

**Chapter 3**  
**Fuel and Inventory Management**



## Chapter 3

### Fuel and Inventory Management

Fuel cost is the major component of the total cost of the power generation. Optimization of the fuel cost through effective and efficient planning of procurement and consumption is therefore necessary to generate electricity at economical rates. Audit findings in fuel management are discussed as under.

#### 3.1 Excess consumption of coal

The consumption of coal depends upon its Gross Calorific Value (GCV) and efficiency of thermal plant. Lesser GCV of coal and higher Station Heat Rate<sup>1</sup> (SHR) of plant would result into higher consumption of coal. HERC determines normative coal consumption every year through its tariff orders keeping in view the average GCV of coal received at plant and SHR of plant during previous year. Audit analysed the coal consumption pattern of all the three power plants of Company and found that it was within the norms approved by HERC at all units except at RGTTP (Unit-II) during 2019-20 and 2020-21 as detailed below:

**Table 3.1: Details showing normative consumption of coal vis-à-vis actual consumption of coal**

Year	GCV of Coal		Power generation (in MUs)	Normative coal consumption for actual generation (in MT)	Actual coal consumption (in MT)	Excess coal consumption (in MT)	Coal cost per MT	Excess coal cost (₹ in crore)
	Approved	Actual						
2019-20	3,641	3,461	1,547.17	10,74,189.22 <sup>2</sup>	10,88,244.96	14,055.74	4,879	6.86
2020-21	3,539	3,378	405.92	2,90,616.81 <sup>3</sup>	2,93,776.31	3,159.50	5,142	1.62
<b>Total</b>						<b>17,215.24</b>		<b>8.48</b>

**Source: Information supplied by the Company and HERC Tariff orders**

It was observed that coal consumption was higher than HERC norms due to low GCV of coal and reduced efficiency of plant. Actual GCV of coal received was 3,461 and 3,378 against the norms of 3,641 and 3,539 during 2019-20 and 2020-21 respectively. Also, SHR of plant remained higher during this period at 2,442 and 2,461 kcal/kwh against the norms of 2,387 kcal/kwh (refer table 2.5 of Chapter 2). Audit also observed that Unit-II remained under shutdown due to damage of rotor during 2013 and now since September 2020. This resulted in excess consumption of coal of 17,215.24 MT valuing ₹ 8.48 crore during 2019-21. The cost of excess coal consumed was a direct loss to the Company as it could not be recovered through tariff.

<sup>1</sup> Station Heat Rate (SHR) indicates the amount of fuel (heat) required to generate one unit of electricity.

<sup>2</sup> Worked out in proportion to normative coal consumption of 29,15,711 MT for production of 4,199.54 MUs of power.

<sup>3</sup> Worked out in proportion to normative coal consumption of 30,06,644 MT for production of 4,199.54 MUs of power.

The Management replied (May 2022) that they had to bear losses as per prevalent regulations. Now the regulations has been revised (March 2022) by HERC, therefore, further losses on account of excess coal consumption will be claimed and recovered through tariff. However, the fact remained that the company failed to adhere to the coal consumption norms during 2016-21 and suffered losses.

### 3.2 Excess consumption of Secondary fuel

Apart from coal, diesel and furnace oil are also used as secondary fuel to light up the boiler in thermal power plants. The consumption of fuel oil is directly proportional to number of starts/ stops of plant. HERC had fixed normative consumption rate (ml/kwh) for fuel oil for each year in respect of all the thermal power plant of the Company. The position of actual consumption of fuel oil vis-à-vis HERC norms in respect of Units having excess consumption was as under:

