Executive Summary

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Haryana Power Generation Corporation Limited (Company) a wholly owned Government Company incorporated (March 1997) to plan, commission and operate power generation plants to cater to the requirements of power in Haryana. As on 31 March 2021, the Company's total generation capacity was 2,582.4 Mega Watt (MW) comprising of three thermal power plants (2,510 MW), one hydro power plant (62.4 MW) at Western Yamuna Canal (WYC), Yamuna Nagar and one Solar Power Plant (10 MW) at Panipat. The power produced by the Company is exclusively sold to Haryana State owned Power Distribution Companies (DISCOMs). Energy charges for sale of power are decided every year by Haryana Electricity Regulatory Commission (HERC) on the basis of Annual Revenue Requirement of the Company. During the period of Performance Audit (PA), Unit-V (210 MW) of Panipat Thermal Power Station was phased out in March 2020 and a 10 MW solar power plant was commissioned during November 2016.

A summary of the main audit findings is given below:

Operation and maintenance of Generating Plants

The generation declined from 10,567.83 MUs in 2017-18 to 5,466.81 MUs in 2020-21. This was below the normative generation approved by the HERC and the shortfall ranged between 42.61 to 69.24 *per cent* during 2017-21. The main reason for low generation was higher variable cost of thermal power stations which resulted in backing down of plants.

(Paragraph 2.1, Page 9)

The Plant Load Factor in respect of all units of the Company decreased substantially due to forced outages on account of various technical problems, poor planning in execution of works pertaining to capital overhauling. Due to non-achievement of normative PLF, Company could not recover fixed cost of ₹ 390.94 crore during 2016-21 from the DISCOMs. The Company lost the opportunity to earn potential revenue of ₹ 15,576.80 crore on non-production of 49,559.73 MUs of power during 2016-21 due to non-achievement of normative PLF.

(Paragraph 2.2, Page 11)

As per merit order, plants of the Company were one of expensive plants amongst the 33 Power plants for which merit order is prepared by DISCOMs. Their ranks in merit order ranged between 1st and 13th during 2016-17 to 2020-21 due to high variable cost. The position of the thermal plants in merit order deteriorated due to which the Company lost opportunity of earning potential revenue of ₹ 13,449.61 crore by not generating 38,862.43 MUs of power.

(Paragraph 2.5, Page 15)

Unit-II of RGTPP got damaged (September 2020) due to irregular loading pattern. The Company had not carried out any cost benefit analysis either go for repair or purchase new equipment in view of high transportation cost against the small amount on repair cost and loss of fixed cost of ₹ 0.97 crore per day besides loss of generation of 12.24 MUs per day. The HIP rotor had been received during January 2022 but unit could not be commissioned due to non–receipt of associated spares resulting in non-recovery of fixed cost of ₹ 396.77 crore from the DISCOMs apart from loss of potential revenue for forced shutdown period.

(Paragraph 2.6.2, Page 21)

The Company suffered generation loss of 63.80 MUs of green energy valuing ₹ 30.73 crore in respect of Western Yamuna Canal Hydro Electric Project due to acceptance of non-inter-changeable blades and delay in completion of overhauling work of Machines. Due to lesser generation, DISCOMs had to purchase 63.80 MUs of power from other sources resulting in extra burden to the extent of ₹ 30.73 crore on consumers.

(Paragraph 2.6.6, Page 27)

With reference to Audit findings on Operation and maintenance of Generating Plants, Audit recommends that:

- The Company needs to control variable cost of its thermal plants for generation of power to get schedule for generation of power from the DISCOMs.
- The overhauling of the generating plants may be planned in accordance with recommendations of original equipment manufacturers and scheduled in a manner as to minimise forced outages.
- The Company must carry out cost benefit analysis to decide whether to go for repair of its capital equipments or purchase new equipment.

Fuel and Inventory Management

The coal consumption pattern of all the three power plants of Company was within the norms approved by HERC in respect of its units except for RGTPP (Unit-II) during 2019-20 and 2020-21.

(Paragraph 3.1, Page 29)

The quantity and quality claims include compensation for short supplies of Coal Companies, quality claims on un-sampled rakes and compensation pertaining to idle freight. Out of total claims lodged during 2016-21 for ₹ 421.74 crore on account of quantity claims, the Company could reconcile claims of ₹ 21.68 crore (5.14 *per cent* only) during 2016-17 to 2020-21. The quantity claims of ₹ 494.32 crore and quality claims of ₹ 270.50 crore raised by the Company with coal supply companies were pending as on 31 March 2021.

(Paragraph 3.3, Page 31)

The working capital involved in O&M spares was more than the prescribed norms of HERC in all the three plants of the Company and therefore the Company could not recover interest amounting to ₹ 105.31 crore on excess working capital involved in O&M spares through tariff.

(Paragraph 3.5.2, Page 39)

The mean time taken by the three plants (DCRTPP, RGTPP and PTPS) of the Company in placing purchase orders since the date of requirement ranged between 223 and 328 days for procurement of material. Further, the users received this material in these plants after mean days ranging between 412 and 682 days since their requirements.

