# FORENSIC AUDIT REPORT
# ON
# NORTHERN POWER GENERATION COMPANY LIMITED (NPGCL)
# (FYs 2010-11 TO 2019-20)

## AUDIT YEAR 2020-21

## AUDITOR GENERAL OF PAKISTAN

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# ABBREVIATIONS

| | |
|---|---|
| AGP | Auditor General of Pakistan |
| BD | Bidding Data |
| BL | Bill of Lading |
| BOD | Board of Directors |
| BOQ | Bill of quantity |
| CCPP | Combined Cycle Power Plant |
| CDWP | Central Development Working Party |
| CEO | Chief Executive Officer |
| CGR | Corporate Governance Regulations |
| CIA | Chief Internal Auditor |
| COD | Commercial Operation Data |
| CPGCL | Central Power Generation Company Limited |
| CoS | Cost of Sales |
| CPP | Capacity Purchase Price |
| CPPAG | Central Power Purchasing Agency Guarantee Limited |
| CWIP | Capital Work in Progress |
| HDIP | Hydrocarbon Development Institute of Pakistan |
| DECL | Dongfang Electric Corporation Limited |
| DRR | Daily Receipt Report |
| ECC | Economic Coordination Committee |
| ECNEC | Executive Committee of National Economic Council |
| E-Form | Efficiency Form |
| EoT | Extension of Time |
| EPC | Engineering Procurement Construction |
| EPP | Energy Purchase Price |
| FAT | Forensic Audit Team |
| FBR | Federal Board of Revenue |
| FCC | Foreign Currency Component |
| FCC | Fuel Cost Component |
| FFODN | Fortnightly Furnace Oil Despatch Note |
| FFORN | Fortnight Furnace Oil Receipt Note |
| FOTP | Furnace Oil Treatment Plant |
| FPAD | Forced Payment Against Documents |
| FSA | Fuel Supply Agreement |
| GENCO | Generation Company |
| GHCL | GENCO Holding Company Limited |
| GST | General Sales Tax |

| | |
|---|---|
| GoP | Government of Pakistan |
| GTW | Gas Turbine World |
| GTPS | Gas Turbine Power Station |
| HEC | Higher Education Commission of Pakistan |
| HSD | High Speed Diesel |
| HSFO | High Sulphur Furnace Oil |
| IDC | Interest during Construction |
| IFRS | International Financial Reporting Standards |
| IPPs | Independent Power Producers |
| ISP | Initial Spare Parts |
| KWH | Kilo Watt Hour |
| KW | Kilo Watt |
| LC | Letter of Credit |
| LCC | Local Currency Component |
| L.D | Liquidated Damages |
| LPS | Late Payment Surcharge |
| NPCC | National Power Control Centre |
| MRS | Material Requisition Slips |
| MWH | Mega Watt Hour |
| MW | Mega Watt |
| NAB | National Accountability Bureau |
| NEC | National Economic Council |
| NEPRA | National Electric Power Regulatory Authority |
| NGPS | Natural Gas Power Station |
| NGSS | National Grid Station System |
| NPGCL | Northern Power Generation Company Limited (NPGCL) |
| NTDC | National Transmission Despatch Company |
| O&M | Operation and Maintenance |
| PC | Planning Commission |
| PEC | Pakistan Engineering Council |
| PEPCO | Pakistan Electric Power Companies |
| PPIB | Private Power Infrastructure Board |
| PPRA | Public Procurement Regulatory Authority |
| Pos | Purchase Orders |
| PPE | Property, Plant and Equipment |
| PRs | Purchase Requisition |
| P&NR | Petroleum & Natural Resources |
| PSO | Pakistan State Oil |
| REFP&S | Resident Engineer Fuel Procurement & Supply |

| | |
|---|---|
| RFO | Residual Furnace Oil |
| RoCE | Return on Capital Employed |
| PPA | Power Purchase Agreement |
| RLNG | Regasified Liquid Natural Gas |
| RPP | Rental Power Plant |
| RTR | Reliability Test Run |
| SMBs | Stock Measurement Books |
| SNGPL | Sui Northern Gas Pipeline |
| SOEs | State Owned Enterprises |
| SOP | Standard Operating Procedures |
| SPS | Stream Power Station |
| STFF | Syndicated Term Finance Facility |
| TOC | Taking Over Certificate |
| TORs | Terms of Reference |
| TPSM | Thermal Power Station Muzaffargarh |
| US$ | United States Dollars |
| WAPDA | Water and Power Development Authority |

# PREFACE

Auditor-General of Pakistan conducts audit under Article 169 and 170 of the Constitution of the Islamic Republic of Pakistan 1973, read with Sections 8, 10 and 15 of the Auditor-General's (Functions, Powers and Terms & Conditions of Service) Ordinance, 2001.

The Forensic Audit of Northern Power Generation Company Limited (NPGCL) covering the period from 2010-11 to 2019-20 was carried out by the Directorate General of Audit, Power, Lahore. The audit office undertook and completed the audit cycle during March - May, 2021. International Standards of Supreme Audit Institutions guided the planning, performance and reporting of the forensic audit assignment.

The Forensic Audit Report is of significant value to all the stake-holders as it attempts to provide an overall assessment of the losses incurred by the Northern Power Generation Company Limited (NPGCL) for the period from 2010-11 to 2019-20. It also endeavors to trace out possible causes that continue to hamper its functioning as a financially viable entity. The Report makes recommendations for tangible improvement in the governance and operations of the Company.

The Forensic Audit Report is submitted to the President of Pakistan in pursuance of Article 171 of the Constitution of the Islamic Republic of Pakistan 1973, for causing it to be laid before both Houses of Parliament (Majilis-e-Shoora).

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|---|---|
| **Islamabad** | **Muhammad Ajmal Gondal** |
| **Dated:** | **Auditor-General of Pakistan** |

# EXECUTIVE SUMMARY

The Federal Government assigned forensic audit of four (04) major loss-making state-owned enterprises, including Northern Power Generation Company Limited (NPGCL) to the Auditor General of Pakistan in February, 2021. The Directorate General of Audit, Power, Lahore conducted the Forensic Audit of NPGCL for the financial years 2010-11 to 2019-20. The field audit was carried out during March-May, 2021 in accordance with International Standards of Supreme Audit Institutions and as per the TORs communicated by Finance Division, Government of Pakistan. The primary objective was to identify the factors leading to the recurring losses incurred by the NPGCL during financial years 2010-11 to 2019-20 to identify, underlying factors and to suggest recommendations for improvement in NPGCL. Audit also focused on analysis of the potential red flags, identification of deliberate misrepresentation, misstatement or omissions in financial statements' data, and a review of its internal control structure.

Northern Power Generation Company Limited is a State-Owned Enterprise (SOE) which operates from its headquarters at Muzaffargarh under administrative control of Ministry of Power. The principal activity of the Company was to operate and maintain three (3) thermal power stations out of six (6) power stations, three have been declared defunct by NEPRA upon completion of their useful life. Subsequently, a Combined Cycle Power Plant having gross capacity of 525 MW was installed by the Company at Nandipur, Distt. Gujranwala.

**Key Findings**

## ToR-1: Segregation of Losses and Underlying Factors

### 1.1 Inefficient Management

1.1.1 **Non-achievement of Heat Rate determined by NEPRA**[1]- During the past ten years, heat rate had remained above the allowed NEPRA limits at all the plants of NPGCL leading to the loss of Rs. 45.80 billion. The incidence of excessive heat rate was due to reasons such as (i) delays in major overhauling of

[1] Para-1.1.1, Page-33

plants (ii) use of adulterated fuel (iii) continuous operation of dual-source plants on furnace oil instead of alternating with gas usage and (iv) unsatisfactory maintenance of the plants.

1.1.2 **Misappropriation of High-Sulphur Furnace Oil through adulteration**[2]- Audit observed that poor quality of furnace oil was maintained across the power plants. There were no SOPs, internal quality controls and inventory checks over maintenance, storage and transfer of furnace oil from one power plant to another within the company as well as from other companies to NPGCL

1.1.3 Irregular **and doubtful expenditure on account of EoT cost and Remobilization charges**[3]- Audit observed that defective contract management led the company to make unauthorized/irregular payments. Extension of time (EOT) cost and remobilization charges amounting to Rs.1,148.39 million were allowed and paid to the contractor in excess to the provision of revised PC-1 without approval of competent forum i.e., Executive Committee of the National Economic Council (ECNEC) and without evidence of actual expenditure in support of extension of EOT cost and remobilization charges. Even after 07 years, neither the competent forum has granted approval nor has evidence against the payment made to the contractor been presented thereby making the payment irregular and doubtful.

1.1.4 **Excessive Auxiliary Consumption beyond NEPRA's target**[4]- Inefficient operational management was also seen in the auxiliary consumption incurred by the company across its power plants. Auxiliary consumption was that quantum of energy that was not sold, rather used within the power plant and its premises. Throughout the last ten years, NPGCL could not limit its auxiliary consumption within the limits prescribed by NEPRA.

1.1.5 **Imposition of LD Charges-Rs. 14,770.805 million (In-efficiency)**[5]- Three power plants namely Thermal Power Station Muzaffargarh, 525 MW Combined Cycle Power Plant (CCPP) Nandipur and Gas Turbine Station (GTS)

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[2] Para-1.1.2, Page-40

[3] Para-1.1.3, Page-48

[4] Para-1.1.4, Page-52

[5] Para-1.1.5, Page-55

Faisalabad faced the problem of forced outages on several occasions during the period from 2014-15 to 2018-19. As a result, liquidated damages charges amounting to Rs. 14,770.805 million on account of forced outages during the period from 2014-15 to 2018-19 were imposed by CPPA-G on NPGCL.

**1.2 Policy Induced Losses**

1.2.1 **Weak Governance and Oversight**[6]- Audit also reviewed some governance issues and found that the Board of Directors (BoD) did not appoint Chief Internal Auditor during ten (10) years. However, Finance Director of NPGCL was appointed in violation of PPRA rules. This environment led to weak internal controls and lack of financial transparency in the affairs of the company.

1.2.2 **Operating the defunct Power Plant**[7]- Steam Power Station (SPS) Faisalabad remained operative despite being declared defunct by National Electric Power Regulatory Authority (NEPRA). Though it remained operative for one week, yet it shows the operational mismanagement of the company. Audit observed that inefficient operational management has become a permanent feature of NPGCL.

1.2.3 **Disallowed Cost by NEPRA**[8]- NEPRA disallowed delayed cost, open cycle operations cost and pre-COD cost in tariff determination of 525 MW Combined Cycle Power Plant (CCPP) Nandipur. In subject case, NPGCL filed a petition for tariff determination. During determination of subject tariff on 14-04-2015, 27-01-2016 and 02-09-2016, NEPRA disallowed the said costs because open cycle operation and pre-COD operations of the power plant were not in line with the given guidelines. Resultantly, the Company sustained heavy losses to the tune of Rs. 26,288 million.

1.2.4 **Wasteful Expenditure**[9]- Audit found that NPGCL sustained a loss of Rs. 4,624.78 million due to closing of 526 MW CCPP Chichoki Mallian. The project was closed on the directions of Ministry of Water and Power in the financial year 2014-15. It is worth mentioning here that the advance payment was made to the contractor and no work was done at all.

[6] Para-1.2.1, Page-59
[7] Para-1.2.2, Page-64
[8] Para-1.2.3, Page-66
[9] Para-1.2.4, Page-72

1.2.5 **Payment of Rental Charges to IPPs**[10]-Audit observed that there were two rental contract agreements signed between WAPDA and M/s G.E for 150 MW Rental Power Plant Sharaqpur and between M/s APR Energy L&C and NTDC for 136 MW Rental Power Plant Bhikki on 23.09.2006 and 18.09.2006 respectively. Later on, the BOD of NPGCL consented that the company shall assume and undertake all rights, obligations and liabilities of the agreements. As per agreements, NPGCL was responsible for ensuring provision of gas supply to the Rental Power Plants. Due to short/non supply of gas and on account of rental charges, NPGCL sustained a loss of Rs. 9,141.482 million.

1.2.6 **Frequent Posting & Transfers of CEOs**[11]**-** Audit also observed that there were frequent postings/transfers of Chief Executive Officers (CEOs) during the past ten years. On an average, CEOs' stay in the company was less than a year and this was a too short period in order to understand the company and take corrective measures accordingly. This ad-hocism resulted in mismanagement as is evident from increasing losses of the company.

## ToR-2: Analysis of Potential Red Flags

2.1.1 **Shortage and Non-accountal of material**[12]- Shortage of spare parts valuing Rs. 265.973 million was pointed out by Audit. Material amounting to US$ 5.302 million was verified by Muhammad Yaqoob the then store officer in the joint inspection certificate. Subsequently, the said officer recorded his statement on 28-04-2021 that stock measurement was recorded on the pressure of management, but the material was not received in store against the said issued purchase order. As the material requisition slips (MRS) amounting to Rs.1,389.858 million were not incorporated in the books of accounts, hence, authenticity of stock record and its allied accounting entries could not be verified.

[10] Para-1.2.5, Page-76
[11] Para-1.2.6, Page-80
[12] Para-2.1.1, Page-83

## ToR-3: Misrepresentation, Errors/ Omission

3.1.1 [13]NPGCL did not show Late Payment Surcharge imposed by Pakistan State Oil amounting to Rs.58.204 billion in the Financial Statements which resulted in understatement of NPGCL's liabilities and accumulated losses.

3.1.2 [14]Company capitalized certain cost amounting to Rs.6,703.443 million incurred during the period in which project (CCPP Nandipur) remained suspended. According to IFRS 23.20 "Capitalization should be suspended during periods in which active development is interrupted". Hence the subject capitalization was irregular and indicated an error in the company accounts.

3.1.3 [15]Management mis-stated account receivables amounting to Rs.4,417.520 million against CPPA-G by charging the fuel cost component to capital work in progress. Mis-statement in Account Receivable resulted in overstatement of Current Assets.

3.1.4 [16]Audit analyzed that in the FYs 2010-11 to 2019-20, closing stock of High Sulphur Furnace Oil (HSFO) recorded in the final accounts of company was not as per the actual position in Stock Accounts of the formations. Audit noted significant variations during past ten years and found that furnace oil closing stock was overstated in financial statements by Rs.1, 238.733 million. This implied that there were no adequate checks to ensure that entries in the final books of accounts were fair and accurate.

Fuel in transit could not be booked as closing stock and was not liability of NPGCL without ensuring quality and quantity of supplies as per Fuel Supply Agreement. Audit scrutinized all the details of supplies and noticed that 184 tank/wagons carrying furnace oil valuing of Rs.282.437 million had already been reported and booked before or on 30th June, 2016. Only 194 tanks lorries/wagons were in transit carrying furnace oil of Rs. 304.011 million. This implied that the Management incorrectly reported fuel in transit amounting to Rs.591.756 million in financial statements and overstated its fuel inventory by Rs.304.011 million as on 30.06.2016.

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[13] Para-3.1.1, Page-87
[14] Para-3.1.2, Page-95
[15] Para-3.1.3, Page-99
[16] Para-3.1.4, Page-102

## ToR-4 Comments on Fairness of the Financial Statements

4.1.1 [17]Management did not carry out revaluation of assets regularly after adopting revaluation model on 30th June, 2015 in violation of IFRS to show its operating assets at fair value. Financial Statements were materially mis-stated by Rs.36.817 billion when management changed its accounting model from cost model to re-valuation model in FY-2018-19 and did not give disclosures in the Financial Statements regarding justification or rationale for change of accounting model.

## ToR-5: Fraud due to Negligence and Fixing Responsibility

5.1.1 [18]Audit observed that in the financial year 2017-18, 145 invoices of HSFO tankers were not found in weighbridge software record at CCPP Nandipur against which 5547.945 M.Ton HSFO was procured which amounted to Rs.212.539 million. This quantity of fuel was fraudulently entered in Stock Measurement Book but physically it was not present in storage tank. Moreover, NPGCL management did not take notice of deletion 51910 fuel transaction worth Rs.152.288 billion from weighbridge system at TPS Muzaffargarh.

## ToR-6: Internal Control Inefficiencies

6.1.1 [19]NPGCL suffers from weaknesses in risk identification, as well as in implementation of operational, reporting and compliance controls. Major internal control inefficiencies in the area of finanial management, , operational management, inventory management, assets amangement, project management controls contributed towards recurring losses.

**Recommendations**

i. The management of the company needs to ensure that the guidelines of NEPRA are followed in letter and spirit with regards to achieve the Heat Rate so that the company may be saved from the loss occurring due to non-adherence to NEPRA's guidelines and instructions.

ii. Management needs to carry out major overhauling of its power plants as per manufacturer's specified hours.

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[17] Para-4.1.1, Page-111
[18] Para-5.1.1, Page-116
[19] Para-6.1.1, Page-123

iii. Management needs to devise SOPs relating to maintain quality furnace and draining out water from storage tanks.

iv. Management needs to introduce stringent energy conservation measures with regards to use of auxiliary power.

v. Audit recommends that Chief Financial Officer should be appointed immediately in accordance with the relevant provision of Corporate Governance Rules.

vi. Audit recommends fixing responsibility against those involved in non-reconciliation of Late Payment Surcharge (LPS) with PSO and depict the picture in Financial Statements.

vii. Management should form data protection and back up policies relating to safeguarding weighbridge software's sensitive data. To bring transparency in fuel procurement and its decanting at NPGCL, weighbridge-generated tickets may be attached with PSO invoices.

viii. Frequent forced outages, fuel adulteration and excessive heat rates are all indicative of the overall inefficient and non-transparent operations taking place in NPGCL. Ministry needs to fix responsibility at all tiers i.e. operational, managerial and supervisory for the lapses suffered by the Company.

ix. Robust internal control mechanism and segregation of duties of staff are needed to be put in place with maximum integration of all the departments in NPGCL without any delay.

# SECTION-I

## A. Background

The Federal Government assigned forensic audit of four (04) major loss-making state-owned enterprises, including Northern Power Generation Company Limited (NPGCL) to the Auditor General of Pakistan in February, 2021. The forensic audit activity was coordinated and supported by the Special Sectors Audit Wing of the DAGP. The audit was carried out by Directorate General of Audit Power, for the period from FY-2010-11 to 2019-20. The field audit was carried out during March-May, 2021 in accordance with International Standards of Supreme Audit Institutions and as per TORs communicated by Finance Division, Government of Pakistan. The primary objective of audit was to identify the factors leading to the losses incurred by the NPGCL during financial years (FYs) 2010-11 to 2019-20 and to suggest recommendations for improvement. Audit also focused on identification of significant causes of NPGCL losses, the segregation of its losses, analysis of the potential red flags, identification of deliberate misrepresentation, misstatement or omission of financial statement data, and a review of its internal control structure.

## B. Terms of Reference (TORs)

The forensic audit of NPGCL was undertaken with the objective to identify the factors/ reasons of the losses incurred by the Company during financial years (FYs) 2010-11 to 2019-20 and to suggest recommendations for improvement. The TORs of the forensic audit as communicated by Finance Division are as follows.[20]

| TOR No. | Element |
| --- | --- |
| i | Undertake segregation of losses due to various factors like policy induced losses, owing to market dynamics, inefficient management, over-staffing/inefficient HR, misappropriation, and inefficiency. |

[20] TORs received from SS&A wing Office of the AGP vide letter dated 17.11.2020

| | |
|---|---|
| ii | Review and analyse the potential red flags that may indicate misappropriation of assets, inappropriate use of assets, misappropriation of cash, fake invoices, payments made to non-existing suppliers or employees and misuse of assets. |
| iii | Identify deliberate misrepresentation, misstatement, or omission of financial statements data for the purpose of misleading the reader and creating a false impression of the organization's financial strength. |
| iv | Evaluate whether financial statements prepared and published by the entity give a true and fair view of the affairs of the company and are following relevant accounting and reporting standard. |
| v | In case frauds are detected or negligence identified, fixing responsibility on the perpetrators will be recommended. |
| vi | Conduct an internal control review and evaluate the systems and controls in place at the NPGCL and recommend ways that these can be strengthened to improve the operations of the NPGCL and to prevent leakage and fraud. |
| vii | Undertake the subject audit in accordance with the above TORs for a period of last ten years 2010-11 to 2019-20 but if required, auditors may go beyond this period. |

## C. Audit Scope & Limitations

The scope of Forensic Audit was to find out the factors contributing to the company's losses during the period 2010-11 to 2019-20. The Forensic Audit exercise was carried out strictly in the light of the TORs issued by Ministry of Finance.

Due to limited audit time given and the large timeframe (10 years) to review, not all of the business processes and allied record could be analysed. Based on the TORs received at the start of the assignment, relevant review areas were identified, and their record reviewed on sample test check basis, only.

Items that were not included in the subject exercise included contract documents, procurement of works/services and HR ledgers. Similarly, not all of the power stations/power plants could be physically inspected. The team being stationed at Muzaffargarh only inspected

Thermal Power Station Muzaffargarh due to restrictions imposed by COVID and time constraints. Moreover, due to COVID-19 pandemic conditions, only 50 % staff of NPGCL was available during the subject exercise.

This caused delay in the provision of the auditable record thereby leaving limited time at the disposal of the audit team to scrutinize and analyse the same.

## D. Audit Methodology

Following audit methodology was adopted during execution of Forensic Audit.

i. Interview and discussion with the officers of the company and CEO.
ii. Scrutiny/inspection of Efficiency Form (E-form) and Generation Data.
iii. Examination of selected record/documents of the Company as per TORs.
iv. Scrutiny of Procurement record of Furnace oil.
v. Physical examination of held up inventory.
vi. Scrutiny of Financial Statements 2010-11 to 2019-20.
vii. Site visits.
viii. Examination of Minutes of BoD meetings.
ix. Review of technical reports of company.
x. Review of NEPRA reports
xi. Review of tariff determinations.
xii. Cross –verification of data from other partner organizations.

## E. Sectorial Analysis

The electric power generation sector of Pakistan comprises of the four Power Generation Companies set up in the Public Sector. The power generation plants comprise of thermal power plants (Gas, RLNG and Furnace Oil).

## i. Electricity Generation

Total generation capacity of Power Generation Companies (PGC) stood 4,881 MW during 2019-20 as compared to 5,637 MW in FY 2018-19 showing a decline of 756 MW. Electricity generation of PGC is as under:

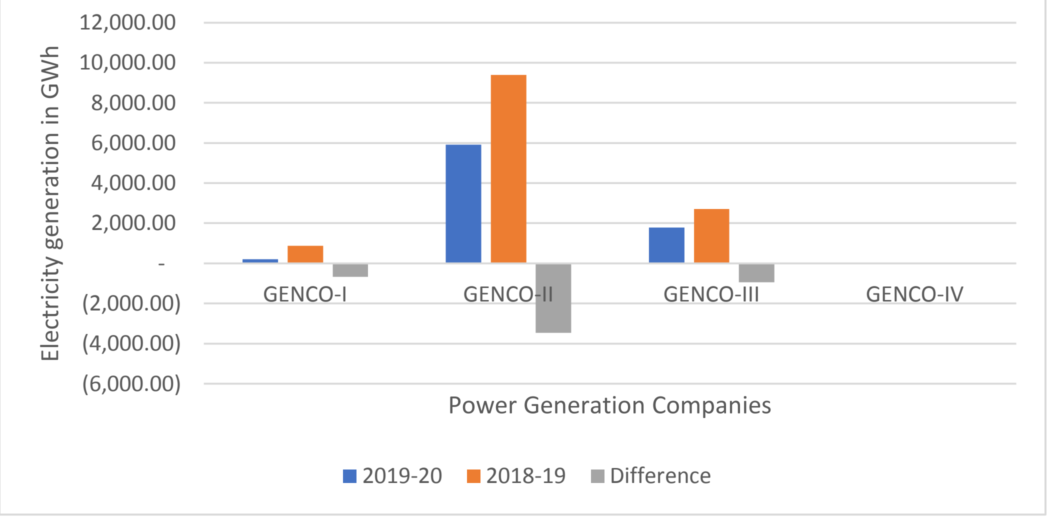
**Table-1 Electricity Generated by Power Generation Companies**

| Power Generation Companies | Electricity generation in GWh | | GWh |
|---|---|---|---|
| | **2019-20** | **2018-19** | **Difference** |
| **GENCO-I** | 209.09 | 880.09 | (671.00) |
| **GENCO-II** | 5,921.75 | 9,385.00 | (3,463.25) |
| **GENCO-III** | 1,775.86 | 2,716.00 | (940.14) |
| **GENCO-IV** | - | - | |
| **Total** | 7,906.70 | 12,981.09 | (5,074.39) |

Source: NEPRA's State of Industry Report-2019-20

The total electricity generation of GENCOs during FY 2019-20 remained 7,906.70 GWh as compared to 12,981.09 GWh during FY 2018-19 showing a decrease of 5,074.39 GWh.

**Figure-1 Electricity Generation**



GENCO-I generated only 209.90 GWh of electricity during FY 2019-20, as compared to its last year's electricity generation of 880.09 GWh. The electricity generated by GENCO-II during FY 2019-20 has been recorded at 5,921.75 GWh while, it was 9,385 GWh during FY 2018-19. Similarly, GENCO-III generated 1,775.86 GWh electricity during FY 2019-20 as compared to its last year's generation of 2,716 GWh showing a decrease of 939.93 GWh. The share of GENCOs electricity generation in the generation basket of CPPA-G during FY 2019-20 remained 6.52% while this share was 10.54% during FY 2018-19.

The efficiencies of GENCO's old power plants were low and decreasing over-time. Further, the newly inducted 747 MW CCPP Guddu and TPS Nandipur were also operating at efficiencies lower than allowed in the tariff. Since the tariff of GENCO-I, II and III is on 'Take or Pay' basis; therefore, on one hand these power plants are eligible for capacity payments irrespective of the fact whether CPPA-G purchased electricity from these plants or not while on the other hand, due to lower efficiencies, operation of these power plants was not feasible and adversely affected the electricity power generation cost of CPPA-G basket.

### ii. Heat Rate

Heat rate is one measure of the efficiency of electrical generators/power plants that convert a fuel into heat and into electricity. The heat rate is the amount of energy used by an electrical generator/power plant to generate one kilowatt-hour (kWh) of electricity. Main reasons of increasing heat rate are non-conducting major overhauling of power plants after 36,000 hours, aging of power plants and usage of adulterated furnace oil. Heat Rate of major power plants of Power Generation Companies is as under:

**Table-2 Heat Rate of Power Plants**

| Power Station | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 |
|---|---|---|---|---|---|
| **TPS Jamshoro (GENCO-I)** | 11,352 | 10,823 | 11,099 | 11,271 | 11,619 |
| **TPS Guddu (Units 5-10) (GENCO-II)** | 9,042 | 9,262 | 9,227 | 8,874 | 10,075 |
| **TPS Guddu (Units 11-13) (GENCO-II)** | 12,763 | 11,281 | 12,110 | 11,019 | 13,844 |
| **TPS Guddu (Units 14-16) (GENCO-II** | 7,404 | 6,848 | 7,070 | 6,798 | 6,571 |

| | | | | | |
|---|---|---|---|---|---|
| **TPS Muzaffargarh (GENCO-III)** | 11,494 | 10,378 | 10,584 | 10,730 | 10,684 |
| **TPS Nandipur (GENCO-III)** | 8,995 | 8,006 | 8,313 | 7,961 | 7,789 |

Source: NEPRA's State of Industry Report-2020

RLNG based power plants i.e TPS Nandipur and TPS Guddue (unit 14-16) remained low than furnance oil based power plants which showed that RLNG based power plants remained more efficient than Furnace Oil power plants. Moreover, NPGCL suffered a loss of Rs.45.80 billion due to non-achievement of Heat Rate determined by the regulator (NEPRA) as illustrated below:

**Table-3 Heat Rate Loss**

***(Rs.in billion)***

| **Sr.#** | **Name of power plant** | **Period** | **Loss due to excess heat rates** |
|---|---|---|---|
| 1 | Thermal Power Station Muzaffargarh | 2010-11 to 2019-20 | 34.779 |
| 2 | 525 MW Combined Cycle Power Plant Nandipur | 2015-16 to 2019-20 | 7.324 |
| 3 | Gas Turbine Power Station Faisalabad | 2010-11 to 2017-18 | 2.765 |
| 4 | Steam Power Station Faisalabad | 2010-11 to 2019-20 | 0.703 |
| 5 | Steam Power Station Piranghaib Multan | 2010-11 to 2011-12 | 0.229 |
| | | **Total Rs.** | **45.80** |

Source: E-Form NPGCL

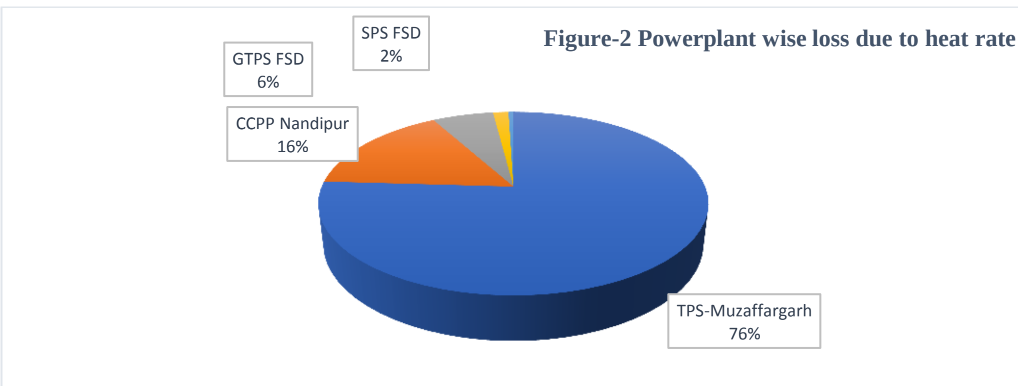


**Figure-2 Powerplant wise loss due to heat rate**

TPS-Muzaffargarh contributed 76% loss due to continuous operation on furnace oil which adversely affected the efficiency of power plants. Some of the power plants become obsolete and have been excluded from the generation license by NEPRA. Moreover, efficiency of other power plants apart from CCPP Nandipur has been deteriorated over the years, which tariff is not covering actual cost of generation of electricity.

## F. Introduction of NPGCL

There are four state owned generation companies which are being run by Genco Holding Company Limited (GHCL) with a view to improve the efficiency of Generation Companies. This company was made responsible for generating electricity efficiently and proper operation and maintenance of system of state-owned Generation Companies.

The Northern Power Generation Company Limited, (NPGCL) is one of them which was incorporated on October 15, 1998 under Companies Ordinance 1984 (now Companies Act 2017). It started its business from March 01, 1999. The Company took over properties, rights, assets, obligations and liabilities of thermal power generation at Muzaffargarh, Faisalabad, Multan, Shahdara owned by WAPDA through Business Transfer Agreement.

The principal activity of the Company was to operate and maintain six (6) thermal power stations, located at Muzaffargarh, Faisalabad, Shahdrah and Multan which have been inherited from WAPDA at the time of incorporation of the company. Subsequently, a combined cycle power plant having gross capacity of 525 MW was installed by the Company at Nandipur, Distt. Gujranwala. These power stations are capable of generating electric power on furnace oil, purified gas, liquefied natural gas and high-speed diesel. Out of these, the power plants of Muzaffargarh, GTPS Faisalabad and CCPP Nandipur are functional whereas the power stations of SPS Faisalabad, Shahdrah and Multan have been de-licensed by National Electric Power Regulatory Authority (NEPRA) upon completion of their useful life i.e., 25-30 years which is now defunct. Now net dependable capacity is 1,885 MW against these units available for operation under Northern Power Generation Company Muzaffargarh.

In addition to the above power stations, the company also owns, operates, and maintains a Central Gas Turbine Maintenance Workshop which was founded in 1985 at Faisalabad, which is providing services to whole Power and Industrial Sector of Pakistan and saving precious foreign exchange.

