub-station (February 2014) and lines (January 2014) with scheduled completion by June 2015. However, the sub-station and lines could not be completed till date (December 2019).

It was observed that:

- The Company awarded (February 2014) work for construction of sub-station to M/s Isolux Ingenieria S.A., Spain at a cost of ₹ 57.35 crore with scheduled completion in June 2015. The hindrance free site could not be provided to contractor till November 2015. The performance of the firm was poor and it stopped the work in February 2017. The contract was terminated (August 2017) after a lapse of more than three years, from award.

- Company took 19 months in award (March 2019) of balance work at a cost of ₹ 42.50 crore at the risk and cost of M/s. Isolux Ingenieria S.A., Spain. The work is yet to be completed (December 2019).

- For construction of associated lines, the Company awarded (January 2014) a contract to M/s Instalaciones Inabensa, Spain for construction of six transmission lines including the one under subject, at a cost of ₹ 106.65 crore. The contract was terminated (June 2015) after lapse of 16 months due to a dispute in opening of letter of credit and poor progress.

- The balance work was awarded (August 2016) after delay 13 months to M/s Isolux Ingenieria S.A., Spain (the same firm to which the work of construction of sub-station had been awarded) at a cost of ₹ 84.50 crore.

[29] Amount has not been claimed by PGCIL from the HVPNL (April 2020).

This contract was also terminated (August 2017) as M/s Isolux did not even start the work due to their financial constraints. It was observed that the Company awarded the work to M/s Isolux without considering their liquid assets with reference to pending commitments in other countries.

- The Company again took 22 months and awarded (July 2019) the balance work (including subject transmission line) at a cost of ₹ 107.90 crore which was under progress (December 2019).

- Due to delay in completion of sub-station, recovery of envisaged benefits of ₹ 27.02 crore[30] were deferred.

Thus, after six years of planning approval, the said sub-station and transmission line has not been completed so far (December 2019).

2.7.2.6 Non- clearance of dangerous lines.

Central Electricity Authority (Measures Relating to Safety and Electricity Supply) Regulations, 2010, specify minimum vertical/horizontal clearances/distance to be kept in respect of different types of transmission lines. It was observed that while no transmission line in Company's transmission zone[31], Panchkula was identified as dangerous, 27 lines in Hisar, Transmission System (TS) zone had been declared dangerous in view of violations of statutory clearances as per Rules *ibid*. Audit noticed that though the Company issued notices to persons responsible for violations, it failed to co-ordinate with local authorities to ensure removal of such unauthorised constructions. During the last five years as many as 10 fatal and 42 non-fatal accidents[32] were reported and the Company paid compensation of ₹ 43.07 lakh, which could have been minimised in addition to lives saved had compliance to relevant clearance rules been ensured**.** As the compensation paid formed part of transmission cost, the consumers were unjustly burdened due to non-compliance of statutory provisions by the Company.

During exit conference, the Management stated that new buildings/ structures came up subsequent to construction of transmission lines. The Company did not have any legal power and had to depend on local authorities for removal of illegal constructions. It was observed that Management could not coordinate with local authorities effectively.

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30 Worked out on ₹ 57.35 crore at the rate of 10.28 *per cent* for 55 months from June 2015 to December 2019.

31 The Company had two Transmission Zones namely Panchkula comprising Karnal, Panchkula and Rohtak circle and Hisar comprising Gurugram, Faridabad and Hisar circles.

32 Four fatal and 17 non-fatal accidents in Panchkula TS zone and six fatal and 25 non-fatal accidents in Hisar TS zone.

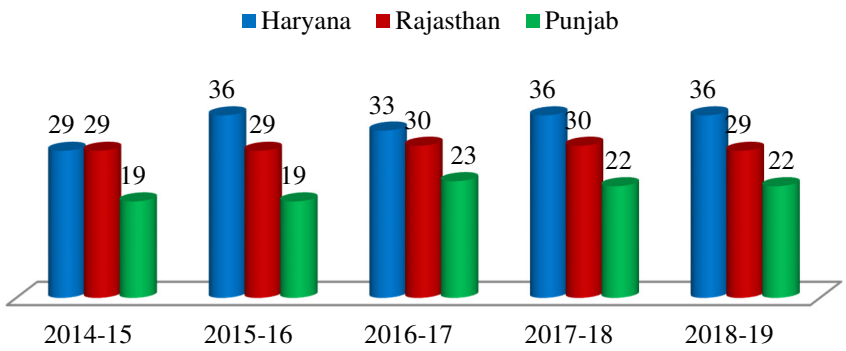
2.8 Performance of transmission system and grid management

2.8.1 High transmission cost

Before taking up construction of a sub-station, load growth and anticipated increase of demand in future along with permissible limits of voltage regulations are considered, so that anticipated physical and financial benefits to be derived from the sub-station could be worked out and unnecessary expenditure avoided to have minimum transmission cost.

Audit compared[33] per unit transmission cost of the Company with those of transmission utilities in neighbouring states[34] of Punjab and Rajasthan for last five years as below:

Chart 2.6: Comparision of Transmission Cost (paisa per kWh)



Source: Compiled from tariff orders of respective years of concerned State Electricity Regulatory Commissions.

It would be seen from the above chart that transmission cost of the Company was the highest among all three state transmission utilities. As compared to transmission costs of Punjab State Transmission Corporation Limited and Rajasthan Vidyut Prasaran Nigam Limited, the Company's transmission cost was higher by 43 to 89 *per cent* and zero to 24 *per cent,* respectively during 2014-19.

Audit observed that the company could have reduced the transmission cost by:

- Ensuring timely commissioning of sub-stations and transmission lines to minimise project cost, as delay in completion of projects result in higher cost due to cost overrun, more interest burden and administrative expenditure (Para 2.7.2.1).

[33] Comparison has been made among states located in similar geographical area and having similar demand pattern.

[34] Transmission system of Punjab comprises 132 kV and above; Transmission system of Haryana comprises of 66 kV and above; in Rajasthan there is no 66 kV Transmission system.

- Controlling extra costs incurred on payment of incentive to Jhajjar KT Transco Private Limited (JKTPL), laying of Optical Ground Wire (OPGW), integration of Sub-station Automation Station (SAS) and reducing repair and maintenance cost through optimum utilisation of transformers and controlling their damage rate{Para 2.8.2, 2.8.4, 2.8.5 (b) and (c)}.

- Ensuring full utilisation of cheaper World Bank loan so as to reduce interest on CAPEX forming part of transmission cost (Para 2.10.2).

- Installation/replacement of defective capacitor banks to avoid payment of reactive energy compensation (Para 2.8.6.2).

- Passing on to consumer the benefits of Advance against Depreciation and interest already claimed through tariff in earlier years and upon their subsequent non-requirement/waiver {Para 2.11.5 (a) and (b)}.

During exit conference, the Management stated that in Rajasthan, the power consumption in Agriculture activity was lesser in comparison to that in Haryana. However, Management agreed to analyse the reasons for higher transmission cost and control the same. Reply is not acceptable as share of electricity consumption in agriculture was rather more in Rajasthan than Haryana. It was 39.65 *per cent* and 41.86 *per cent* in Rajasthan during 2015-16 and 2016-17 respectively whereas it was 27.09 *per cent* and 28.14 *per cent* in Haryana during the same period.