**Table 3.2: Details showing normative consumption vis-à-vis actual consumption of oil**

Name of the Plant	Unit	Year	Actual generation (In MUs)	Specific oil consumption (ml/kwh)			Total excess consumption (in KL)	Cost per KL as approved by HERC	Total cost (₹ in crore)
				Approved by HERC	Actual	Excess			
RGTPP	I	2020-21	1,230.98	0.5	0.649	0.149	183.41	51,156.00	0.93
	II		405.93	0.5	1.700	1.200	487.11	51,156.00	2.49
	<b>Total (A)</b>							<b>670.52</b>	
PTPS	V	2016-17	169.215	1	2.22	1.22	206.44	39,255.58	0.81
		2017-18	140.77	1	4.04	3.04	427.94	38,880.01	1.66
		2018-19	176.752	1	2.94	1.94	342.90	31,285.00	1.07
	VI	2016-17	219.542	1	2.11	1.11	243.69	39,255.58	0.96
		2017-18	373.687	1	2.60	1.60	597.90	38,880.01	2.32
		2018-19	324.001	1	1.77	0.77	249.48	31,285.00	0.78
		2020-21	51.928	1	5.17	4.17	216.54	51,515.00	1.12
	VII	2020-21	619.476	0.5	0.96	0.46	284.96	51,515.00	1.47
	VIII	2016-17	690.272	1	1.02	0.02	13.81	39,255.58	0.05
		2017-18	787.366	1	1.26	0.26	204.72	38,880.01	0.80
		2020-21	547.078	0.5	0.92	0.42	229.77	51,515.00	1.18
<b>Total (B)</b>							<b>3,018.15</b>		<b>12.22</b>
<b>Grand Total (A+B)</b>							<b>3,688.67</b>		<b>15.64</b>

**Source: Information supplied by the Company and HERC Tariff orders**

There was excess expenditure of ₹ 15.64 crore on account of excess consumption of secondary fuel during the period 2016-21. The main reasons for higher consumption were low PLF due to less scheduling on account of higher variable cost and more numbers of start/stop operations and tripping on account of forced outages. PTPS consumed excess secondary fuel worth ₹ 12.22 crore due to its older units<sup>4</sup>.

The Management replied (May 2022) that reasons for excess fuel consumption were frequent start/stops due to excessive backing down and oil used during testing/balancing of Rotor. The reply is not tenable as frequent starts/stops are

<sup>4</sup> Year of installation of PTPS Unit VI-2001, Unit VII-2004, Unit VIII-2005, DCRTPP Unit I & II-2008, RGTPP Unit I-2010, Unit II-2011.

on account of backing down instructions due to higher variable cost of generation. Management should take action to reduce its variable cost by optimizing fuel linkage and timely maintenance/overhauling of plants.

### 3.3 Unsettled quantity and quality claims

The Company entered into Fuel Supply Agreements (FSA) with the coal Companies i.e. Central Coalfields Limited (CCL), Mahanadi Coalfields Limited (MCL), Northern Coalfields Limited (NCL) and Eastern Coalfields Limited (ECL) for supply of coal. The FSA provided that the seller would raise source-wise bills for the coal supplied to the purchaser on declared graded basis within seven days of delivery of coal. Procedures regarding raising of bills, quality and quantity claims on account of grade slippage, under loading/overloading, short supplies, stones etc. have been prescribed in FSA. Quantity claims consisted of mainly under loading claims and claims on short delivery of coal. Quality claims involved claims on account of grade slippage and claims on account of un-sampled rakes from the colliery end.

It was observed that quantity claims of ₹ 494.32 crore and quality claims of ₹ 270.50 crore raised by the Company with coal supply companies were pending as at the end of March 2021. Following table indicates year wise detail of claim lodged, recovered and pending during 2016-21:

**Table 3.3: Details showing status of quantity and quality claims in respect of coal**

(₹ in crore)

Financial Year	Claims outstanding at the beginning of year	Claims lodged during the year	Claims reconciled during the year	Claims realised during the year	Claims outstanding at the end of the year
	A	B	C	E	F=A+B-C
<b>A. Quantity Claims</b>					
2016-17	94.24	29.57	14.66	14.66	109.15
2017-18	109.15	117.25	3.57	3.57	222.83
2018-19	222.83	31.46	2.75	2.75	251.54
2019-20	251.54	234.94	0.70	0.02	485.78
2020-21	485.78	8.52	0	0	494.30
<b>Total</b>		<b>421.74</b>	<b>21.68</b>		
<b>B. Quality Claims</b>					
2016-17	49.21	109.76	12.69	8.79	146.28
2017-18	146.28	232.64	60.31	51.94	318.61
2018-19	318.61	157.27	142.15	95.66	333.73
2019-20	333.73	97.45	149.97	47.82	281.21
2020-21	281.21	28.59	39.3	13.12	270.50
<b>Total</b>		<b>625.71</b>	<b>404.42</b>		

Source: Information supplied by the Company

The Company could reconcile quantity claims of only ₹ 21.68 crore (5.14 per cent) against the total claims of ₹ 421.74 crore lodged with the coal companies. The Company had not reconciled any claims during 2020-21.