## G. Summary Statistics Table-4 - Extracts from the Balance Sheets 2010-11 to 2019-20

Rs.in million

| | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Equity and Liabilities** | | | | | | | | | | |
| **Share capital and reserves** | | | | | | | | | | |
| Issued, subscribed and paid-up capital | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| Accumulated loss | -35,739.93 | -31,213.37 | -30,415.52 | -32,125.73 | -32,743.29 | -29,691.62 | -25,313.93 | -17,904.13 | -13,149.66 | -9,382.29 |
| Surplus on revaluation of land | 94,216.61 | 94,216.61 | 94,216.61 | 130,174.39 | 131,308.69 | 131,092.78 | | | | |
| Deposits for the issuance of shares | 17,899.86 | 17,899.86 | 17,899.86 | 17,899.86 | 17,899.86 | 17,899.86 | 17,899.86 | 17,899.86 | 17,899.86 | 17,899.86 |
| TOTAL EQUITY | 76,376.55 | 80,903.10 | 81,700.96 | 115,948.52 | 116,465.27 | 119,301.02 | -7,414.07 | -4.27 | 4,750.20 | 8,517.57 |
| **Non-current liabilities** | | | | | | | | | | |
| Long term loans | 18,754.50 | 21,554.12 | 24,341.46 | 28,179.30 | 28,696.68 | 30,691.72 | 29,237.59 | 17,633.84 | 17,690.60 | 21,527.32 |
| Deferred liabilities | | | | 15,407.33 | 16,499.31 | 17,651.08 | | | 3,784.86 | 3,190.57 |
| Deferred grant | 1,069.17 | 1,106.43 | 1,143.43 | 878.22 | 1,071.21 | 1,287.02 | 1,316.30 | 1,007.23 | 635.25 | 353.47 |
| Staff retirement benefits | 27,684.90 | 21,900.93 | 20,247.63 | 18,799.15 | 15,415.80 | 11,323.06 | 8,438.03 | 5,504.82 | 0.00 | 0.00 |
| | 47,508.56 | 44,561.48 | 45,732.52 | 63,264.01 | 61,683.00 | 60,952.88 | 38,991.92 | 24,145.88 | 22,110.70 | 25,071.36 |
| **Current liabilities** | | | | | | | | | | |
| Current portion of long-term loan | 3,218.37 | 3,104.24 | 3,002.40 | 3,193.64 | 2,681.55 | 869.81 | 62.79 | 97.24 | 40.48 | 1,072.23 |
| Trade and other payables | 80,895.41 | 93,760.68 | 109,453.63 | 96,941.17 | 94,255.94 | 73,279.01 | 67,743.64 | 40,939.02 | 56,442.22 | 47,409.39 |
| Provision for taxation | 756.02 | 188.78 | 0.00 | | | | | | | 691.63 |
| Accrued mark-up | 2,940.68 | 2,578.12 | 1,897.85 | 1,709.17 | 1,600.79 | 1,710.94 | 1,539.92 | 4,829.25 | | |
| | 87,810.47 | 99,631.82 | 114,353.88 | 101,843.98 | 98,538.28 | 75,859.75 | 69,346.35 | 45,865.51 | 56,482.70 | 49,173.25 |
| **TOTAL LIABILITIES** | **211,695.58** | **225,096.40** | **241,787.36** | **281,056.51** | **276,686.56** | **256,113.66** | **100,924.20** | **70,007.12** | **83,343.60** | **82,762.18** |

**Assets**

**Non-current assets**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Property plant and Equipment | 155,895.30 | 155,599.18 | 162,008.47 | 217,536.91 | 219,001.94 | 217,575.53 | 62,241.95 | 50,021.58 | 47,955.72 | 46,369.04 |
| Long term Advances | 13.00 | 19.46 | 24.80 | 37.39 | 49.39 | 27.35 | 38.71 | 35.35 | 41.92 | 37.92 |
| Long term Deposits | 946.56 | 946.56 | 946.56 | 3.24 | 3.24 | 2.33 | 2.33 | 83.12 | 83.12 | 83.12 |
| Deferred income tax asset | | | | | | | 279.12 | 279.12 | | |
| Intangible asset | | | | 8.14 | 16.27 | 24.41 | 32.54 | | 279.12 | 279.12 |
| | 156,854.85 | 156,565.20 | 162,979.83 | 217,585.67 | 219,070.83 | 217,629.61 | 62,594.66 | 50,419.17 | 48,359.88 | 46,769.20 |
| **Current assets** | | | | | | | | | | |
| Stores and spares | 3,772.00 | 3,810.56 | 4,113.67 | 4,359.13 | 4,576.65 | 3,526.76 | 3,247.78 | 2,679.74 | 2,224.99 | 2,115.08 |
| Fuel stock | 4,701.46 | 11,243.95 | 14,164.90 | 5,236.20 | 4,867.01 | 7,079.72 | 2,721.92 | 1,949.03 | 2,984.36 | 3,433.03 |
| Trade debtor | 18,031.94 | 21,561.34 | 31,140.54 | 25,769.22 | 26,896.21 | 12,706.21 | 14,339.44 | 0.00 | 20,022.89 | 17,799.60 |
| Loans and advances | 1,594.70 | 1,421.63 | 1,738.10 | 1,955.60 | 1,734.23 | 1,258.23 | 2,356.01 | 3,131.40 | 3,420.20 | 7,685.95 |
| Tax return and due from govt | 17,593.04 | 18,295.88 | 17,974.69 | 13,219.63 | 10,678.86 | 9,166.92 | 7,636.00 | 6,186.73 | 5,424.43 | 3,990.31 |
| Accrued Interest | 2.41 | 1.56 | 5.41 | 1.96 | 0.06 | 0.38 | 34.19 | 0.57 | 0.35 | 0.98 |
| Other receivable | 4,402.57 | 4,317.54 | 5,746.51 | 7,038.28 | 6,265.75 | 5,155.50 | 5,185.85 | 4,662.14 | 484.06 | 337.35 |
| Cash and bank balances | 4,742.60 | 3,878.74 | 3,923.70 | 5,890.82 | 2,596.95 | 590.33 | 2,808.36 | 978.34 | 422.45 | 630.67 |
| | 54,840.73 | 64,531.21 | 78,807.53 | 63,470.84 | 57,615.72 | 39,484.05 | 38,329.55 | 19,587.95 | 34,983.72 | 35,992.97 |
| **TOTAL ASSETS** | **211,695.58** | **221,096.40** | **241,787.36** | **281,056.51** | **276,686.56** | **257,113.66** | **100,924.20** | **70,007.12** | **83,343.60** | **82,762.18** |

# Table-5 Extracts from the Balance Sheet 2010-11 to 2019-20

| PROFIT AND LOSS ACCOUNT | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 | 2014-15 | 2013-14 | 2012-13 | 2011-12 | 2010-11 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | **Rs. in million** |
| Sales | 37,815.74 | 51,496.73 | 75,072.99 | 85,669.84 | 68,638.72 | 75,263.70 | 105,634.42 | 89,719.61 | 75,796.29 | 66,213.84 |
| Cost of sales | - 34,074.78 | - 48,523.73 | - 75,236.84 | - 82,531.76 | - 70,057.56 | - 77,646.62 | - 110,771.91 | - 93,692.31 | - 80,455.33 | - 71,572.35 |
| **Gross Profit/(Loss)** | **3,740.96** | **2,972.99** | **-163.86** | **3,138.08** | **-1,418.84** | **-2,382.92** | **-5,137.49** | **-3,972.70** | **-4,659.04** | **-5,358.51** |
| Administrative expenses | 972.56 | 922.86 | 791.17 | 906.85 | 692.65 | 484.66 | 607.62 | 434.18 | 632.18 | 1,069.32 |
| Other expenses | 63.86 | 0.00 | 7.14 | 3.16 | 13.13 | 223.87 | 0.00 | | | |
| | 1,036.42 | 922.86 | 798.31 | 910.01 | 705.78 | 708.53 | 607.62 | 434.18 | 632.18 | 1,069.32 |
| **Profit before interest & taxation** | **2,704.54** | **2,050.13** | **-962.17** | **2,228.07** | **-2,124.62** | **-3,091.45** | **-5,745.11** | **-4,406.88** | **-5,291.22** | **-6,427.83** |
| Finance cost | 3,494.01 | 2,835.46 | 2,422.34 | 2,559.60 | 2,833.28 | 290.84 | 44.47 | 44.00 | 322.28 | 954.58 |
| Profit after interest | **-789.47** | **-785.33** | **-3,384.51** | **-331.54** | **-4,957.90** | **-3,382.29** | **-5,789.58** | **-4,450.88** | **-5,613.50** | **-7,382.42** |
| Other income | 675.43 | 461.89 | 904.30 | 440.33 | 389.22 | 1,106.81 | 698.36 | 193.11 | 720.41 | 85.29 |
| Profit/(loss) before taxation | **-114.04** | **-323.44** | **-2,480.21** | **108.79** | **-4,568.68** | **-2,275.48** | **-5,091.22** | **-4,257.77** | **-4,893.09** | **-7,297.13** |
| Taxation | -567.24 | -188.78 | 521.50 | 559.74 | 600.18 | -279.12 | 0.00 | 0.00 | 1,125.73 | -691.63 |
| Loss after taxation | **-681.27** | **-512.22** | **-1,958.71** | **668.53** | **-3,968.50** | **-2,554.60** | **-5,091.22** | **-4,257.77** | **-3,767.36** | **-7,988.76** |

## Financial Performance of NPGCL

### 1. Profitability Ratios

Profitability ratios are financial metrics which were used by Audit to measure and evaluate the ability of NPGCL to generate income (profit) relative to revenue, balance sheet assets, operating costs, and Government of Pakistan's equity during the financial years from 2010-11 to 2019-20. This will enable to show as to how NPGCL utilized its assets to produce profit and value to the Government as State Owned Enterprise.

NPGCL has never been able to cover-up its cost of sales through its sales from financial year 2010-11 to 2017-18 as detailed below:

**Table-6 Sales and Cost of Sales**

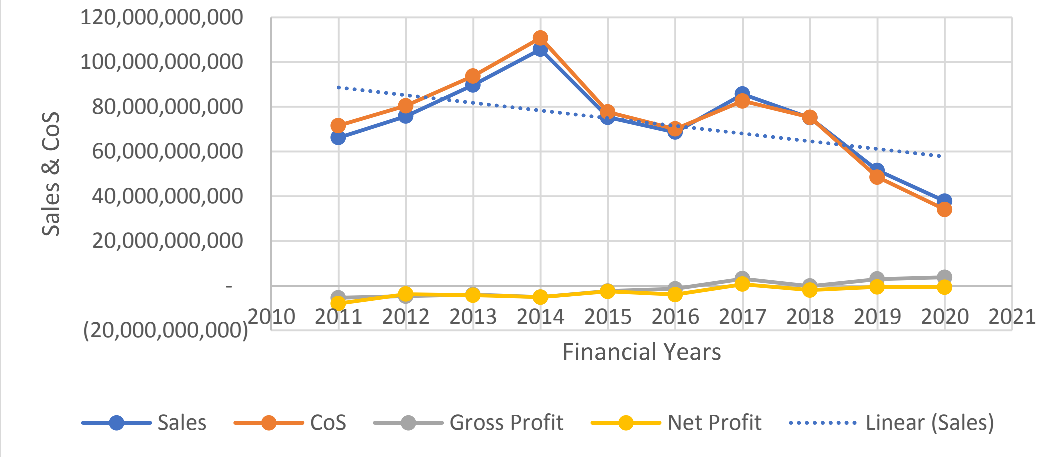
***(Rs.in million)***

| Year | Sales | Cost of Sales | Gross Profit | Net Profit |
|---|---|---|---|---|
| 2020 | 37,815.739 | 34,074.780 | 3,740.959 | -681.275 |
| 2019 | 51,496.725 | 48,523.731 | 2,972.994 | -512.217 |
| 2018 | 75,072.986 | 75,236.842 | -163.856 | -1,958.709 |
| 2017 | 85,669.839 | 82,531.763 | 3,138.076 | 668.525 |
| 2016 | 68,638.721 | 70,057.560 | -1,418.839 | -3,968.499 |
| 2015 | 75,263.703 | 77,646.619 | -2,382.917 | -2,554.599 |
| 2014 | 105,634.423 | 110,771.911 | -5,137.487 | -5,091.225 |
| 2013 | 89,719.613 | 93,692.310 | -3,972.697 | -4,267.765 |
| 2012 | 75,796.292 | 80,455.334 | -4,659.041 | -3,767.361 |
| 2011 | 66,213.841 | 71,572.351 | -5,358.510 | -7,988.765 |
| **TOTAL** | **731,321.882** | **744,563.202** | **-13,241.320** | **-30,121.890** |

***Source****: Financial Statements of NPGCL*

Based on the above financial data, NPGCL sustained net loss of Rs.30.122 billion over the past 10 years. NPGCL reported net sales of Rs.731.321 billion whereas its Cost of Sales (CoS) remained Rs.744.563 billion i.e., Rs.13.241 billion more than its sales.

**Figure-3 NPGCL- Sales & CoS comparision**




From the above financial data presentation, it is apparent that NPGCL cost of generation remained higher than its sales during financial years except financial years 2018-19 & 2019-20 in which NPGCL earned gross profit of Rs.2,972.994 million and Rs.3,740.959 million respectively.

### i. Gross Profit ratio (GP ratio)

GP ratio is a profitability ratio that shows the relationship between gross profit and total net sales revenue. It is a popular tool to evaluate the operational performance of the business. The ratio is computed by dividing the gross profit figure by net sales.

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Net sales}} \times 100$$

Gross Profit Ratio over the past ten years was calculated as under:

**Table-7 Gross Profit Ratio**

*(Rs.in million)*

| Year | Sales | CoS | Gross Profit | G.P Margin % |
|---|---|---|---|---|
| 2010-11 | 66,213.84 | 71,572.35 | -5,358.51 | -8.09 |
| 2011-12 | 75,796.29 | 80,455.33 | -4,659.04 | -6.15 |

| | | | | |
|---|---|---|---|---|
| 2012-13 | 89,719.61 | 93,692.31 | -3,972.70 | -4.43 |
| 2013-14 | 105,634.42 | 110,771.91 | -5,137.49 | -4.86 |
| 2014-15 | 75,263.70 | 77,646.62 | -2,382.92 | -3.17 |
| 2015-16 | 68,638.72 | 70,057.56 | -1,418.84 | -2.07 |
| 2016-17 | 85,669.84 | 82,531.76 | 3,138.08 | 3.66 |
| 2017-18 | 75,072.99 | 75,236.84 | -163.86 | -0.22 |
| 2018-19 | 51,496.73 | 48,523.73 | 2,972.99 | 5.77 |
| 2019-20 | 37,815.74 | 34,074.78 | 3,740.96 | 9.89 |

Source: Financial Statements-NPGCL 2010-11 to 2019-20

NPGCL faced gross losses from the financial year 2010-11 to 2018-19 (except 2016- 17) due to the fact that the Company never achieved NEPRA's determined Heat Rate and it used more furnace oil to generate power due to the inefficiency of Power Plants. However, it earned Gross Profit of Rs.2972.99 million and Rs.3,740.96 million during the financial years 2018-19 and 2019-20 respectively.

Forensic Audit Team further examined financial results at formation level to better understand the performance of the Company.

### ii. Break-up of financial results at formation level

Company earned gross profit only in financial years 2018-19 and 2019-20. In order to better understand the reasons behind this, financial results were evaluated at formation level.

| **Description** | **CCPP Nandipur** | | **Thermal Power Station Muzaffargarh** | | **Total Company** | |
|---|---|---|---|---|---|---|
| | **2019-20** | **2018-19** | **2019-20** | **2018-19** | **2019-20** | **2018-19** |
| Sales | 25,847.121 | 28,150.481 | 11,968.618 | 23,346.244 | 37,815.739 | 51,496.725 |
| Cost of Sales | -21,555.373 | -24,226.776 | 12,519.407 | 24,296.955 | -34,074.780 | -48,523.731 |
| **Gross Profit/(Loss)** | **4,291.748** | **3,923.705** | **-550.788** | **-950.711** | **3,740.959** | **2,972.994** |
| Administrative expenses | -174.922 | -93.523 | -797.607 | -829.342 | -972.529 | -922.865 |
| Other expenses | 0.268 | 0.000 | -63.597 | 0.000 | -63.329 | 0.000 |
| Other income | 16.392 | 8.938 | 659.042 | 452.954 | 675.434 | 461.892 |
| Finance cost | -3,247.897 | -2,578.389 | -246.111 | -257.067 | -3,494.009 | -2,835.456 |
| | -3,406.159 | -2,662.973 | -448.274 | -633.455 | -3,854.432 | -3,296.429 |
| **Profit/ (loss) before tax** | **885.589** | **1,260.731** | **-999.062** | **-1,584.167** | **-113.473** | **-323.435** |

Source: Financial Statements NPGCL

From the above financial statements for the years 2018-19 & 2019-20, it is clear that CCPP Nandipur showed better performance and earned gross profit of Rs.4,291.748 million in financial year 2019-20 (FY-2018-19: Rs.3,923.705 million) whereas TPS Muzaffargarh remained operated in gross loss of Rs.550.788 million (FY-2018-19: Rs.950.711 million). NPGCL's position turned better due to better performance of CCPP Nandipur which is being operated on Regasified Liquid Natural Gas (RLNG), whereas TPS Muzaffargarh used furnace oil to generate electricity which was expensive fuel as compared to RLNG. Further, power generation plant of TPS Muzaffargarh have become obsolete and less efficient due to various factors like non-maintenance of plant including major overhauling and use of sub-standard furnace oil.

### iii. Net Profit ratio (NP ratio)

The net profit percentage is the ratio of after-tax profits to net sales. It reveals the remaining profit after all costs of production, administration, deduction of financing from sales and income taxes. As such, it is one of the best measures of the overall results of a firm, especially when combined with an evaluation of how well it is using its working capital.

$$\textbf{Net profit ratio} = \frac{\textbf{Net profit after tax}}{\textbf{Net sales}} \times 100$$

Net Profit Ratio over the past ten years was calculated as under:

**Table-8 Net Profit Ratio**

***(Rs.in million)***

| Year | Sales | Net Profit | N.P Margin % |
|---|---|---|---|
| 2010-11 | 66,213.84 | -7,988.77 | -12.07% |
| 2011-12 | 75,796.29 | -3,767.36 | -4.97% |
| 2012-13 | 89,719.61 | -4,267.77 | -4.76% |
| 2013-14 | 105,634.42 | -5,091.23 | -4.82% |
| 2014-15 | 75,263.70 | -2,554.60 | -3.39% |
| 2015-16 | 68,638.72 | -3,968.50 | -5.78% |
| 2016-17 | 85,669.84 | 668.53 | 0.78% |

| | | | |
|---|---|---|---|
| 2017-18 | 75,072.99 | -1,958.71 | -2.61% |
| 2018-19 | 51,496.73 | -512.22 | -0.99% |
| 2019-20 | 37,815.74 | -681.28 | -1.80% |

Source: Financial Statements-NPGCL 2010-11 to 2019-20

Net profit ratio of the NPGCL remained negative over the past ten years (except 2016-17). It could not earn net profit from its business operations even after inclusion of new Power Plant of 525 MW CCPP Nandipur. Overall operational and financial management did not show significant improvement over the past ten years. During the financial year 2013-14, NPGCL sustained net loss of Rs.5,091.23 million even though it showed highest ever sales of Rs.105,634.42 million. After conversion of CCPP Nandipur from furnace oil to RLNG, net profit margin ratio started to improve but still operated in negative.

### iv. Return on total assets Ratio

Return on Assets (ROA) is a type of return on investment (ROI) metric that measures the profitability of a business in relation to its total assets. This ratio indicates how well a company is performing by comparing the profit (net income) it is generating to the capital it has invested in assets. The higher the return, the more productive and efficient management is in utilizing economic resources.

$$Return\ on\ Assets = \frac{Net\ Income}{Total\ Assets}$$

Return on Total Assets remained negative during last ten years due to massive losses as detailed below:

**Table-9 Return on Total Assets**

***(Rs.in million)***

| Year | Total Assets | Net Income | Return on assets ratio % |
|---|---|---|---|
| 2010-11 | 82,762.18 | -7,988.77 | -9.65 |
| 2011-12 | 83,343.60 | -3,767.36 | -4.52 |
| 2012-13 | 70,007.12 | -4,267.77 | -6.08 |
| 2013-14 | 100,924.20 | -5,091.23 | -5.04 |
| 2014-15 | 257,113.66 | -2,554.60 | -0.99 |

| | | | |
|---|---|---|---|
| 2015-16 | 276,686.56 | -3,968.50 | -1.43 |
| 2016-17 | 281,056.51 | 668.53 | 0.24 |
| 2017-18 | 241,787.36 | -1,958.71 | -0.81 |
| 2018-19 | 221,096.40 | -512.22 | -0.23 |
| 2019-20 | 211,695.58 | -681.28 | -0.32 |

Source: Financial Statements-NPGCL 2010-11 to 2019-20

NPGCL did not utilize its assets at optimal to generate favourable net income. Its operating fixed assets held at NPGS Piranghaib, GTPS Shahdrah, SPS Faisalabad have become useless as these power plants have been declared defunct by NEPRA as detailed below:

**Table-10 Installed Capacity**

| Sr. No. | Name of Power Plant | Installed Capacity (MW) | Generation/derated Capacity in MW | Present status /Remarks |
|---|---|---|---|---|
| 1 | TPS Muzaffargarh | 1,350 | 1,150 | In operation |
| 2 | GTPS Faisalabad | 244 | 117 | NEPRA Cancelled generation license of unit. 01 to 04 w.e.f 02-05-2018 while unit No. 05 to 09 are still in operation. |
| 3 | SPS Faisalabad | 132 | 97 | NEPRA declared the plant defunct w.e.f 02-05-2018 due to completion of useful life. |
| 4 | 525 MW Power Plant Nandipur | 525 | 521 | In operation |
| 5 | GTPS Shahdra, Lahore | 85 | Nil | NEPRA has declared power plant defunct in 2008 due to completion of useful life. |
| 6 | NGPS Piranghaib | 260 | Nil | NEPRA has declared the plant defunct w.e.f 16-04-2014 due to completion of useful life. |
| | Total | **2,596** | **1,885** | |

Only Nandipur and 04 units of TPS Muzaffargarh were operational whereas unit # 5 & 6 of TPS Muzaffargarh have also been shut down by NEPRA recently.

### v. Return on Equity Ratio (ROE)

- A measure of a company's ability to generate profit, calculated as: net income divided by average total equity.
- Total equity comprises capital contributions, reserves, and retained earnings (aka accumulated profits)
- Generally, the higher the ROE, the better; but should be compared to a benchmark to provide better insights.

$$Return\ on\ Equity = \frac{Net\ Income}{Shareholder's\ Equity}$$

Return on Equity (ROE) remained negative during last ten years due to massive losses as detailed below:

**Table-11 Return on Equity (ROE)**

***(Rs.in million)***

| Year | Net profit | Equity | RoE ratio % |
|---|---|---|---|
| 2010-11 | -7,988.77 | 8,517.57 | -93.79 |
| 2011-12 | -3,767.36 | 4,750.20 | -79.31 |
| 2012-13 | -4,267.77 | (4.27) | 999.48 |
| 2013-14 | -5,091.23 | (7,414.07) | 68.67 |
| 2014-15 | -2,554.60 | 119,301.02 | -2.14 |
| 2015-16 | -3,968.50 | 116,465.27 | -3.41 |
| 2016-17 | 668.53 | 115,948.52 | 0.58 |
| 2017-18 | -1,958.71 | 81,700.96 | -2.4 |
| 2018-19 | -512.22 | 80,903.10 | -0.63 |
| 2019-20 | -681.28 | 76,376.55 | -0.89 |

Source: Financial Statements-NPGCL 2010-11 to 2019-20

NPGCL could not utilize its assets productively and efficiently to generate favorable return. Equity of Government of Pakistan turned into negative due to massive accumulated losses during the financial year 2013-14. Management of NPGCL decided to revalue its Operating Fixed Assets and Freehold Land & Building at the end of 2014-15. After conducting revaluation from independent firm, NPGCL converted into revaluation model from cost model and booked a revaluation surplus of Rs.131.093 billion which turned its equity into positive i.e., Rs.119.301 billion during 2014-15 from Rs. (7.414) billion-2013-14.

## vii. Position of Equity of Government of Pakistan

### Table-12 Equity Position

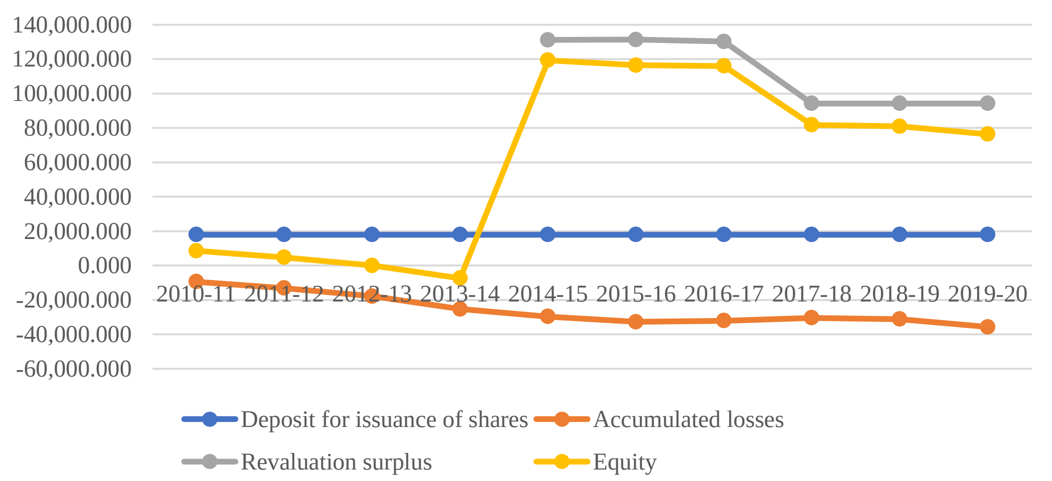
*(Rs. in billion)*

| F. Years | Deposit for issuance of shares (Rs.) | Accumulated losses (Rs.) | Revaluation surplus (Rs.) | Equity (Rs.) |
|---|---|---|---|---|
| 2010-11 | 17,899.862 | -9,382.294 | | **8,517.568** |
| 2011-12 | 17,899.862 | -13,149.660 | | **4,750.203** |
| 2012-13 | 17,899.862 | -17,904.127 | | **-4.265** |
| 2013-14 | 17,899.862 | -25,313.933 | | **-7,414.071** |
| 2014-15 | 17,899.862 | -29,691.618 | 131,092.780 | **119,301.024** |
| 2015-16 | 17,899.862 | -32,743.286 | 131,308.691 | **116,465.267** |
| 2016-17 | 17,899.862 | -32,125.728 | 130,174.386 | **115,948.520** |
| 2017-18 | 17,899.862 | -30,415.517 | 94,216.613 | **81,700.958** |
| 2018-19 | 17,899.862 | -31,213.372 | 94,216.613 | **80,903.103** |
| 2019-20 | 17,899.862 | -35,739.930 | 94,216.613 | **76,376.545** |

Source: Financial Statements 2010-11 to 2019-20

During the Financial year of 2017-18, NPGCL again adopted cost model for Operating Fixed Assets except entire freehold land of NPGCL due to which equity of the Company declined to Rs.81.700 billion during 2017-18 from Rs.115.948 billion.

**Figure-4 Equity Position**



### vi. Return on Capital Employed (RoCE)

Return on Capital Employed (RoCE) is a profitability ratio which measures how efficiently a company is using its capital to generate profit.

$$Return\ on\ Capital\ Employed = \frac{EBIT}{Capital\ Employed}$$

**EBIT**= Earnings Before Interest & Tax
**Capital Employed** = Total Assets – Current Liabilities

Based on the above profitability ratios, it is clear that NPGCL has not been capable of generating favourable return on its capital employed through its business operations as detailed below:

**Table-13 Return on Capital Employed (RoCE)**

***(Rs.in million)***

| Year | EBIT | Capital Employed | RoCE % |
|---|---|---|---|
| 2010-11 | -6427.83 | 33,588.93 | -93.79 |
| 2011-12 | -5291.22 | 26,860.91 | -19.7 |
| 2012-13 | -4406.88 | 24,141.62 | -18.25 |
| 2013-14 | -5745.11 | 31,577.85 | -18.19 |
| 2014-15 | -3091.45 | 181,293.91 | -1.71 |
| 2015-16 | -2124.62 | 178,148.27 | -1.19 |
| 2016-17 | 2228.07 | 179,212.53 | 1.24 |
| 2017-18 | -962.13 | 127,433.48 | -0.76 |
| 2018-19 | 2050.13 | 121,464.57 | 1.69 |
| 2019-20 | 2704.54 | 123,885.11 | 2.18 |

Source: Financial Statements 2010-11 to 2019-20

The Company has issued 49,993 ordinary shares in the name of president of Islamic Republic of Pakistan. Further, it has received 17,899.362 million from WAPDA as deposit for shares. However, from the financial year 2010-11 to 2017-18, Return on Capital Employed (RoCE) remained negative due to massive losses. Moreover, it got worse during 2013-14 because NPGCL procured more fuel on credit from Pakistan State Oil (PSO) which resulted increase in current liabilities significantly.

## 2. Short Term Liquidity Ratios

Liquidity ratios are an important class of financial metrics used to determine NPGCL's ability to pay off current debt obligations without raising external capital. Liquidity ratios measure a company's ability to pay debt obligations and its margin of safety through the calculation of metrics including the current ratio and quick ratio.

### i. Current Ratio

The current ratio, also known as the working capital ratio, measures the capability of a business to meet its short-term obligations that are due within a year. The ratio considers the weight of total current assets versus total current liabilities. It indicates the financial health of a company and how it can maximize the liquidity of its current assets to settle debt and payables. The Current Ratio formula (below) can be used to easily measure a company's liquidity.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

**Table-14 Current Ratio**

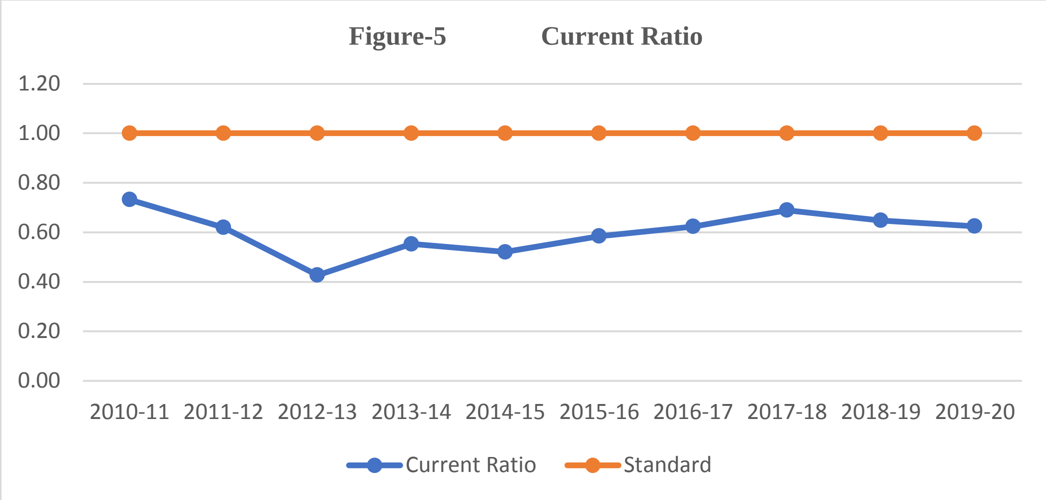
*(Rs.in million)*

| Financial Year | Current assets (Rs) | Current liabilities (Rs) | Current Ratio |
|---|---|---|---|
| 2010-11 | 35,992.98 | 49,173.25 | 0.73 |
| 2011-12 | 21,768.67 | 43,267.64 | 0.62 |
| 2012-13 | 19,587.95 | 45,865.51 | 0.43 |
| 2013-14 | 38,329.55 | 69,346.35 | 0.55 |
| 2014-15 | 40,542.63 | 75,859.75 | 0.52 |
| 2015-16 | 59,291.45 | 98,538.28 | 0.58 |
| 2016-17 | 64,192.15 | 101,562.27 | 0.62 |
| 2017-18 | 78,807.53 | 114,353.88 | 0.69 |
| 2018-19 | 64,531.21 | 99,631.82 | 0.65 |
| 2019-20 | 54,840.73 | 87,810.47 | 0.62 |

Source: Financial Statements 2010-11 to 2019-20

NPGCL's current ratio during the past ten years has never been in favorable zone which means that Company was not capable of making payments of its short-term liabilities.