2.8.2 Transmission capacity utilisation

As per manual on transmission planning criteria of CEA (January 2013), the maximum load on any transformer in a sub-station should not exceed 80 *per cent* of its rated capacity. The margin of 20 *per cent* is to take care of future load growth.

The table below indicates extent of utilisation of transformers during 2014-19

in the selected circles:

Table 2.5: Year-wise utilisation of Power Transformers (PTs) during 2014-19 in selected circles

Year	Name of Circles	No. of PTs and their utilisation (in *per cent*)						Total
		0-20	20-40	40-60	60-80	80-100	Above 100	
2014-15	Hisar	12	14	23	49	139	2	239
	Gurugram	18	1	16	22	86	7	150
	Rohtak	5	11	19	27	43	1	106
	Total	**35**	**26**	**58**	**98**	**268**	**10**	**495**
	Percentage to total PTs	**7.07**	**5.25**	**11.72**	**19.80**	**54.14**	**2.02**	**100**
2015-16	Hisar	8	19	22	56	138	1	244
	Gurugram	13	6	19	24	86	2	150
	Rohtak	2	9	19	32	46	1	109
	Total	**23**	**34**	**60**	**112**	**270**	**4**	**503**
	Percentage to total PTs	**4.57**	**6.76**	**11.93**	**22.27**	**53.68**	**0.80**	**100**
2016-17	Hisar	8	19	29	58	138	1	253
	Gurugram	8	6	16	29	94	6	159
	Rohtak	4	8	21	33	48	1	115
	Total	**20**	**33**	**66**	**120**	**280**	**8**	**527**
	Percentage to total PTs	**3.80**	**6.26**	**12.52**	**22.77**	**53.13**	**1.52**	**100**
2017-18	Hisar	6	20	28	77	127	0	258
	Gurugram	10	9	17	33	114	14	197
	Rohtak	4	6	19	30	55	0	114
	Total	**20**	**35**	**64**	**140**	**296**	**14**	**569**
	Percentage to total PTs	**3.51**	**6.15**	**11.25**	**24.60**	**52.02**	**2.46**	**100**
2018-19	Hisar	10	16	22	63	149	4	264
	Gurugram	13	13	27	39	110	4	206
	Rohtak	6	8	15	28	63	0	120
	Total	**29**	**37**	**64**	**130**	**322**	**8**	**590**
	Percentage to total PTs	**4.92**	**6.27**	**10.85**	**22.03**	**54.58**	**1.36**	**100**

Source: Information provided by the Company.

From above it could be seen that while most of the transformer capacity was overloaded, yet there were cases of underutilisation also.

Overloading of sub-stations

- 54 to 56 *per cent* transformers were overloaded (having utilisation 80 *per cent* and above). Slow construction pace of new sub-stations (as already discussed under paragraphs 2.7.1.1 and 2.7.2.1) was the main reason for such overloading, which is further corroborated by the fact that during 2014-19, the damage rate of transformers exceeded the norm of one *per cent* fixed by HERC. The damage rate of transformers ranged between

1.29 *per cent* and 2.97 *per cent* as tabulated below:

Table 2.6 – Year-wise details of total and failed Power Transformers

Year	Average no. of PTs	No. of PTs failed	PT damage rate	No. of PTs damaged above HERC norm of one *per cent*	R&M expenditure (₹ in crore)
(1)	(2)	(3)	(4)	(5)	(6)
2014-15	968	27	2.79	17	8.64
2015-16	1,011	30	2.97	20	9.48
2016-17	1,049	18	1.72	8	9.80
2017-18	1,083	14	1.29	3	8.48
2018-19	1,118	23	2.06	12	13.18

Source : Information provided by the Company

Overloading and higher damage rate of transformers results in higher repair and maintenance expenditure and consequently higher transmission cost. Non-adherence to the norms for damage rate of PTs was also pointed out in previous Performance audit wherein the Company had assured that they have issued fresh preventive maintenance schedules and guidelines for strict adherence and implementation. However, the Company still could not achieve the targets.

- One 315 MVA, 400/220 kV PT (valuing ₹ 9.68 crore) damaged on 30 June 2017 at Company's 400 kV sub-station Kirori was replaced (October 2017) by diverting spare transformer from Nawada sub-station. But the Company did not act promptly for repair of damaged PT which was still lying unrepaired (September 2019). As the transformer diverted from Nawada sub-station was meant for relieving 250 MVA PT installed there since May 2016 on rent basis from PGCIL, the rent liability has also been accruing. Moreover, the state consumers have been unnecessarily burdened by ₹ 2.15[35] crore as the company continued to recover depreciation and ROE for the damaged transformer through tariff.

During exit conference, the Management stated that steps are being taken for improvement of performance in this area. The transformer damage rate was 1.3 *per cent* during 2019-20 and for the current year, the Company has set a target of one *per cent*. However, it did not offer any comments on delay in repair of damaged transformers.

Under loading of sub-stations

Company created additional capacity of 47.5 MVA (16 MVA in May 2015 at a cost of ₹ 0.58 crore and 31.5 MVA in September 2018 at cost of ₹ 1.46 crore) at 66 kV SS in Sector 15-II, Gurugram at a cost of ₹ 2.04 crore which remained unutilised. Further, due to delayed commissioning of 132 kV Gangaicha Jat SS in January 2014 (scheduled commissioning May 2011) at a cost of ₹ 12.32 crore, DHBVNL connected its five out of ten 33 kV SSs from other SSs. Resultantly, the sub-station could not be utlised fully so far (December 2019) and the maximum load ranged between 24 and 44 *per cent*. Further, one

[35] Calculated at the rate of 10.28 *per cent* on ₹ 9.68 crore for 26 months after allowing 120 days for repair (*i.e.,* from October 2017 to December 2019)

transformer valuing ₹ 3.77 crore was running on no load since its commissioning up to August 2018. The Company also procured (December 2009) a 66 kV mobile SS at Nuh at a cost of ₹ 9.63 crore which remained out of service intermittently since commissioning and consistently since 2015, when it got damaged and has not been repaired till date (March 2019). As the transformer was already capitalised and the company was earning ROE and Depreciation through tariff, its non-utilisation burdened the consumers by ₹ 4.56[36] crore. Similar audit observation regarding construction of SS (220 kV SS Batta) without load requirement and planning of underlying transmission system was also included in the previous Performance audit of the Company wherein the Company had admitted the facts and assured that proper study would be undertaken while planning transmission system. However, the Company could not effectively plan its transmission system requirement.

The Management stated (May 2020) that augmentation at sector 15-II, Gurugram was approved keeping in view the redundancy and reliability, under-utilisation of Gangaicha Jat sub-station was due to DHBVNL which did not shift/connect the approved load timely and mobile SS was got repaired in September 2019.

The reply may be viewed against the facts that one of the augmented transformers of 12.5/16 MVA at sector 15-II, Gurugram could never be put on load. Gangaicha Jat SS could not be fully utilised as the DHBVNL shifted its load to other SSs due to delay on the part of the Company and comments on mobile SS remaining out of service during 2015-19 were awaited.