The reconciliation of quality claims increased during 2016 to 2020 but was low during 2020-21.

The matter for recovery of claims of ₹ 477.86 crore for quantity claims and ₹ 158.21 crore for quality claims were pending with Committee of Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) as on 28 February 2021. It was observed that claims had increased year upon year. Delay in settlement of claims resulted into blockade of funds leading to higher working capital loans by the Company. Besides, timely realisation of claims could have reduced variable cost of generation as the value of claims received is deducted from the total cost shown in coal price store ledger. It is recommended that the Company should make efforts to settle/ realise the coal claims at the earliest.

Some of the major claims are discussed below:

### 3.3.1 Non-recovery of compensation for short supplies of Coal.

The Company entered into a Fuel Supply Agreement (FSA) with six<sup>5</sup> coal companies. The FSA provided that if for a year, the Level of Delivery by the seller, or the Level of Lifting by the purchaser fell below Annual Contracted Quantity (ACQ) with respect to that year, the defaulting party would be liable to pay compensation to the other party for such shortfall in Level of Delivery or Level of Lifting, as the case may be (Failed Quantity). The applicable clause for compensation is as under:

**Table 3.4: Rate of compensation for the failed quantity as per level of delivery/lifting of coal**

Sr. No.	Level of Delivery/ Lifting of Coal in a year	Rate of Compensation for the failed quantity
1	Less than 100 per cent but up to 90 per cent of ACQ	Nil
2	Below 90 per cent but up to 85 per cent of ACQ	10 per cent
3	Below 85 per cent but up to 80 per cent of ACQ	20 per cent
4	Below 80 per cent of ACQ	40 per cent

**Source: Information extracted from the Fuel Supply Agreements of the Coal Companies**

Details of Annual Contracted Quantity, actual quantity received, short supply by the coal companies and compensation for short supply to be received by the Company were as under:

**Table 3.5: Annual Contracted Quantity, actual quantity and amount of short supply compensation to be recovered from coal companies**

Year	ACQ (in lakh Metric Tonne)	Actual Quantity received (in lakh Metric Tonne)	Short supply of Coal		Amount of Compensation for Short supply of coal (₹ in crore)
			in lakh Metric Tonne	In per cent	
<b>DCRTPP at Yamuna Nagar</b>					
<b>Name of the coal company: Central Coalfields Limited</b>					
2011-12	28	22.89	5.11	18.25	3.49
2014-15	28	19.84	8.16	29.15	18.03
2017-18	28	18.56	9.44	33.71	24.09
2018-19	28	17.62	10.38	37.07	34.27
2019-20	28	22.25	5.75	20.53	7.01
<b>Total (A)</b>					<b>86.89</b>

<sup>5</sup> M/s CCL, M/s MCL, M/s ECL, M/s NCL, M/s BCCL and M/s WCL.

Year	ACQ (in lakh Metric Tonne)	Actual Quantity received (in lakh Metric Tonne)	Short supply of Coal		Amount of Compensation for Short supply of coal (₹ in crore)
			in lakh Metric Tonne	In per cent	
<b>RGTPP at Khedar</b>					
<b>Name of the coal company: Central Coalfields Limited</b>					
2017-18	13.02	7.04	5.98	45.92	3.38
2018-19	13.02	5.03	7.99	61.36	9.34
2019-20	13.02	9.01	4.01	30.80	0.02
<b>Name of the Coal company: Northern Coalfields Company Limited</b>					
2017-18	15	8.44	6.56	43.73	2.68
2019-20	15	8.10	6.91	46.07	3.36
<b>Name of the company: Mahanadi Coal Limited</b>					
2018-19	25.6	8.45	17.15	66.99	1.62
<b>Total (B)</b>					<b>20.40</b>
<b>Panipat Thermal Power Station at Panipat</b>					
<b>Name of the coal company: Central Coalfields Limited</b>					
2017-18	26.65	5.50	21.15	79.36	98.60
2018-19	26.65	15.09	11.56	43.37	43.70
<b>Name of the coal company: Western Coalfields Limited</b>					
2017-18	3	0.84	2.16	71.97	9.70
2018-19	3	1.07	1.93	64.48	8.65
<b>Total (C)</b>					<b>160.65</b>
<b>Grand Total (A+B+C)</b>					<b>267.94</b>