Illustratively:




Current Ratio of NPGCL remained <1 which indicated that company's current liabilities exceeded current assets over the past ten years which means that company's receivable were less than its payables. Gap between current assets and liabilities widened during financial year 2012-13 because nothing was receivable from CPPA-G against sale of electricity.

Certain invoices of Rs.18.731 billion of the Company are still in dispute with CPPA-G. These includes Energy Purchase Price of Rental Power, Pre-CoD invoices and NEPRA's rate difference as detailed below:

**Table-15 Detail of non-confirmation of Sales invoices**

*(Rs. in billion)*

| Sr. No. | Description | Unverified amount |
|---|---|---|
| 1 | NEO shifting from Furnace Oil to Natural Gas since Jul-2004 to Jul-2014 | 9.4 |
| 2 | NEPRA's rate difference from Jul-2004 to Jul-2007 | 0.991 |
| 3 | EPP of Rental Power Plants | 1.57 |
| 4 | Pre-CoD invoices | 6.77 |
| 5 | **TOTAL** | **18.731** |

According to CPPA-G confirmation of above-mentioned invoices were defective in nature and cannot be claimed.

## 3. Working Capital Ratio

The working capital ratio is a measure of liquidity, revealing whether a business can pay its obligations. The ratio is the relative proportion of an entity's current assets to its current liabilities, and shows the ability of a business to pay for its current liabilities with its current assets. A working capital ratio of less than 1.0 is a strong indicator that there will be liquidity problems in the future, while a ratio in the range of 2.0 is considered to represent good short-term liquidity.

### i. Debtors Turnover period

The debtor’s turnover ratio is used to quantify a company's effectiveness in collecting its accounts receivable, or the money owed by customers or clients. This ratio measures how well a company uses and manages the credit it extends to customers and how quickly that short-term debt is collected or is paid. A firm that is efficient at collecting on its payments due will have a higher accounts receivable turnover ratio.

$$Debtor\ turnover\ period = \frac{Trade\ Receivables}{Sales}\ X\ 365$$

### ii. Creditors Turnover period

Creditor’s turnover ratio is also known as Payables Turnover Ratio, Creditor’s Velocity and Trade Payables Ratio. It is an activity ratio that finds out the relationship between net credit purchases and average trade payables of a business.

It finds out how efficiently the assets are employed by a firm and indicates the average speed with which the payments are made to the trade creditors.

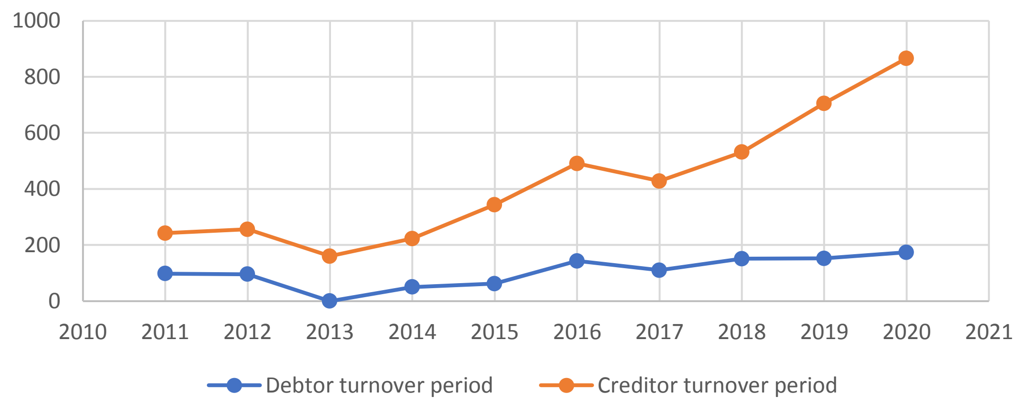
$$Creditor\ turnover\ period = \frac{Trade\ payables}{Purchases}\ X\ 365$$

**Table-16**

**Debtor and Creditor turnover period**

| Year | Debtor turnover period in days | Creditor turnover period in days | Remarks |
|---|---|---|---|
| 2011 | 98 | 242 | Company failed to receive its money from the debtors in order to meet its working capital requirements and payment to fuel suppliers due to its inefficiency and mismanagement as evident from debtors and creditors turnover period. |
| 2012 | 96 | 256 | |
| 2013 | 0 | 160 | |
| 2014 | 50 | 223 | |
| 2015 | 62 | 344 | |
| 2016 | 143 | 491 | |
| 2017 | 110 | 428 | |
| 2018 | 151 | 531 | |
| 2019 | 152 | 705 | |
| 2020 | 174 | 866 | |

**Figure-6 Working Capital Management**




Management of working capital requirements in NPGCL emerged as serious problem over the past ten years. NPGCL has one fuel supplier (Creditor) i.e. Pakistan State Oil (PSO) and one trade debtor i.e. Central Power Purchasing Agency Guarantee Limited (CPPAG). NPGCL and PSO had entered into Fuel Supply Agreement in September, 2009 according to which PSO will fulfil fuel demand of NPGCL and Company shall make payment of all fuel supply within 20 days.

The above graph showed that NPGCL over the past ten years has become increasingly incapacitated to pay its liabilities to PSO. Its credit turnover period had increased from 242 days in the FY 2010-2011 to 866 days in the FY 2019-2020 registering an increase of 357.85% during the decade. This aspect further indicated that PSO cash flows/liquidity position was adversely being affected by the in-efficient operations of NPGCL.

### 4. Debt, Gearing & Leverage Ratio

With a view to compare amount of debt with capital employed and equity to assess NPGCL's ability to finance its operations from its equity versus from external sources, Audit selected debt, gearing & leverage ratio for subject purpose.

#### i. Debt Ratio

A company's debt ratio offers a view at how the company is financed. This provides a clear indication of the amount of leverage held by a business. The company could be financed by primarily debt, primarily equity, or an equal combination of both. The debt ratio takes into account both short-term and long-term assets by applying both in the calculation of the total assets when compared with total debt owed by the company.

$$Debt\ Ratio = \frac{Trade\ Debt}{Total\ Assets}$$

**Table-17 Debt Ratio**

***(Rs.in million)***

| Financial Year | Total Debt | Total Assets | Debt Ratio |
|---|---|---|---|
| 2010-11 | 68,936.71 | 82,762.18 | 83.29% |
| 2011-12 | 74,132.82 | 83,343.60 | 88.95% |
| 2012-13 | 58,572.86 | 70,007.12 | 83.67% |
| 2013-14 | 96,981.23 | 100,924.20 | 96.09% |
| 2014-15 | 103,970.73 | 257,113.66 | 40.44% |
| 2015-16 | 122,952.63 | 276,686.56 | 44.44% |
| 2016-17 | 125,120.48 | 281,056.51 | 44.52% |
| 2017-18 | 133,795.09 | 241,787.36 | 55.34% |
| 2018-19 | 115,314.80 | 221,096.40 | 52.16% |
| 2019-20 | 99,649.91 | 211,695.58 | 47.07% |

Source: Financial Statements 2010-11 to 2019-20

Debt ratio of NPGCL indicates that company has adopted high risk policy to finance its assets through long-term borrowings rather than equity. During 2010-11 to 2013-14 debt ratio was high. During financial year 2014-15, NPGCL adopted revaluation model of accounting through which it revalued its assets through an independent evaluator. Resultantly, value of existing assets increased by Rs.131.092 billion.

**ii. Debt to Equity Ratio**

The Debt-to-Equity ratio is an important metric used in corporate finance. It is a measure of the degree to which a company is financing its operations through debt versus wholly owned funds. More specifically, it reflects the ability of shareholder equity to cover all outstanding debts in the event of a business downturn. The debt-to-equity ratio is a particular type of gearing ratio.

$$Debt\ to\ Equity\ Ratio = \frac{Interest\ bearing\ debt}{Shareholder's\ Funds}$$

**Table-18 Debt to Equity Ratio**

*(Rs.in million)*

| Financial Year | Long-term Loans | Equity | Debt to equity Ratio |
|---|---|---|---|
| 2010-11 | 21,527.32 | 17,899.86 | 120.27% |
| 2011-12 | 17,690.60 | 17,899.86 | 98.83% |
| 2012-13 | 17,633.84 | 17,899.86 | 98.51% |
| 2013-14 | 29,237.59 | 17,899.86 | 163.34% |
| 2014-15 | 30,691.72 | 17,899.86 | 171.46% |
| 2015-16 | 28,696.68 | 17,899.86 | 160.32% |
| 2016-17 | 28,179.30 | 17,899.86 | 157.43% |
| 2017-18 | 24,341.46 | 17,899.86 | 135.99% |
| 2018-19 | 21,554.12 | 17,899.86 | 120.42% |
| 2019-20 | 18,754.50 | 17,899.86 | 104.77% |

Financial ratios computed from the financial statements data

NPGCL's debt to equity ratio indicates towards negative capital structuring in which debt was more than its capital throughout the last decade. NPGCL has to pay huge funds in debt service and payment of interest.

### iii. Loans Raised by NPGCL

NPGCL raised long-term loans from commercial banks to finance the CCPP Nandipur project as detailed below:

**Table-19 Detail of Loans**

*(Rs.in million)*

| Financial Year | Commercial Bank (Rs) | Relent loan (Rs) | CPPA-G | Total |
|---|---|---|---|---|
| 2009-10 | 11,587.273 | 2,812.563 | 5,563.972 | 19,963.809 |
| 2010-11 | 14,918.518 | 2,812.563 | 4,868.476 | 22,599.557 |
| 2011-12 | 14,918.518 | 2,812.563 | 0.000 | 17,731.082 |
| 2012-13 | 14,918.518 | 2,812.563 | 0.000 | 17,731.082 |
| 2013-14 | 26,670.697 | 2,629.896 | 0.000 | 29,300.593 |
| 2014-15 | 28,931.847 | 2,629.896 | 0.000 | 31,561.743 |
| 2015-16 | 28,748.757 | 2,629.896 | 0.000 | 31,378.653 |
| 2016-17 | 28,743.262 | 2,629.896 | 0.000 | 31,373.158 |
| 2017-18 | 24,714.173 | 2,629.896 | 0.000 | 27,344.069 |
| 2018-19 | 22,028.679 | 2,629.896 | 0.000 | 24,658.576 |
| 2019-20 | 19,343.186 | 2,629.896 | 0.000 | 21,973.083 |

Source: Data provided by NPGCL

During the financial year 2013-14, NPGCL drew loan for CCPP Nandipur Project against Syndicated Term Finance Facility (STFF) from syndicated banks (HBL being as Agent). In August, 2013, NPGCL entered into an agreement with HBL for three different loan facilities (STFF-I, STFF-II, STFF-III). The amount of loan was secured by the Guarantee of Government of Pakistan which was repayable in 24 half yearly equal instalments commencing from July 01, 2015 as detailed below:

**Table-20 Commercial Loans**

*(Rs.in million)*

| Facility Number | Date of repayment of 1st Installment | Maturity date | Total amount of loan | Amount of loan draw down to date | Total repayment made | Loan outstanding |
|---|---|---|---|---|---|---|
| STFF-I | 26.01.2016 | 1.07.2017 | 19,150.00 | 19,149.76 | (7,979.13) | 11,170.63 |
| STFF-II | 30.06.2016 | 1.08.2018 | 5,000.00 | 4,999.97 | (1,875.01) | 3,124.96 |
| STFF-III | 30.06.2016 | 1.08.2018 | 11,462.60 | 7,968.56 | (2,920.97) | 5,047.59 |
| | | | **35,612.60** | **32,118.29** | **(12,775.11)** | **19,343.19** |

**Source: Financial Statement 2019-20**

The above table indicated that NPGCL has drawn Rs.32,118.29 million to date for CCPP Nandipur Power Project out of total sanctioned limit of Rs.35,612.60 million.

## 5. Major cost component

### Table-21 Major Cost Component

*(Rs. in million)*

| Financial Years | Interest cost | Depreciation | Salaries, Wages & other benefits | Fuel Stock & gas consumption |
|---|---|---|---|---|
| 2010-11 | 952.754 | 1,030.783 | 1,551.637 | 67,152.543 |
| 2011-12 | 321.972 | 1,041.759 | 1,923.386 | 76,036.168 |
| 2012-13 | 43.295 | 1,046.618 | 2,208.931 | 89,822.477 |
| 2013-14 | 75.628 | 1,068.161 | 2,224.248 | 106,828.819 |
| 2014-15 | 290.129 | 1,069.805 | 2,743.262 | 72,666.528 |
| 2015-16 | 2,830.307 | 4,872.383 | 4,716.264 | 59,237.558 |
| 2016-17 | 2,558.709 | 4,680.199 | 3,739.614 | 72,690.672 |
| 2017-18 | 2,420.491 | 3,139.843 | 3,584.871 | 65,204.947 |
| 2018-19 | 2,835.133 | 3,223.955 | 3,602.239 | 39,584.571 |
| 2019-20 | 3,492.604 | 3,317.514 | 4,519.543 | 23,943.171 |
| Total | 15,821.023 | 24,491.019 | 30,813.996 | 673,167.454 |

**Source: Trail Balances-2010-11 to 2019-20**

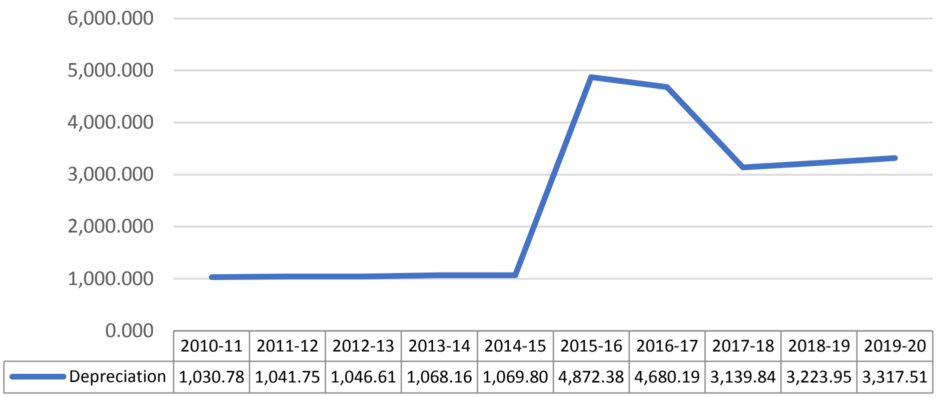
Interest, depreciation, Salaries, Wages & Other benefits were fixed cost components for NPGCL which would incur irrespective of sales to CPPA-G whereas fuel stock & gas consumption expenses were major variable cost components which were directly related with electricity generation. The above table showed that fuel cost remained the most significant cost component of the company. The Salary cost of NPGCL also steadily increased during the last ten years even though a number of NPGCLs power stations become defunct. This indicated the need for HR rationalization in the company.

## 6. Depreciation

This non-cash expenditure was increasing gradually from 2010-11 to 2014-15 and then increased sharply due to revaluation of operating fixed assets in 2015-16. NPGCL booked revaluation surplus of Rs.131.308 billion during 2015-16. However, it again adopted cost model in 2018-19. Moreover, NPGCL capitalized operating fixed assets amounting to Rs.53.181 billion of CCPP

Nandipur during 2016-17 which caused to increase the depreciation expenses from 2016-17 to onwards.

**Figure-7 Depreciation**




Depreciation on operating assets of defunct powerhouses contributes more towards losses of the Company because these assets remain idle but as per International Accounting Standards # 16 relating to Property, Plant & Equipment i.e ***"Depreciation begins when the asset is available for use and continues until the asset is derecognized, even if it is idle. [IAS 16.55]"***, NPGCL charged depreciation on idle assets of defunct power plant to Profit & Loss Accounts which resulted in further increase in loss of the Company as detailed below:

**Table-22 Depreciation on defunct power plants**

*(Rs. in million)*

| Operating fixed assets-Defunct Power Plant | Depreciation | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** |
| NPGS Pirangaib | 56.474 | 56.474 | 80.612 | 80.450 | 50.136 | 50.135 | 40.991 |
| GTPS Shahdra | 0.011 | 0.011 | 14.220 | 13.231 | 0.228 | 0.228 | 0.228 |
| SPS Faisalabad | 11.324 | 7.674 | 75.676 | 75.737 | 11.207 | 14.682 | 8.385 |
| **Total** | **67.808** | **64.159** | **170.508** | **169.418** | **61.572** | **65.046** | **49.604** |

**Source: Financial Statements**

NPGCL did not dispose off these operating fixed assets in order to generate cash which could have been utilized to settle long pending payables of PSO.

## 7. Finance Cost

Company was paying interest/finance cost on long-term borrowing and commercial loans raised for CCPP Nandipur Power Project. Loans from commercial banks increased significantly by Rs.11.752 billion during 2013-14 due to financing the CCPP, Nandipur. Illustratively:

**Table-23 Loans**

*(Rs. in million)*

| Financial Year | Commercial Bank (Rs) | Relent loan (Rs) | CPPA-G (Rs.) |
|---|---|---|---|
| **2009-10** | 11,587.273 | 2,812.563 | 5,563.972 |
| **2010-11** | 14,918.518 | 2,812.563 | 4,868.476 |
| **2011-12** | 14,918.518 | 2,812.563 | 0.000 |
| **2012-13** | 14,918.518 | 2,812.563 | 0.000 |
| **2013-14** | 26,670.697 | 2,629.896 | 0.000 |
| **2014-15** | 28,931.847 | 2,629.896 | 0.000 |
| **2015-16** | 28,748.757 | 2,629.896 | 0.000 |
| **2016-17** | 28,743.262 | 2,629.896 | 0.000 |
| **2017-18** | 24,714.173 | 2,629.896 | 0.000 |
| **2018-19** | 22,028.679 | 2,629.896 | 0.000 |
| **2019-20** | 19,343.186 | 2,629.896 | 0.000 |

525 MW CCPP Nandipur started its commercial operation successfully w.e.f 23.07.2015 and was covering its finance cost through its operations. Illustratively:

| **Description** | **CCPP Nandipur** | | **TPS-Muzaffargarh** | | **Total Company** | |
|---|---|---|---|---|---|---|
| | **2019-20** | **2018-19** | **2019-20** | **2018-19** | **2019-20** | **2018-19** |
| Sales | 25,847.121 | 28,150.481 | 11,968.618 | 23,346.244 | 37,815.739 | 51,496.725 |
| Cost of sales | -21,555.373 | -24,226.776 | -12,519.407 | -24,296.955 | -34,074.780 | -48,523.731 |
| **Gross Profit/(Loss)** | **4,291.748** | **3,923.705** | **-550.788** | **-950.711** | **3,740.959** | **2,972.994** |
| Administrative expenses | -174.922 | -93.523 | -797.607 | -829.342 | -972.529 | -922.865 |
| Other expenses | 0.268 | 0.000 | -63.597 | 0.000 | -63.329 | 0.000 |
| Other income | 16.392 | 8.938 | 659.042 | 452.954 | 675.434 | 461.892 |
| **Finance cost** | **-3,247.897** | **-2,578.389** | -246.111 | -257.067 | -3,494.009 | -2,835.456 |
| | -3,406.159 | -2,662.973 | -448.274 | -633.455 | -3,854.432 | -3,296.429 |
| **Profit/ (loss) before tax** | **885.589** | **1,260.731** | **-999.062** | **-1,584.167** | **-113.473** | **-323.435** |

**Source: Financial Statements**

After bifurcating consolidated financials for financial years 2018-19 and 2019-20 of NPGCL into formation wise, it showed that Nandipur covered its finance cost from its operations and operated in profit in both financial years. Whereas TPS Muzaffargarh could not cover up its administrative and finance cost from its business operations. NPGCL is heavily relying on CCPP Nandipur to finance its operating activities because against defunct power plants no Capacity Purchase Price (CPP) can be claimed from CPPA-G.

## H. Accumulated Losses

Review of Financial Statements of Northern Power Generation Company Limited (NPGCL) for the period from 2010-11 to 2019-20 revealed that it had sustained huge losses due to which its net losses had accumulated to the tune of Rs.35.739 billion as on 30-06-2020 as illustrated below:

**Table-24 Accumulated Losses**

***(Rs. in million)***

| F. Years | Accumulated losses |
|---|---|
| 2010-11 | -9,382.294 |
| 2011-12 | -13,149.660 |
| 2012-13 | -17,904.127 |
| 2013-14 | -25,313.933 |
| 2014-15 | -29,691.618 |
| 2015-16 | -32,743.286 |
| 2016-17 | -32,125.728 |
| 2017-18 | -30,415.517 |
| 2018-19 | -31,213.372 |
| 2019-20 | -35,739.930 |

**Source: Financial Statements NPGCL 2010-11 to 2019-20**

However, audit found that management did not show disclosures relating to other comprehensive loss Rs.4,130.921 million for the year 2019-20 in Statement of Changes in Equity which resulted in increase in accumulated losses to Rs.35,739.93 million as illustrated below:

**Table-25 Non-disclosure of other comprehensive loss charged to accumulated loss**

| | Accumulated Loss (Rs. in million) | | | | |
|---|---|---|---|---|---|
| **Description** | **As per financial statement 30.06.2019** | **Loss during 2019-20** | **Computed as on 30.06.2020** | **Reported in F/S as on 30.06.2020** | **Other comprehensive loss charged during 2019-20** |
| **Accumulated loss** | **30,927.73** | **681.27** | **31,609.01** | **35,739.93** | **4,130.92** |

**Source: Financial Statements-NPGCL**

# SECTION-II

## AUDIT FINDINGS

## TOR-1 SEGREGATION OF LOSSES & UNDERLYING FACTORS

The accumulated losses of NPGCL were Rs.35.739 billion at the end of financial year 2019-20. However, calculated accumulated losses of NPGCL amounting to Rs.85.805 billion over the last ten years, can be categorized in terms of (a) those resulting from internal factors like operational and financial mismanagement, and (b) those due to external factors based on actions of the regulator, NEPRA and Power Division. The calculated accumulated losses can be attributed to factors including the following:

**A. Internal Factors:**

**i. Inefficient Management**

- Loss due to excessive Heat Rate-Rs.45.80 billion. (Detailed at 1.1.1)
- Shifting of sub-standard furnace oil to TPS-Muzaffargarh - Rs.55.183 million (1.1.2)

**ii. Policy Induced**

Cost disallowed by NEPRA's tariff determination Rs.26,185 million (Detailed at 1.2.3)

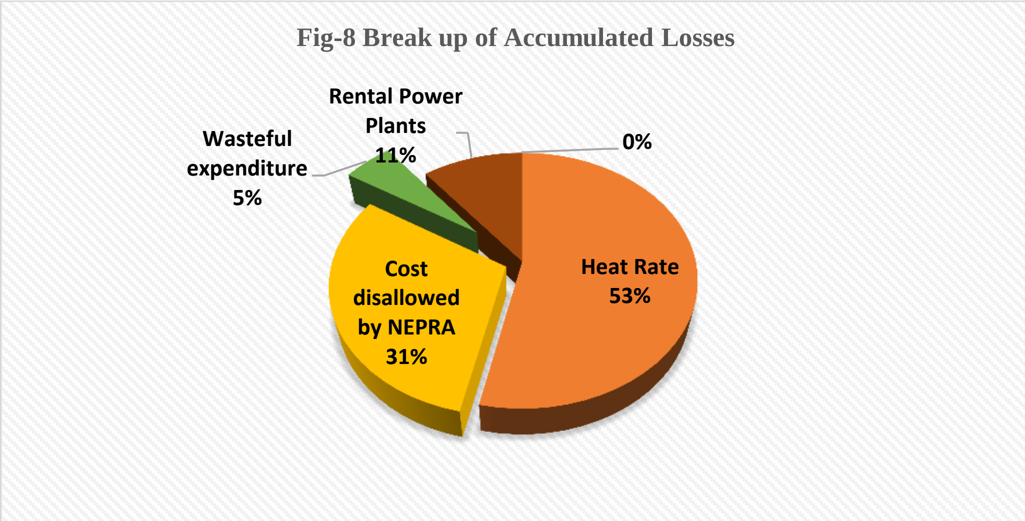
Loss due to non-supply of gas to Rental Power Plants-Rs. 9,140.482 million (Detailed at 1.2.5)

**B. External Factors:**

- Expenditure due to closing of the project Rs. 4,624.78 million. (Detailed at 1.2.4)

It may be mentioned, however, that NPGCL's stated losses are under-reported, as the financial statements of NPGCL do not reflect true and fair view of the company. This matter has been elaborated under finding of misreporting/misrepresentation at 3.1.1 to 3.1.4

**Breakup of Calculated Losses (Rs.85.805 billion)**
**for the period 2010-11 to 2019-20**




Source: Audit Findings

## 1.1 INEFFICIENT MANAGEMENT

**1.1.1 The Heat Rate is the amount of energy used by an electrical generator/power plant to generate one kilowatt-hour (KWh) of electricity. The Heat Rate directly pertains to the fuel consumption which is fixed by the NEPRA in its tariff determination.**

The Heat Rate consumption in excess to NEPRA's fixed target is not made a part of Tariff. Hence excess energy consumption is borne by the Generation Company itself. So far as Northern Power Generation Company is concerned it could not achieve NEPRA's fixed Heat Rate in respect of all thermal power plants during the period from 2010-11 to 2019-20. Resultantly company has sustained heavy losses on account of Heat Rate, Rs. 45.80 billion.

**Primary issues**

**1. Excessive Heat Rate maintained by NGPCL for its power plants leading to losses of the Company.**

**i. Background of the issue**

The Heat Rate of Thermal Power Station Muzaffargarh, Steam Power Station Faisalabad, Gas Turbine Power Station Faisalabad, Natural Gas Power Station Piranghaib Multan was fixed in two tariff determinations issued by the NEPRA. First tariff determination dated 02.05.2006 was applicable upto 30.06.2014. Second tariff determination dated 22.01.2016 was applicable w.e.f. 01.07.2014 to 30.06.2020. The Heat Rate of 525 MW combined cycle power plant Nandipur was also fixed by the NEPRA in its tariff determination dated 14-05-2015 and 27-01-2016.

The Heat Rate fixed by the NEPRA was compared with the actual Heat Rate of Efficiency-Form (E-Form) from 2010-11 to 2019-20.The E-Form contains all the information regarding energy generation, fuel consumption efficiency and utilization factor of the plant. The E-Form was analyzed and it revealed that Northern Power Generation Company could not achieve the Heat Rate fixed by the NEPRA during the years 2010-11 to 2019-20. Due to excessive Heat Rate beyond the NEPRA's fixed limits, company sustained a loss of Rs.45.80 billion. Excess Heat Rate was one of main reasons of the losses of the company. No power plant achieved NEPRA's fixed Heat Rate during the last 10 years, 2010-11 to 2019-20. Illustratively:

**Table-26 Loss due to Heat Rate**

*(Rs.in billion)*

| Sr.# | Name of power plant | Period | Loss due to excess heat rates | Details at |
|---|---|---|---|---|
| 1 | Thermal Power Station Muzaffargarh | 2010-11 to 2019-20 | 34.779 | Annexure No.01 |
| 2 | 425 MW Combined Cycle Power Plant Nandipur | 2015-16 to 2019-20 | 7.324 | Annexure No.02 |
| 3 | Gas Turbine Power Station Faisalabad | 2010-11 to 2017-18 | 2.765 | Annexure No.03 |
| 4 | Steam Power Station Faisalabad | 2010-11 to 2019-20 | 0.703 | Annexure No.04 |

| | | | | |
|---|---|---|---|---|
| 5 | Steam Power Station Piranghaib Multan | 2010-11 to 2011-12 | 0.229 | Annexure No.05 |
| | | **Total Rs.** | **45.80** | |

Source: E-Form from NPGCL

### ii. Causes of excessive Heat Rate

The reasons as to why the company could not achieve the NEPRA's fixed Heat Rate are as under:

### a. Delay in major overhauling of power plants

It was mandatory to carry out the major overhauling of each unit after 36,000 running hours. But major overhauling of six (06) units installed at Thermal Power Station Muzaffargarh was not carried out timely particularly of unit 4, 5 and 6. Against these (03) three units two major overhauling were carried out and 3 major overhauling were carried out against unit number 1,2 and 3. However fourth major overhauling has not been carried out as yet. This caused to increase in additional quantity of furnace oil on generation of energy. Illustratively:

**Table-27 Overhauling details at TPS Muzaffargarh**

| Unit # | Total No. of hours run upto 30.06.2020 | Date of last overhauling | Total No. of hours run since last overhauling | Number of hours run when overhauling was due | Delay in major overhauling (Hours) |
|---|---|---|---|---|---|
| 1 | 155,562.67 | 04.10.2013 | 37,748.55 | 36,000 | 1,748.55 |
| 2 | 153,753.88 | 12.02.2014 | 36,827.61 | 36,000 | 827.61 |
| 3 | 148,538.95 | 04.02.2015 | 44,911.4 | 36,000 | 8,911.4 |
| 4 | 130,688.42 | 11.02.2013 | 47,667.78 | 36,000 | 11,667.78 |
| 5 | 102,037.92 | 06.11.2012 | 38,710.22 | 36,000 | 2,710.22 |
| 6 | 96,946.25 | 04.07.2012 | 45,149.37 | 36,000 | 9,149.37 |

Source: Data provided by NPGCL

Resultantly, thermal power station Muzaffargarh could not achieve Heat Rate fixed by the NEPRA and expensive energy was generated.

### b. Adulteration of furnace oil

Misappropriation of 5,547 metric ton High Sulphur Furnace Oil (HSFO) was reported at 525 MW Combined Cycle Power Plant (CCPP)

Nandipur. The case was investigated, and reference was filed in the National Accountability Court Lahore by the NAB. As per investigations by NAB Mr. Umar Farooq, senior storekeeper, was involved in theft, misappropriation, and adulteration of furnace oil. Now he has left the country and has been declared absconder by the Accountability Court Lahore.

It is relevant to mention here that basically he was Assistant in the office of Project Director 525 MW Combined Cycle Power Plant Nandipur and was posted as Senior Storekeeper vide office order No CE/PD/NP/ADMIN 9120-25 dated 13-09-2014 by the Chief Engineer/ Project Director. As Senior Storekeeper, his portfolio was not justified as he had no such experience of store keeping in his service prior to posting.

The E-form revealed that Heat Rate could not be achieved by the Nandipur Power Plant despite the fact that the plant was new. Theft of oil at Nandipur was concealed by adulteration as the same amount of moisture was found in oil at Nandipur. The adulterated oil was a significant reason of inefficiency of the power plant thereby resulting in excessive Heat Rate. Approximately 9,996 metric ton furnace oil is still lying highly adulterated at 425 MW Combined Cycle Power Plant (CCPP) Nandipur as per chemical test reports.

This means that furnace oil procured was not according to the specification which was utilized at 425 MW Combined Cycle Power Plant Nandipur and subsequently the same was shifted to Thermal Power Station Muzaffargarh. The similar pattern of misappropriation of oil and excessive Heat Rate thereof was also found at TPS Muzaffargarh.