2.8.3 Non-achievement of targets for transmission system availability

The Company recovers transmission charges based on normative annual Transmission System Availability[37] (TSA) factor specified by the HERC from year to year. During 2014-19, though TSA of the Company improved from 98.13 *per cent* in 2014-15 to 99.54 *per cent* in 2018-19, it remained lower than the target set by HERC in three out of five years. It was also observed that TSA of the Company during entire period was the lowest amongst the comparable

[36] Sector 15 Gurugram: ₹ 30.36 lakh (Calculated at the rate of 10.28 *per cent* for 46 months on ₹ 0.58 crore and for six months on ₹ 1.46 crore up to March 2019), 132 kV Gangaicha Jat SS: ₹ 1.29 crore (Calculated at the rate of 10.28 *per cent* for 3 years four months from April 2015 (date from which company claimed depreciation and ROE) to July 2018 on ₹ 3.77 crore, 66 KV mobile SS at Nuh: ₹ 2.97 crore (Calculated at the rate of 10.28 *per cent* for 3 years on ₹ 9.63 crore).

[37] TSA is calculated each transmission element-wise (PTs, transmission lines. static VAR compensators and bus reactors) based on total available hours and non-available hours.

transmission utilities of neighbouring states of Punjab and Rajasthan as shown below:

Chart 2.7:Achievement of TSA by HVPNL

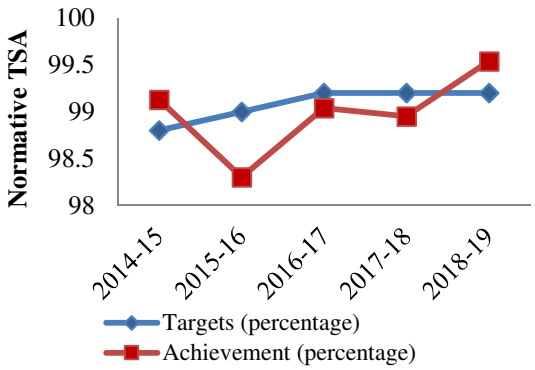
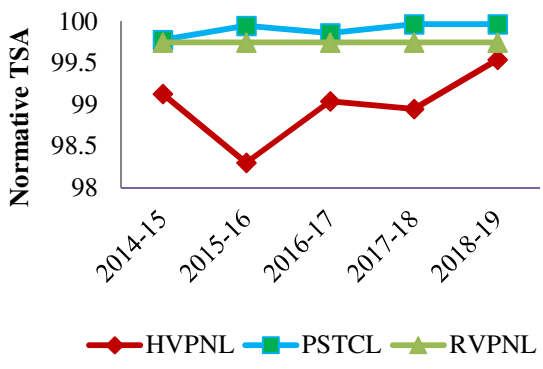


Chart 2.8: Inter state comparision of TSA



Source: Compiled from tariff orders of respective State Electricity Regulatory Commissions.

As per HERC Regulations, transmission cost is fully recovered on achievement of 100 *per cent* normative TSA target. In case of lower achievement, the transmission cost to be recovered is proportionately reduced. Due to non-achievement of TSA targets during 2015-16, 2016-17 and 2017-18, the Company could not recover full transmission cost and its revenues were reduced to the extent of ₹ 15.51 crore. Audit observed that the reason for non-achievement of TSA targets were high damage rate of transformers and their prolonged outages as discussed in paragraph 2.8.2.

During exit conference, the Management and Government ensured of efforts to improve the TSA during 2020-21.

2.8.4 Unjustified payment of incentive

JKTPL in the capacity of transmission licensee, constructed 400 kV Jhajjar transmission system. As per Transmission Service Agreement (TSA) approved by HERC, the Company was to pay applicable monthly unitary charges to JKTPL along with incentive for availability of system and transmission losses. It was also stipulated that the Company might conduct tests at least once in six months to ascertain that transmission losses of each transformer were within normative loss. In case transmission losses were less than normative loss, the Company was required to pay to JKTPL an incentive equal to ₹ 600 per kW per month to be increased by five *per cent* for every accounting year.

The Company was paying incentive for 219.903 kW every month since April 2012, on the basis of transformer losses of 2,780.097 kW certified by independent engineer in May 2012 against normative losses of 3,000 kW without getting any test conducted thereafter. The practice of paying incentive without periodic checking was not justified and was a favour to JKTPL. For the period January 2013 to March 2019, Company paid incentive of ₹ 1.18 crore which was unjustified and increased the transmission cost.

Management stated (May 2020) that facility for on-site testing of PTs losses was not available. The reply is not acceptable as payment of incentive without assessing the actual transmission losses was not justified.

2.8.5 Grid Management and Role of SLDC

Efficient grid management is essential for smooth evacuation of power from generating stations and supply to DISCOMs/consumers which ensures power balance on real time basis, take care of reliability, security, economy and efficiency of a power system. In India, grid management is carried out in accordance with standards/directions given in the Indian Electricity Grid Code notified by CERC. National Grid consists of five regions *viz*., Northern, Eastern, Western, North Eastern and Southern, each having a Regional Load Dispatch Centre, an apex body to ensure integrated operation of the power system in the concerned region. Haryana State Load Dispatch Centre (SLDC), under operational control[38] of the Company, ensures integrated operation of power system in the State as a constituent of Northern Regional Load Dispatch Centre (NRLDC). The Company is liable to maintain grid discipline as per the Grid and in case of failure, liable for penalty. Observations on working of SLDC are discussed in subsequent paragraphs.

a) Non-installation of Supervisory Control and Data Acquisition (SCADA) System and Energy Management System (EMS).

ULDC[39] scheme of Government of India was implemented (2002) in Northern Region for providing SCADA/EMS and Communication System for management of regional power grid through PGCIL. The implementation of SCADA will help in better power management with the help of real time data. As regard expansion of scheme to constituents, Northern Regional Power Committee agreed in principle (April 2008) that the constituents would take up the scheme independently. Accordingly, the Company decided (2011) to expand SCADA/EMS independently. However, the Company has implemented SCADA in 182 sub-stations (September 2019) and it was yet to provide SCADA in 239 sub-stations. Thus, the benefit of SCADA system has not been obtained. The observation regarding lack of infrastructure for load monitoring was also pointed out in the previous Performance audit of the Company wherein the Company had assured that the System would be provided on SSs over the next three to five years. However, the Company had not implemented the facility of real time load/ data monitoring in all its SSs.

During exit conference, the Management stated that they had no previous experience in implementation of SCADA. Efforts are being made to implement the SCADA in remaining sub-stations.

b) Avoidable expenditure due to not changing design of 220 kV lines

After Northern Regional Power Committee's decision (April 2008) that constituents would expand SCADA/EMS independently and that OPGW had

[38] The State Government notified in December 2003 that the SLDC shall be operated by the Company.

[39] Unified Load Dispatch and Communication.

been installed in first phase of ULDC scheme 2002, the Company was required to carry out change in design of lines to include OPGW in place of earth wire after April 2008.

However, the Company continued to construct lines with earth wire between April 2008 and October 2013 when it awarded contract for change of 1,874 km earth wire to OPGW on 76 lines of 220/400 kV voltage level at a total cost of ₹ 44.66 crore. The work which was scheduled for completion by November 2015 was actually completed in April 2017, after a delay of 24 months.