**Source: Fuel Supply Agreements with the Coal Companies and information supplied by the Company**

Out of total claims of ₹ 267.94 crore during 2011-12 to 2019-20 as much as ₹ 241.92 crore (90 per cent) were recoverable from CCL as there was continuous short supply (average 38.53 per cent) of coal by CCL. The Company referred (May 2020) the matter of non-payment by coal companies to AMRCD, the response of which was awaited (March 2021). However, Company does not account for these recoverables in its annual financial statements.

Further scrutiny revealed that due to short supply of coal at RGTPP and PTPS, the units of these plants remained shut down for 38 days during August 2017 to March 2018 due to which these units could not achieve their normative PLF and failed to earn fixed cost of ₹ 36.45 crore (₹ 25.70 crore in RGTPP and ₹ 10.70 crore in PTPS).

The Management informed (May 2022) that in order to realize the pending claims, a committee comprising officers from all three power plants had been constituted (April 2019) which visited coal companies regularly for resolving the pending claims. In addition the matter regarding non-settlement of the claims was referred to Alternative Dispute Resolution Mechanism (ADRM) which was wound up during December 2018. Thereafter, a new forum i.e. Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD) was constituted by Government of India, Ministry of Coal in place of ADRM to resolve the pending claims and decision of the same is awaited (May 2022).

### **3.3.2 Non-receipt of quality claims on un-sampled rakes.**

DCRTPP, Yamuna Nagar was receiving coal supplies from Central Coalfields Limited (CCL) with Annual Contracted Quantity of 28 lakh MT. The FSA provided for seller to raise source-wise bills for the coal supplied on declared grade basis within seven days of delivery. The samples of coal were to be taken jointly at loading point for assessment of the quality of the coal. The FSA also provided for CCL to give regular credit note on account of grade slippage to the extent of difference of the base price of declared grade and analysed grade of coal.

On the petition regarding various coal claims of the Company, the Alternative Dispute Resolution Mechanism<sup>6</sup> (ADRM) decided (May 2016) that for validating the grade slippage claims, third party coal sampling would be done by Central Institute of Mining and Fuel Research (CIMFR) at the loading end in the presence of the both the parties for avoiding disputes. Accordingly, a tripartite agreement between the Company, CCL and CIMFR was executed (September 2016) for sample collection, preparation, testing and analysis of coal at loading end. Clause 1 of the tripartite agreement, provided that CIMFR would be wholly responsible for collection, preparation and analysis of coal in respect of applicable FSA's. Clause 8 of the agreement further provided that CIMFR would hand over part of coal sample at loading ends to authorized representative of Company or any other agency deployed by Company. Clause 13 further provided that the collection and preparation of sample would be witnessed by the representatives of the Coal Company and the Thermal Plant. The Company appointed (June 2015) a coal handling agent for witnessing the sampling of coal on its behalf. The work of liaison with Coal Company, Railways and other agencies in connection with dispatch of coal was also within the scope of the coal handling agent.

It was observed that CIMFR could not take samples from 291 rakes dispatched during November 2016 to August 2018. CIMFR failed to collect all samples during initial period (November 2016 to June 2017) due to lack of coordination between Coal Handling Agent and CIMFR. Further, during June 2018 to August 2018, coal was dispatched from a new siding (KUJU) from which rakes were dispatched un-sampled due to lack of coordination between CIMFR and Coal Handling Agent.

Accordingly, quality analysis of coal at loading point was not carried out by the CIMFR. However, Company prepared grade slippage claims of such un-sampled coal rakes on the basis of coal sampling analysis done at unloading end as detailed below:

---

<sup>6</sup> Earlier claims settlement mechanism set up by the Ministry of Coal, Government of India.