Audit found that the furnace oil lying across all power plants was adulterated as per chemical test report record of NPGCL (Details at Issue No.02). Furthermore, audit on sample test check basis examined the furnace oil lying at TPS Muzaffargarh. The sample of the fuel was taken in the presence of relevant staff of and was sent to chemical laboratory for chemical testing, confirmation and to assess its quality. The result of the sample, duly verified by the chemical section, reflected that furnace oil was not according to specification. The moisture level in the oil was beyond the admissible limit set by NEPRA.

This reveals that furnace oil lying in tanks is adulterated and is not in line with the specifications. This is indicative of the fact that the management did not ensure the quality of furnace oil which was one of the main reasons of the excessive Heat Rate.

**c. Continuous operation of power plants on furnace oil.**

The power units of thermal power station Muzaffargarh were designed to be operated on dual firing i.e. gas and furnace oil. Due to non-availability of natural gas, units were operated on furnace oil. The continuous operation of the units on furnace oil was against their original design and adversely affected the plants' working efficiency creating problems of maintenance as well as contributing to excessive heat rate consumption by the subject power plants. The same has also been acknowledged by NPGCL in its Technical Report.

**d. Aging power plants**

The efficiency of old NPGCL plants has deteriorated with the passage of time. Due to low efficiency the plant utilization factors of NPGCL came down to lower limits. The low efficiency of NPGCL old plants caused inefficient burning of fuel thereby increasing the cost of generation in the shape of consumption of extra fuel.

These power plants were to be upgraded with new technology in order to improve the efficiency of the plant, but it was not done so. Illustratively:

**Table-28 Aging of power plants**

| Sr.# | Name of power station | Year of installation |
|---|---|---|
| 1 | TPS Muzaffargarh | 1995 |
| 2 | GTPS Faisalabad | 1975 |
| 3 | SPS Faisalabad | Declared defunct by NEPRA in 2018 |
| 4 | 525 MW CCPP Nandipur | 2015 |
| 5 | NPGS Piranghaib | Declared defunct by NEPRA in 2014 |
| 6 | GTPS Shahdra | Declared defunct by NEPRA in 2008 |

Source: Data provided by NPGCL

**e. Unsatisfactory routine maintenance of power plants**

NPGCL was obligated to maintain its operational power plants in efficient state for the purpose of energy generation as demanded by System Operator (National Power Control Centre). However, audit analyzed that the power plant under NPGCL remained on frequent forced outages which was an indicator of the unsatisfactory routine maintenance being carried out by the Company. The subject matter has been addressed separately at Issue No.08 page 51 of the report.

**Audit Findings:**

i. The thermal Muzaffargarh consist of 6 units. The major overhauling was not carried out after 36,000 running hours. This was mandatory to keep the plant operational. The excessive heat rate and forced outages were indicative of non-maintenance of annual repair and delay in major overhauling. Most units of TPS Muzaffargarh remained on forced outages particularly unit no 4,5 & 6. Basically, these units were designed to be operated on duel firing i.e. gas / furnace oil. But due to non-availability of gas quota to the thermal power station Muzaffargarh, these units were operated continuously on furnace oil which caused continuous problem of repair & maintenance and affected boiler including heating surfaces of super heaters, flue gas ducts and regenerative air heater. The equipments were choked frequently. Hence loss on account of excessive Heat Rate was partly due to delay in major overhauling of power plants and partly due to continuous operation of the units on furnace oil instead of gas.

ii. So far as 525 MW CCPP Nandipur is concerned this plant being new one could not achieve Heat Rate fixed by the NEPRA as furnace oil was adulterated and was not according to specification.

iii. No departmental action has been taken against those officers/officials who were involved in misappropriation and theft of furnace oil so far. This fact reflected that management failed to stop adulteration, misappropriation, and theft of furnace oil.

iv. There is loss on account of Heat Rate to the tune of Rs.45.80 billion during the period 2010-11 to 2019-20, the same has been admitted by management.

**Management Reply:**

Management of NPGCL repeated its previous stance given in the DAC meeting held on 17.08.2021 as to company sustained loss to the tune of Rs.45.80 billion on account of Heat Rate. This loss was worked out on the basis of financial statements duly audited by commercial auditors and after making adjustments/ tariff allowed by the NEPRA.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed out by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. After reconciliation with NPGCL representatives, the stance of management was verified from the financial statements and revenue received from CPPAG that additional Heat Rate was allowed on account of partial loading adjustment charges, calorific value adjustment charges and start-up charges which were not incorporated in E-Form. Now loss on account of Heat Rate has been reconciled and agreed to the tune of Rs.45.80 million.

**Audit Recommendations:**

i. Audit recommends that the Management of the Company needs to carry out repair & maintenance as well as major overhauling of the power plants timely in order to reduce the Heat Rate losses.

ii. The management and BOD of the NPGCL are responsible for the loss due to Heat Rate. They neither took timely actions to avert the losses caused by Heat Rate nor any disciplinary action against those involved in misappropriation of furnace oil. Likewise, the project management of Nandipur is also responsible for excessive heat despite the fact that the plant was new. The project management is also responsible for misappropriation of furnace oil.

**1.1.2. Forensic Audit team observed that poor quality of furnace oil was maintained across the power plants. There were no SOPs, internal quality controls and inventory checks over maintenance, storage, and transfer of furnace oil from one Power Plant to the other within the company as well from other companies to NPGCL.**

**Primary Issue**

Management did not take notice of storage of sub-standard furnace oil in NPGCL and shifting of highly adulterated furnace oil from other power plants to Thermal Power Station Muzaffargarh at higher transportation cost.

**i. Status of fuel inventory & plant operations**

Closing inventory of furnace oil all power plants of NPGCL was obtained as on 30th June, 2020 which is as under:

**Table-29 Furnace Oil Closing Inventory as on 30.06.2020**

| Description | M.Ton | Rs. in million |
|---|---|---|
| TPS Muzaffargarh | 56,034 | 3,426 |
| CCPP Nandipur | 27,000 | 289 |
| NPGS Piranghaib | 3,306 | 252 |
| SPS Faisalabad | 3,200 | 252 |
| **Total** | **89,540** | **4,219** |

Source: Financial Statements-NPGCL

NEPRA declared NGPS Piranghaib, SPS Faisalabad and GTPS Shadrah defunct and cancelled the generation licenses on different dates as detailed in following table:

**Table-30 Status of Power Plants of NPGCL**

| Sr. No. | Name of Power Plant | Installed Capacity | Generation / derated Capacity in MW | Present status / Remarks |
|---|---|---|---|---|
| **1** | TPS Muzaffargarh | 1,350 | 1,150 | In operation |

| | | | | |
|---|---|---|---|---|
| **2** | GTPS Faisalabad | 244 | 117 | NEPRA partially cancelled generation license of unit. 01 to 04 w.e.f 02-05-2018 while unit No. 05 to 09 are in operation. |
| **3** | SPS Faisalabad | 132 | 97 | NEPRA declared the plant defunct w.e.f 02-05-2018 |
| **4** | 525 MW Power Plant Nandipur | 525 | 521 | In operation |
| **5** | GTPS Shahdra, Lahore | 85 | Nil | NEPRA has declared power plant defunct in 2008. |
| **6** | NGPS Piranghaib | 260 | Nil | NEPRA has declared the plant defunct w.e.f 16-04-2014. |
| | **Total** | **2,596** | **1,885** | |

Source: Data provided by NPGCL

Furnace Oil inventory in SPS Faisalabad (3,200 M.Ton) and NGPS Piranghaib (3,306 M.Ton) remained unused for more than two to six years after they were declared defunct by NEPRA.

At 525 MW CCPP Nandipur, theft of 5,547 metric ton High Sulphur Furnace Oil (HSFO) was reported, and the matter was under investigation at NAB, Lahore.

### ii. Shifting of Fuel Inventory

After six years, BoD of NPGCL decided to shift left-over inventory from defunct power plant to utilize it in Thermal Power Station Muzaffargarh. As per power plants' record, the existing inventory was highly adulterated. Details are as under:

**Table-31 Furnace Oil held up inventory status-31-07-2020**

| Power Plant | M.Ton | Water contents | Permissible Limit |
|---|---|---|---|
| **TPS Muzaffargarh** | 23,798 | 2% to 43% | 0.5% |
| **CCPP Nandipur** | 27000 | 36% | 0.5% |
| **TPS Pirangaib** | 3,306 | 0.8% 14% | 0.5% |
| TOTAL | **54,104** | | |

**Source: Chemical Test Reports NPGCL**

BoD did not order to inquire the matter of high water content in furnace oil beyond specified limit of 0.5%.[21]

Forensic Audit noticed that no SOPs were approved and implemented so as to ensure quality of furnace oil. Moreover, no independent third party laboratory test of the furnace oil was carried out. High water content made the fuel unfit for operation of power plants.

**Table-32 Detail of water content in closing inventory at TPS Muzzafargarh as on 31.07.2020**

| Sr. No. | Description | Dip Level (M) | Temp (C ) | Gravity | F/Oil Volume (M) | F/Oil (M.T) | Water content level in % age | |
|---|---|---|---|---|---|---|---|---|
| 1 | Main Oil Tank No. 1 | - | 0 | - | - | - | | |
| 2 | Main Oil Tank No. 2 | 0.160 | 42 | 0.958 | 200.00 | 191.60 | 13.94 | dead level |
| 3 | Main Oil Tank No. 3 | 0.185 | 42 | 0.958 | 231.25 | 221.54 | 13.75 | dead level |
| 4 | Main Oil Tank No. 4 | 11.680 | 48 | 0.953 | 14,600.00 | 13,913.80 | 7.48 | 7.10 |
| 5 | Main Oil Tank No. 5 | 0.082 | 42 | 0.958 | 102.50 | 98.20 | 29.81 | 43.00 |
| 6 | Main Oil Tank No. 6 | 0.402 | 40 | 0.954 | 502.50 | 479.39 | 35.22 | 43.00 |
| 7 | Oil Pit No. 1 | 1.060 | 40 | 0.960 | 56.53 | 54.44 | 12.4 | 5.00 |
| 8 | Oil Pit No. 2 | 1.115 | 40 | 0.962 | 59.46 | 57.20 | 7.3 | 7.00 |
| 9 | Pipelines | | | | | 320.00 | | |
| | | | | | **Grand total of Block-I** | **15,336.16** | | |
| **Block # 2: Unit # 4** | | | | | | | | |
| **Sr. No.** | **Description** | **Dip Level (M)** | **Temp (C )** | **Gravity** | **F/Oil Volume (M)** | **F/Oil (M.T)** | **Water content level in % age** | |
| 1 | Main Oil Tank No. 1 | 1.070 | 45 | 0.932 | 1,481.67 | 1,380.92 | 1.5 | 5.80 |
| 2 | Main Oil Tank No. 2 | 0.600 | 42 | 0.930 | 830.84 | 772.68 | 2.41 | 26.00 |
| 3 | Daily Tank | 4.870 | 35 | 0.944 | 162.33 | 153.24 | 23.78 | dead level |
| 4 | Oil Pit No. 1 | - | 42 | - | - | - | 13.9 | dead level |
| 5 | Oil Pit No. 2 | - | 0 | - | - | - | 1.23 | dead level |
| 6 | Slope Oil Pit | 2.840 | 46 | 0.942 | 204.48 | 192.62 | 2.25 | 2.00 |
| 7 | Pipelines | | | | | 131.31 | | |
| | | | | | **Grand total of Block-2** | **2,630.77** | | |
| **Block # 3: Unit # 5 & 6** | | | | | | | | |
| **Sr. No.** | **Description** | **Dip Level (M)** | **Temp (C )** | **Gravity** | **F/Oil Volume (M)** | **F/Oil (M.T)** | **Water content level in % age** | |
| 1 | Main Oil Tank No. 1 | 1.375 | 40 | 0.956 | 2,046.76 | 1,956.70 | 1.71 | 2.90 |
| 2 | Main Oil Tank No. 2 | 1.050 | 44 | 0.954 | 1,562.98 | 1,491.08 | 1.92 | 2.60 |

[21] ASTM D95 – 13(2018) Standard Test Method for Water in Petrolem products and Bituminous Materials by Distillation

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | Main Oil Tank No. 3 | 1.290 | 44 | 0.954 | 1,920.23 | 1,831.90 | 15.68 | 2.50 |
| 4 | Daily Tank No.1 | 4.900 | 35 | 0.944 | 189.47 | 178.86 | | |
| 5 | Daily Tank No.2 | 4.500 | 36 | 0.944 | 174.00 | 164.26 | | |
| 6 | Pipelines | | | | | 209.00 | | |
| **Grand total of Block-3** | | | | | | **5,831.79** | | |
| **Grand Total of TPS, Muzaffargarh** | | | | | | **23,798.73** | | |

Source: Chemical Test Report NPGCL

### ii. Shifting of adulterated Furnace Oil from CCPP Nandipur to TPS Muzzafargarh

a) 425 MW CCPP Nandipur was being operated on HSFO since July, 2015. As the CCPP Nandipur has been converted to Gas from April, 2017, HSFO was no more usable at this power station.

b) The Board of Directors of the Company accorded administrative approval for shifting/transporting of 27,000 M.Ton HSFO from CCPP Nandipur to TPS, Muzaffargarh during 94th meeting held on 20.10.2020.

c) In case of CCPP Nandipur, Audit noted that during the financial years 2016-17 and 2017-18 fuel consumption was charged excess by [22]9,996 M.Ton, the adjustment of which resulted in increase of HSFO stock from 16,457.53 M.Ton to 26,453.53 M.Ton as on 30.06.2019. At this stage, it was mandatory to get the chemical test of HSFO inventory from independent lab such as Hydrocarbon Development Institute of Pakistan (HDIP) due to increase in HSFO inventory, but management did not ensure transparency to assess moisture content in the leftover HSFO inventory.

d) The Board of Directors (BoD) of the Company accorded administrative approval for shifting of 27,000 M.Ton HSFO to TPS Muzzafargarh on 20.10.2017 without assessing quality of furnace oil from HDIP as leftover HSFO was highly contaminated. Resultantly, after shifting 18,812.782 M.Ton HSFO, further shifting was stopped by BoD on 11.11.2020 due to inferior quality of furnace oil.

e) After stopping subject shifting, samples of leftover HFSO were sent to HDIP for detailed chemical analysis. Test results showed 36.7%

[22] Inquiry held by NPGCL

mixing of water content (max.0.5% benchmark) and calorific value 12,932.25 BTU (min.18,000 BTU) with a remark that sample does not confirm to the standards/specification of furnace oil laid down by Directorate General of Oil. This was indicative of the fact that management completely failed to maintain quality and quantity of HSFO inventory since inception of Nandipur Power Plant.

iv. **Shifting of Adulterated and sub-standard Furnace oil from Central Power Generation Company Limited (GENCO-II) to Thermal Power Station Muzaffargarh (GENCO-II)**

a) Management of NPGCL decided to shift 10,119.868 M.Ton furnace oil from Central Power Generation Company Limited (CPGCL) to NPGCL in July, 2020.

b) Forensic Audit found that as per chemical analysis report prepared by Central Research & Testing Laboratory of CPGCL (GENCO-II), the fuel stock was highly adulterated. Details were as under:

**Table-33 Chemical analysis of held up inventory at CPGCL on 10.07.2020**

| Tank No. | Temp C | Specific Gravity | Moisture level | Flash point |
|---|---|---|---|---|
| **1** | 37 | 0.962 | 9.5 | Flash point was not checked due to high moisture level. |
| **3** | 36 | 0.964 | 2.0 | Flash point was not checked due to high moisture level. |
| **4** | 38 | 0.961 | 8.3 | Flash point was not checked due to high moisture level. |
| **5** | 37 | 0.964 | 2.1 | Flash point was not checked due to high moisture level. |
| **6** | 37 | 0.963 | 2.3 | Flash point was not checked due to high moisture level. |
| **8** | 37 | ------- | 24 | Flash point was not checked due to high moisture level. |
| **9** | 37 | 0.960 | 1.8 | Flash point was not checked due to high moisture level. |

**Source: Central Research & Test Laboratory, CPGCL-GUDDU**

**v. High Transportation Cost paid in shifting of Furnace Oil**

After six (06) years in case of NGPS Piranghaib and three years in case of CCPP Nandipur, management decided to shift furnace oil to Thermal Power Station Muzaffargarh. It was belated decision of management which caused not only to pay high transportation cost but also shifting of adulterated furnace oil as chemical tests showed that furnace oil contained water content beyond permissible limit and could not be used in power plants. In practical terms, adulterated furnace oil meant that furnace oil was no longer present at site and had been replaced with impurities such as water.

Audit conducted transportation cost analysis in shifting of oil to Thermal Power Station Muzaffargarh. For this analysis, CCPP Nandipur and CPGCL were selected and it was found that NPGCL paid almost double cost in case of shifting from CCPP Nandipur and three times higher in case of shifting from CPGCL to TPS Muzaffargarh, respectively. Details are:

**Table-34 Transportation cost analysis in shifting furnace oil**

| Sr.# | Description | Unit | Qty | Qty transferred | Rate/Unit (Rs.) | Total Distance | Rate/unit/km |
|---|---|---|---|---|---|---|---|
| 1 | Shifting of Furnace Oil from PSO Terminal to TPS Muzafargarh | M.Ton | As per Purchase Order | as per demand | 3,070 | 950 km | 3.232 |
| 2 | Shifting of Furnace Oil from CCPP Nandipur to TPS Muzafargarh | M.Ton | 27,000 | 18,000 | 3,200 | 475 km | 6.737 |
| 3 | Shifting of Furnace Oil from CPGCL to TPS Muzafargarh | M.Ton | 10,119.87 | 10,119.87 | 3,500 | 312 km | 11.218 |

Source: Analysis by Forensic Audit Team on work orders

Transportation cost analysis conducted by Audit shows that management paid higher cost of shifting of furnace oil to TPS Muzaffargarh as compared to PSO claimed from Karachi to Thermal Power Station Muzaffargarh.

NPGCL sustained total loss of Rs.55.183 million in shifting of sub-standard furnace oil from CPGCL (GENCO-II) and CCPP Nandipur to TPS Muzaffargarh as detailed below:

**Table-35 Total loss sustained by GENCO-II in shifting of Sub-standard Furnace Oil**

| Description | Rs.in million |
|---|---|
| Extra cost paid as compared to PSO claims in case of shifting from CCPP Nandipur per KM/M.Ton | 3.505 |
| Extra cost paid as compared to PSO claims in case of shifting from CPGCL/ KM/M.Ton | 7.986 |
| Extra cost paid in shifting from Nandipur | 29.967 |
| Extra cost paid in shifting from CPGCL | 25.215 |
| TOTAL LOSS in shifting Furnace Oil | 55.182 |

**Audit Findings**

i. BoD did not take notice of adulterated closing inventory as on 30.06.2020 at all power stations during past ten years. Quality of fuel according to International Standards was not maintained which resulted in poor inventory management.

ii. NPGCL procured 10,119.868 M.Ton furnace oil worth Rs.744.567 million from CPGCL (GENCO-II). Chemical test report showed that furnace oil was adulterated and could not be used in power plants as per ASTM Standards. Moreover, management paid market price of Rs.73,567.890/M.Ton to CPGCL against adulterated furnace oil.

iii. NPGCL sustained a loss of Rs.55.183 million on shifting of furnace oil from other power plants to TPS Muzzafargarh due to high transportation cost.

iv. Procuring and shifting of adulterated furnace oil had a cascading effect on furnace oil storage, efficiency of power plant and ultimately achieving NEPRA’s determined Heat Rate.

**Management Reply:**

Management reiterated on previous stance that it is wrong perception that NPGCL maintained poor quality of furnace oil. Management further stated that on the basis of chemical analysis of oil storage tanks conducted in the presence of Forensic Audit team on 31.03.2021 that NPGCL has maintained poor quality of Furnace Oil over last ten years, because at that time, almost all the oil storage tanks/pits were at dead stock level and contained water content because steam is applied to the oil tankers and railway tank wagons during the Winter season.

This steam later on condensed and carry over to the oil storage tanks along with furnace oil. As the water is heavier than furnace oil so it is accumulated in the bottom of the storage tanks. The dead stock level is the level of storage tanks that cannot be utilized under normal operating condition. Dewatering process is always carried periodically from oil storage tanks to drain out accumulated water as there is provision exits to eliminate the water from oil storage tanks except from the bottom/ dead stock level. The furnace oil was shifted from other stations in the interest of company as there was shortage of electricity in the country as per demand of system operator, NPCC Islamabad. It is pertinent to mention here that the payment was made according to acceptable quantity after deduction of additional water contents.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. Management reply is not tenable because management did not ensure maintenance of quality furnace oil in tank storage by draining water from oil storage tanks. The inventory status as on 31.07.2020 (stated earlier in the subject issue) showed that furnace oil was contaminated even before dead level.

Management did not form SOPs to drain out accumulated water from oil storage tanks in order to avoid from corrosion. This state of affairs indicated that management failed to take corrective measures to avoid building up water in oil storage tanks. After shifting 18,812.782 M.Ton HSFO, further shifting was stopped by BoD on 11.11.2020 due to inferior quality of furnace oil. Moreover, NPGCL procured 10,119.868 M. Ton furnace oil worth Rs.744.567 million from CPGCL (GENCO-II). Chemical test report showed that furnace oil was adulterated.

**Audit Recommendations**

i. Responsibility may be fixed against BoD for maintenance of adulterated fuel persistently across all power plants by management as well as for shifting of adulterated furnace oil from other power plants to TPS Muzaffargarh.

ii. BoD should have devised policy relating to maintenance of quality furnace oil in storage capacity. Management/BoD is also liable for taking adulterated furnace oil at market rate from CPGCL despite the fact that furnace oil could not be used in power plants to achieve NEPRA's determined Heat Rate.

**1.1.3. Extension of time (EOT) cost and remobilization charges amounting to Rs. 1,148.39 million were allowed and paid to the contractor in excess to the provision of revised PC-I without approval of competent forum i.e. Executive Committee of the National Economic Council (ECNEC) and without evidence of actual expenditure in support of EOT cost and remobilization charges. Even after 07 years, neither the competent forum has granted approval nor the evidence against the payment made to the contractor has been presented thereby making the payment unauthorized and doubtful.**

**Primary Issues**

1. EOT cost and remobilization charges were enhanced from the provision of revised PC-1 from Rs. 1,735.00 million to Rs.2,883.39 million through amendment No. 2 to the contract agreement without approval of ECNEC.
2. The evidence of actual expenditure in support of EOT cost and remobilization charges was not found attached with the payment claim.

**Primary Issue No.1**

EOT cost and remobilization charges were enhanced from the provision of revised PC-I from Rs. 1,735.00 million to Rs.2,883.39 million through amendment No. 2 to the contract agreement without approval of ECNEC.

## i. Amendment No.02 to the Contract Agreement and revised PC-I.

EPC contract for construction of 425 MW Combined Cycle Power Plant Nandipur was awarded to M/s DECL at a cost of US$ 329 million on 28-01-2008. The contractor was required to complete the work on 16-04-2011. In the meantime, Foreign Currency component could not be arranged by the Company. Hence the contractor served termination notice on 17-08-2012 and left the site of work. Later on, PC-I of the project was revised and approved by the ECNEC on 04-07-2013 at a cost of Rs. 58.416 billion.

The Contractor resumed the work on 21-10-2013. According to the provision of the revised PC-I, the contractor was allowed EOT cost Rs. 970.00 million and remobilization charges of Rs. 765 million to compensate the idle cost borne by the contractor. Later on, amendment No.2 to the contract agreement was signed on 02-08-2013 between NPGCL and M/s DECL wherein the contractor was allowed and paid EOT cost to the tune of 2,883.39 million. This was in excess of the provision given in the revised PC-I. The amendment was to be approved by the ECNEC but the same has not been done so far. The detail of excess payment made to the contractor is given as under.

**Table-36 Excess payment made to contractor**

*(Rs.in million)*

| Sr. No. | Description | Provision as per revised PC-I | Actual payment | Excess payment |
|---|---|---|---|---|
| 1 | EOT cost | 970.00 | 2,029.01 | 1,058.78 |
| 2 | Remobilization charges | 765.00 | 854.38 | 89.38 |
| | Total | **1,735.00** | **2,883.39** | **1,148.39** |

**Source: Payment vouchers**

## ii. Status of EoT cost and remobilization charges as per Ministry of Water & Power

As per Ministry of Water & Power Islamabad vide letter No. GPI-9(8) 2012 dated. 02-08-2013, summary to avail approval of the ECC for signing amendment No.2 was circulated on 31.07.2013 to Ministry of Law, Planning Commission and Finance for comments. Before receipt of comments from the above-mentioned Ministries the then Minister for Water & Power allowed on 02-08-2013 to the sign the amendment No. 2 as agreed upon during negotiations among contractor M/s DECL, Consultant, FD NPGCL and M.D Nandipur Project Director held in China on 24-7-2013 to 27-07-2013. The said letter further clarified that the matter will be regularized by obtaining ECC's approval in due course of time. However, approval of ECC or ECNEC could not be attained by management/ministry.

**Primary Issue No.2**

Evidence of Actual Expenditure in Support of EOT Cost and Remobilization Charges were not found attached with payment claim Rs.2,883.39 million.

It was noticed from the payment claim that evidence of actual expenditure in support of EOT and remobilization charges was not found attached. The evidence of actual expenditure was mandatory to be attached with the claim before making its payment to the contractor. This was an internal control failure on the part of Finance Department and Management of the company who failed to collect evidence of actual expenditure incurred on account of EOT and remobilization charges. Doing so made the subject payments doubtful.

**Audit Findings:**

i. The Payment of EoT cost and remobilization charges in excess to the provision of revised PC-I were not admissible to the contractor. Hence excess payment of Rs. 1,148.39 million was paid to the contractor. As the amendment No.02 has not been approved, it has no legal value, hence, payments made to contractor as per amendment No.02 stand unauthorized.

ii. The then Minister for Water and Power was not competent to allow to sign the amendment No 2 as agreed upon during negotiations among contractors M/s DECL FD NPGCL and Managing Director Nandipur/ Project Director held in China on 24-7-2013 to 27-7-2013 vide Ministry of Water and Power Islamabad office letter No GPI-9(8)2012 dated 02-08-2013.

iii. The payment of EOT cost and remobilization charges were to be paid to the contractor on the basis of evidence of actual expenditure incurred by the contractor in order to ensure authenticity and genuineness of the claim. Lack of evidence raised a red flag involving Rs. 2,883.39 million.

**Management Reply:**

The matter was taken up with the management in June 2021 and the management replied that the total cost of the project was Rs. 57 billion which is less than the revised PC-I cost of Rs. 58.416 billion. The increase in cost on account of EoT cost and remobilization charges was within the revised PC-I. Hence there is no need to get approval from the ECNEC.

**DAC Directive**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021.

Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as actual cost of the project is Rs. 64.304 billion as evident from the trail balance of the project. The Accounts Department of the project also verified the amount. The excess expenditure to the provision of revised PC-I was subject to approval from the ECNEC. In addition to the above, the evidence of actual expenditure in support of EoT cost and remobilization was not found attached. Therefore, payment made to the contractor stands unauthorized /irregular.

**Audit Recommendations**

i. Audit recommends that the Management of Company needs to get approval of amendment No. 2 from the ECNEC.

ii. Audit recommends that the matter be probed as to why the said amendment was implemented without seeking approval from the competent forum.
iii. Audit also recommends that responsibility should be fixed against those who made payment to the contractor without evidence of actual expenditure.

### 1.1.4. Auxiliary consumption is that quantum of energy, which is not sold, rather used within the power plant and its premises.

Northern Power Generation Company Limited (NPGCL) could not achieve NEPRA's fixed auxiliary consumption in respect of its Power Plants during the period from 2010-11 to 2019-20. Resultantly, company consumed 906.262 million units in excess of limit prescribed by NEPRA.

**Primary Issue**

Under the provision of section 31(4) of the Regulations of Generation, Transmission and Distribution of Electric Power Act (XL of 1997), NEPRA had determined auxiliary consumption of power plant under Northern Power Generation Company Limited Muzaffargarh vide its letter No. NEPRA/TRF/46/NGPCL-2005/3918-20 dated 02.05.2006 and dated. 22-01-2016. But NPGCL could not achieve NEPRA's fixed auxiliary consumption rate in respect of Thermal Power Station Muzaffargarh, Steam Power Station Faisalabad, Gas Turbine Power Station Faisalabad and Natural Gas Power Station (NGPS) Piranghaib Multan during the year 2010-11 to 2019-20. The detail is given as under: -

**Table-37 Description of auxiliary consumption in NPGCL**

| Year | Units | Units generated during the year | Actual Auxiliary Consumption | Auxiliary Consumption approved by NEPRA | Excess Auxiliary consumption |
|---|---|---|---|---|---|
| **2010-2020** | TPS Muzaffargarh | 38,833,784,044 | 4,056,382,250 | 3,193,914,035 | (862,468,215) |
| **2010-2018** | GTPS Faisalabad | 1,071,120,100 | 29,099,554 | 22,749,667 | (6,349,887) |
| **2010-2018** | SPS Faisalabad | 701,882,000 | 83,772,000 | 56,150,560 | (27,621,440) |
| **2010-2012** | Piranghaib Multan | 116,525,300 | 19,196,201 | 9,379,785 | (9,822,416) |
| Total | | **40,723,311,444** | **4,188,450,005** | **3,282,194,047** | **906,261,958** |

**Source: E-Form of NPGCL**

**i. Causes of excess auxiliary consumption at TPS Muzaffargarh**

The Thermal Power Station Muzaffargarh consists of 6 units. The major overhauling was not carried out after 36,000 running hours. As a result, most of the unit of TPS Muzaffargarh remained on forced outages and standby particularly unit no 4,5 & 6.

The condenser cooling water pumps, closed cycle or secondary cooling water pumps, turbines & generator lube oil pumps, generator seal oil pump etc remained in running/operation to retain the plant intact even when the units were on forced outage or standby. Although the plant was not in operation but due to the running of allied equipments of the plants the Auxiliary was consumed in these units leading to excess Auxiliary consumption.

Basically, these units were designed to be operated on dual firing i.e. gas / furnace oil. But due to non-availability of gas quota to the thermal power station Muzaffargarh, these units were operated continuously on furnace oil which resulted in excess auxiliary consumption.

**ii. General causes across all power stations**

Management was required to limit the use of auxiliary consumption within the powerhouse and allied offices and related establishment to meet the benchmark set by NEPRA. This required preparation of strong SOPs to save energy produced by the power stations and avoid wastage of energy on all non-commercial operations such as offices/establishment/ residential colonies. However, as per discussion and record produced to audit no such measures were taken to reduce the excessive auxiliary consumption over the years.

**Audit Findings:**

i. The auxiliary consumption was found in excess to NEPRA fixed limits during the period 2010-11 to 2019-20 in respect of power plants namely Thermal Power Station Muzaffargarh, Steam Power Station Faisalabad, Gas Turbine Power Station Faisalabad and Natural Gas Power Station Piranghaib Multan. Resultantly, NPGCL could not earn revenue against 906.262 million energy units generated by power plants during the period 2010-11 to 2019-20.

ii. Fine of Rs. 5.00 million was imposed on the company by NEPRA due to violation of the prescribed limits of auxiliary power consumption during the year 2011-12, 2012-13 and 2013-14. No efforts were made to minimize the losses of auxiliary consumption in the larger interest of company.

**Management Reply:**

Management replied that the impact of auxiliary consumption has already been accounted for in Heat Rate as Net Electrical Output (NEO) decreases with increase in Auxiliary Consumption and vice versa. Net Heat Rate is the final product, hence financial loss on account of Excess Net Heat Rate, if any, has built-in impact of the auxiliary consumption.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as limit of auxiliary consumption in the shape of percentage of the total generation was fixed by the NEPRA.