It was observed that out of these 76 lines, 21 lines with 500 kms earth wire were approved for construction after 2008. Had the Company gone for OPGW wire on these lines constructed after 2008, it could have saved an expenditure of ₹ 4.84 crore [40] on replacement of these earth wire and thus reduced the transmission cost.

Management stated (May 2020) that there had been no such guidelines/ policy to carry out transmission projects by laying OPGW in early era of 2008 and BoDs had approved the standardisation of laying OPGW in lieu of earth wire in March 2018 only. The reply of the Company lacks justification as the laying of OPGW was started in first phase of ULDC scheme and the Company had also decided to implement the expansion of ULDC scheme in 2011.

c) Non-integration of Sub-station Automation System with SLDC/NRLDC

Under SAS, all devices in sub-station are monitored and controlled remotely from SLDC as well as from sub-station without manual intervention. The SAS gateway is also capable of communicating with Load Dispatch Centre, back up Load Dispatch Centre and Central Control Centre through more than one SCADA system.

Audit noticed that out of 56 SAS commissioned by the company, 27 were integrated with SLDC/NRLDC and work in respect of remaining 29 SAS was in progress. Audit further observed in a test check that the Company commissioned 12 nos. 132/220 kV sub-stations between July 2010 and December 2013 with provision of SAS. However, even after more than six years, the SAS installed at any of the above sub-stations could not be integrated with SLDC/NRLDC till December 2019 due to non-finalisation of contractor for their integration. Consequently, the investment of ₹ 12.53 crore on installation of SAS in these sub-stations remained idle which unreasonably increased the transmission cost.

During exit conference, the Management agreed and stated that SAS could not be integrated with SLDC due to software issues which are being resolved now and efforts are being made to integrate SAS with SLDC.

[40] ₹ 4.61 crore for procurement of 500 km of earth wire at the rate of ₹ 92,176 per km and ₹ 0.23 crore at the rate of ₹ 4,608.80 per km for dismantlement.

2.8.6 System stability

System stability is the ability of power transmission system to withstand sudden, unexpected disturbances in the flow of power. The power system should be operated in secure and reliable manner so that system stability is not endangered for which protection and control equipments are installed at the sub-stations. Shortcomings noticed in this regard, are discussed in subsequent paragraphs.

2.8.6.1 Non-provision of Bus-Bar Protection Panels

Bus-bar is used as an application for inter-connection of incoming/outgoing transmission lines and transformers at sub-station. Bus-Bar Protection Panel (BBPP) limits the impact of bus bar faults on power network, prevents unnecessary tripping and selectively trips only those breakers which are necessary to clear the bus bar fault. CEA (technical standards for connectivity to the grid) Regulations, 2007, required that bus bar protection be provided on all new 220 KV and above voltage level sub-stations and the same might also be implemented at existing sub-stations in a reasonable time frame. Haryana Grid Code Regulations, 2009 also required bus bar protection scheme at all 400 kV and 220 kV sub-stations.

It was observed that:

- BBPPs were available in 22 out of 35 sub-stations of 400/220 kV voltage levels under three[41] transmission circles test checked.
- At one sub-station, BBPP was lying defective (July 2019).

Therefore, in violation of state grid code and CEA grid connectivity standards, working BBPPs were not available in 40 *per cent* of its 220/400 kV sub-stations which put the grid security at risk.

During exit conference, and in reply (May 2020) Management stated that the efforts are being made to provide the BBPP on the remaining SSs.

2.8.6.2 Non-provision of capacitors

As per Indian Electricity grid code and state grid code, the capacitors should be provided in low voltage systems to avoid the drawal/injection of Reactive Power beyond specified range. The transmission utility has to pay for reactive power when voltage at the metering point is below 97 *per cent* and gets paid when voltage is above 103 *per cent*. Audit noticed that there was consistent shortfall in number of capacitors installed *vis-à-vis* their requirement during 2014-19 as

[41] TS Circles Rohtak, Gurugram and Hisar.

depicted below:

Table 2.7: Details of defective capacitors and reactive energy compensation paid/received

Year	Capacitors required to be installed (Mvar[42])	Capacitors installed (Mvar)	Shortfall (Mvar)	Defective Capacitors at year end (Mvar)	Reactive energy compensation received (₹ in crore)	Reactive energy compensation paid (₹ in crore)
(1)	(2)	(3)	(4)=2-3	(5)	(6)	(7)
2014-15	728.594	132.856	595.738	286.95	14.88	17.16
2015-16	887.246	243.83	643.416	361.46	19.63	13.92
2016-17	806.446	56.6	749.846	350.229	19.70	16.86
2017-18	856.246	139.06	717.186	393.395	22.50	17.59
2018-19	1,009.530	87.647	921.883	383.943	21.63	29.90
Total					**98.34**	**95.43**

Source: Information provided by the Company.

It was noticed:

- The deficiency of capacitors increased from 595.738 Mvar in 2014-15 to 921.883 Mvar in 2018-19. In addition, the defective capacitors increased almost consistently during above period and capacitors with 383.943 Mvar capacities (7.68 *per cent* of installed capacitors (4,999.485 Mvar) were lying defective as on 31 March 2019.

- Despite HERC directives (March 2015, May 2017 and October 2018) to the Company to expedite replacement of defective capacitor banks, large number of capacitors were yet to be replaced.

- The cost of shortfall of capacitors as well as replacement of defective capacitors was only ₹ 31.57[43] crore. Had the Company invested ₹ 31.57 crore, it could have avoided the payment of reactive energy compensation of ₹ 95.43 crore during 2014-19 and thus could have reduced the transmission cost.

During exit conference, the Management agreed and stated that the efforts are being made to provide adequate numbers of capacitors and replace the defective capacitors on priority.

2.8.7 Crisis/Disaster Management Plan

Disaster management in relation to power system aims at mitigating the impact of a major breakdown on the system and restoring it in the shortest possible time. The committee of MoP, GoI, updating the best practices of transmission prescribed (January 2002) setting up of disaster management system by all power utilities for immediate restoration of transmission system in the event of a major failure through deployment of emergency restoration system. Moreover, MoP also issued (March 2017) Crisis and Disaster Management plan to respond

[42] Mvar-Mega Volt Ampere (Reactive).

[43] Calculated on the basis of per Mvar rate as per contract awarded by the Company in December 2019.

to disaster situation in the power sector in a coordinated manner in accordance with provisions of Disaster Management Act, 2005.

It was observed that the Company has not framed Crisis/Disaster Management Plan. Besides, the Company had not carried out mock drills during 2014-19 in respect of potential threats. Issue regarding not carrying out of mock drills was also pointed out during previous Performance audit of the Company.

It was also noticed that as per Crisis and Disaster Management plan of MoP, Haryana state is geographically located in earthquake prone area. However, the data recovery center for SLDC has been located in Shimla since 2014-15 (as per bilateral arrangement with Himachal Pradesh) which is in the same geographical area, with still higher seismic risk (while Shimla is in seismic zone V, SLDC area (Panipat) is situated in seismic zone IV). It would have been desirable to locate the data recovery center in different geographical area with least seismic risk.

The Management stated (May 2020) that the Company has recently (December 2019) carried out the Mock Black start exercise. However, Grid System restoration document on the basis of black start exercise for the Haryana was yet to be approved by Whole Time Directors of the Company. Management also stated that the data recovery center for SLDC was located in Shimla as decided by Northern Regional Power Committee on reciprocal basis and concurred by the Company. The reply is not acceptable as the Company should have proposed any other location with lower seismic risk.