**Table 3.6: Un-sampled rakes received from the coal company and claims thereof**

Sr. No.	Period of receipt of rakes		Total number of un-sampled rakes received	Name of coal company	Month of raising claim	Amount of claims (₹ in crore)
	From	To				
1	November 2016	June 2017	135	M/s CCL	November 2017	19.04
2	June 2018	August 2018	149	M/s CCL	October 2018	27.99
3	November 2016	June 2017	7	M/s MCL	November 2017	1.03
	<b>Total</b>		<b>291</b>			<b>48.06</b>

**Source: Records of the Company relating to coal claims**

It was observed that despite appointment of sampling agency (CIMFR) and engagement of Coal Handling Agent for supervision of loading of coal at various sites of the coal companies, sampling of coal rakes dispatched to Company was erratic during November 2016 to August 2018. The Company had not incorporated any penalty clause in the agreement (with CIMFR) in case of a rake goes un-sampled.

Due to non-availability of loading end sampling analysis reports, the grade slippage claims were not processed as per the orders of AMRCD, and no credit note was received from the coal companies. Hence, the claims amounting to ₹ 48.06 crore continue to be pending (December 2021) with the coal companies.

The Management replied (May 2022) that initially CIMFR could not start sampling at all the collieries/sidings due to improper sampling conditions. However, DCRTTPP is insisting CCL for settling of claims on declared grade basis and the matter is also being taken up before AMRCD.

### 3.3.3 Non-recovery of compensation pertaining to idle freight

Coal is transported to the Thermal Power Plants of the Company through Railways for which it charges freight on the basis of Permissible Carrying Capacity<sup>7</sup>(PCC) of the wagon. As per FSA, any penal freight for overloading charged by the Railways for any consignment was payable by the Purchaser (Company) and any idle freight for under loading below the Stenciled Carrying Capacity<sup>8</sup> (SCC) as shown on the wagon or Carrying Capacity<sup>9</sup> (CC) based on the actual tare weight<sup>10</sup> as the case may be, plus two tones were to be borne by the seller i.e., Coal Company.

Audit observed that PCC was not mentioned in Fuel Supply Agreement between the Company and Coal Companies on which the Railway Charge freight. Further, the FSA was not clear about the capacity to be taken for

<sup>7</sup> Permissible Carrying Capacity is the maximum carrying capacity of wagon decided by Railways on the basis of various factors such as route and type of commodity to be carried.

<sup>8</sup> Stencilled Carrying Capacity is 'marked capacity' of the wagon.

<sup>9</sup> The carrying capacity (CC) of a wagon is based upon the load that the axles of the wagon can carry

<sup>10</sup> Tare weight is the weight of an empty container.

underloading claims as the Company was taking the CC for raising its claims but the coal companies were considering SCC for reimbursement of claims.

**For example:**

Let Permissible Carrying Capacity (PCC) be = 70 T, Carrying Capacity (CC) = 66 T, Stenciled Carrying Capacity (SCC)=64 T and Actual Weight = 60 T

In this case,

- Freight charged by Railways = 70 T
- Idle Freight under loading charges claimed by the Company from Coal Companies = (CC+2)- Actual Weight = (66+2) – 60 = 8 T
- Idle Freight / under loading charges reimbursed by Coal Companies = (SCC+2) - Actual Weight = (64+2) – 60 = 6 T

The company raised claims of ₹ 99.60 crore on account of idle freight during April 2016 to March 2021 as detailed below:

**Table 3.7: Details showing claims in respect of idle freight**

(₹ in crore)

Period	CCL	BCCL	NCL	MCL	ECL	WCL	Total
2016-17	17.76	1.74	4.68	1.81	0.00	0.70	26.69
2017-18	9.01	4.45	3.42	1.19	1.41	0.44	19.92
2018-19	10.41	6.62	5.20	5.98	1.62	0.43	30.26
2019-20	9.36	3.41	1.83	4.63	0.21	0.35	19.79
2020-21	2.49	0.06	0.23	0.09	0.07	0.00	2.94
<b>Total</b>	<b>49.03</b>	<b>16.28</b>	<b>15.36</b>	<b>13.70</b>	<b>3.31</b>	<b>1.92</b>	<b>99.60</b>

Source: Information received from the Company

As FSA was not clear about the capacity to be taken for underloading claims, the claims of ₹ 99.60 crore were not accepted by coal companies (December 2021).