The number of excess units was pointed out in the auxiliary consumption. So far as excess heat rate is concerned it was worked out on the total generation of the plant which was excess to the NEPRA limits. The fuel consumption within the NEPRA limit was not objected in the heat rate. In case of auxiliary consumption, number of excess units was pointed out. Hence the impact of auxiliary consumption was not included in the excessive heat rate. It is also worthwhile to mention here that electricity for residential colonies in Thermal

Power Station Muzaffargarh, SPS Faisalabad, GTPS Faisalabad, Nandipur and Piranghaib was utilized out of auxiliary consumption. This was not allowed by the NEPRA. A fine to fine of Rs. 5.00 million was imposed by the NEPRA during the year 2012-13 and 2013-14 on NPGCL.

This reflects that the auxiliary consumption was not within the limits set by NEPRA. So far as operational auxiliary consumption is concerned this was not allowed by the NEPRA in its tariff determination. While determining the limit of auxiliary consumption NEPRA did not allow auxiliary consumption on standby period, start-up period and allowed shutdown period. Hence it could not be a part of auxiliary consumption.

**Audit Recommendations:**

i. The management needs to rationalize use of plant's energy through stringent measures and approach NEPRA again in case of practical bottlenecks.

ii. The ministry needs to inquire about the utilization/accountal of excessive auxiliary units for fixing of responsibility and ensuring that the same is avoided in future.

**1.1.5. When power plant is in operation and is stopped suddenly due to technical fault in the plant, the duration of such stoppage is called forced outage. Three power plants namely Thermal Power Station Muzaffargarh, 525 MW Combined Cycle Power Plant Nandipur and Gas Turbine Station Faisalabad faced the problem of forced outages on several occasions during the period 2014-15 to 2018-19. As per the provision of the Power Purchase Agreement signed on 20-09-2015 between CPPA-G and NPCGL, liquidated damages charges amounting to Rs. 14,770.805 million were imposed on account of forced outages during the period 2014-15 to 2018-19.**

**Primary Issue:**

Liquidates damages charges were imposed in accordance with the provision of power purchase agreement due to frequent forced outages.

**i. Background of the issue**

Power Purchase Agreement was signed between CPPA-G (The Power Purchaser) and NPGCL (The Seller) on 20.09.2015. According to clause 7A-4(a) of Power Purchase Agreement (PPA), the claim of liquidated damage charges pertaining to excess forced outages can only be raised by the purchaser within forty-five (45) days of the end each Agreement Year i.e., on or before 3rd November of the corresponding Agreement Year.

**ii. Occurrence of forced outages**

During the period 2014-15 to 2018-19, different power plants i.e., Thermal Power Station (TPS) Muzaffargarh, Gas Turbine Power Station (GTPS) Faisalabad and 525 MW Combined Cycle Power Plant (CCPP) Nandipur power did not function properly and were stopped due to serious faults i.e., tripping caused by electric fault, condenser tube leakage, emergency drum level low economizer tube leakage, breaking of impeller vane and sometimes due to unknown reasons. These forced outages happened due to improper / poor maintenance of the plants. Hence, the claim of liquidated damage amounting to Rs.14,770.805 million was raised in the light of Section 7A.4(a) by the purchaser i.e., CPPA-G on the grounds of availing excess forced outages than allowed in PPA.

However, the NPGCL disagreed with CPPA-G on the grounds that the invoices raised by CPPA-G on 24.12.2019 should have been raised on or before November 03rd of corresponding Agreement year. The invoices submitted by CPPA-G were therefore time barred and could not be processed further. Hence these invoices were disputed by the NPGCL vide letter No CEO/MZG/2263-65 dated 25/09/2020. Now the matter remains unresolved.

**iii. Table-38 Description of Liquidated damages charges imposed due to forced Outages by the Central Power Purchasing Agency i.e. buyer against NPCGL i.e. seller.**

***(Rs. in million)***

| Sr. No | Name of Plant | Complex/Unit | Block | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | Total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | TPS Muzaffargarh | Unit 1-3 | IV | - | 73.28 | - | - | - | 73.28 |
| | | Unit No 4 | II | 0.95 | 229.49 | 106.49 | 63.35 | 244.45 | 644.75 |
| | | Unit 5-6 | III | - | 244.49 | - | 116.21 | - | 360.71 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **2** | **GTPS Faisalabad** | GTPS Faisalabad | IV | 375.03 | 269.96 | 317.86 | 324.63 | 370.26 | 1,657.76 |
| | | SPS Faisalabad | V | 29.57 | 235.11 | 207.06 | 182.81 | - | 654.57 |
| | | GTPS Faisalabad | VI | 249.88 | 259.04 | 265.15 | 181.24 | - | 955.32 |
| **3** | **525 MW CCPP Nandipur** | | | 833.52 | 3,392.70 | 3237.83 | 731.54 | 2228.06 | 10,423.67 |
| **Total (RS.)** | | | | **1,488.98** | **4,704.09** | **4134.40** | **1,599.8** | **2,842.79** | **14,770.08** |

**Source: CPPA-G data**

## Audit Findings:

i. Liquidated damages charges amounting to Rs.14,770.805 million were imposed in accordance with the provision of power purchase agreement on NPGCL by the CPPA-G. As a result of forced outages, the power plants produce less energy and the sale of energy of the company is reduced on the whole.

ii. The frequent forced outages are the outcome of serious faults in the power plants and it raises serious questions about the efficiency of the management.

iii. The stance of CPPA-G is correct to the extent of occurrence of forced outages. However, the claim of liquidated damages charges has been disputed by the NPGCL. Now the issue of liquidated damages charges will be resolved through experts and subsequently through arbitration.

iv. The event of liquidated damages charges was not reflected in the financial statement as contingent liability.

**Management Reply:**

The matter was taken up with the management and the management replied that the invoices raised by the CPPA for L.D Charges are one-sided working of CPPA-G. This has already been disputed on many factors including the fact that these invoices of L.D charges are time barred vide dispute No. CEO/MZG/2260-62 dated. 25-09-2020 and CEO/MZG/2263-65 dated. 25-09-2020.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company.

It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021.

Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as issue of L.D charges have not been withdrawn by the CPPA-G. The stance of CPPA-G is correct to the extent of occurrence of forced outages and imposition of LD charges. The issue stands unresolved.

**Audit Recommendations:**

i. Audit recommends that matter may be investigated and all individual involved at operational, managerial and supervisory level be held responsible for malfunctioning of the Company’s power plants.

ii. The fate of LD charges needs to be finalized by the Ministry by actively engaging all stakeholders as subject issue has significant potential financial impact on the Company.

## 1.2 POLICY INDUCED

**1.2.1. The Board of Directors of NPGCL did not ensure that a sound system of internal control was established and effectively implemented and maintained at all levels within the Company in compliance of Code of Corporate Governance Regulations-2013.**

**Primary Issues:**

1. Board of Directors (BoD) did not appoint Chief Internal Auditor to make robust internal audit department in NPGCL.
2. Finance Director of NPGCL was appointed in violation of Rule-20 of Public Procurement Rules-2004 by Board of Directors.

   Audit reviewed some governance issues in the light of Code of Corporate Governance Regulations (CGR) and observed that BoD did not make compliance of codes in the following major areas of NPGCL:

**1. BoD did not appoint Chief Internal Auditor to make robust internal audit department:**

Clause 32 of Corporate Governance Rules-2013 put huge responsibility on BoD of NPGCL that "There shall be an internal audit function in every company. The head of internal audit shall functionally report to the audit committee and administratively to the chief executive officer and his performance appraisal shall be done jointly by the Chairman of the audit committee and the chief executive officer. A director cannot be appointed, in any capacity, in the internal audit function to ensure independence of the internal audit function. The board shall ensure that the internal audit team comprises of experts of relevant disciplines in order to cover all major heads of accounts maintained by the company.

According to clause 2(b) of 32 of Corporate Governance Rules-2013 that the "Internal Audit Function, wholly or partially, may be outsourced by the company to a professional services firm or be performed by the internal audit staff of the holding company. In lieu of outsourcing, the company shall appoint or designate a fulltime employee other than chief financial officer, as head of internal audit holding equivalent qualification prescribed under these Regulations, to act as coordinator between firm providing internal audit services and the board. Provided that while outsourcing the function, the company shall not appoint its existing external auditors as internal auditors."

All companies shall ensure that internal audit reports are provided for the review of external auditors. The auditors shall discuss any major findings in relation to the reports with the audit committee, which shall report matters of significance to the board of directors.

Audit reviewed the record relating to appointment at the post of Chief Internal Auditor (CIA) in line with the codes of Corporate Governance Regulations and observed that no person was appointed at the post of CIA of NPGCL for the financial years 2010-11 to 2019-20 (upto March-2020). Various persons as listed below were given additional charge of Deputy Chief Auditor as detailed below:

**i. Table-39 Additional charge given as Dy. Chief Auditor**

| Name | Designation | From | To | Remarks |
|---|---|---|---|---|
| **M.Nawaz Siddiqui** | Dy. Chief Auditor | 08.09.2008 | 04.01.2013 | |
| **M.Aslam Malkani** | Sr. Audit Officer | 05.01.2013 | 31.12.2014 | Addl Charge of Dy. CAr. |
| **Abdul Rasheed** | Audit officer | 01.01.2015 | 25.01.2017 | Addl charge of Sr. Audit officer |
| **Ashiq Ali Memon** | Plant Manager | 26.01.2017 | 26.04.2017 | Addl Charge Dy. CAr. |
| **Abdul Rasheed** | Audit officer | 27.04.2017 | 14.05.2018 | Addl charge of Sr. Audit officer |
| **Mujeeb Ullah Khan** | Dy. Manager Procurement | 15.05.2018 | 31.10.2018 | Addl.charge of Dy. Manager Audit |
| **M.Shehzad Dilawar** | Dy. Manager Accounts | 1.11.2018 | 14.03.2019 | Addl charge of Sr. Audit officer |
| **Niaz Ahmed Memom** | Plant Manager | 15.03.2019 | 24.12.2019 | Addl Charge of Dy. CAr. |
| **Abdul Rasheed** | Audit Officer | 25.12.2019 | 10.02.2020 | Addl charge of Sr. Audit officer |
| **Abdul Jabbar Sheikh** | Director Technical | 11.02.2020 | 23.03.2020 | Addl Charge of Dy. CAr. |
| **M.Tayyab** | Chief Internal Auditor | 24.03.2020 | To date | |

**Source: Confirmation from Admn NPGCL**

BoD kept the post of Chief Internal Auditor vacant over the past ten years. Only plant manager and other non-professional person were given the additional charge for the post of Dy. Chief Auditor.

**2. Finance Director of NPGCL was appointed in violation of Rule-20 of Public Procurement Rules-2004 by Board of Directors.**

As per clause 23 of Corporate Governance Rules-2017 which mention Qualification of Chief Financial Officer to run the financial matter of the Company are as under:

a) he/ she has at least three years of managerial experience in fields of audit or accounting or in managing financial or corporate affairs functions of a company and is a member of the Institute of Chartered Accountants of Pakistan or Institute of Cost and Management Accountants of Pakistan; or

b) he/ she has at least five years of managerial experience in fields of audit or accounting or in managing financial or corporate affairs functions of a company and is either a member of professional body of accountants whose qualification is recognized as equivalent to post graduate degree by HEC or has a postgraduate degree in finance from a university in Pakistan or equivalent recognized and approved by the Higher Education Commission of Pakistan (HEC).

c) he/ she has at least seven years of managerial experience in fields of audit or accounting or in managing financial or corporate affairs functions of a company and has a suitable degree from a university in Pakistan or abroad equivalent to graduate degree, recognized and approved by the Higher Education Commission of Pakistan (HEC). The Commission, on application from the company, shall determine the suitability of such candidate.

Board of Directors appointed Manager Finance as [23]Finance Director of NPGCL in November, 2012, for a period of two years with market salary package without competitive bidding, in violation of Rule-20 of Public Procurement Rules-2004 which states that *"save as otherwise provided, the procuring agencies shall use open competitive bidding as the principal method of procurement for the procurement of goods, services and works"*.

[23] BoD was required to advertise the post of Finance Director in newspapers for a fair competition to appoint FD in transparent way.

Appointment process was not transparent and fair. In response to an [24]audit observation, [25]Departmental Accounts Committee directed to remove the officer from duty and effect the recovery of such illegal benefits and allowances given as Finance Director. BoD of NPGCL have yet to appoint Finance Director of NPGCL.

**Audit Findings:**

i. Board of Directors did not appoint [26]Chief Internal Auditor in accordance with Clause-32 of Corporate Governance Rules over the past ten years. Various unqualified[27]officers who were given additional charge of Deputy Chief Auditor included plant managers and Director Technical.

ii. Appointment of Mr. Masood Ahmed as Finance Director was against the merit and in violation of Rule-20 of Public Procurement Rules-2004. BoD of NPGCL did not observe transparency and fair competition in appointment of Finance Director of NPGCL.

**Management Reply:**

Management replied that the case was never presented to the Board. Audit has referred to DP No. 1053 of AR 2017-18 regarding appointment of Finance Director of NPGCL. The last DAC directives on the said para were given during meeting dated 09 September 2019. In this meeting the DAC directed "refer the case to BOD to review the matter regarding appointment of Finance Director and appraise its decision within one month."

Management further replied that legal opinions stated that Rule 20 of the PPRA Rules, 2004 were not applicable in matters of hiring or promotion in public sector companies and therefore, the audit observation regarding violation of the PPRA Rules in Mr. Masood Ahmad's case was not tenable.

[24] Audit Report-2017-18 D.P.1053/2017-18

[25] DAC meeting held on 4&5 November, 2019

[26] Position is vacant since 2013

[27] All were engineers, these appointments created conflict of interest as internal audit was to assess the ability and performance of these engineers who were responsible to run the plant efficiently and effectively.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as BoD is fully responsible to establish sound internal audit department in line with laid down provisions of corporate governance rules-2013.

BoD did not appoint Chief Internal Auditor in NPGCL during last ten years and did not take notice of giving additional charge against this important post. Further, in the light of provisions of Corporate Governance Rules-2013, there is complete criterial for hiring the services of Chief Financial Officer and fair competition is needed under PPR-2004 to ensure transparency.

**Audit Recommendations:**

i. It is recommended to fix the responsibility for not appointing Chief Internal Auditor in NPGCL which resulted in non-establishment of Internal Audit Department in line with the laid down provision of Corporate Governance Rules.
ii. Finance Director was not appointed on merit and in accordance with Rule-20 of PPR-2004 for which responsibility may be fixed and regular finance director may be immediately appointed to run the financial matters of the Company.

### 1.2.2. Steam Power Station (SPS) Faisalabad remained operative despite being declared defunct by NEPRA.

**Primary issue**

Steam Power Station (SPS) Faisalabad was declared defunct by the NEPRA vide letter No. letter No. NEPRA/R/LAG-03/7134-39 dated May 02, 2018. However, the units remained operative from 02.05.2018 to 08.05.2018.

i. Stream Power Station (SPS) Faisalabad was commissioned in 1967 and had completed about fifty (50) years from COD. As per the generation license the generating units of SPS Faisalabad had outlived their useful lives in 2012. After the detailed analysis, the NEPRA concluded that units of SPS Faisalabad were operating quite below their designed efficiency as well as the net efficiency determined by the NEPRA and that the units had completed their useful life. Resultantly the units became uneconomical and their cost per unit was higher. Keeping in view these factors, the NEPRA declared SPS Faisalabad defunct on 02.05.2018.

ii. Despite being declared defunct by the NEPRA, the company operated the power plant from 02.05.2018 to 08.05.2018. During this period, 4,330,000 units were generated and transmitted to NTDC System amounting to Rs. 33.389 million. In this regard, the company raised invoices for the generated units. The invoices were rejected by the CPPA-G on the plea that the NEPRA had declared these units defunct. Resultantly, the company sustained a loss of Rs. 33.389 million.

**Audit Findings:**

Though, the power plant remained operative only for a week, it however showed that the management had not been vigilant in adhering to the instructions given by NEPRA. Given the financial health of the company, the management, instead of staying vigilant, operated the power plant when it was directed to do otherwise.

**Management Reply:**

The matter was taken up with the management in June 2021 and the management replied that being aggrieved of the decision of the Authority, NPGCL filed Motions for Leave to review against Authority decision on 12-05-2018 within stipulated time period as per NEPRA Rules.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one-week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021.

Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as no decision was given in favour of NPGCL. Hence this is loss to the exchequer of the company.

**Audit Recommendations:**

i. As the company was already in loss, the management should have been careful to avoid taking decisions which added further to the losses of the company. The management needs to consider the interest of the company and act accordingly.

ii. Audit recommends that responsibility is fixed for irregular operation of power plant to avoid similar lapses in the future.

### 1.2.3. NEPERA disallowed delayed cost, open cycle operation cost and pre-COD cost in the tariff determination of 525 MW combined cycle power plant Nandipur. Resultantly NPGCL has sustained a loss of Rs. 26,188 million.

**Primary Issue**

NPGCL filed a petition to NEPRA for tariff determination in respect of 525 MW combined cycle power plant Nandipur on 20-05-2014. During the determination of Tariff, certain costs were disallowed by NEPRA in the tariff determination on 14-04-2015, 27-01-2016 and 02-09-2016. Due to non-allowing of delayed cost, open cycle operation cost and Pre-CoD operation costs in the Tariff, the company sustained heavy losses.

**i. Background of the case**

Engineering, Procurement and Construction (EPC) contract for construction of 525 MW Combined Cycle Power Plant (CCPP) Nandipur was awarded to M/s Dongfong Electric Corporation Limited (DECL) for execution of 525 MW. The scheduled completion date of the project was 16$^{th}$ April, 2011. In order to make payment of foreign currency component, loan agreement amounting to EURO 68.97 million and US$ 150.15 million was signed with M/s Coface, France and M/s Sinosure, China on October 03, 2008 and March 19, 2009 respectively.

The Ministry of Finance had issued a guarantee to foreign lenders on October 30, 2009. In the meantime, project shipments were started as per schedule, but foreign loan could not be made operative due to holding of legal opinion by the Ministry of Law, Justice and Parliamentary Affairs which was a major pre- condition. The availability period of the foreign loan was valid till August 31, 2011, however, the said legal opinion was issued belatedly on October 19, 2011.

Moreover, loan agreement of Rs.5,300 million had also been signed with a syndicate of local banks to meet with the local currency component. Since, the foreign credit facilities were not operative. Hence, the syndicate of local banks continued to make forced payments against Letter of Credit documents. The exposure of the local syndicate loan reached upto Rs.14,923 million against the committed sum of Rs.5,300 million resulting in an over exposure of Rs.9,623 million.

The syndicate of local banks, therefore, started withholding the bills of lading. As a result, shipments at Karachi port were stuck up. Consequently, the EPC contractor demobilized his resources and served termination notice on August 17, 2012 due to prolonged detention of project shipments at the port. In order to restore the work, an amendment to contract was signed on August 02, 2013 and work was resumed by the contractor on October 21, 2013 and completed on 23-07-2015.

**ii. Delayed Period Cost**

NEPRA considered suspension period of project from April, 2010 to October, 2013 as delayed period. Hence cost incurred during such period was not allowed to be incorporated in the tariff determination by the NEPRA on 14-04-2015, 27-01-2016 and 02-09-2016. The NPGCL stated before NEPRA that the issue of delayed cost for tariff determination in the Nandipur power project was similar to the ones already decided by the NEPRA in case of other IPPs i.e. Orient, Sapphire, and Halmore. The NPGCL further argued that in case the costs were not allowed in tariff determination, the project would become financially unviable.

The NEPRA, however, did not agree with the viewpoint of the NPGCL after scrutiny of record and opined that allowed tariff was reasonably sufficient to not only cover all of CCPP Nandipur's fixed capacity charges but also sufficient to earn profit even in the first 15 years of its operation wherein the loan was scheduled to be paid back. After payment of debt, NPGCL’s return would increase further. The Project would only forgo some of the portions of 15% guaranteed Internal Rate of Return (IRR) that would have been earned if the project had been built within the normal time period without any delays.

In view thereof, the NGPCL’s request for reconsideration with respect to allowing of delayed cost was rejected. It is pertinent to remark here that NPGCL’s request for tariff was rejected thrice by NEPRA on14-05-2015, 27-01-2016 and 02-09-2016. The detail of disallowed cost with reasons is given as under:

**Table-40 Description of Cost disallowed by NEPRA at the time of Tariff Determination of 525 CCPP Nandipur**

| Particulars | Disallowed (Amount in million) | | Remarks/Comments of NEPRA |
|---|---|---|---|
| | **USD** | **PKR** | |
| Escalation/Delayed | - | - | NEPRA disallowed the overrun cost due to project delay because no precedent available for NEPRA to allow such cost to any public or private plant. |
| Remobilization & EOT cost | 28.45 | 3,013.30 | |
| Repair & Maintenance | 34.66 | 3,539.42 | |
| Repair & Maintenance | 1.25 | 124.76 | |
| Insurance | 0.45 | 47.89 | |
| **Subtotal** | **64.81** | **6,725.57** | |
| Spare parts & Balance of Plant | 1.05 | 155.49 | USD 0.09 Mn. For defective parts of FOTP and USD 0.96 Mn. Against Balance of Plant payables were not allowed |
| Admin & Auth overhead | 3.34 | 311.74 | NEPRA allowed average cost of 2.1 to 2.8 years against the requested cost of 5.84 years. |
| Media & Documentary | 0.80 | 81.62 | Being Imprudent cost, Hence, it was disallowed by NEPRA. |
| Demurrage & Detention charges | 7.10 | 718.13 | NEPRA disallowed detention and demurrage charges as this cost was incurred on account of company's inability to remove the equipment within stipulated time period from the port. These charges are considered inefficiency on part of company which cannot be allowed to be passed on power purchaser and ultimately to the end consumers. Hence this cost was disallowed. |
| Interest During Construction (IDC) | 63.90 | 6,950.90 | IDC disallowed due to project delay. |
| Financing charges | 5.94 | 494.29 | It was not allowed by NEPRA due to non-effectiveness of foreign loan |
| **Total** | **146.94** | **15,437.75** | |

**Source: - i) Information provided by the NPGCL & NEPRA's tariff determination**

**iii.** **Pre-COD operating cost:** The Ministry of Water and Power vide its letter NO.GPI-1(47)2012 dated 17-07-2014 directed "the Chief Executive Officer/Managing Director Project Management Unit (PMU) Nandipur

NPGCL to arrange fuel for continuous operation of plant. The cost of fuel will ultimately be covered in pre and post COD Tariff by the NEPRA”. In pursuance of the said letter, the management operated the plant. As a result of operation of plant from May 14 to July 2015, Net Electrical output of 328.204 MKWH units was delivered to the National Grid System from the combined cycle power plant Nandipur. Against this energy output, NPCGL raised invoices amounting to Rs. 6,765.091 million to CPPA-G. But CPPA-G did not verify the claim on the ground that NEPRA had disallowed tariff on 14-04-2015, 27-01-2016 and 02-09-2016 for cost incurred during pre-COD period from April, 2014 to July, 2015.

It is worth mentioning here that the plant actually achieved COD on 23-07-2015. The plant was not on the merit list of System Operator (National Power Control Centre) before achievement of COD. Therefore, plant could not be operated before achievement of COD. Hence, Pre-COD operation of the plant was quite unjustified. Moreover, Ministry of Water & Power was not competent to give direction to NPGCL to operate the plant. This was the responsibility of the System Operator and that too after achievement of COD.

**Table-41 Pre-COD cost disallowed by NEPRA**

*(Rs in million)*

| Sr. No. | Financial year | FO | HSD | Total | Mode of Operation |
|---|---|---|---|---|---|
| **1** | 2013-14 | NIL | 532.934 | 532.934 | Open Cycle |
| **2** | 2014-15 | 4,028.879 | 990.940 | 5,019.820 | Open Cycle |
| **3** | 2015-16 (Only July) | 1,211.932 | 0.404 | 1,212.336 | Open Cycle |
| | **Total** | | | **6,765.091** | |

Source of data: - i) Information provided by the NPGCL and confirmed in writing
ii) Tariff determination made on 14-04-2015, 27-01-2016 and 02-09-2016

**iv. Open Cycle Operation:** Open cycle operation is referred to the operation of one unit of the plant instead of the entire units. NEPRA did not allow to operate the plant on Open cycle as it drops the efficiency value by about 12% to 13%. The impact of open cycle operation is that consumers would get the same units of electricity with 1.5 times higher cost. The open cycle operation was never allowed to any IPP and the Nandipur power plant was no exception. Therefore, the NPGCL's request in this regard was rejected.

Due to non-acceptance of open cycle operation of the plant, an amount of Rs.3,985.159 million was not paid to the company by the CPPA-G, as NEPRA did not allow Tariff to this cost. The detail is as under:

**Table-42 Cost rejected by NEPRA on open cycle operation**

***(Rs in million)***

| Sr. No. | Financial year | Furnace Oil | HSD | RLNG | Total | Mode of Operation |
|---|---|---|---|---|---|---|
| **1** | 2015-16 | 3,202.553 | 537.703 | NIL | 3,740.256 | Open Cycle |
| **2** | 2016-17 | 131.520 | 1.810 | NIL | 133.33 | Open Cycle |
| **3** | 2017-18 | NIL | NIL | 111.573 | 111.573 | Open Cycle |
| | | **Total** | | | **3,985.159** | |

Source of data: - i) Information provided by the NPGCL and confirmed in writing
ii) Tariff determination made on 14-04-2015, 27-01-2016 and 02-09-2016

**Audit Findings:**

i. NEPRA did not allow delayed cost w.e.f. April 2010 to October 2013. Resultantly company sustained a loss of Rs.15,437.75 due to delay in issuance of legal opinion as it was sought on 18-02-2009 whereas it was rendered on 19-10-2011 by the Ministry of Law & Justice and Parliamentary Affairs. In the meantime, foreign loans were expired on 31-08-2011.

ii. During the Pre-COD period from May, 2014 to July, 2015, 328.204 MKWH units were generated on the direction of Ministry of Water and Power, but NEPRA did not allow tariff for Pre-CoD operation cost in the tariff determination decision made on 14-04-2015, 27-01-2016 and 02-09-2016. The Ministry of Water and Power was not competent to direct the management to operate the plant before the COD period as it was not system operator. The system operator was National Power Control Centre. Resultantly company had sustained a loss of Rs.6,765.091 million.

iii. The management did not adhere to NEPRA's instructions while operating the power plants. Therefore, NEPRA did not allow open cycle operation of the plant. Resultantly company sustained a loss of Rs. 3,985.159 million.

**Management Reply**

Management replied that NEPRA did not allow delayed costs between April 2010 and October 2013 vide NEPRA's decision dated 14-04-2016.

Consequently, considering the genuineness of the costs incurred during the period April 2010-October 2013, Ministry of Water and Power intervened and submitted the reconsideration request for the determinations/decisions of NEPRA, though denied again vide NEPRA's decision dated. 02-09-2016.

However, Audit is apprised that although NEPRA has disallowed Pre-COD and other costs, fresh tariff petition submitted vide letter No. NPGCL/CEO/TRF-271/4088 dated. 16-10-2020 was filed before NEPRA for consideration of disallowed costs again in the national interest and thereby allowing the same. Public hearing was held on 14-01-2021. However, decision is still awaited.

**DAC Directive**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management.

However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as NEPRA has rejected delayed cost, open cycle operation cost and Pre-CoD operation cost thrice in its tariff determination made on 14-04-2015, 27-01-2016 and 02-09-2016.

Thereafter question does not arise to allow relief in favour of the NPGCL by the NEPRA as was specified in the decision of reconsideration request on 02-09-2016 that NEPRA is not willing to make NPGCL an exception by allowing tariff on the delayed cost. Similarly, Pre-CoD and open cycle operation costs were also rejected by the NEPRA on solid grounds.

**Audit Recommendations**

i. The Ministry of Water and Power is responsible for the loss on account of Pre-COD as the plant was operated on its direction vide letter bearing No. SPI-1 (47)2012 dated. 17-07-2014. It is also worthwhile to mention that Ministry is not System Operator. NPCC is the system operator and the competent body to operate the power plants. Hence the Ministry may avoid intervening in the commercial activities of the Company.

ii. Responsibility needs to be fixed for operating power plants on Open Cycle operation basis.

### 1.2.4. Northern Power Generation Company Limited (NPGCL) sustained a loss of Rs. 4,624.78 million due to closing of 526 MW Combined Cycle Power Plant Chichoki Mallian on the direction of Ministry of Water & Power Islamabad

**Primary issue**

A Combined agreement between NPGCL and M/s DECL was signed on 01-4-2008 for execution of 526 MW Combined Cycle Power Plant Chichoki Mallian at contract price of US $ 355 million and advance payment amounting to Euro 9,584,611.10, US $ 16,441,455.40 and Pak Rs 305.006 million was made to the contractor. After advance payment, contractor did not start the work at site. However, project was closed on 21-5-2015 on the direction of Ministry of water & Power vide letter bearing No. GPI-9(01) 2009 dates 21-05-2015. In the meantime, an amount of Rs. 4,624.78 million including financial cost were incurred and gone wasteful without achievement of objectives of the project.

**i. Background of the issue**

Economic Coordination Committee of the Cabinet in its decision bearing No. ECC-35/3/2008 dated. 15-02-2008 allowed the Northern Power Generation Company under the management of PEPCO to enter into contract with M/s DEC for 526 MW Combined Cycle Project Chichoki Mallian at a cost to be finalized with the approval of PEPCO Board in consultation with Finance Division against Dongfong Electric Corporation offer price of US$ 355 million.

Subsequently, in the light of direction of ECC contract agreement between NPGCL and M/s Dongfong Electric Corporation Limited was signed on

01-04-2008 for 526 MW Combined Power Plant Chichoki Mallian. According to the provisions of contract agreement, advance payment amounting to EURO 9,584,611.10 and US$ 16,441,455.40 and Pak Rs. 305,006,227.30 was made to the contractor. After the payment, the contractor did not start the work at site.

Later on, Ministry of Water & Power Islamabad vide letter bearing No. GPI-9 (01) 2009 dated.21.05.2015 conveyed that competent authority had decided to close the 526 MW Combined Cycle Power Plant Project Chichoki Mallian. In order to implement the decision of Ministry, settlement agreement between NPGCL and M/s Dongfong Electric Corporation Limited China was signed on 10-08-2017 regarding closure of the project.

**ii. Actual expenditure on closed Project**

During the course of Audit, it was noticed that an amount of Rs.4,624.78 million was incurred on the execution and financing cost of the Project. The non-execution of the project rendered the expenditure wasteful. In case project was not feasible then it should not have been initiated. It is important to mention here that neither any inquiry was constituted on the closing of project nor responsibility of loss has been fixed upon person whose negligence led to the closure of the project. The detail of expenditure incurred is given as under: -

**Table-43 Description of wasteful expenditure**

***(Rs.in million)***

| | | |
|---|---|---|
| **1.** | Interest cost charged w.e.f. 2008-09 to 2013-14 | 1,494.00 |
| **2.** | Interest cost charged 2014-15 to 2019-20 | 2,946 |
| | **Subtotal** | **4,440.32** |
| **3.** | Overheat | 48.6 |
| **4.** | Contract work | 46.5 |
| **5.** | Deposit works in progress (services charges for inter connection studies paid to NTDC) | 2.5 |
| **6.** | Establishment charges. | 86.79 |
| | **Subtotal** | **184.46** |
| | **Total** | **4,624.78** |

**Source: Data provided by NPGCL**

**Audit findings:**

**i.** An expenditure of Rs.4,624.79 million was incurred. It went wasteful as the project was closed all of a sudden.

ii. There was mis-management and non-coordination among the various stakeholders i.e., NPGCL, CEO GENCO Holding Company, PEPCO and Ministry of Water and Power. Resultantly, NPGCL sustained loss in the subject matter.

iii. Ministry of Water and Power was not competent to close 526 MW Combined cycle Power Plant Chickoki Mallian as approval to carry out the project was accorded by the ECNEC in its decision bearing number ECC-35/3/2008 dated 15-02-2008. Hence, ECNEC was the competent authority to take any decision about the fate of the project.