2.9 Coordination mechanism among power utilities of State

The State Government constituted (May 2009) a coordination committee of the Managing Directors of four power utilities under the chairmanship of Managing Director, Haryana Power Generation Corporation Limited for taking a view on such issues as may affect the organisational matters pertaining to more than one utility. Though the Committee held 16 meetings during 2014-19, the mechanism was not found effective as instances of lack of coordination were noticed during performance audit.

The managements of the Company and DHBVNL decided (May 2008) to set up a new 66 kV sub-station at Baliyar Kalan (Rewari) having two transformers with 33 kV connectivity and one having 11 kV connectivity. The Company, however, approved (July 2008) creation of the sub-station with two transformers having only 11 kV connectivity and commissioned the sub-station in July 2013 at a cost of ₹ 7.91 crore and requested DHBVNL to shift the load on it.

Due to non-availability of 33 kV connectivity, only 6 MVA (18.75 *per cent*) load could be connected (against the capacity of 32 MVA) till date (December 2019). DHBVN stated (December 2018) that its 33 kV sub-station Garhi Bolini could also not be commissioned due to non-availability of 33 kV connectivity at the sub-station. Had it provided 33 kV connectivity from Baliyar Kalan, the obligation to shift 33 kV Rewari-Jonawas line with estimated cost of ₹ 2.33 crore could have been avoided. Thus, lack of coordination between

power utilities resulted in non-achievement of full utilisation of the sub-station and consumers of Haryana have been burdened by ₹ 3.74 crore[44].

While admitting the audit observation, the Management during exit conference, stated that the sub-station of 66/33 kV transformer was sanctioned erroneously instead of 66/11 kV transformer as the HVPNL does not provide 66/33 kV sub-stations. However, efforts are being made to utilise the sub-station.

2.10 Financial management

2.10.1 Financial position and working results

The financial position and working results of the Company for last five years up to 2018-19 are indicated in ***Appendix-4*** which show that:

- The Company incurred loss during 2014-15. However, it earned profits of ₹ 1,327.12 crore during the four years (2015-16 to 2018-19) on account of increase in revenue and decrease in financial cost due to reduced borrowings.

- Return on Capital Employed increased from 5.49 *per cent* in 2014-15 to 12.42 *per cent* in 2017-18 due to improved financials. However, it decreased to 9.97 *per cent* in 2018-19 due to investment by State Government resulting in increase in equity capital;

- The debt equity ratio decreased from 2.69 in 2014-15 to 1.26 in 2018-19 due to decrease in borrowings and increase in equity capital.

Audit examined financial management in the Company with reference to efficiency in timely procurement of funds and their optimum utilisation. Observations noticed in this regard are discussed in subsequent paragraphs.

2.10.2 Loss due to short utilisation of World Bank loan.

For undertaking Haryana power system improvement, Haryana power utilities signed a loan agreement (August 2009) with World Bank for a loan of USD 250 Million (₹ 1,250 crore) at London Interbank Offered Rate plus 0.4 *per cent* interest rate under three components[45]. The disbursement period of the loan was from 2009-10 to 2013-14 and repayment tenure was 30 years. As per terms and conditions of loan agreement, front end fees equal to 0.25 *per cent* of loan amount was payable to the World Bank.

- Despite revision of procurement plan three times (August 2012, September 2012 and June 2013) and loan disbursement period extension by World Bank in August 2013, April 2017 up to 31 December 2017 and grace period for disbursement up to 30 April 2018, the Company

[44] Calculated at the rate of 10.28 *per cent* for 68 months on proportionate idle investment.

[45] (i) Transmission component: USD 250 million (₹ 1,250 crore) for HVPNL, (ii) distribution component of USD 70 million (₹ 350 crore) for DHBVNL and (iii) technical assistance component of USD 10 Million (₹ 50 crore) for both DHBVNL and HVPNL in equal share.

could avail loan of USD 222.83 million out of USD 250 million during October 2009 and December 2017 leaving un-availed loan of USD 27.17 million[46] (₹ 173.84 crore[47]) as all 130 works under 24 packages were completed with delays. Audit further noticed that the Company could not avail the World Bank loans fully due to not being prompt in revising procurement plan and delay in re-awarding the contracts where contractors failed to complete the work within the timelines approved by the World Bank.

- It was observed that in three cases[48] (out of 24 cases) initially awarded at ₹ 167.07 crore out of world bank funding, the Company did not take timely action against the defaulting contractors and re-award the works timely with world bank funding. Later on these works were awarded with costlier funding arrangement with Rural Electrification Corporation (REC). Had the Company re-awarded the works timely, it could have saved ₹ 24.63 crore [49] and could have reduced the transmission cost.

- Due to non-availing of World Bank loan, the Company had to bear avoidable expenditure of ₹ 31.32[50] lakh on account of front end fee also on un-availed portion of loan.

The Management stated (May 2020) that it could not avail the loan due to non-extension of loan disbursement period by World Bank. The reply is not acceptable as the World Bank had already extended the loan disbursement period thrice, but due to poor project implementation, the Company could not make full use of the facility.

2.10.3 Avoidable expenditure on Government guarantee.

To meet its working capital requirement, the Company got sanctioned (August 2015) a Medium Term Loan (MTL) of ₹ 100 crore from REC for a period for 36 months, bearing interest rate of 12.25 *per cent*. The loan was to be repaid in 18 equal installments commencing from the date of first disbursement (October 2015). As per the terms and conditions of the loan agreement, it was optional to provide State Government guarantee for entire loan. In case Government guarantee is provided, rebate in interest at 0.25 *per cent* was available. If the Company did not provide Government guarantee, the REC could charge additional 0.25 *per cent* interest on loan. Thus, the loan was available at 12 *per cent* with Government guarantee and at 12.50 *per cent* without Government guarantee. The State Government, however, charges two *per cent* of the guaranteed amount upfront as guarantee fee. However, the Company without

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46 Against sanction loan amount of 250 million USD, Company could utilise only USD 222.83 million.

47 Worked out at ₹ 64 per USD

48 Construction of 220 kV sub-station HSIIDC Rai, Sonepat, Construction of SS at Raj-Ka-Meo and Construction of 220 kV and 66 kV transmission lines in Jind, Bhiwani.

49 Calculated at 8.59 *per cent,* 7.45 *per cent* and 7.45 *per cent* respectively for three works being the difference of cost of World Bank loan and minimum interest rate of 10 *per cent* charged by REC.

50 Worked out at USD rate of ₹ 46.11 per USD at the time of payment of upfront fee.

working out the cost benefit analysis, arranged Government guarantee (February 2016) of ₹ 100 crore on payment of ₹ two crore as guarantee fee.

We observed that had the Company not arranged the Government guarantee and paid higher interest at the rate of 12.50 *per cent*, it could have still saved ₹ 1.47[51]crore. Since actual interest on working capital during loan period had exceeded the normative one, the Company had to bear ₹ 1.47 crore adversely affecting its profitability.

During exit conference, the Management stated that REC has confirmed that subject loan was to be availed against Government guarantee only. Audit however, observed that REC released the loan in installments without ensuring Government guarantee from the company and charged additional interest till submission of Government guarantee. Thus the decision of the management was not financially prudent as the Company did not carry out cost benefit analysis before availing the loan.