Thus, while entering into Fuel Supply Agreement with the coal company, Company should have incorporated suitable unambiguous provisions to claim the idle freight charges.

The Management replied (May 2022) that the matter regarding non-settlement of the claims were also referred to Alternative Dispute Resolution Mechanism (ADRM) which was wound up during December 2018. Thereafter, a new forum i.e. AMRCD was constituted in place of ADRM to resolve the pending claims and decision of the same is awaited (May 2022).

**3.4 Non-recovery of differential freight paid to Railways for diverted rakes**

Railway Board, Ministry of Railways, Government of India issued (January 2014) revised rules and procedure regarding diversion of coal rakes while in transit. As per Para 29 of these rules, the concerned Office of Railway would take initiative of refund of differential freight after receipt of notice made by the party. Further, Section 106 (3) of the Indian Railways Act, 1989 provided

that a person would not be entitled to a refund of an overcharge in respect of goods carried by Railway unless a notice had been served by him or on his behalf to the Railways within six months from the date of such payment or the date of delivery of such goods at the destination station, whichever was later.

The Coal Companies supply coal at Company's power stations i.e. PTPS, Panipat, DCRTTP, Yamuna Nagar and RGTPP, Hisar through rail mode. A tripartite agreement was entered into in this regard with Indian Railways. The distance and freight from the coal mines to RGTPP, Hisar was maximum amongst these plants. The freight payable for any rake consigned to any plant was automatically debited by Railways from bank account of Company. If any rake was diverted to any other plant of Company, the differential freight became due for refund.

Audit scrutiny revealed that 184 rakes were diverted from RGTPP Hisar plant to other power plants (175 rakes to PTPS and nine rakes to DCRTTP) during December 2015 to March 2021. Accordingly, differential freight of ₹ 8.43 crore was due for refund from Railways, ₹ one crore was refunded by Railway and ₹ 7.43 crore remained to be recovered from Indian Railways as of September 2021. The request of the Company for refund of excess freight paid amounting to ₹ 0.78 crore in 33 cases was rejected by Railways on the ground that these cases were preferred after expiry of stipulated time i.e. six months as per provision under Section 106 (3) of Railway Act 1989 and were time barred.

Thus, lack of initiation of timely action for lodging claims for diverted rakes by RGTPP plant resulted in rejection of claims of ₹ 0.78 crore apart from risk of non-realization of others claims amounting to ₹ 6.65 crore<sup>11</sup> (September 2021).

The Management replied (May 2022) that HPGCL had requested Railway Board, Delhi to intervene into the matter.

### **3.5 Inventory Management and Procurement of spares**

#### **3.5.1 Inventory Management**

HPGCL Purchase and Works Regulations, 2015, requires that the indents for purchase of items should be raised after the quantity in stock has reached at the "Re-Order Level" as determined for the respective items. Such indents/requisitions, amongst other particulars, should also indicate Re-Order Quantity, Stock-in-hand (while considering the stock in hand it should be ensured that no item has been kept reserved for any specific use), pending Purchase Orders, Consumption statistics, safety stocks etc. One time purchase for projects or capital equipments/spares should be properly justified. Obsolescence factor should also be taken into account i.e., the equipment to be

<sup>11</sup> ₹ 7.43 crore minus ₹ 0.78 crore = ₹ 6.65 crore.

purchased should conform to the latest specifications and technology available in the market.

Scrutiny of records revealed the following points:

- All the three plants did not prepare item wise Inventory Control techniques i.e., Minimum Level, Maximum Level, Re-Order Level and danger Level of material. As a result, plants initiated the purchase process when the stock position of respective items was either nil or very low.
- DCRTTP purchased machinery spares parts valuing ₹ 0.79 crore procured during August 2019 and October 2020 vide two POs were yet to be issued (July 2021).
- Furnace Oil (FO) valuing ₹ 8.88 crore<sup>12</sup> purchased during November 2012 and June 2015 was not utilised (July 2021). Supreme Court of India imposed ban (November 2017) on use of FO due to high pollutant contents and adverse impact on environment. Hence, chances for use of this FO in future were very remote but the Company has not taken any action for its disposal.
- Mandatory and Recommendatory spares<sup>13</sup> valuing ₹ 186.74 crore<sup>14</sup> were still to be utilized (July 2021) even after capital overhauling of both the Units (Unit-I and II of DCRTTP) were carried out two times (2012-13 and 2018-20). The Unit-I and II were commissioned during 2008 and completed almost half of their life up to 2021 and Capital Overhauling of both the units has been carried out twice (December 2021). Also Unit-I and Unit II of RGTPP were commissioned during 2010 and have completed almost half of their life up to 2021. Hence, chances of use of this mandatory material are very remote.
- Spare parts valuing ₹ 47.37 crore of Unit I to Unit IV of PTPS-I, which had been surveyed off, dismantled and disposed off, were lying in the store for final disposal.
- Simultaneously, spare parts valuing ₹ 7.46 crore of Unit V of PTPS-II, which had been closed and were under disposal, were lying in the store for final disposal. Therefore, inventory which is not required in the plant has not been disposed off.

The Management informed (May 2022) that ERP system is being implemented and after its implementation various inventory control measures will be fixed. Furnace oil of DCRTTP has been auctioned and Furnace oil at

---

<sup>12</sup> DCRTTP: ₹ 2.18 crore and RGTPP: ₹ 6.70 crore.

<sup>13</sup> These spares were handed over by the EPC contractor at time of commissioning 2008-13 of the plants and they were yet to be utilised by the plants.

<sup>14</sup> DCRTTP: ₹ 36.70 crore (₹ 18.73 crore + ₹ 17.97 crore) and RGTPP: ₹ 150.04 crore (₹ 56.55 crore + ₹ 93.49 crore).

RGTPP is yet to be auctioned. Further, mandatory spares received as per commissioning package were intended to be utilized during lifetime of units and are presently being utilized as per the site requirement. The reply is not acceptable in view of the fact that Capital Overhauling of all the units of HPGCL having been completed and the units having expired half of their useful life, the material is yet to be utilised. Further, the Company should take early action to dispose off the furnace oil at RGTPP.

### 3.5.2 Excess inventories than HERC norms

Haryana Electricity Regulatory Commission (HERC) issued directive while approving Tariff Orders to optimize inventory of the Power Plants for spares and other maintenance equipments, etc. The HERC while approving the generation tariff during the period 2016-17 to 2020-21 had allowed inventories of 10/15 per cent of the operation and maintenance expenditure.

As per the purchase manual of the Company, the purchases of material should be restricted to the minimum requirement so as to avoid over stocking besides ensuring that the stock is readily available for consumption. The table below indicates the normative O & M spares, actual there against and consequential loss of interest during 2016-21 in respect of all the plants for excess O&M spares against norms of HERC:

**Table 3.8: Working capital requirements on O&M spares and loss of interest**

(₹ in crore)

Years	Working capital required for O&M Spares			Rate of interest allowed by (in per cent) HERC	Loss of interest
	Normative	Actual	Excess		
<b>A. DCRTPP at Yamuna Nagar</b>					
2016-17	16.25	59.05	42.80	10.55	4.52
2017-18	22.35	65.91	43.56	10.55	4.60
2018-19	23.24	63.11	39.87	9.95	3.97
2019-20	24.17	37.86	13.69	9.95	1.36
2020-21	21.48	36.49	15.03	8.65	1.30
<b>Total (A)</b>					<b>15.75</b>
<b>B. RGTPP at Khedar</b>					
2016-17	18.01	87.76	69.75	10.55	7.36
2017-18	27.69	86.19	58.50	10.55	6.17
2018-19	28.80	85.01	56.21	9.95	5.59
2019-20	29.95	68.89	38.94	9.95	3.87
2020-21	25.99	67.01	41.02	8.65	3.55
<b>Total (B)</b>					<b>26.54</b>
<b>C. PTPS at Panipat</b>					
2016-17	24.52	178.05	153.53	10.55	16.20
2017-18	26.52	155.93	129.41	10.55	13.65
2018-19	31.39	148.58	117.19	9.95	11.66
2019-20	29.83	147.41	117.58	9.95	11.70
2020-21	28.79	142.20	113.41	8.65	9.81
<b>Total (C)</b>					<b>63.02</b>
<b>Total (A+B+C)</b>					<b>105.31</b>

**Source: Compiled from trial balances and Tariff Orders of HERC for the years 2016-17 to 2020-21**

It is seen that the working capital involved in O&M spares was more than the prescribed norms of HERC in all the three plants of the Company. Accordingly, the Company could not recover interest amounting to ₹ 105.31 crore on excess working capital involved in O&M spares through tariff.