(Paragraph 3.5.3, Page 40)

With reference to Audit findings on Fuel and Inventory Management, Audit recommends that:

The Company may

- pursue its quantity and quality claims with coal supply companies for their early settlement.
- ensure quality analysis of all coal rakes dispatched by coal companies.
- ensure that the inventory levels are maintained as per norms specified by HERC to avoid financial burden of interest on funds used.
- determine at an early date, a time frame for processing the purchase cases in its work and purchase regulations, as assured.

Financial Management

The Company recovered excess fixed cost amounting to ₹ 26.46 crore during 2018-19 and 2019-20 due to achievement of higher PLF against the HERC norms which was in contravention of the tariff orders of HERC.

(Paragraph 4.1.2, Page 45)

The actual average level of daily coal stock in all thermal plants remained less than the normative level determined by HERC during the period 2016-21. As a result, the Company had claimed and recovered excess interest of ₹ 107.23 crore on working capital during 2016-17 and 2017-18 from Haryana DISCOMs through tariff which had put extra burden on the State consumers.

(Paragraph 4.1.3 (a), Page 46)

The actual average working capital involved in sales receivables was lesser by ₹ 415.39 crore than normative working capital requirement due to low level of generation during the period 2016-18. Thus, the Company had claimed and recovered excess interest of ₹ 43.82 crore on working capital on account of receivables from DISCOMs.

(Paragraph 4.1.3 (b), Page 47)

The Company received funds amounting to ₹ 252.12 crore through sale of fly ash during 2016-17 to 2020-21 but utilised only ₹ 15.23 crore during this period. An amount of ₹ 476.20 crore remained unutilised in ash funds collected through sale of fly ash. The Company used this fund in the general business.

(Paragraph 4.1.4, Page 48)

With reference to Audit findings on Financial Management, Audit recommends that:

- The Company should recover its charges on account of fixed cost from the DISCOMs as per tariff orders of HERC to avoid any extra burden on State consumers.
- The Company should claim interest on working capital involved in coal stock and receivables from the DISCOMs on actual requirement basis, to avoid any undue financial burden on State consumers.
- The Company should utilise funds from sale of dry fly ash as per guidelines of MoEF&CC.

Compliance of Environmental norms and Generation of clean energy

Power plants of the Company met the emission norms regarding Suspended Particulate Matter (SPM) levels as determined by the Ministry of Environment, Forest and Climate Change (MoEF&CC) in all the years from 2016-21. However, Emission norms of SO_2 and NO_x are not met by the power plants.

(Paragraph 5.1.1, Page 51)

The Company failed to utilise the fly ash fund for development of infrastructure or facilities, promotion and facilitation activities for use of fly ash which violate the MoEF&CC guidelines.

(Paragraph 5.1.3, Page 54)

The Company has not set any timeline for setting up of 133.20 MW solar power plants on its own land despite approval of the State Government in October 2016. The Company, however, could install only 10 MW solar power project at PTPS (December 2021) during the period 2016-21 and thus, the objective of green energy could not be achieved.

(Paragraph 5.2.1, Page 57)

While entering into PPA with DISCOMs for supply of power from solar project, the Company agreed to remove the terms and conditions regarding deemed generation, which has resulted in generation loss of 35.05 lakh units valuing ₹ 1.12 crore.

(Paragraph 5.2.2 A, Page 58)

With reference to Audit findings on Compliance of Environmental norms and Generation of clean energy, Audit recommends that:

The Company:

- to keep the emission levels within norms, may install pollution controlling equipments to ensure compliance with MoEF&CC guidelines;
- may ensure effective utilisation of dry fly ash fund and disposal of dry fly ash as per MoEF&CC guidelines;
- may install solar power plants on the available land in time bound manner to achieve the objective of green energy; and
- may follow HERC directions regarding Capacity Utilisation Factor (CUF) and deemed generation, etc. while finalising the PPAs for solar plants in future.

Power Procurement on the basis of Merit Order Dispatch by Haryana Power Purchase Centre for Haryana State

Against the maximum demand of 5,941.19 MW on 1 November 2019, HPPC had purchased 6,046.61 MW which included 1,628.69 MW from renewable sources (must run power), 4,027.02 MW from thermal power on merit order basis, 263.59 MW from short term thermal power and 127.31 MW from Energy Exchange.

(Paragraph 6.1.1, Page 62)

The HPPC could utilize maximum 5,119 MW and 5,595 MW capacity against the actual available of 7,204 MW capacity during 2019-20 and 2020-21 respectively. Thus, 2,085 MW capacity during 2019-20 and 1,609 MW capacity during 2020-21 remained unutilized. Due to which, the units of thermal power plants including Haryana State owned generating units were backed down (non-operational) for significant period of time during these years.

(Paragraph 6.4, Page 70)

HPPC/DISCOMs had added capacity on an adhoc assessment basis in the past which has resulted into underutilization of existing sources and undue burden of fixed cost on State Consumers.

(Paragraph 6.5, Page 71)

With reference to Audit findings on Power Procurement on the basis of Merit Order Dispatch by Haryana Power Purchase Centre for Haryana State, Audit recommends that:

- HPPC should use Operational Research/ Optimization Techniques to get the best mix for procurement of power.
- HPPC should take prompt action for consideration of proper variable cost of M/s JPL while preparing Merit Order Dispatch.