2.10.4 Non-maintenance of State reactive energy pool account

HERC, while deciding the issue of reactive energy payments receivable and payable to DISCOMs directed (August 2015) the Company to maintain a state reactive energy pool account on behalf of Haryana power utilities and invest surplus funds in fixed deposit with nationalised banks. It was noticed that:

- The Company did not comply with above directives for two years. In August 2017, the Company opened energy pool account in a private scheduled bank, Yes Bank.

- Due to delay in opening of pool account, receipt of ₹ 30.78 crore on account of reactive energy compensation from the DISCOMs for 2015-16 and 2016-17 was not kept in this account but utilised for its operations.

- The DISCOMs also adjusted their share of ₹ 13.95 crore from transmission charges payable to the Company.

Thus, the mechanism envisaged by HERC for management of reactive energy compensation payable/ receivable by State power utilities has not been put into force effectively even after four years.

During exit conference, the Management stated that Government of Haryana was maintaining a panel of banks with which deposits could be made; and Yes Bank was one of that panel. By keeping funds with Yes bank, Company earned more interest and on maturity of present Fixed Deposits, it would go by HERC guidelines. However, the Company has violated the directives of HERC.

[51] Worked out on outstanding MTL amount by taking margin 0.50 *per cent* interest rate and considering guarantee fee of ₹ two crore along with working capital interest at the rate of 10.84 *per cent* thereon for 34 months.

2.10.5 Loss due to release of interest free advance and non-observance of BG terms

The Company awarded contracts for construction of 220 kV Gas Insulated Sub-station at Roj-ka-Meo (February 2014) to M/s Isolux Ingenieria S.A., Spain and subsequently the work of construction of lines was also awarded to it in August 2016.

- As per terms of SS contract, interest free advance equal to 10 *per cent* of the contract value was to be paid progressively in three installments[52] against submission of BG. The Company was required to make this payment in contractor's account with the BG issuing bank. Though the contractor could not open the site office, yet the Company released the third installment of advance of six *per cent* (₹ 3.38 crore) in March/ May 2014 without recognising that civil works could not have been started in the absence of hindrance free site. The second installment of ₹ 1.12 crore as two *per cent* advance payable after opening of site office was released in June 2016. Thus, the firm was favored by releasing interest free funds of ₹ 3.38 crore (third installment) for 19 months which cost ₹ 58.21 lakh[53] to the Company.

- In relaxation of contract provisions, the company accepted reduced BG equal to eight *per cent* in place of 10 *per cent* of contract price, prescribed in the contract. Subsequently, the firm submitted the BG for balance two *per cent* from a different bank, *i.e.*, HDFC Bank (earlier the firm had submitted BG from Central Bank of India).

- In disregard to BG terms, payment was released in firm's account with Central Bank of India instead of one with HDFC bank (BG issuing bank). Subsequently, when the Company raised (18 August 2017) claim (₹ 1.12 crore) for BG encashment at the time of termination of contract, HDFC bank dishonored the same citing that the Company had released advance in firm's account with other bank. Had the Company complied with BG conditions at the time of releasing advance, loss of ₹ 1.12 crore could have been avoided. The Management stated (May 2020) that the conditions to release advance were not chronological. The reply is not acceptable because civil works could not have been started in the absence of hindrance free site and release of third installment without availability of site was a favour to the contractor.

- For associated line work, interest free advance equal to 10 *per cent* of the contract value was to be paid against the BG in contractor's account with the BG issuing bank. In disregard to the BG terms, the Company released (October and December 2016) advance payment of ₹ 8.45 crore in firm's account with Central Bank of India, instead of BG issuing bank (HDFC bank). When, upon termination of contract, the Company

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[52] Two *per cent* of contract value at the time of signing of contract, two *per cent* on opening of site office and six *per cent* at the time of appointment of civil contractor.

[53] As the company had already exhausted its borrowing limits for working capital the interest worked out at the rate of interest allowed by HERC.

lodged (18 August 2017) claim with HDFC bank for BG encashment, HDFC bank declined citing non-compliance with the BG conditions.

Thus, due to non-compliance of the BG terms, the Company suffered loss of ₹ 9.57 crore (₹ 8.45 crore + ₹ 1.12 crore). Audit further noticed that both the cases of non- encashment of BGs were related to the same contractor.

The Management admitted (May 2020) that the BG terms could not be adhered to inadvertently and further stated that ₹ 34.68 lakh only was recoverable from the contractor after adjusting the dues in respect of various contracts. The reply is not acceptable as Management has not considered the risk and cost amount of ₹ 31.32 crore recoverable from the contractor for which there is no financial cover available with Company.

2.11 Tariff proposals

2.11.1 The main source of revenue for the Company is collection of transmission charges from DISCOMs at the rates approved by HERC. For this, the Company is required to file Aggregated Revenue Requirement (ARR) with HERC at least 120 days before commencement of each financial year. HERC approves ARR for the ensuing financial year after considering suggestions and objections from public and other stakeholders.

The table below indicates year-wise due date for filing ARR, dates of ARR filing and approval by HERC during 2014-19.

Table 2.8: Due and actual dates of filing ARR and dates of approval by HERC

Year	Due date of filing ARR	Actual date of filing ARR	Delay in filing (Days)	Date of HERC approval	Date of applicability	Delay in days from 1st April
2014-15	30.11.2013	15.01.2014	45	29.05.2014	01.06.2014	61
2015-16	30.11.2014	30.12.2014	30	31.03.2015	12.04.2015	11
2016-17	30.11.2015	26.11.2015	-	31.03.2016	25.04.2016	24
2017-18	30.11.2016	30.01.2017	60	30.05.2017	10.06.2017	70

Source: Information compiled from tariff orders of HERC.

In three out of four years during 2014-18, the Company filed its ARR with delay of 30 to 60 days. Further, the ARRs were finalised with delay of 11 to 70 days from the start of relevant financial year in respect of all the four years. Though the Company recovered arrears of transmission charges from long term open access consumers (mainly DISCOMs which constituted 99.24 *per cent* of Company's total customer base), the same amounting to ₹ 2.40 crore[54] could not be recovered from short term open access consumers[55]. Of this ₹ 2.11 crore was purely attributable to late filing of ARRs by the Company. As per HERC regulations, revenue from short term open access consumers is recovered over

[54] For 2016-17 revised transmission charges were made effective from 25 April 2016, but there was decrease in transmission charges by three paise with respect to previous year.

[55] Open access enables bulk consumers having connected load of more than one MW, to buy cheap power from the other sources than the State utilities. A purchaser having open access rights for less than one month is termed as short term open access consumers.

and above the transmission cost, therefore HERC reduces 75 *per cent* thereof from transmission cost of subsequent year and allows 25 *per cent* to be retained by the Company. Delay in filing of ARR resulted in overburdening of consumers by ₹ 1.58 crore (75 *per cent* of ₹ 2.11 crore). Balance ₹ 0.53 crore which was to be retained by the Company was also not recovered thereby reduced its profits. Delay in filing of ARRs was also pointed out in previous Performance audit of the Company.