**Management Reply:**

The management replied that during negotiations EPC contractor, M/s General Electric (The manufacturer & supplier of gas turbines) and NESPAK (The engineering Consultant) proposed that presently the thermal power plants with better efficiency of almost 62% are available and suggested to replace the machinery with new technology through amendment in the EPC contract. Although this was in the interest of the country to procure plants with higher efficiency, but it was envisaged that this replacement might be against the public procurement rules.

Therefore, Power Division was requested to advise NPGCL regarding implementation of the Chichoki Mallian power project. However, Power Division vide its letter dated. 21-05-2015 conveyed the decision of the competent authority to close the Chichoki Mallian project. Accordingly, NPGCL implemented the decision of competent authority.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as issue of better efficiency of the plant i.e. 62% was to be decided before signing of contract agreement with the M/s GE. But it was not done.

Resultantly, NPGCL has sustained a loss of Rs.4,624.78 million due to lack of mismanagement and coordination among various stake holders. This also reveals the project mismanagement on the part of the Company. NPGCL should have done the homework before signing the agreement.

**Audit Recommendation:**

Audit recommends to investigate the matter of wasteful expenditure Rs.4,624.79 million and fix responsibility upon the persons at fault.

**1.2.5. A Rental Contract Agreement was signed between WAPDA and M/s G.E on 23-09-2006 for 150 MW Rental Power Plant Sharqpur and second rent contract agreement was signed on 18-09-2006 between M/s APR Energy L&C and NTDC for 136 MW Rental Power Plant Bhikki. Subsequently the BoD of NPGCL in its meeting held on 09-02-2007 consented that the company shall assume and undertake all rights, obligations and liabilities. As per the agreement, supply of Gas was the responsibility of NPGCL. Due to short/non supply of Gas, NPGCL sustained a loss of Rs. 9,140.482 million.**

**Primary issue**

NPGCL failed to supply gas to these rental power plants according to the requirement of 150 MW and 136 MW Power Plants resulting in a loss of Rs.9,140.482 million to NPGCL.

**i. Background of the rental contract agreement**

Economic Coordination Committee of the Cabinet considered the summary dated. 12-08-2006 submitted by the Ministry of Water & Power on 150 MW Piranghaib Multan on rental basis and approved the proposal at Para 6 and 8 of the summaries which is produced as under: -

a. "Allow renting of power plants by the WAPDA/NPGCL as an emergency measure subject to acceptance of Tariff by NEPRA. WAPDA should only rent as much power as is absolutely necessary and which will be utilized with high load factor for economic utilization of capacity
b. Approve proposal at Para 5 for provision of gas to rental plants.
c. Nearest possible location to the load Centre of Gujranwala, Faisalabad or Lahore be chosen. If it is necessary to locate the plant at Multan then it should be ensured that there are no transmission bottlenecks".

"Proposal at para 6 above be approved. Suggestion of planning Division should also be taken into account by WAPDA/NPGCL."

**ii. Another decision of ECC dated. 26-08-2006 on rental Power Plant was as under:**

"As regards the provision of Natural gas, WAPDA may reallocate natural gas quota from its existing plants. Further as the commissioning of the new IPPs for which gas has already been allocated will take 2-3 years, practical arrangements may be worked out with the Ministry of Petroleum & Natural Resources to utilize this gas for the rented plant in the intervening period".

**iii. In order to carry out/implement the decision of ECC, two rental agreements were signed. Details are:**

a) WAPDA approved the rental agreement of 150 MW Power Plant at 500 KV Grid Station Sheikhupura signed by General Manager (WPPO) on 23-09-2006 with General Electric International Inc for 36 months at 92% availability. The total contract price was US$ 133.620 million with advance payment of US$ 11.362 million.

b) Second agreement between NTDC and M/s Alstom Power Rental (APR) for 136 MW with an availability of 92% per year at 132 KV Bhikki Grid Station Sheikhupura at contract price of US$ 103.015 million with 7% mobilization charges of US$ 7.211 million and monthly rent of US$ 2.661 million for a period of three year.

c) Subsequently these Rental agreements were passed on /shifted to the NPGCL. The Board of Directors of NPGCL in their meeting held on 09-02-2007 consented that the company shall assume and undertake all rights, obligations and liabilities pertaining to above mentioned agreements.

d) Based on the above decision of ECC dated 26-08-2006 gas was to be arranged for the two Rental Power Plants by diverting from WAPDA's existing plants and additional gas was to be supplied by SNGPL from the quota of upcoming IPPs for which gas had been already allocated.

e) Subsequently, NPGCL tried to reach an agreement regarding provision of gas with SNGPL. However, SNGPL did not sign the Gas Supply Agreement (GSA) on the plea that it was not in position to do so in view of increasing demand. It only agreed to supply gas on "as and when available" basis. This gas was not sufficient to meet the requirements of rental power plants to the extent of 92% availability factor.

f) Due to short supply of gas, NPGCL suffered a loss of Rs.9,140.482 million over period of 36 contractual months. The summary position of the loss is given below and the detail is attached in the annexure 12 to 15.

**Table-44 Excess amount paid to Rental Power Plants**

***(Rs.in million)***

| Sr. No. | Name of Power plants | Amount excess paid in case of less supply | Amount excess paid in case of non-supply | Total |
|---|---|---|---|---|
| 1. | 136 MW Bhikki Power Plant | 3,308.303 | 1,155.607 | 4,463.391 |
| 2. | 150 MW Sharqpur Power Plant | 3,105.482 | 1,571.609 | 4,677.091 |
| | | | **Total** | **9,140.482** |

Source: office records of NPGCL

**Audit Findings:**

i. The issue was multifaceted and involve multiple external stakeholders such as Ministry of Water & Power, SNGPL, WAPDA, NTDC and NPGCL. Close coordination amongst all the stakeholders under supervision of Government was necessary to make subject project a success, which was not done in the above cases.

ii. It was the responsibility of NPGCL to provide the required gas to these Rental Power Plants in accordance with the provision of Rental contract agreement. The Board of Directors of NPGCL in their meeting held on 09-02-2007 consented that the Company shall assume and undertake all rights, obligations and liabilities pertaining to the rental agreements signed with G.E Energy Rental and APR Energy L&C. But Company failed to supply the required gas to these Rental Power Plants.

iii. The management and BoD of the Company were bound to bring the issue of non-supply of gas by SNGPL into the notice of ECC and Ministry of Water & Power in order to avert contractual and financial complications of the rental contract provisions. But the company failed to resolve these issues before achievement of commercial operation date of the plants. Resultantly, an amount of Rs. 9,140.482 million was paid without obtaining energy from the sellers. There was lack of coordination among the stakeholders i.e. WAPDA, NTDC, NPGCL and Ministry of Water & Power due to which supply of gas could not be ensured.

**Management Reply:**

The management replied that as regards the provision of natural gas, WAPDA was expected to reallocate natural gas quote for its existing plants. Further the commissioning of the new IPPs for which gas had already been allocated would take 2-3 years, practical arrangements were expected to be worked out with the Ministry of petroleum and Natural Resources to utilize gas for the rented plant in the intervening period. The gas required for these plants was about 30-35 MMCFD/150 MW plant at 60% load factor. Total cost of power purchase at 60% load factor was worked out.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as rental charges were paid to these power plants in accordance with the provision of rental service contract agreement.

According to these provisions 92% availability was to be ensured. An amount of Rs.1,571.608 million was paid to the Sharqpur rental power plant without receiving energy during the period 01/2009, 02/2009, 10/2009, 11/2009, 12/2009, 01/2010 and 02/2010. Similarly, an amount of Rs. 1,155.606 million was also paid to Bhikki rental power plant without receiving energy during period 01/2009, 02/2009, 10/2009, 12/2009, 01/2010 and 02/2010.

BoD and management of the company were bound to bring the issue of non-supply of gas by SNGPL into the notice of ECC and Ministry of Water & Power in order to avert contractual and financial complications of the rental contract provisions. Management could not fulfil its contractual obligations against these rental contracts.

**Audit Recommendations**:

i. Audit recommends that government may develop SOPs to ensure that all stakeholders are on board at the time of planning and execution of energy contract and that the implementation responsibilities are worked out in advance.

ii. Audit recommends that the matter may be investigated as to why gas was not supplied by the Ministry of Petroleum and Natural Resources and Sui Northern Gas Pipeline Limited Company in the presence of explicit decision of ECC dated 26-08-2006.

**1.2.6. Frequent postings/transfers of Chief Executive Officer during the period 2010-11 to 2019-20. Fifteen Chief Executive Officers served NPGCL during the last ten years.**

**Primary Issue**

The Chief Executive Officers did not complete their service tenure of three year during the period 2010-11 to 2019-20.

It is the Prime responsibility of Chief Executive Officer to run the affairs of the company in an effective and efficient manner. It becomes all the more important for Chief Executive Officers to be pro-active and vigilant when the company is falling/suffering from heavy loss.

During the period 2010-11 to 2019-20, fifteen Chief Executive Officers served the company meaning thereby that no CEO completed his tenure (as detailed below). This ad-hocism in the positing/transfers of CEOs made it difficult for the management to cope with the gigantic task of reducing the losses of the company by taking effective and timely decisions.

Posting / transfers of fifteen Chief Executive Officers during the last ten years indicates that the Ministry did not take the appointment of Chief Executive

Officers seriously. This ad-hocism resulted in mismanagement as is evident from the increasing losses of the Company.

On an average, CEOs' stay in the company was less than a year and that is too short a period to understand the company in its entirety and take corrective measures accordingly. Illustratively:

**Table-45 Posting/Transfer of Chief Executive Officers**

| Sr. No. | Name of officer | Arrival | Departure | Tenure |
|---|---|---|---|---|
| 1 | Ghulam Mustafa Tunio | 01-09-2009 | 26-04-2011 | 01 year 07 month 26 days |
| 2 | Tariq Nazir | 26-04-2011 | 18-09-2011 | 04 month 22 days |
| 3 | Shah Nawaz (Addl. Charge) | 19-09-2011 | 20-10-2011 | 01 month 02 days |
| 4 | Sultan Muhammad Zafar | 21-10-2011 | 31-03-2014 | 02 year 05 month 09 days |
| 5 | Muhammad Shoaib Rasheed | 31-03-2014 | 17-11-2014 | 07 month 17 days |
| 6 | Muhammad Khalid Alvi (Addl. Charge) | 17-11-2014 | 24-12-2014 | 01 month 08 days |
| 7 | Muhammad Shoaib Rasheed | 24-12-2014 | 12-08-2015 | 07 month 18 days |
| 8 | Rukhsar Ahmed Qureshi | 13-08-2015 | 12-04-2016 | 08 month |
| 9 | Sikandar Ali Hakro | 13-04-2016 | 03-01-2017 | 08 month 20 days |
| 10 | Nadeem Ahmed (Addl. Charge) | 24-01-2017 | 11-08-2017 | 06 month 17 days |
| 11 | Ali Asghar Qureshi (Addl. Charge) | 12-08-2017 | 27-12-2017 | 04 month 15 days |
| 12 | Ali Asghar Qureshi | 27-12-2017 | 02-02-2019 | 01 year 01 month 05 days |
| 13 | Javed Akhter pathan (Addl. Charge) | 03-02-2019 | 17-07-2019 | 05 month 14 days |
| 14 | Nadeem Ahmed (Addl. Charge) | 18-07-2019 | 31-07-2019 | 14 days |
| 15 | Sabeeh uz Zaman Faruqi | 01-08-2019 | To date | |

**Source: Admin. record provided by NPGCL**

## Audit Findings:

On an average, the Chief Executive Officers remained posted for the period less than one year; therefore, they were unable to play their effective role in order to minimize/avert the losses particularly Heat Rate losses which demanded timely and sustainable decision making about repair, maintenance and major overhauling of the plants.

## Management Reply:

The management replied that in last ten year Ministry appointed the Chief Executive Officer through Selection Board as Ministry is the competent authority. At present Chief Executive Officer Mr. Sabeeh-uz-Zaman Faruqi has been appointed for tenure of three years with the approval of cabinet.

## DAC Directive:

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021.

Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable. The Ministry is responsible for frequent turnover of CEOs of NPGCL.

**Audit Recommendations:**

i. The Ministry needs to ensure that a Chief Executive Officer should be given enough time to run the affairs the company and that ad-hocism should be avoided while appointing them.

ii. Ministry is responsible for not letting the CEOs complete their respective tenures.

## TOR-2 ANALYSIS OF POTENTIAL RED FLAGS

**2.1.1. Consequent upon physical stock verification carried out by the Riaz & Company, Chartered Accountant firm, at 525 MW CCPP Nandipur, material valuing Rs. 265.973 million was found short. Moreover, Material Requisition Slips (MRS) valuing Rs. 1,389.85 million were not recorded and accounted for in the Books of accounts.**

**Primary issue**

**Shortage of material and non-recording of material requisition slips in the books of accounts identified by Chartered Accountant Firm**

i. At 525 MW Combined Cycle Power Plant Nandipur 100% physical stock quantification and verification of store was carried out during the year 2018-19 by the M/s Riaz & Company Chartered Accountant on the direction of management NPGCL. As a result of physical verification, Spare parts valuing Rs. 265.973 million were found short during physical stock verification of the store.

ii. To cross verify the facts, physical stock verifier was deputed on the request of Forensic Audit Team in order to assess shortage of spare parts. The physical stock verifier checked 1,122 items out of which he found 189 items short valuing Rs.85.928 million. Due to time constraints, full stock verification was not got carried out from stock verifier. It was apparent that more shortage would be unearthed upon complete verification and the results of stock verification carried out by Chartered Account Firm were valid. Furthermore, shortage of material confirmed that theft had taken place at the power plant. No action of management on the theft was observed. The management should have taken steps to recover the stolen material by taking actions against those involved. But the same has not been done so far.

iii. Further, the stock verifier in its report to Audit stated that material received against PO No. CEO/PD/NP/EM/PO/BOP/5723-32 dated 19-10-2015 amounting to US $ 5.302 million was recorded by a store officer alone. Subsequently, the store officer disowned his stock measurement recorded in the stock measurement book. This disownment on his part has raised a red flag. Moreover, the same store officer had also verified the material pertaining to above stated Purchase Order in the joint inspection certificate. This is a contradiction and was needed to be re-examined afresh to ascertain the facts. It is pertinent to remark here that material received against PO No 5723-32 dated 19-06-2015 was to be recorded in the stock measurement books prior to the payment to suppliers but SMB was recorded later on thereby raising another red flag.

iv. Furthermore, Chartered Accountant Firm had highlighted in their report that Material Requisition Slips (MRS) amounting to Rs.1,389.858 million were not incorporated in the books of accounts. The confirmation of incorporation of these MRS in the books of accounts was not made by the concerned Assistant Manager Accounts during course of forensic audit. Non-accounting of MRS was major internal control lapse and indicated that there was lack of financial transparency in the organization and bogus accounting entries could not be ruled out.

**Audit Findings:**

i. There was shortage of spare parts valuing Rs. 265.973 million was pointed out but it was not recovered uptil now. Therefore, authenticity of the stock was doubtful.

ii. The material received against P.O No. CEO/PD/NP/EM/PO/BOP/ 5723-32 dated. 19-06-2015 amounting to US$ 5.302 million was verified in the joint inspection certificate by the Muhammad Yaqoob, the then store officer. Subsequently, the said officer recorded his statement on 28-04-2021 that stock measurement was recorded on the pressure of management and that the material was not received in store against the said purchase order. This statement was recorded on the stock measurement book NO. 04 (A) on page 13301 in the presence of Audit. This was a contradiction. Hence the matter is needed to be re-examined.

iii. As the material requisition slips (MRS) amounting to 1,389.858 million were not incorporated in the books of accounts, hence, authenticity of stock record and its allied accounting entries could not be verified.

iv. There was no trained human resource. The stock measurement books were recorded by Mr. Muhammad Yaqoob Ex. Senior Store Officer and

Mr. Umer Farooq Ex. Senior storekeeper. This is not acceptable as these two officials were found involved in the theft, misappropriation, and adulteration of furnace oil. They were main accused in the reference filed in the Accountability Court Lahore.

**Management Reply:**

The matter was taken up with the management and the management replied that 100% physical verification of all the stock was carried out. As per result of physical verification, there is storage of Rs. 86.772 million. Moreover, material requisition slips Rs.1,389.858 million will be incorporated in the books of accounts upon approval by the competent authority.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as stock verifier, a regular employer of the company, was not made part of the stock verification committee. Rather those who were made part of the committee did not have the experience to evaluate the stock. The one, Mr. Safdar Ali, was Foreman and the other one, Mr. Muhammad Aziz, was cleaner.

They were not the suitable persons to conduct physical stock quantification and verification. The relevant persons namely the stock verifier and the officers of the internal audit of the Company should have been part of the stock verification committee in order to ensure the reliability and authenticity of the report. The accountal/consumption of material of Rs.1,389.858 million has not been reported to audit so far. In the absence of accountal/consumption of material, authenticity and genuineness of the same could not be ascertained.

**Audit Recommendations:**

i. The BOD of the company should direct the management to recover shortage of material.

ii. The management should also ensure authenticity and genuineness of the entries recorded in the stock measurement book by the storekeeper.

iii. The BOD of company should also confirm the veracity of MRS valuing rupees 1,389.858 million besides ensuring that they have been accounted for in the books of accounts.

iv. The BOD and management of the company should take stern actions against those involved in the misappropriation of the stock.

## TOR-3 MISREPRESENTATION, ERRORS/ OMISSION

**3.1.1. As per Fuel Supply Agreement (FSA), made between NPGCL and Pakistan State Oil (PSO), the Company was liable to pay Late Payment Surcharge to PSO on delayed payments at the rate of KIBOR plus 2 percent per annum, but NPGCL did not book Late Payment Surcharge Rs.58.205 billion as liability in its books of accounts.**

**Primary Issue:**

Pakistan State Oil imposed Late Payment Surcharge of Rs.58.204 billion on NPGCL in accordance with provision of Fuel Supply Agreement (FSA) but NPGCL did not record it as Liability in its book of accounts thereby understating its losses.

**i. Salient features of Fuel Supply Agreement (FSA) made with Pakistan State for procurement of High Sulphur Furnace Oil/ High Speed Diesel (HSFO/ HSD.**

a. All procurement of fuel supplies product (HSFO/HSD) are made in accordance with provision of FSA.

b. Fuel products are accepted, decanted, tested (chemical test) as per laid down provision of FSA.

c. Payments of all fuel supplies are verified and paid by parties as per FSA and if payments delayed beyond specified period, then each invoice carries Late Payment Surcharge which is KIBOR plus 2% per annum.

Different aspects of subject issue are as follows:

**ii. Non-Reconciliation of Late Payment Surcharge between PSO and NPGCL**

The Company entered into Fuel Supply Agreement with Pakistan State Oil on 16th September, 2009. According to clause 9.1.5 (iii) of Fuel Supply Agreement "delay in payment from NPGCL will attract financial charges @KIBOR plus 2% beyond 1 working day of the verification time from last submission day of Fortnightly Furnace Oil Despatch Note (FFDODN) and/or Fortnightly Diesel Dispatch Note (FFDN) (total 25 days i.e. 5 working days for submission of FFODN and 20 days for verification)".

In the financial year 2010-11, Accounts Team of NPGCL reconciled and confirmed the Late Payment Surcharge amounting to Rs.2,736.326 million upto March, 2011 during [28]joint reconciliation with PSO team. Accounts department of NPGCL processed LPS invoices for payment to higher management, but they declined it stating that [29]management had been negotiating an agreement with PSO for removal/ amendment of clause regarding imposition of delayed payment surcharge and matter would further be resolved at Ministry level. However, the matter was neither finalized nor any payments were accounted for/ finalized.

From the financial year 2010-11 onwards, NPGCL did not reconcile LPS invoices with PSO till to date. PSO on its part, regularly raised its invoices on LPS to NPGCL and requested for subject reconciliation. Management neither brought any amendment to FSA nor contacted PSO regarding removal of late payment clause during past ten years. In addition to that, BoD did not pass any resolution to instruct management to take this matter at Ministry level.

**iii. NPGCL's mis-statement regarding back-to-back arrangements**

Management repeatedly stated and asserted in its financial statements that delay in payment to PSO was due to delay in release of funds from CPPA-G and further stated that according to clause 7.6 (b)[30] of Power Purchase Agreement (PPA), late payment by CPPA-G shall bear interest @ rate of KIBOR + 4.50% p.a.

However, management did not raise any late payment invoice to CPPA-G during past ten years. Most importantly, both agreements i.e. PPA and FSA do not support back-to-back arrangement as CPPA-G was not a party in FSA likewise PSO was not a party in PPA.

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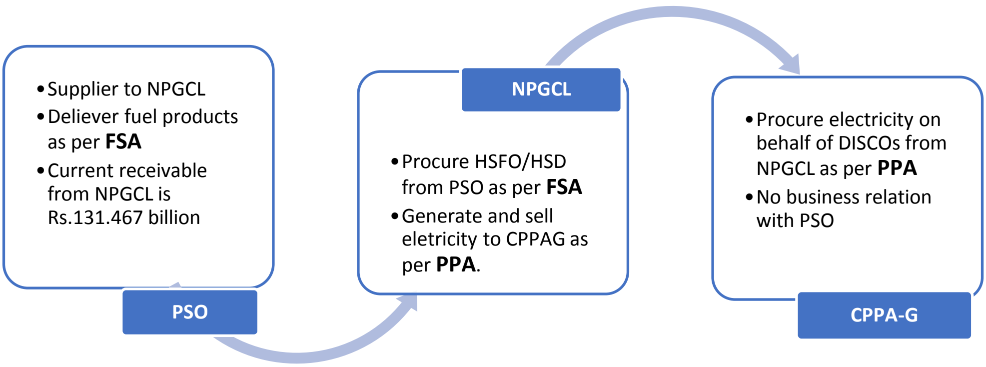
[28]Joint reconciliation send by PSO vide email on designated email address forensicauditnpgcl@gmail.com dated: 22.04.2021

[29]Note 10.2 to Financial Statements 2011-12

[30] Agreement made between NPGCL and CPPAG for sale of electricity




Above diagram shows that no business relation exists between CPPA-G and PSO as per FSA and PPA.

**iv. Accumulation of PSO Payables:** In order to cross verify, NPGCL liabilities, forensic audit team obtained certain documents vide email and mail from PSO regarding correspondence with NPGCL on the issue of LPS and sought year wise balance confirmation from PSO. Details are given as under:

**Table-46 PSO Payables**

***(Rs.in million)***

| Period | Principal outstanding | LPS | Total | % Principal | %LPS |
|---|---|---|---|---|---|
| FY-2010-11 | 7,476 | 2,736 | 10,212 | 73.21% | 26.79% |
| FY-2011-12 | 37,536 | 5,182 | 42,718 | 87.87% | 12.13% |
| FY-2012-13 | 20,227 | 9,976 | 30,203 | 66.97% | 33.03% |
| FY-2013-14 | 64,930 | 14,568 | 79,498 | 81.68% | 18.32% |
| FY-2014-15 | 70,423 | 20,559 | 90,982 | 77.40% | 22.60% |
| FY-2015-16 | 81,741 | 28,100 | 109,841 | 74.42% | 25.58% |
| FY-2016-17 | 77,072 | 36,016 | 113,088 | 68.15% | 31.85% |
| FY-2017-18 | 102,432 | 43,600 | 146,032 | 70.14% | 29.86% |
| FY-2018-19 | 83,563 | 57,800 | 141,363 | 59.11% | 40.89% |
| FY-2019-20 | 73,263 | 58,204 | 131,467 | 55.73% | 44.27% |

Source: Balance confirmation from PSO

Above table shows that Payable to PSO stood Rs.73,263 million and Late Payment Surcharge increased to Rs.58,204 million as on 30.06.2020. Constantly increasing trend in LPS amount showed that NPGCL was not making payment to PSO as per terms and conditions of FSA. Moreover, NPGCL did not raise any dispute with PSO regarding any invoice or delivery during past ten years which establishes that there was complete agreement over booking of principal amount.

It was also analyzed that the compound interest was being applied on the LPS amounts. This meant that with the passage of time the outstanding LPS could exponentially increase causing financial continuity risk to the company.

**v. Under-statement of liabilities of the NPGCL**

Non-accounting of PSO LPS was a major omission in the accounts of the company. The financial statements of the company in their present state did not reflect a true and fair picture as a major liability to the tune of Rs.58,204 million was not being accounted for in the subject financial statements. The liability was in-line with contractual provisions and reflecting it in the books of accounts would significantly alter the financial position of the company.

**vi. NPGCL's mis-statement regarding payment to PSO delayed due to delay in release of funds from CPPA-G**

As illustrated at point (i) above, management had stated in its financial statements that due to delay in release of funds from CPPA-G, it was facing constraints its liabilities towards PSO. Management's assertion was cross verified from CPPA-G receipt, and it was found that payments to PSO were not made as per funds received form CPPA-G. Details are given as under:

**Table-47 PSO Payable Deficit Gap**

***(Rs.in million)***

| FY | Total Payable PSO | Funds Received Fron CPPA-G | Amount Paid to PSO | Payment % of Funds Received | Payable Deficit Gap |
|---|---|---|---|---|---|
| 2010-11 | 91,172.43 | 99,207.744 | 83,696.431 | 84.36% | 15.64% |
| 2011-12 | 97,827.14 | 66,256.194 | 60,291.140 | 91.00% | 9.00% |
| 2012-13 | 139,319.46 | 124,377.388 | 119,092.463 | 95.75% | 4.25% |
| 2013-14 | 146,713.00 | 90,929.770 | 81,783.000 | 89.94% | 10.06% |
| 2014-15 | 157,547.06 | 94,022.400 | 87,124.058 | 92.66% | 7.34% |
| 2015-16 | 130,314.68 | 63,078.386 | 48,573.676 | 77.01% | 22.99% |
| 2016-17 | 149,575.60 | 98,840.533 | 72,503.598 | 73.35% | 26.65% |
| 2017-18 | 148,801.00 | 85,642.000 | 46,369.000 | 54.14% | 45.86% |

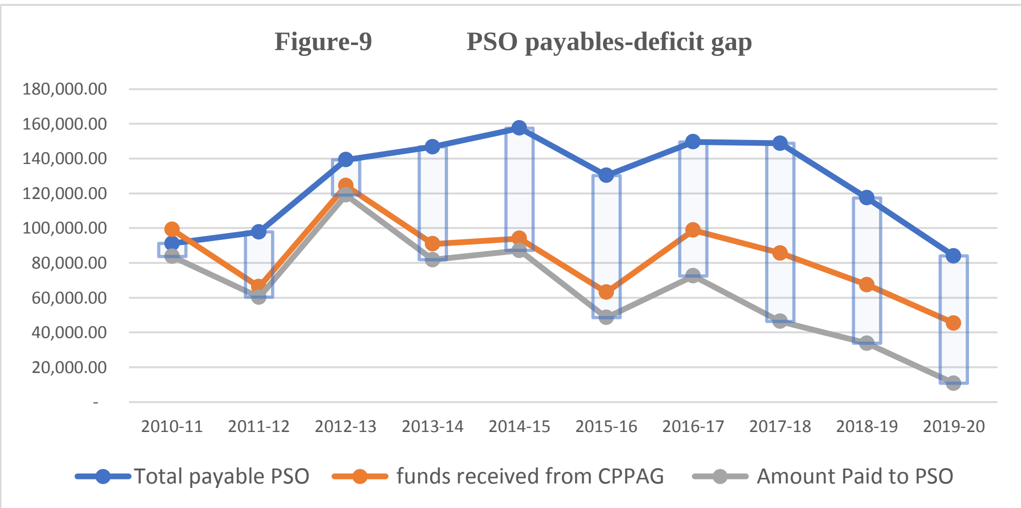
| | | | | | |
|---|---|---|---|---|---|
| 2018-19 | 117,353.00 | 67,473.796 | 33,790.000 | 50.08% | 49.92% |
| 2019-20 | 84,021.81 | 45,327.000 | 10,758.812 | 23.74% | 76.26% |

Source: Banking & Billing section-NPGCL

Based on above analysis, it indicates that NPGCL did not follow provision of FSA to make payment to PSO and resultantly payment deficit gap got widened from 22.99% in financial year 2015-16 to 76.26% during financial year 2019-20. It also showed that even though NPGCL had funds available for clearing PSO liabilities and avoiding creation of LPS, it decided not to do so.

NPGCL diverted Rs.32 billon to finance the Combined Cycle Power Project Nandipur during financial years 2006-07 to 2016-17 rather than making payments to PSO.

Furthermore, it was analysed that total outstanding principal amount was[31] Rs.73,263 million at the end of 2019-20 and closing [32]fuel inventory was Rs.4,701.464 million as on 30.06.2020 which meant that NPGCL had utilized almost all of its fuel supplies in power generation and raised invoices of electricity generation to CPPA-G but due to operational and management inefficiencies payment deficit gap had increased. Illustratively:




[31]Confirmation received from PSO for past ten years
[32]Note to disclosure 16 of Financial Statement-2019-20

### vii. Allied causes for widening of payment deficit gap

a) As per Fuel Supply Agreement "Upon receipt of Fortnightly Furnace Oil Despatch Note (FFODN), the entire payment will be made to Pakistan State Oil (PSO) within 20 days of receipt date of FFODN. However, NPGCL did not adhere to above mentioned clause due to its operational and financial inefficiencies.

b) NPGCL utilized more fuel than [33]standard/ allowed by NEPRA to generate electricity for which CPPA-G did not allow re-imbursement for extra fuel consumption as detailed below:

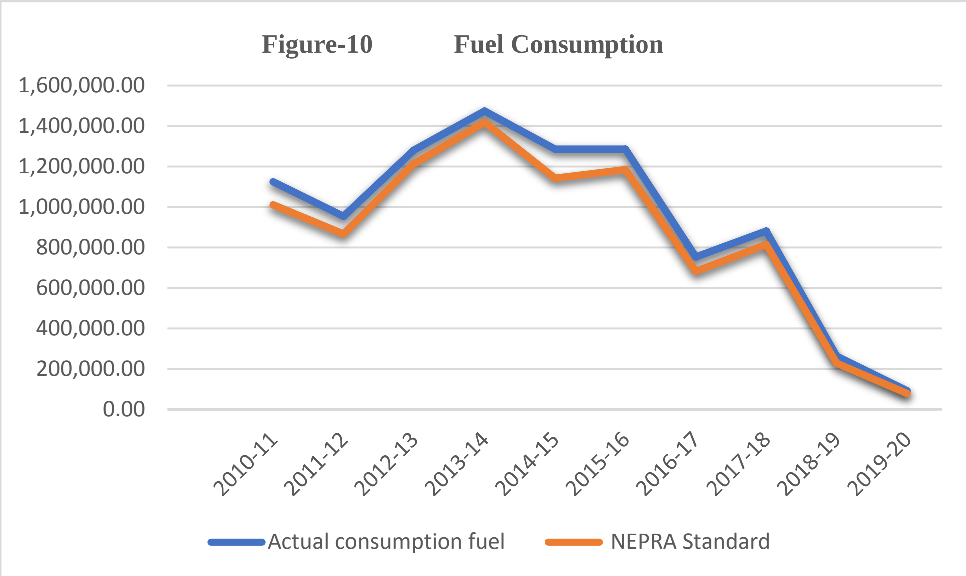
**Table-48 Heat Rate Comparison**

*(Rs.in million)*

| Year | Unit | Actual Consumption of Furnace oil (M. Ton) | Consumption of furnace oil as per NEPRA Standard (M.Ton) | Excess furnace oil consumption (M. Ton) | Rate of Furnace Oil per M. Ton | Excess amount of Furnace Oil |
|---|---|---|---|---|---|---|
| 2010-11 | 1 to 6 | 1,123,523 | 1,010,096 | -113,428 | 50,053 | -5,677.38 |
| 2011-12 | 1 to 6 | 953,898 | 866,725 | -87,174 | 69,454 | -6,054.60 |
| 2012-13 | 1 to 6 | 1,279,353 | 1,211,690 | -67,663 | 50,053 | -3,386.71 |
| 2013-14 | 1 to 6 | 1,473,176 | 1,418,183 | -54,993 | 71,572 | -3,935.94 |
| 2014-15 | 1 to 6 | 1,285,556 | 1,141,459 | -144,097 | 55,522 | -8,000.63 |
| 2015-16 | 1 to 6 | 1,285,131 | 1,183,395 | -101,736 | 33,112 | -3,368.66 |
| 2016-17 | 1 to 6 | 753,084 | 681,228 | -71,856 | 37,950 | -2,726.93 |
| 2017-18 | 1 to 6 | 879,958 | 814,746 | -65,212 | 44,839 | -2,924.05 |
| 2018-19 | 1 to 6 | 263,258 | 228,001 | -35,257 | 63,548 | -2,240.47 |
| 2019-20 | 1 to 6 | 92,241 | 78,592 | -13,649 | 74,448 | -1,016.14 |
| **TOTAL TPS-MZG** | | **9,389,179** | **8,634,115** | **-755,064** | | **-39,331.51** |
| 2010-11 to 2017-18 | **GTPS FSD** | 12,706,460 | 8,986,850 | -3,719,610 | 71 | -253.22 |
| 2015-16 to 2016-17 | **CCPP Nandipur** | 478,325 | 413,681 | -64,644 | 46,097 | -2,699.50 |
| 2010-11 to 2011-12 | **Piranghaib** | 44,954 | 40,544 | -4,410 | 50,427 | -229.94 |
| **TOTAL NPGCL** | | **22,618,918** | **18,075,190** | **-4,543,728** | | **-42,514.17** |

**Source: E-Form TPS Muzaffargarh**

[33]NPGCL could not achieve the heat rate standard and utilized more fuel than allowed to generate power




The above analysis shows that NPGCL has utilized 4,543,728 M.Ton extra fuel to generate electricity during past ten years for which it has to incur extra fuel cost amounting to Rs.42.514 billion. This extra cost incurred beyond NEPRA's determined standard cannot be claimed from CPPA-G. Resultantly, it was difficult for NPGCL to make payment in accordance with Fuel Supply Agreement and its operational and financial inefficiency caused imposition of Late Payment Surcharge which has accumulated to Rs.58.204 billion as on June 30th 2020.