The Management accepted (May 2022) that inventory level was more than the norms prescribed by HERC and added that efforts are being made to keep the inventory within the prescribed norms of HERC.

### 3.5.3 Deficiency in procurement process

The Company has not set up any timeline for processing the cases for procurement of spare parts. Audit scrutiny of 117 Purchase orders valuing ₹ 183.63 crore selected through IDEA revealed the time taken in placement of purchase orders as under.

**Table 3.9: Time taken in placement of selected purchase orders and their value**

Time taken in finalisation of Purchase order since requirement/ indent	DCRTPP		RGTPP		PTPS	
	Number of Purchase Orders	Value (₹ in crore)	Number of Purchase Orders	Value (₹ in crore)	Number of Purchase Orders	Value (₹ in crore)
less than 180 days	12	11.56	20	55.32	9	37.82
180 to 360	15	15.33	16	13.77	11	36.42
More than 360 days	10	7.23	7	2.13	17	4.05
<b>Total</b>	<b>37</b>	<b>34.12</b>	<b>43</b>	<b>71.22</b>	<b>37</b>	<b>78.29</b>

**Source: Information received from the Company and compiled from the Purchase Orders files**

Further scrutiny revealed that DCRTPP had taken 65 days to 519 days, RGTPP 31 days to 584 days and PTPS 39 days to 652 days (minimum to maximum) in placing purchase orders for procurement of material since date of requirement by the users. The average time in placing the purchase orders was 257 days in DCRTPP, 223 days in RGTPP and 328 days in PTPS. The median time in placing the purchase orders was 261 days in DCRTPP, 203 days in RGTPP and 336 days in PTPS (*Appendix 3.1*).

Further, the users received this material in DCRTPP after 106 days to 987 days, RGTPP after 100 days to 919 days and PTPS after 302 days to 1600 days (minimum to maximum) since their submission of requirement. The mean time in receiving the material by the users was 474 days in DCRTPP, 412 days in RGTPP and 682 days in PTPS. The median time in receiving the material by the users was 446 days in DCRTPP, 350 days in RGTPP and 614 days in PTPS.

Further scrutiny revealed that DCRTPP while submitting requirement of material in ten cases valuing ₹ 2.04 crore, users had specifically mentioned that material was urgently required. Despite urgency, the plant took 167 to 898 days in supplying the material to the users. Audit scrutiny further revealed that out of ten cases of urgent purchase, in six cases valuing ₹ 1.70 crore, the approval of the competent authority was not obtained.

The Company has not prescribed any timeline for procurement of material in its Work and Purchase Regulations, 2015 which is a weakness of internal control system.

The Management replied (May 2022) that keeping in view of different modes of purchase (Proprietary, Limited Tender Enquiry and Press Tender Enquiry) which require different time spans to finalize the case and consumption of material as per site conditions, the difference of time period mentioned in audit para cannot be avoided. It was assured that efforts are being made to minimize time taken in purchases.

### 3.6 Conclusion

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

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. Delay in settlement of claims resulted into blockade of funds.

Differential freight of ₹ 8.43 crore was due for refund from Railways on account of diverted rakes during December 2015 to March 2021, of which the Railways paid ₹ one crore and ₹ 7.43 crore remained to be recovered from Indian Railways as of September 2021. The claims of ₹ 0.78 crore in 33 cases were rejected by Railways on the ground that these cases were preferred after expiry of stipulated time and were time barred.

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.

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. The Company has not prescribed any timeline for procurement of material in its Work and Purchase Regulations, 2015 which is a weakness of internal control system.

### **3.7 Recommendations**

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.
- pursue its claims with railways.
- 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.