Management attributed (May 2020) the delay in filing of ARR on inputs from its various wings like finance, planning, accounts *etc*. besides delay on part of consultant engaged for preparation of ARR. As all these factors were controllable, and the management in view of financial implication, should initiate timely action for filing the ARRs.

2.11.2 Avoidable financial implication due to non-claiming of holding cost

As per HERC (Multi Year Tariff) Regulations 2012, the Company was required to file application for determination of tariff for the ensuing year, mid-year performance review of current year and true-up[56] of previous year. As there is gap of approximately one and a half year in truing up of transmission cost, as such holding cost of one and half year is also allowed with the true-up cost by the regulator. It was noticed:

- For determination of tariff for the year 2015-16, mid-year performance review for 2014-15 and true up for 2013-14, was submitted to HERC in December 2014. This was approved by HERC in March 2015 which included the true up cost for 2013-14 along with holding cost (interest) for one and a half year.

- The Company, filed (6 May 2015) review petition for additional true up of the year 2013-14. The HERC allowed (August 2015) additional true up of ₹ 38.10 crore without any holding cost.

- The Company, however, neither recovered the additional true up from the consumers, nor took up with HERC immediately after August 2015 to allow recovery of additional true up along with holding cost.

- Belatedly, the Company claimed (October 2018) additional true up cost of ₹ 38.10 crore along with holding cost. HERC allowed (March 2018), the Company to recover ₹ 38.10 crore along with holding cost of ₹ 8.67 crore[57] for two and a half years only with transmission tariff for 2018-19.

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[56] Before start of a financial year, the HERC approves tariff for the year based on estimated data for previous year which is revised in the coming years after the finalisation of balance sheet. This revision of tariff after receipt of actual data is called true-up and effect of this revision is implemented in the year in which it is finalised.

[57] ₹ 3.81 crore (as holding cost for 2016-17 at the rate of 10 *per cent*) plus ₹ 4.86 crore (for one and a half year at the rate of 8.5 *per cent*).

- Since additional true up for 2013-14 was allowed along with transmission tariff for 2018-19, holding cost for four and a half year[58] was due. However, HERC considered that it was an error on the part of the Company and accordingly, it allowed holding cost for two and a half years only.

This resulted in financial implication of ₹ 8.27[59] crore on the Company which could have been avoided had the Company recovered additional true up cost immediately after August 2015 and claimed the holding cost separately. Impact of this had to be borne by the Company which reduced its profits.

The Management, during exit conference stated (January 2020) that this amount was erroneously deducted by HERC while truing up of 2015-16 and that HERC admitted the error and allowed recovery of ₹ 38.10 crore through orders dated 15 March 2018. The reply is not correct as HERC in their order dated 15 March 2018 had stated that it was an error on the part of the Company and allowed ₹ 38.10 crore to be recovered with holding cost for two and half years only. However, no reasons were stated for non-claiming of holding cost.

2.11.3 Inefficient Contract Management

Adani Enterprises Limited (AEL) entered into (August 2008) a Power Purchase Agreement (PPA) with Haryana DISCOMs, UHBVNL and DHBVNL for supply of 1,424 MW power from its 4,620 MW Mundra Thermal Power Station in Mundra, Gujarat through tariff based bidding route. For evacuation of power, AEL constructed a 2,500 MW dedicated HVDC bi-pole transmission line *viz.* Mundra-Mohindergarh.

- AEL filed (September 2012) petition with CERC for grant of transmission license for conversion of the dedicated line into Inter State Transmission System (ISTS) which was granted (June 2013).

- Haryana power utilities in consultation with GoH requested (July 2013) CERC that consequent upon conversion of dedicated transmission line in to ISTS, there shall not be any claim of Point of Connection (PoC)[60] charges on them for use of this line. However, the CERC ordered (June 2013) that transmission licensee shall bear the transmission charges corresponding to Haryana's contracted capacity of 1,424 MW only.

It was observed that the Company (being responsible for dealing with PoC relating issues of the State) did not consider the issue of implication of PoC charges on ISTS part (1,005 MW) of the line on the State despite the fact that the entire cost of transmission line including spare capacity was already embedded in the tariff.

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58 2014-15, 2015-16, 2016-17, 2017-18 and half year in respect of 2018-19 in which recovery was to be effected.

59 Calculated at rate of interest as allowed by HERC on Working Capital, *i.e.,* 10.85 *per cent per annum* for 2014-15 and 2015-16 on ₹ 38.10 crore.

60 PoC is the basis for distribution of pan India Interstate transmission charges based on usage of Inter -State transmission system.

2.11.4 Non-adherence of norms for interest on working capital loan.

As per HERC (Multi Year Tariff) Regulations, 2012, interest on working capital[61] was to be allowed on normative basis. The table indicates the year-wise details of interest cost as allowed and actually incurred by the Company during five years ended 31 March 2019:

Table 2.9: Interest on working capital allowed by HERC and actually incurred

(₹ in crore)

Year	Working capital interest allowed by HERC	Interest on Working capital actually incurred	Amount disallowed by HERC
2014-15	19.10	46.73	27.63
2015-16	23.14	39.81	16.67
2016-17	21.20	21.20	-
2017-18	23.93	23.93	-
2018-19	27.75	25.51	-
Total	**115.12**	**157.18**	**44.30**

Source: Information compiled from tariff orders of HERC.

It was observed that:

- The Company was not able to efficiently manage its working capital requirements and as a result it could not recover interest of ₹ 44.30 crore though tariff as this was in excess of the norms allowed by HERC during 2014-19. This adversely affected its profitability.

- The Company inappropriately claimed interest on Medium Term Loan availed from REC (to meet its working capital requirement) as interest on CAPEX loan. This resulted in over claim of interest on CAPEX loan by ₹ 16.64 crore. Had it been claimed as interest on working capital, it would have been disallowed, as the company has already exhausted its working capital limits. This resulted in over burdening the consumers by ₹16.64 crore.

The Management stated (May 2020) that it claimed MTL in CAPEX to bridge the gap due to delayed release of equity by Haryana Government. Further the loan was taken for bridging the CAPEX loan instead of working capital loan. The reply is not acceptable as it was a working capital loan as per the documents of REC and the Company mis-represented the facts in ARR.

2.11.5 Benefits not passed on to consumers

(a) As per HERC (terms and conditions for determination of transmission tariff) Regulations 2008, the Company was allowed Advance Against Depreciation (AAD) over and above the actual depreciation for repayment of loans. In view of upward revision of depreciation rates, these Regulations were repealed and replaced with HERC (MYT) Regulations, 2012, which did not

[61] Working capital includes (i) normative operation and maintenance expenses for one month, (ii) Maintenance spares equivalent to 15 *per cent* of the operation and maintenance expenses and (iii) Receivables equivalent to one month's fixed cost calculated on normative target availability.

have provision regarding AAD. Accordingly, HERC did not allow AAD after 2012-13.

- As per annual accounts of the Company for the year 2012-13, AAD allowed by HERC stood at ₹ 182.34 crore, which was to be adjusted against depreciation in future years. However, during 2014-15 Company transferred AAD amounting to ₹ 182.34 crore to General Reserves on the ground that there was no provision of AAD in HERC (MYT) Regulations, 2012.

- Since AAD was already recovered through tariff over and above normal depreciation, the same should have been adjusted in subsequent years in the depreciation head and benefit passed on to consumers.