**Audit Findings:**

i. Management of NPGCL did not adhere to payment clause therein mentioned in Fuel Supply Agreement and contractually failed to make payments to PSO within due dates. Hence, PSO imposed and raised invoices of Late Payment Surcharge to NPGCL in accordance with Fuel Supply Agreement. NPGCL did not dispute and reject amount of Late Payment Surcharge of Rs.58.204 billion imposed by PSO during past ten years.

ii. NPGCL consumed extra fuel 4,543,728 M.Ton beyond NEPRA's standard during past ten years which amounts to Rs.42.514 billion. This extra cost cannot be claimed as reimbursement of Fuel Cost Component from CPPA-G which notably has caused to accumulate PSO outstanding balance and imposition of Late Payment Surcharge.

iii. Management mis-stated in financial statements that there is back-to-back arrangement and delay in payment to PSO was due to delay in release of funds from Market Operator. In fact, payments to PSO were not made as per CPPA-G funds received including an amount of Rs.32 billion which was diverted towards capital expenditure.

iv. Board of Directors of NPGCL did not take notice of imposition of LPS and also did not instruct management to take up matter at higher level to resolve which may significantly cause to increase Circular Debt of Power Sector.

v. Due to non-accounting of LPS the financial statements of NPGCL did not reflect a fair and accurate picture of the company's liabilities.

**Management Reply:**

The management replied that Fuel Supply Agreement was signed between NPGCL and PSO containing the clause of Late Payment Surcharge. Later on, after observing the payment stream and financial condition of the Company it was discussed with PSO for the exclusion of LPS clause by restoring the profit margin from 2.75% to 3.50%.

Although this was agreed but PSO did not implement due to its own reasons. The reason for accumulation in PSO liability is due to unjustified tariff given by NEPRA for which management is fully cognizant and making all out efforts to get justified tariff and recover its actually incurred cost which will result in offloading the PSO liability.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as audit highlighted non-booking of Late Payment Surcharge in the Financial Statements.

PSO raised delayed payments invoices in-line with the Fuel Supply Agreement (FSA) which NPGCL neither objected at any stage nor reconciled it with PSO. Audit reviewed this issue in the light of FSA and found PSO justified in raising late payment invoices to NPGCL. Management did not show Late Payment Surcharge Rs.58.204 billion as liability in its books of accounts.

**Audit Recommendations:**

i. Audit recommends to immediately reconcile the amount of Late Payment Surcharge with PSO in order to reflect in books of account of NPGCL.

ii. Chief Executive Officers of NPGCL failed to achieve the Heat Rate standard of NEPRA which apparently caused pile up of PSO payable balance and resultantly imposition of LPS. Forensic Audit recommends to initiate inquiry against Ex-Chief Executive Officers of NPGCL and BOD for operational and financial failure of NPGCL.

iii. Audit recommends that management needs to incorporate the LPS liability in its book of accounts without further delays.

**3.1.2. Management capitalized certain cost incurred during the period in which project (525 MW CCPP, Nandipur) remained suspended. This cost was not allowed to be capitalized but should have been charged to profit & loss account. Moreover, loss due to misappropriation of furnace oil was not charged in books of account.**

**Primary Issues**

1. Understatement of losses by Rs.6,883.832 million by charging certain cost to Capital-Work-in-Progress

2. Non-disclosing of fraud relating to HSFO for an amount of Rs.212.539 million in Financial Statements.

**Primary Issue No 1**

Understatement of losses by Rs.6,883.832 million by charging certain cost to Capital-Work-in-Progress.

According to the International Financial Reporting Framework Capitalization should commence when expenditures are being incurred, borrowing costs are being incurred and activities that are necessary to prepare the asset for its intended use or sale are in progress (may include some activities prior to commencement of physical production). [IAS23.17-18] Capitalization should be suspended during periods in which active development is interrupted. [IAS 23.20].

**i Charging of certain cost to Capital-Work-in-Progress:** Audit observed that in financial year 2015-16, the Company made additions in Property, Plant and Equipment (PPE) amounting to Rs.53,094.490 million. This addition in PPE came from Capital Work in Progress of Combined Cycle Power Plant Nandipur. This addition in PPE included borrowing cost of Rs.2,149.190 million during suspension period of project and overhead cost of Rs.4,734.642 million as detailed below:

**Table-49 Cost incurred during the period in which project remained suspended**

***(Rs.in million)***

| Description | Amount Capitalized |
|---|---|
| Demurrage charges relating to suspension period | 718.13 |
| Remobilization expenses paid to Dongfang Electric Corporation Limited | 2,883.33 |
| Foreign currency loan sanction charges relating to foreign currency financing which was not sanctioned | 87.77 |
| Advertising cost | 42.10 |
| | 3,731.32 |
| Less: Miscellaneous non-operating revenue | 29.80 |
| **Total overheads capitalized** | **3,701.53** |

**Source: SML Associates Consulting Report “Listing and Cost Allocation of Certain Operating Fixed Assets**

Project was suspended due to stoppage of construction material at Karachi Port, owing to non-issuance of legal opinion, the work slowed down and was suspended in April, 2010.

**Primary Issue No.2**

Non-disclosing of fraud relating to HSFO for an amount of Rs.212.539 million in Financial Statements.

It was observed that management carried out an inquiry on misappropriation of furnace oil dated 28.05.2018, the inquiry identified that 5,547.945 M.Ton furnace oil amounting to Rs.212.539 million had been stolen.

The case was also investigated by NAB and subsequently, reference was filed in the accountability court Lahore vide Reference No.33/2019. This fraud was required to be accounted for and disclosed in the financial statements for the year which was not done. Hence, the accumulated losses of the Company were understated by Rs.212.539 million.

**Audit Findings:**

i. According to the International Financial Reporting Framework Capitalization should be suspended during periods in which active development is interrupted [IAS 23.20]. The same was not done in subject highlighted case.

ii. Management understated its accumulated losses by Rs.7,096.371 million in the Financial Statements because overhead expenses Rs.6,883.832. million were required to be expensed out and Rs.212.539 million should have been charged directly to losses.

**Management Reply:**

Due to non-issuance of the legal opinion by the Law Division the financial close of CCPP Nandipur Project could not be achieved although, initially the project LCs were retired with the support of LC issuing consortium of local banks. However, due to over exposure the local banks withheld the BLs**.** This resulted in low pace of project activities and de-mobilization of major team of the EPC contractor. So, the cost was prudently incurred and NPGCL has solid grounds for capitalization and recovery of the capital expenditure to be made through tariff determination by NEPRA.

In case, this amount of PKR 6,703.443 million expensed out and not capitalized, it will be a loss to the Company. Misappropriated quantity was already part of the fuel cost charged for generation expense. As this quantity already charged to Profit & Loss account therefore, no further loss requires to be booked.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as in the light of IAS 23.20 Capitalization should be suspended during periods in which active development is interrupted.

Cost incurred Rs.6,883.832 million was required to be expensed out instead of capitalizing. Further, management was also required to give full disclosure and impact in the Financial Statements of fraud reported at CCPP Nandipur relating to furnace oil.

**Audit Recommendations:**

i. Audit recommends that the responsibility may be fixed for irregular capitalization of project cost as well as for non-disclosure of embezzlement amount.

ii. Management needs to expense out overhead cost of Rs.6,883.832 million in profit and loss account and Rs.212.539 million as loss to the NPGCL.

**3.1.3. As per Power Purchase Agreement made with CPPA-G, NPGCL raises sales invoices to CPPA-G against sale of electricity and books CPPA-G as accounts receivable in its book of accounts, but it cannot claim cost charged against work-in-progress.**

**Primary Issue:**

**NPGCL fabricated account receivable for an amount of Rs.4,417.520 million and charged cost of sales to work-in-progress and did not show this claimable amount as sales in financial statements.**

Audit observed that management raised Pre-CoD sales invoices to CPPA-G amounting to Rs.4,417.520 million during financial year 2014-15. NPGCL consumed 69,782.730 M.Ton Furnace Oil worth Rs.3,659.500 million to generate electricity during Pre-CoD period at CCPP Nandipur. NPGCL passed the following journal entries in its books of accounts.

| | |
|---|---|
| **Account Receivable-CPPA-G** | **4,417.520 million (Debit)** |
| **Sales of electricity** | **4,417.520 million (Credit)** |

However, CPPA-G did not verify the claims on the ground that NEPRA has not yet determined power sales rates during Pre-CoD period. Resultantly, Management charged cost of furnace oil Rs.3,659.500 million to the capital work in progress [34]during financial year 2014-15 by passing following journal entry in the books of account:

| | |
|---|---|
| **Capital work in progress** | **3,659.500 million ((Debit)** |
| **Furnace oil consumed (stock)** | **3,659.500 million (Credit)** |

From the above journal entries, it is clear that NPGCL booked Pre-COD sales as account receivable towards CPPA-G which was against the accounting principles because Pre-CoD sales were not shown in total sales of the Company in relevant financial year due to non-determination of power sales rates by NEPRA for Pre-Cod period.

[34]Note 13.1.3 cost of furnace oil was charged under the head Raw material consumed Page-25 of Financial Statements 2014-15

Further, NPGCL neither charged Fuel Cost Component to cost of sales nor depicted Pre-CoD sales to sales but booked CPPA-G as accounts receivable in its books of account. CPPA-G confirmed to the Audit Team that Rs.6,179.59 billion were withheld in respect of Pre-CoD invoices of Nandipur.

The following flow diagram reflects sequential flow of mis-statement in the Account Receivable:

| | |
|---|---|
| Cost of Sales | • NPGCL consumed **69782.34 M.Ton HSFO** but management did not show it in CoS and charged it in Capital Work in Progress. |
| Sales | • Management raised sales invoices of **Rs.4,417.520 million** to CPPA-G but did not show this in Profit & Loss Account in FY-**2014-15** |
| Account **Receivables** | • Management booked CPPA-G as **Account Receivable** but did not show sales of Rs.4,417.520 million in Profit & Loss Account in FY-**2014-15**. |
| **IMPACT** | • **Mis-statement in Accounts Receivables-4,417.520 million** |

**Audit Findings:**

i. Management mis-stated account receivables amounting to Rs.4,417.520 million against CPPA-G by charging the fuel cost component to capital work in progress.

ii. Mis-statement in Account Receivable resulted in overstatement of Current Assets.

**Management Reply:**

As per IAS-11 the pre-CoD generation income cannot be charged to Current year's Profit & Loss Account of the Company but the same is chargeable/adjustable against the overall project cost. It means any expense or income during the erection stage and upto CoD will be capitalized to project cost. NPGCL while complying requirement of IAS-11 booked revenue of such period accordingly.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner.

Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable because NPGCL signed PPA with CPPA-G relating to sale of electricity after achieving CoD. NEPRA has not given any tariff regarding pre-COD sales. Therefore, such sales cannot be claimed from CPPA-G.

**Audit Recommendations:**

i. Management needs to rectify the over-statement of account receivables.

ii. Mis-statement in the account needs to be inquired for fixing responsibility.

### 3.1.4. Mis-representation in Financial Statements due to mis-reporting of Consumption, Closing Stock and Stock-in-Trade of Furnace Oil by NPGCL.

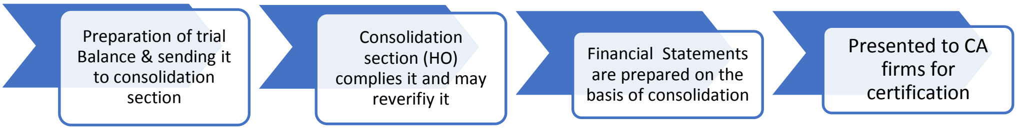
**Primary Issue:**

Significant difference exists in final account and source ledger relating to consumption of furnace oil and closing stock shown in financial statements over the past ten years.

**i. Mis-representation of consumption of Furnace Oil in Financial Statements:**

In NPGCL, transactions are initially recorded and entered in ledger. Subsequently, trial balances are prepared by field formations and forwarded to Head Office for consolidation in the following way:

***Financial Statements Preparation Flow***




Forensic Audit Team checked in detail the consumption & closing stock of furnace oil in order to assess accuracy and transparency in representation of this major cost component in the financial statements during the last ten (10) financial years. For this purpose, trial balances were compared with manual stock account of furnace oil of following formations:

a. Thermal Power Station Muzaffargarh
b. NPGS Piranghaib
c. SPS Faisalabad
d. GTPS Shahdra
e. CCPP Nandipur

Upon detailed comparison of furnace oil consumption following variations were noted:

**Table N0.50 Consumption of furnace oil**

***(Rs.in million)***

| Financial Years | As per Trial Balance | As per Stock A/c | Difference |
|---|---|---|---|
| **2010-11** | 60,357.83 | 60,332.64 | 25.19 |
| **2011-12** | 70,882.07 | 70,983.40 | -101.33 |
| **2012-13** | 89,602.03 | 89,599.74 | 2.28 |
| **2013-14** | 105,369.95 | 105,437.54 | -67.59 |
| **2014-15** | 72,554.25 | 74,374.57 | -1,820.32 |
| **2015-16** | 55,488.54 | 52,694.81 | 2,793.73 |
| **2016-17** | 65,657.20 | 66,626.11 | -968.91 |
| **2017-18** | 39,465.24 | 39,444.00 | 21.24 |
| **2018-19** | 16,511.00 | 16,689.49 | -178.49 |
| **2019-20** | 6,908.89 | 6,908.40 | 0.49 |

Source: Financial Statements & Stock Account

In Financial Statements, consumption of furnace oil was not stated as per actual position of stock account. It was under-reported by Rs.3,136.634 million during financial year 2011-12, 2013-14, 2014-15 and 2018-19. Resultantly, in these years, accumulated losses were under-reported. Moreover, fuel consumption was over-reported by Rs.2,842.930 million during financial years 2010-11, 2012-13, 2015-16, 2017-18 and 2019-20. Therefore, in the relevant Financial Years accumulated losses were over-reported as well. Consequently, consumption of major cost component was mis-stated and misrepresented in Financial Statements.

**a. Impact of false misrepresentation of fuel consumption in Financial Statements**

Fuel Cost Component (FCC) represents major cost component of cost of sales and accounts for more than 90% of total cost of sales. Less charging will result in understatement of accumulated losses and vice versa. Net impact of fuel consumption computed was under-charging of fuel cost component which was Rs.293.70 million and caused accumulated losses to be under-stated.

**b. Reasons of less/excess charging of fuel cost component in Financial Statements**

Monthly stock accounts were not obtained while consolidating financial statements. Accounting unit of SPS Faisalabad and CCPP Nandipur were not maintaining monthly stock accounts properly and management did not take timely action and corrective measures to reconcile the significant differences of data being maintained and reported.

Consolidation section did not ensure actual fuel procurement from concerned formations (power houses) to compute fuel consumption and reflection of the same in financial statements.

**ii. Mis-representation of Closing Stock of furnace oil in Financial Statements**

Audit reviewed the stock account in detail and found that position of Closing Stock was not shown as per actual status being reflected by formations of NPGCL in their books of accounts:

**Table-51 Position of Closing Stock (HSFO)**

***(Rs.in million)***

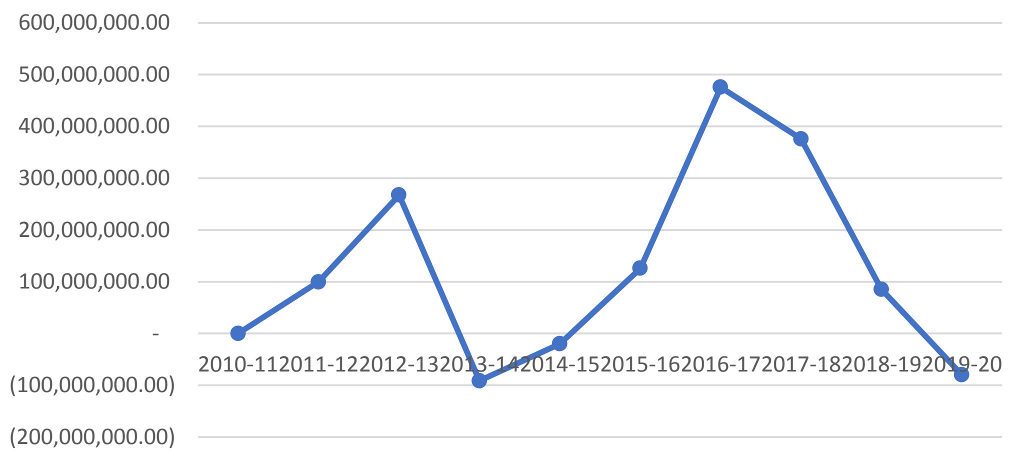
| Financial Years | As per Trail Balance | As per Stock A/c | Difference |
|---|---|---|---|
| **2010-11** | 3,416.745 | 3,416.635 | 0.110 |
| **2011-12** | 2,963.117 | 2,863.450 | 99.667 |

| | | | |
|---|---|---|---|
| **2012-13** | 1,927.789 | 1,660.254 | 267.535 |
| **2013-14** | 2,351.433 | 2,442.842 | -91.409 |
| **2014-15** | 6,282.500 | 6,302.496 | -19.996 |
| **2015-16** | 4,289.473 | 4,163.534 | 125.938 |
| **2016-17** | 4,747.301 | 4,271.622 | 475.679 |
| **2017-18** | 13,688.716 | 13,313.026 | 375.689 |
| **2018-19** | 10,745.734 | 10,660.291 | 85.443 |
| **2019-20** | 4,218.895 | 4,298.821 | -79.925 |

Source: Financial Statements & Stock Account

Closing stock of High Sulphur Furnace Oil (HSFO) was not stated in financial statements as per actual position in Stock Accounts of the formations. Audit noted significant variations during past ten years and found that furnace oil closing stock was overstated in financial statements by Rs.1,238.733 million over the past ten years.

**Figure-11 Overstatement of closing stock HSFO**




**iii. Reasons of overstatement of closing stock**: Audit selected financial year 2015-16 for detailed scrutiny to find out the reasons for overstatement and noticed that closing stock was overstated by Rs.591.859 million as detailed below:

**Table-52 Overstatement of Closing Stock**

*(Rs.in million)*

| Powerhouse | Financial Statements | Stock Account | Difference |
|---|---|---|---|
| TPS Muzaffargarh | 2,443.405 | 2,317.466 | 125.939 |
| NGPS Pirangaib | 252.125 | 252.125 | 0.000 |
| SPS Faisalabad | 590.371 | 590.371 | 0.000 |
| CCPP Nandipur | 1,003.572 | 537.651 | 465.921 |
| **Total** | **4,289.473** | **3,697.614** | **591.859** |

Source: Financial Statements & trial balacnes-2015-16

Closing stock of Furnace Oil in CCPP Nandipur was overstated by Rs.465.920 million and TPS Muzaffargarh by Rs.125.938 million in Financial Statements. Surprisingly, Furnace Oil-in-Transit was shown as part of closing stock by Rs.591.756 million under Note # 18.1 of Financial Statement 2015-16. Fuel in Transit could not be shown as closing stock as liability (PSO Invoices) was to be booked after verification of quality and quantity received through Tank Lorries at NPGCL as per clause-6 of Fuel Supply Agreement which was reproduced as under:

***a.*** *NPGCL while checking the Tank Lorry on receipt at power station will ensure that PSO seals are intact and not tempered in between shipping and receiving end and that all the openings are properly sealed.*

***b.*** *NPGCL will ensure the availability of the Calibration chart with the tank lorry driver.*

***c.*** *Sample will be taken after breaking the seal from the bottom in the presence of the driver/carriage representative.*

***d.*** *In case there is any contamination/water content beyond the specified limits in the tank lorry, it should be reported to the PSO representative for joint sampling. If found beyond the specified limit, the matter will be investigated by PSO and subsequent action shall be taken through mutual consent of NPGCL and PSO.*

**iv. In the light of Fuel Supply Agreement, NPGCL was required to accept fuel supplies from PSO on the following grounds:**

a) Acceptance of furnace oil was subject to the quality and quantity of furnace oil at chemical department and decanting station respectively of NPGCL. If a tank lorry/tank wagon failed in chemical test then it would be rejected and not taken on stock. Similarly, if a tank lorry/wagon is stolen on way to NPGCL then PSO would be responsible for it.

b) Similarly, if a tank/wagon was received at decanting station then weighbridge recorded its weight and any variation in weight was recorded and PSO was booked accordingly.

Therefore, fuel in transit could not be booked as closing stock and was not liability of NPGCL without ensuring quality and quantity of supplies as per Fuel Supply Agreement.

Audit discussed this matter with management in the light of fuel supply agreement. Management replied that on 30th June 2016 certain tank lorries carrying furnace oil left for NPGCL, therefore, those were booked as closing stock because PSO had booked its receivable towards NPGCL by Rs.591.756 million. The management's stance was not correct because without ensuring quality and quantity of furnace oil, it could not become product of NPGCL.

Furthermore, audit acquired the detail of all the tank lorries which were sent by PSO on 30th June, 2016 to NPGCL. Banking Section forwarded the following detail of fuel in transit:

**Table-53 Fuel in Transit**

***(Rs.in million)***

| Source | Total Vehicle | Amount |
|---|---|---|
| **ZOT-ROAD** | 78 | 120.527 |
| **ZOT-KTC-ROAD** | 300 | 465.921 |
| **TOTAL** | 378 | 586.448 |

Audit scrutinized all the details of supplies and noticed that 184 tank/wagons carrying furnace oil valuing of Rs.282.437 million had already been reported and booked before or on 30th June, 2016. Only 194 tank lorries/wagons were in transit carrying furnace oil of Rs. 304.011 million. This implied that the Management incorrectly reported fuel in transit amounting to Rs.591.756 million in financial statements and overstated its fuel inventory by Rs.304.011 million as on 30.06.2016.

Fuel in transit was also shown as closing stock in the following financial year as detailed below:

**Table-54 Fuel in Transit year wise**

| Financial year | (Rs.in million) |
|---|---|
| 2016-17 | 475.576 |
| 2017-18 | 594.715 |
| 2018-19 | 99.848 |
| **TOTAL** | **1,170.139** |

Source: Financial Statements-NPGCL

As per provision (mentioned above), fuel in transit could not be shown as closing stock and no liability could be booked in the books of account against it. Management showed fuel in transit for an amount of Rs.1,170.139 million in the financial statements during 2016-17 to 2018-19 which caused closing stock to be overstated to the stated extent.

**Audit Findings:**

i. Fuel consumption was found under-stated by Rs.293.70 million and caused accumulated losses to be under-stated.

ii. Furnace oil closing stock was overstated in financial statements by Rs.1,238.733 million over the past ten years.

iii. Management showed fuel in transit as closing stock without ensuring quality and quantity of HSFO. Banking section reported wrong figure of fuel in transit without confirming the facts from Resident Engineer FP&S of NPGCL. Banking section wrongly confirmed the PSO balance on behalf of CCPP Nandipur.

iv. Finance Director did not develop the Standard Operating Procedures for confirmation of payables on any cut-off date to book the liability of PSO.

v. Audit further discussed of stock account management with the storekeeper SPS Faisalabad who stated that no stock measurement book and stock account and/ or monthly accounts were being prepared for which a written statement was provided to the Audit. In the absence of Monthly Account, exact issuance and receipt of furnace oil cannot be ascertained and authority did not notice this flaw while consolidating annual accounts for financial statements.

**Management Reply:**

Management replied that figures of fuel consumption shown in audit observation are mismatched with Financial Statements/Trial Balance (The

Source Document). As such no difference exists in the figures of oil consumption between books of accounts and stock accounts. NPGCL takes effect of the fuel quantity dispatched by PSO before the closing date of books of account and quantity which is dispatched for NPGCL and not yet received at plant as on the closing date is classified as Store in Transit.

Upon actual delivery of the quantity at site the verification is done by the store receiving department as per the provision of the fuel supply agreement. After receipt, verification and recording of the same in the Stock Measurement Book, the accounting entry is recorded to give effect to fuel stock account and store in transit account is accordingly adjusted.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable as audit compared consumption and closing stock of furnace oil with field stock account and figures reported to consolidation section and found significant differences.

Moreover, fuel in transit cannot be shown in closing inventory as acceptance of furnace oil is subject to chemical test and physical entry. Audit on sample basis analyzed the difference for the FY 2015-2016. It was found that even after taking into account fuel in transit figure the trial balance remained overstated by Rs. 304.011 million. Hence management responses were inaccurate and un-justified.

**Audit recommendations**

i. Final accounts relating to fuel consumption and closing balances of Furnaces Oil were not reconciled with subsidiary ledgers timely and accurately. The same was required to be done.

ii. SoPs may be prepared and implemented for confirmation, reflection and reconciliation of PSO payables in NPGCL.

iii. Differences in stock consumption as well as closing stock were two separate control lapses having different causes and needed to be inquired for fixing of responsibility and for improving financial discipline in the Company.

# TOR-4 COMMENTS ON FAIRNESS OF THE FINANCIAL STATEMENTS

## 4.1.1. Management frequently re-stated value of assets in the Financial Statements by adopting revaluation model and cost base model.

**Primary Issue:**

Management booked revaluation surplus Rs.132.093 billion by adopting revaluation model and partially reversed back to cost model in financial year 2018-19.

**i. Adoption of Accounting Model**

International Accounting Standards 16 permits two accounting models:

- **a. Cost model.** The asset is carried at cost less accumulated depreciation and impairment. [IAS 16.30]
- **b. Revaluation model.** The asset is carried at a revalued amount, being its fair value at the date of revaluation less subsequent depreciation and impairment, provided that fair value can be measured reliably. [IAS 16.31]

Management of NPGCL adopted re-valuation accounting model in financial year 2015 and decided to carry out revaluation of Property, Plant and Equipement on 30th June, 2015 by an independent evaluator namely M/s Tariq Mian Ramzan Arshad & Company in association with M/s Saddrudding Associates (Private) Limited. Valuation report of these assets was certified by Chartered Accountant Firm. Freehold land and leasehold land were revalued on the basis of present market value. Buildings on freehold land and leasehold land were revalued on present depreciated value while all the other property, plant and equipment were revalued on depreciated replacement method.

**ii. Booking of revaluation surplus under International Financial Reporting Framework**

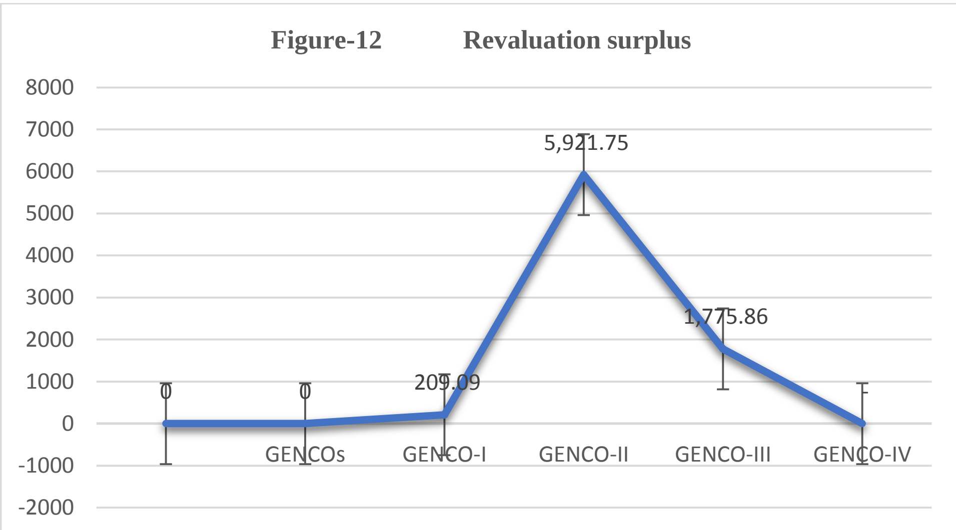
If a revaluation results in an increase in value, it should be credited to other comprehensive income and accumulated in equity under the heading "revaluation surplus" unless it represents the reversal of a revaluation decrease of the same asset previously recognized as an expense, in which case it should be recognized in profit or loss. [IAS 16.39]. As a result of such revaluation of property, plant and equipment, management booked revaluation surplus of Rs.132.093 billion as on 30th June, 2015.

**Table-55 Booking of Revaluation Surplus**

(Rs.in million)

| F. Years | Revaluation surplus |
|---|---|
| 2010-11 | |
| 2011-12 | |
| 2012-13 | |
| 2013-14 | |
| 2014-15 | 132,092.78 |
| 2015-16 | 131,308.69 |
| 2016-17 | 130,174.39 |
| 2017-18 | 94,216.61 |
| 2018-19 | 94,216.61 |
| 2019-20 | 94,216.61 |

Source: Financial Statements




However, NPGCL again changed its accounting model from revaluation to cost model in the financial year 2018-19. Accordingly, the value of assets decreased by Rs.36.817 billion as on 30.06.2019. This frequent change in adoption of accounting model was abnormality have significant impact on the

Financial Statements of the company and reflected that of assets of the NPGCL of the company have been valued and recorded in an un-transparent manner.

Audit reviewed that as per **IAS *16, paragraph 31; PBE IPSAS 17, paragraph 44:***

After recognition as an asset, an item of property, plant and equipment whose fair value can be measured reliably shall be carried at a revalued amount, being its fair value at the date of the revaluation less any subsequent accumulated depreciation and subsequent accumulated impairment losses. Revaluations shall be made with sufficient regularity to ensure that the carrying amount does not differ materially from that which would be determined using fair value at the end of the reporting period/at the reporting date.

Hence once a revaluation model has been chosen for a particular asset class, IAS 16 and PBE IPSAS 17 require that revaluations are kept up to date so that at each reporting date, there is no material difference between carrying amount and fair value.