- Though HERC adjusted AAD amounting ₹ 144.69 crore (₹ 61.19 crore, ₹ 41.75 crore and ₹ 41.75 crore during the FY 2010-11, 2011-12 and 2012-13 respectively) against the depreciation through tariff but the amount of ₹ 37.65 crore allowed by HERC (November 2012) has not been passed on to the consumers so far (May 2020).

During exit conference, the management admitted the fact. Thus, the consumers were deprived of the benefit of ₹ 37.65 crore.

(b) The Company had drawn (2001) working capital loans from Haryana State Agricultural Marketing Board, interest on which was being allowed by HERC up to 2008-09. However, while approving ARR for FY 2009-10, HERC disallowed (May 2009) interest cost on the said loan stating that interest and full repayment of the loan had already been allowed during 2008-09.

- As the Company was pursuing for waiver of interest and not paying interest on this loan, HERC directed (April 2010) the Company to keep it informed about waiver of interest already accrued on this loan so that the same could be adjusted in subsequent years.

- Though, HERC continued to disallow interest on this loan during 2009-18, the Company booked interest liability of ₹ 45.43 crore during this period in its books of accounts.

- During 2017-18, Haryana State Agricultural Marketing Board waived off outstanding interest of ₹ 80.42 crore, however, as directed, the Company did not intimate HERC about this. As a result, benefit of ₹ 34.99 crore (₹ 80.42 crore – ₹ 45.43 crore) allowed prior to 2008-09, could not be passed on to consumers who were unjustly burdened.

The Management stated (May 2020) that interest on working capital was allowed on normative basis as such the amount allowed was not payable. The reply is not acceptable as the company had been recovering the interest expenditure through ARR, therefore any benefit of interest waiver thereafter should also have been passed to consumers. The Company did not inform HERC in this regard despite its specific directions.

2.12 Impact of audit findings

2.12.1 Overburdening of consumers

The HERC allow tariff to the Company on the basis of total transmission cost filed by the Company through ARR. Therefore, any inappropriate claim due to inefficiencies on the part of Company and non-passing on the benefit of transmission cost components already allowed by HERC through tariff in earlier years upon their subsequent non-requirement/waiver results in unjustified burden on the consumer by way of higher tariff. During 2014-19, the consumers of Haryana were overburdened by ₹ 168.64 crore as detailed below:

- The Company could not ensure synchronous completion of sub-stations and associated transmission lines which resulted in overburdening of consumers by ₹ 67.33 crore (para 2.7.2.1 and 2.7.2.2).

- Due to delay in repair of transformers and under utilisation of sub-stations, the consumers were overburdened by ₹ 6.71 crore (para 2.8.2).

- Due to poor coordination with sister power utilities, the consumers were overburdened by ₹ 3.74 crore (para 2.9).

- Due to delay in filing of ARR, an amount of ₹ 2.11 crore could not be recovered from short term open access consumers consequently the benefit of ₹ 1.58 crore (75 *per cent*) could not be passed on to the consumers as per HERC regulations (para 2.11.1).

- The consumers were overburdened by ₹ 16.64 crore as the Company inappropriately claimed interest on working capital as interest on CAPEX loan (para 2.11.4).

- Non-passing of benefits of AAD and interest waiver to the consumers by ₹ 72.64 crore (para 2.11.5).

2.12.2 Reduction in Company's profitability

Besides, inefficiencies on Company's part, the burden of which was passed on to consumers, there were certain other inefficiencies which, though not affected consumers, reduced Company's revenues and profitability by ₹ 70.08 crore during 2014-19 as detailed below:

- Non-achievement of TSA resulted in decrease in profits by ₹ 15.51 crore (Para No. 2.8.3).

- Availing mid-term loan against Government guarantee without carrying out cost benefit analysis put extra burden of interest of ₹ 1.47 crore (Para 2.10.3).

- Delayed filing of ARRs, resulted in non-recovery of additional revenue of ₹ 0.53 crore from short term open access consumers (Para 2.11.1).

- Non-claiming of holding cost timely, put extra burden of ₹ 8.27 crore on its profitability (Para 2.11.2).

- Non-adherence to working capital norms, resulted in non-recovery of ₹ 44.30 crore through tariffs which reduced its profitability (Para.2.11.4).

2.12.3 Status of audit findings in previous Performance Audit and not forming part of present Performance audit

The Company improved its performance with respect to following audit comments in previous Performance audit report:

- The transmission losses of the Company decreased from 2.62 *per cent* during 2014-15 to 2.05 *per cent* during 2018-19 and were even below the targets fixed by HERC during 2017-19.

- There was no disallowance of interest on capital expenditure during 2014-19.

- The Company had regularly claimed reactive energy charges.

Conclusions

The project planning and execution of the Company was poor in terms of completion of power sub-stations with delays. Pre project activities like acquisition of land, handing over site, providing approved drawings to contractors, forest clearance, and non-taking action against defaulting contractors as per contract *etc.* were the major factors behind this.

The Company could not ensure simultaneous completion of sub-stations and associated transmission lines which resulted in non-utilisation of completed work till the completion of associated work. The Company incurred higher transmission costs in comparison with Punjab and Rajasthan during 2014-19. The transmission cost could have been reduced by the Company by ensuring timely commissioning of sub-stations and transmission lines to minimise project cost, controlling extra costs incurred on various accounts and ensuring full utilisation of cheaper World Bank loan. Further, the Company filed ARR with delays to the HERC, which resulted in non-recovery of transmission charges.

The consumers were unduly burdened with ₹ 168.64 crore during 2014-19 for inefficiencies of the Company mainly on account of non-synchronous commissioning of sub-stations and transmission lines, under utilisation of transmission capacity, non-passing of benefits of Advance Against Depreciation and interest waiver to the consumers. Besides this, an amount of ₹ 70.08 crore was disallowed by the Commission in tariffs which had to be borne by Company itself reducing its profitability. As audit findings are based on test check of records, it is recommended that the Company may undertake checks in all areas of operation and undertake remedial measures to improve its efficiency and profitability.

Recommendations

Based on the above audit findings, we recommend that the Company may:

- streamline the system of project planning so as to abide by fixed timelines at different stages of project activities and ensure necessary clearances and physical possession of land before making any financial commitment in relation to the project;

- ensure coordinated commissioning of sub-stations and lines through proper planning and monitoring, and initiate timely action to enforce contract conditions against defaulting contractors;

- establish robust system for preventive maintenance and repair of Power Transformers and other transmission equipment to bring down their damage rate and improve upon transmission system availability on a consistent basis;

- review their financial management to ensure complete utilisation of comparatively cheaper funding options, diligent cost benefit analysis in borrowings and improve profitability;

- reduce its transmission cost by controlling the inefficiencies in project and financial management, and enhanced coordination with distribution utilities to ensure seamless downward flow of electricity;

- ensure timely submission of Aggregated Revenue Requirement to the HERC and recover due transmission charges;

- In line with objective of National Electricity Policy of balancing the interests of consumers and need for investment, the Company and GoH may co-ordinate with DISCOM/HERC to ensure that state consumers are not unduly burdened for inefficiencies of power utilities.

The matter was referred (February 2020) to the Government; their reply was awaited (August 2020).