**IAS 16, paragraph 31; PBE IPSAS 17, paragraph 44**

Contrary to the above, NPGCL instead of adopting a standard evaluation approach, got its asse ts evaluated arbitrarily, moving **from one costing model to another** in a short period of time. In the light of above mentioned IPSAS standard, it was apparent that NPGCL mis-stated its financial statements by Rs.36.817 billion by adopting cost model from re-valuation model. Instead, NPGCL was required to regularly conduct revaluation of assets to show at its fair value in the financial statements.

**Audit Findings:**

i. Management did not carry out revaluation of assets regularly after adopting revaluation model on 30$^{th}$ June, 2015 in violation of IFRS to show its operating assets at fair value.

ii. Financial Statements were materially mis-stated by Rs.36.817 billion when management changed its accounting model from cost model to re-valuation model in FY-2018-19 and did not give disclosures in the Financial Statements regarding justification or rationale for change of accounting model.

**Management Reply:**

Management replied that to reflect actual operational results in Profit and Loss Statement of the company, the agenda for change in Accounting Policy from Revaluation Model to Cost model was submitted for consideration and approval of Board of Directors along-with the expert opinion of M/s Riaz Ahmad & Company Chartered Accountants (The External Auditors of Company).

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021. Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable because management adopted revaluation model on 30$^{th}$ June, 2015 and revalued its operating assets including freehold land and building at market value but subsequently adopted cost model again in the financial year 2018-19.

Resultantly, the value of assets decreased by Rs.36.817 billion as on 30.06.2019. This frequent change in adoption of accounting model was abnormality having significant impact on the Financial Statements of the company and reflected that asset of the NPGCL had been valued and recorded in an un-transparent manner.

**Audit Recommendations:**

i. Audit recommends to constitute an inquiry to probe material misstatement in Financial Statements by adopting cost model from revaluation model without any justification.

ii. Audit recommends to fully adopt revaluation model of accounting to show all class of assets at its fair value in the Financial Statements.

## TOR-5 FRAUD DUE TO NEGLIGENCE AND FIXING RESPONSIBILITY

**5.1.1. Management bypassed weighbridge system at decanting station to avoid transparency in procurement of High Sulphur Furnace Oil (HSFO) from Pakistan State Oil (PSO). Authority did not develop and approve Standard Operating Procedures (SOPs) for ensuring quality and quantity of HSFO procured from PSO.**

**i. Introduction of weighbridge system**

[35]Weighbridge is system of several components that work together to provide weigh readings when truck drives on to the scale.

NPGCL has a weighbridge system (hardware and software) installed at decanting station to measure the weight of truck delivery carrying fuel supplies from PSO. Weighbridge operator records weight and passes the truck lorry for decanting. Weighbridge software generates a ticket which mentions weight of truck, invoices number, total quantity supplied by PSO and date & time of truck lorry at decanting station. After this process, Daily Receipt Reports generated by weighbridge are sent to store department where quantity against each invoice is entered in Stock Measurement Book and invoices are verified and sent to finance department for making payments to PSO.

[35] What is weighbridge? | How does a weighbridge work - Truck Weighbridge (coalhandlingplants.com)

## ii. Recording of procurement flow in NPGCL

**PSO**

- Make supplies as per **Fuel Supply Agreement** to the decanting point at NPGCL
- Sends two invoice, one with truck/wagon driver and second to the R.E FP&S

**DECANTING POINT NPGCL**

- Chemical section conducts quality assurance tests and clears it for decanting, in case of rejection, joint verification is conducted with PSO team and PSO investigates the matter for inferior quality of HSFO and fixes the responsibility.

**R.E FP&S**

- After decanting HSFO, it is recorded on SMBs and invoices are verified and sent to Banking section for payment to PSO

**Banking section**

- Banking section applies pre-audit checks on Fortnightly Oil Receipt Note (FORN) received from Resident Engineer Fuel Procurement and Supply (R.E FP&S) and makes payment to PSO accordingly.

## iii. Scrutiny of Weighbridge System CCPP Nandipur:

Audit scrutinized weighbridge system to ascertain the transparency in procurement of High Sulphur Furnace Oil (HSFO) from PSO. Weighbridge is the most reliable data source to ascertain procurement from PSO where human intervention is minimum.

In NPGCL, two weighbridge systems were operated on following decanting stations:

- CCPP Nandipur
- TPS Muzaffargarh

In CCPP Nandipur total 14820 invoices, relating to financial years from 2014-15 to 2016-17, were entered in Store Measurement Books (SMBs) against which 564,637.52 M.Ton HSFO was procured from PSO and the same was verified by R.E FP&S to make payment to PSO as detailed below:

**Table-56 HSFO Procurement from 2014-15 to 2016-17**

| Financial Years | Total inv | Qty in M.Ton | Amount | ave./M.Ton |
|---|---|---|---|---|
| 2014-15 | 3,206 | 121,916.63 | 7,480,267,022 | 61,355.59 |
| 2015-16 | 7,232 | 274,801.88 | 10,125,484,302 | 36,846.49 |

| | | | | |
|---|---|---|---|---|
| 2016-17 | 4,382 | 167,919.01 | 8,068,563,097 | 48,050.32 |
| **Total** | **14,820** | **564,637.52** | **25,674,314,420** | **45,470.44** |

Audit reviewed in detail the records of the store where, as per Store Measurement Book, total 564,637.52 M.Ton HSFO was procured for the financial years 2014-15 to 2016-17. Audit obtained complete soft data relating to procurement of HSFO from weighbridge installed at CCPP Nandipur which showed that during this period total 554,787 M.Ton HSFO procured from PSO. Hence, 9,851 M.Ton HSFO was entered excess in SMBs and verified for payment. Forensic audit team worked out Rs.447.907 million paid to PSO without receiving the same at the power plant. Illustratively:

**Table-57 Excess quantity entered in SMB**

| Description | Qty in M.Ton |
|---|---|
| Qty entered as per SMB | 564,637.52 |
| Qty entered in weighbridge | 554,786.99 |
| **Excess qty entered in SMB** | 9,850.53 |

Source: Data Analysis conducted during Forensic Audit

Resident Engineer (O&M), Chief Engineer/PD CCPP Nandipur verified excess quantity of 9,851 M.Ton HSFO amounting to Rs.447.907 million (9,850 M.Ton x Rs.45,470/M.Ton)

Audit also found that in the financial year 2017-18, management constituted a committee on 28.05.2018 to check and scrutinize the record of HSFO at 525 MW CCPP Nandipur. Committee submitted its 36report and concluded that 145 invoices of HSFO tankers were not found in weighbridge software record against which 5,547.945 M.Ton HSFO was procured which amounted to Rs.212.539 million. Hence management itself had identified theft of fuel to the tune of Rs.212.539 million.

**iv. Scrutiny of Weighbridge System at TPS Muzaffargarh**

Audit scrutinized the record (except for period from July, 2010 to June, 2012 which was not provided) of weighbridge software TPS Muzzafargarh and found that:

[36]Complete report is attached with Forensic Audit Report

a. **Data deletion from Weighbridge Software at TPS Muzzafargarh:** Data analysis revealed that [37]51,910 Nos. transactions relating to procurement of HSFO from 7th July, 2013 to 14th September, 2014 were deleted from weighbridge system. The system was being used by the weighbridge operator and supervisor. NPGCL procured 1,831,538.21 (M. Ton) HSFO from PSO during this period (July-2013 to September-2014) worth Rs.152.288 billion. [38] Management did not form [39]data protection & data retention polices and SOPs to save the sensitive information from being deleted, altered, or stolen. In the absence of system data, authenticity of fuel procured from July, 2013 to September, 2014 could not be ascertained by audit.

b. **Truck deliveries not found on Weighbridge System at TPS Muzaffargarh:** Moreover, after further scrutiny of weighbridge record, Audit observed that 188 Nos. Trucks were not found recorded in weighbridge system, rather they were only mentioned in the manual record which raised a red flag as detailed below:

**Table-58 Truck deliveries not found on weighbridge-TPS MZG**

***(Rs.in million)***

| Firm | Transportation Source | Oil qty in M.Ton | No. of Deliveries | Total amount |
|---|---|---|---|---|
| PSO | Road | **6,781.58** | **188** | **359.687** |

Source: Data analysis during Forensic Audit

Management did not upgrade SOPs regarding receiving and entering data in weighbridge software after Nandipur theft case.

**v. Internal control lapses observed in HSFO procurement**

After detailed review of the procurement and payment system in NPGCL, Audit considers the following major internal control failures which caused misappropriation in HSFO procurement:

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[37] Forensic Audit Team taken hard disk as evidence which contains complete database.
[38] Period from 2014 to 2017 is red flag period.
[39] Weighbridge data is important, so it was necessary to keep it in safe custody be taking regular back-up, but it was not done.

a. At weighbridge decanting station, it was necessary to generate a weighbridge ticket against each invoice which was required to be attached with sales invoices of PSO for storekeeper to enter data in Store Measurement Book which was not done.

b. Daily Receipt Report (DRR) generated from weighbridge was required to be attached with sales invoices and store record which was not done.

c. System generated DRR was required to be attached with each Fortnightly Oil Receipt Note (FORN) while sending payment claims of PSO to Finance Director/Banking Section which was not done.

d. Finance Department/ Banking Section was required to ensure authenticity of FORN with system generated DRR which was not done.

**Audit Findings:**

i. It was found that 51910 Nos. Transactions valuing Rs.152.288 billion relating PSO fuel supplies have been deleted from weighbridge system during July, 2013 to September, 2014.

ii. Management did not provide weighbridge data for the financial years 2010-11 to 2011-12.

iii. Standard Operating Procedures were not framed to operate weighbridge system in NPGCL. Weighbridge operators were not trained before deputing at weighbridge/decanting station.

iv. Weighbridge tickets were not found attached with PSO invoices which was an important internal control over procurement from PSO, entering data in Store Measurement Book (SMB) and verifying PSO invoice for making payment.

v. Weighbridge data access was not granted to Fuel Storage department for cross check relating to Daily Receipt Report sent by weighbridge operator.

vi. Management did not implement adequate supervisory checks to prevent theft of fuel (HSFO & HSD).

vii. Board of Directors did not instruct management to make data protection, retention and back up policies in NPGCL.

**Management Reply:**

The issue No.3 was also discussed with the Forensic Audit Team in detail and produced available records of weighbridge software especially data during the period 13.07.2013 to 14.09.2014 and software generated sheets of 279 tanks lorries, the forensic audit team has some doubts over the authenticity of software record, so it is mutually agreed to conduct the audit of available record from the IT software expert /CISA. It is pertinent to mention that the manual record of all decanted tank lorries is available for the entire period.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. Management reply is not tenable as weighbridge is very important tool to add transparency in the fuel procurement and accountal process.

Weighbridge tickets were not found attached with PSO invoices which was the most important internal check to ensure physical arrival of fuel supply from PSO. Management did not form SOPs relating to data back-up of weighbridge system. Further, as pointed out by Audit, the record of 179 missing deliveries was not produced to Audit.

**Audit Recommendations:**

i. It is recommended to conduct an inquiry to probe data deletion from weighbridge system relating to period July-2013 to September-2014.

ii. Responsibility should be fixed for

   a. not framing SOPs relating to operating weighbridge system

   b. not making data protection, retention, and data back-up policies.

c. not providing necessary training to weighbridge operators from software provider.

iii. Complete software audit of weighbridge system must be conducted to ascertain authenticity of fuel procurement which is a major cost component.

## TOR-6 INTERNAL CONTROL INEFFICIENCIES

**6.1.1. Management of NPGCL did not strengthen its internal control over decanting, entering HSFO stock in Stock Measurement Books (SMBs), verifying invoices for making payment to PSO and reconciliation with PSO relating to outstanding balance.**

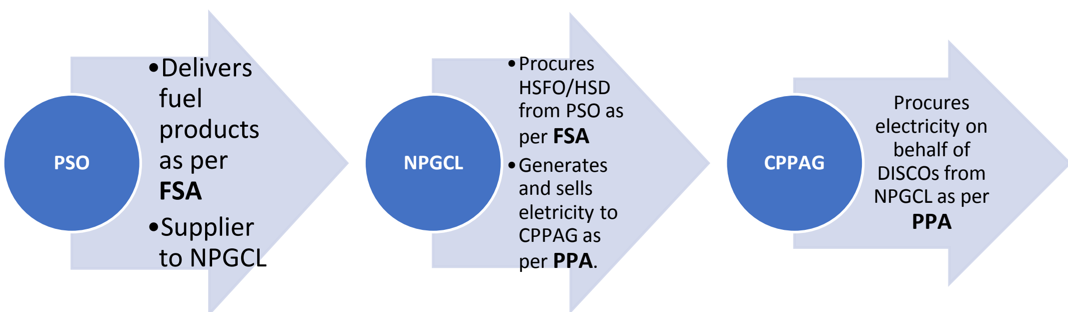
**Primary Issue:**

Resident Engineer FP&S and Finance Director failed to form and implement internal control system in their departments.

NPGCL is state owned power generation company which uses HSFO/HSD as fuel and procure it through Fuel Supply Agreement from PSO and generate electricity and sells it to CPPA-G in accordance with Power Purchase Agreement.

The internal control review of NPGCL has been made on the basis of Committee of Sponsoring Organizations (COSO) Framework. The analysis is built upon five core concepts of Control Environment, Risk Assessment, Control Activities, Information & Communication and Monitoring.

**Business Flow in NPGCL**




**1. Major Business Process:**

During forensic Audit, following major business process identified in NPGCL:

i. Procurement of HSFO/HSD from PSO

ii. Sale of electricity to CPPAG

**a. Fuel Supply Agreement contains provisions regarding:**

i. Transportation of HSFO at the decanting point in NPGCL

ii. Taking assurance relating to quantity and quality of products procured from PSO.

iii. Verification of PSO invoices of fuel supplies

iv. Imposition of Late Payment Surcharge in case invoices delayed by NPGCL

**b. Power Purchase Agreement contains provisions regarding:**

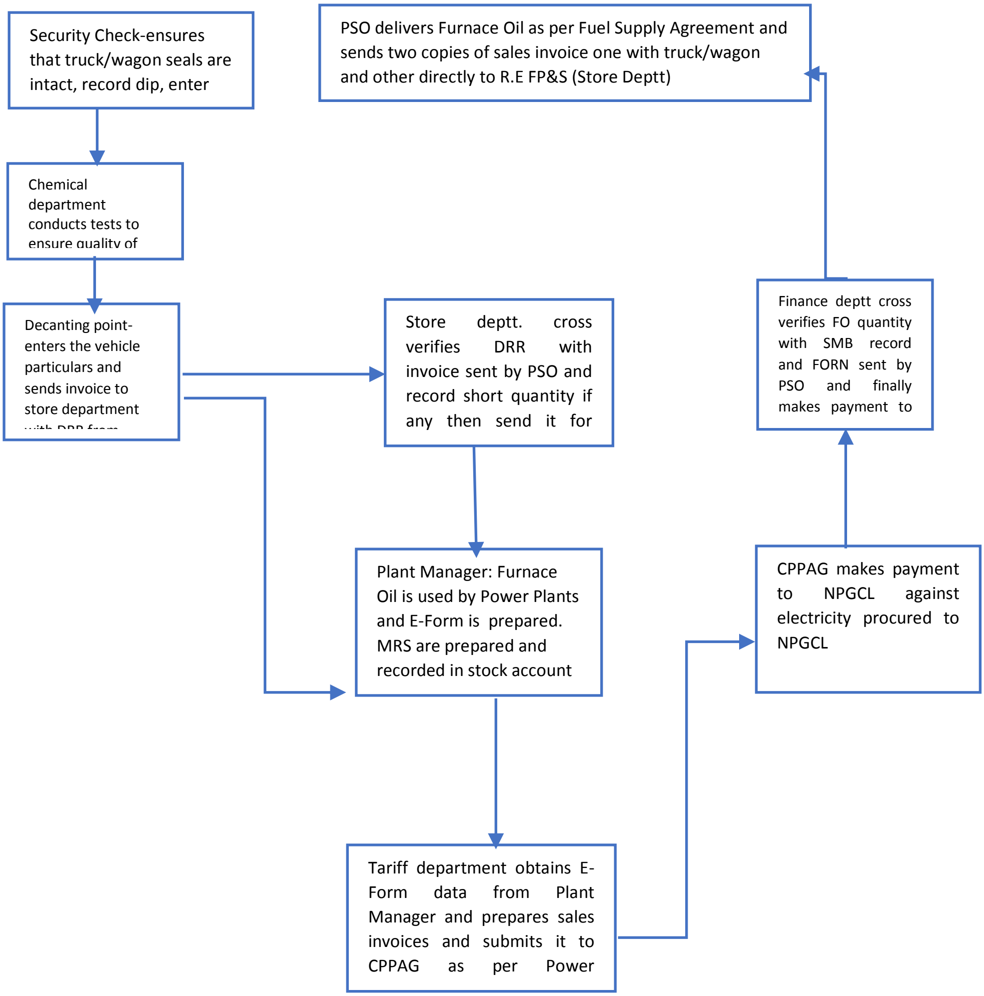
i. Energy Purchase Price (EPP)

ii. Capacity Purchase Price (CPP)

iii. Delayed Payment Surcharge

In order to evaluate internal control system, Audit reviewed business process of NPGCL which includes two major players i.e. PSO and CPPA-G. Business process in NPGCL includes Store department, Power plants and Finance Directorate operations. NPGCL was required to establish a robust internal control system in these departments in order to achieve efficiency, effectiveness and economy across all process from oil procurement to power generation and finally selling electricity to CPPAG.

**Business process in NPGCL is illustrated in following diagram**




Since the internal controls are closely related to corporate governance therefore, management of NPGCL was required to form and implement robust internal controls mechanism to ensure effective management at all level of major business process (input flow & output flow). Internal controls safeguard against several possible problems that can affect the profitability or even the long-term survival of a company. If one of the internal controls is circumvented or becomes ineffective, then the consequences of breach in internal controls can be wide-ranging.

During course of audit, it was observed that there was no integration amongst all department of NPGCL.

**Management of NPGCL implemented internal controls for PSO deliveries (Road):**

**Security (Entrance**

- It will be ensured that all seals of all truck/wagon are intact and driver is carrying relevant PSO invoice
- Physical dip of fuel supply will be recorded

**Decanting station**

- In case of road delievery, truck lorries will be weighed at weighbrige in order to ensure gross and net weight and a ticket will be generated and sent to store department.
- Physical dip and sample of fuel will be taken for chemical test to ensure quality

**Chemical laboratory**

- Chemical test will be taken to assess moisture level along with Calorific Value
- If truck/wagon is rejected then a joint verification will be conducted with PSO and matter be investigated for high mositure level and responsibility be fixed

**Decanting Station**

- After, clearnce from chemical laboratory, finally truck/wagon will be decanted and weighbrige staff will send PSO invoice along with Daily Receipt Report to Store Section to enter quantity on Store Measurement Book (SMB)

**Store**

- Store section will enter fuel supply quantity on SMBs after receing DDR and will compare the invoice with PSO invoice received and verify it for payment and forward it to Finance department for making payment to PSO.

**Banking Section**

- Bankig section verifies quantiy entered on FORN with SMBs and makes payment to PSO.

## 2. Gaps in above internal controls:

After detailed scrutiny of internal controls, following important controls were found missing in above mentioned internal controls relating to business flow with PSO.


i. In case, a wrong/unknown PSO delivery (not for NPGCL reported at entrance gate, then who will intervene to return wrong/unknown PSO supply.


i. After passing a truck from weighbridge, will weighbridge tickets be attached with each PSO invoice to ensure that truck/wagon delivery has been passed through weighbridge. No control present for ensuring the same.

ii. Weighbridge operator will generate Daily Receipt Report from weighbridge and sends it to store section for entering data on SMBs. Not control present for ensuring the same.


i. Decanting incharge (R.E FP&S or Deputy Manager Fuel) will send fuel sample along with PSO invoice to laboratory for conducting chemical test. Not control present for ensuring the same.

ii. Chemical section will keep record of chemical analysis and enter invoice number against each chemical test conducted. Not control present for ensuring the same.


i. Storekeeper will compare DDR generated by weighbridge with PSO invoices and ensure that truck Lorries have been decanted actually after passing weighbridge. Not control present for ensuring the same.

ii. DDR or Fortnight Report generated by weighbridge will be forwarded to banking section to cross verify for payment. Not control present for ensuring the same.


i. Banking section will compare Fortnight Oil Receipt Notes (FORNs) received from PSO with FORNs report generated by weighbridge to ensure that truck/wagon deliveries have been decanted and quantity entered on SMBs is the same as appeared on weighbridge report. Not control present for ensuring the same.

Above important controls were skipped by management, affecting the processes and policies that NPGCL used to ensure that its operations are effective and efficient, and its financial reports are accurate and complete and that the company is doing business in accordance with all relevant regulations and laws. Gaps in internal control prevented to put in place robust control environment in NPGCL and affected the following:

i. Effectiveness & efficiency
ii. Financial reliability
iii. Compliance

**3. Assessment of Internal Control**

During the course of audit, interview/questionnaire were designed to assess internal control over procurement and payment to PSO. Questionnaire were served to the following officer/officials:

i. Ex-Chief Executive Officer (Mr. Asghar Qureshi): Ex-CEO neither appeared before Audit for interview nor filled up questionnaire given during Audit assignment.

ii. Ex-Finance Director: Mr. Masood Ahmed: A comprehensive questionnaire was served to Ex-Finance Director who served the longest period i.e. 08 years in NPGCL but Mr. Masood Ahmed did not fill up the given questionnaire despite repeated requests and emails. Mr. Masood Ahmed resigned as FD of NPGCL due to illegal appointment as Finance Director by BoD of NPGCL. During the course of audit, his role as finance director was evaluated in detail and it was found that he did not form robust internal control over payment to PSO which resulted in fake payments of Rs.212 million to PSO against fuel supplies which were not received at NPGCL. Mr. Masood Ahmed was also responsible for non-reconciliation of long-pending outstanding payables to PSO & Late Payment Surcharge Rs.58.206 billion.

iii. Manager Supply Chain (NPGCL) and Assistant Manager Accounts (Banking Section) furnished their replies to queries raised during audit. On the basis of replies given by officers, following assessments regarding internal controls over procurement and payments to PSO are as under:

    a. SoPs regarding late receipt/missing/wrongly decanted tank wagons were not followed in true letter and spirits. PSO claims regarding 55 Nos. wrongly decanted fuel supplies are still pending since 2006.

    b. Assistant Manager Banking [40]replied that scope of accounts department was limited to the WAPDA Accounting Manual regarding entry in stock measurement book. It was assessed that no SOPs were defined/ formed by Finance Director and Internal Controls were not in place regarding cross verification of fuel supply quantities received from PSO. Banking section blindly relied on verification of PSO claims by Resident Engineer Fuel

[40] A questionnaire was served carrying 35 queries to A.M Banking on 12.04.2021

Procurement & Storage. This major control check caused payment of fake claims of PSO against which no fuel was received.

c. Assistant Manager Banking replied that Pre-Audit Checks were being applied as per WAPDA accounting manual on the bills of PSO only. These pre-audit checks were self-derived from accounting manual which did not include authentication from weighbridge software.

**Impact of Non-adequacy & Breach of Internal Controls**

During assessment of internal controls over business flow with PSO, it was noted that non-adequacy in control environment and breach in existing internal control resulted in following discrepancies in NPGCL:

**Table-59 Impact of Non-adequacy & Breach of Internal Controls**

| Sr.# | Internal control flaw/ Breach of internal control | Department responsible | Impact |
|---|---|---|---|
| **1** | In case, a wrong/unknown PSO delivery (not for NPGCL reported at entrance gate, then who will intervene to return wrong/unknown PSO supply. | Security-NPGCL | It was observed that 55 Nos. unknown tank wagon carrying 1386.074 M.Ton furnace oil were decanted during from 2006 to 2018 without ensuring that they were meant for Thermal Power Station Muzzafargarh. Resident Engineer FP&S decanted these tank wagons without receiving revised invoices from PSO and without marking decanted quantity on Store Measurement Book and Stock Account for the respective months in which unknown tank wagons decanted. As per Fuel Supply Agreement, NPGCL was required to reconcile the details of such tank wagons/lorries with PSO within 15 days from the date of such decantation. But after lapse of 14 years, NPGCL did not reconcile such unknown decantation. |
| **2** | i. After passing a truck from weighbridge, will weighbridge tickets be attached with each PSO invoice to ensure that truck/wagon delivery has been passed through weighbridge. | Decanting Station | It was noticed that NPGCL procured total 564,637.52 M.Ton HSFO during financial years 2014-15 to 2016-17 against which PSO raised 14,820 sales invoices to NPGCL. Forensic Audit carried out cross verification of this procurement from weighbridge software where 554,786.99 M.Ton HSFO was recorded against 14,644 sales invoices. |

| | | | |
|---|---|---|---|
| | ii. Weighbridge operator will generate Daily Receipt Report from weighbridge and send it to store section for entering data on SMBs | | |
| **3** | i. Decanting incharge (R.E FP&S or Deputy Manager Fuel) will send fuel sample along with PSO invoice to laboratory for conducting chemical test.<br>ii. Chemical section will keep record of chemical analysis and enter invoice number against each chemical test conducted | Chemical section | It was found during data analysis of selected period i.e. 2010-11 to 2013-14 that HSFO Samples of Wagon-6811(PSO invoice 961185995) & TLB-649 (PSO invoice) 961909440) tank lorries were sent to chemical section for test of water content. [41]After chemical test it was found that water content was beyond 0.5% and as per Fuel Supply Agreement (FSA), NPGCL was required to inform PSO for joint verification. However, irrespective of conducting joint verification with PSO, chemical department falsely forwarded it to decanting station without approval of PSO which resulted in adding sub-standard quality of HSFO in storage and caused to pay Rs.4.515 million for contaminated furnace oil. Fake joint verification report was found attached with invoices of PSO. Neither joint verifications were signed by PSO nominated representative nor matter was forwarded to PSO for investigation. |
| **4** | i. Storekeeper will compare DDR generated by weighbridge with PSO invoices and ensure that truck lorries have been decanted actually after passing weighbridge.<br>ii. DDR or Fortnight Report generated by weighbridge will be forwarded to banking section to cross verify for payment. | R.E FP&S & Finance Director (Banking Section) | Resident Engineer (O&M), Chief Engineer/PD CCPP Nandipur had verified relevant Fortnight Furnace Oil Receipt Note (FORN) for payment to Finance Director/ Banking Section where Daily Receipt Report (DRR) from weighbridge was not ascertained to check the authenticity of claims of HSFO. In this way theft of furnace oil caused a loss of Rs.447.908 million to the Company's exchequer. |

[41] Forensic Audit Team scrutinized joint verification reports which were fake. No letter to PSO representative was produced. Joint verification report was required to be signed by PSO representative, but it was not.

| | |
|---|---|
| iii. Banking section will compare Fortnight Oil Receipt Notes (FORNs) received from PSO with FORNs report generated by weighbridge to ensure that truck/wagon deliveries have been actually decanted and quantity entered on SMBs is the same as appeared on weighbridge report. | |

**Audit Findings:**

i. Management did not design adequate internal control over procurement from and payment to PSO. Finance Directorate and Resident Engineer FP&S were not integrated over verification of claims received from PSO and entering fuel supply quantity on SMBs. This major flaw resulted in fake verification and misappropriation of fuel supply amounting to Rs.447.908 million in case of Nandipur and red flag of Rs.359.687 million in Thermal Power Station Muzaffargarh.

ii. Chemical department did not mention invoice number on chemical report prepared due to which it could not be linked with particular fuel supply. It only refers to Truck No without invoice number. This flaw showed that decanting department and chemical department were not integrated in fuel procurement process. If a particular delivery was rejected then it was difficult to trace out invoice number on the basis of rejected vehicle.

iii. Delivery Tickets generated by weighbridge were not attached with PSO invoices and only PSO invoice was sent to store section for entering record on SMBs. In the absence of weighbridge ticket, it was possible to enter fake delivery of PSO as it happened in case of CCPP Nandipur where 145 fake deliveries were entered in SMBs which were not on weighbridge. If weighbridge tickets were mandatory to be attached, this fraud could have been prevented.

iv. Finance Director did not put in place sound pre-audit checks over payment to PSO, banking section applied its in-adequate pre-audit checks to ensure transparency in payments to PSO.

**Management Reply:**

Management replied that an adequate internal control exists in the GENCO-III over procurement from and payment to M/s PSO. All the invoices are thoroughly checked in store section. The signatures of Officers and Officials on invoices regarding seal checking, gate pass serial No, signatures of chemical section personnel's, computer serial No. are also checked. Fuel supply received at T.P.S, Muzaffargarh either in tanker or through train bogies. For particular supply, furnace oil dispatch, the quality report, quantity and other particulars are mentioned on the invoice with tanker No. Chemical Section is responsible for quality control of each tanker received at the chemical check point.

After analysis, report of tankers received in each shift along with vehicle No. is prepared with duly signed by all concerned and submitted to Manager Supply Chain Office for further action. According to clause 14.4.2 of WAPDA Accounting Manual following pre-audit checks are being applied on bills/claims of M/s PSO:

i. Confirm placement of purchase order.
ii. Entry in stock measurement book.
iii. Confirm that quantities & rates are as per terms of purchase order and SMB.
iv. Check for any delayed delivery and applicable penalty.
v. Any other terms & conditions given in the Purchase Order.

The claims of M/s PSO are being processed after applying above mentioned pre-audit checks.

**DAC Directive:**

DAC in its meeting held on 17.08.2021, partially reviewed the issues contained in the Forensic Audit Report of Northern Power Generation Company. It was, however, observed that replies given by the management were not substantive and did not address the audit issues in an adequate manner. Therefore, management was directed to submit revised replies after thoroughly examining the issues pointed by audit and to get reconciled any data where required with audit. It was decided that above-mentioned action shall be completed within one week period w.e.f 25.08.2021 to 31.08.2021 on the request of management which was accepted by DAC.

**Further Audit Comments:**

In compliance of DAC directive dated 17.08.2021, management of NPGCL deputed its representatives on 26.08.2021 for reconciliation of figures/ data with revised replies. No fresh reply was furnished by the management. However, management remained stuck on its previous stance given in the DAC meeting held on 17.08.2021.

Hence, no reconciliation is required. Reply given in DAC meeting held on 17.08.2021 is not acceptable because audit reviewed and checked in detail internal control system and found that management did not design adequate internal control over procurement from and payment to PSO. Finance Directorate and Resident Engineer FP&S were not integrated over verification of claims received from PSO and entering fuel supply quantity on SMBs.

This major flaw resulted in fake verification and misappropriation of fuel supply amounting to Rs.447.908 million in case of Nandipur and red flag of Rs.359.687 million in Thermal Power Station Muzaffargarh. Chemical department did not mention invoice number on chemical report prepared due to which it could not be linked with particular fuel supply. Delivery Tickets generated by weighbridge were not attached with PSO invoices and only PSO invoice was sent to store section for entering record on SMBs.

**Audit Recommendations**

i. Robust IT based internal control system was needed to be put in place with maximum integration amongst all departments.

ii. Staff working in banking section, decanting station, and R.E FP&S for more than 10 years are required to be reshuffled immediately.

iii. Segregation of duties among staff is needed to be assigned for smooth and fair working.

## SECTION-III-CONCLUSTION & RECOMMENDATIONS

### ➢ Conclusion

- In the light of the Audit Findings, it can be said with certitude that Heat Rate is one of the main reasons of the losses of the company. As a result of increased Heat Rate, cost of generation is increased. There were many instances, as Audit pointed out in the previous section, when the company violated the NEPRA's set targets and procedures and the cost incurred in the process was therefore rejected by the latter.
- Adulteration of furnace oil, delay in execution of the 525 MW Combined Power Cycle Power Plant, excessive auxiliary consumption, forced outages, disallowed cost by NEPRA, misappropriation of furnace oil, fraudulent payments, shortage of material, misappropriation of store and stocks material were also the major factors which contributed to the losses of the company in one way or the other. These losses were the outcome of the negligence of the management.
- Power plants at Thermal Power Station (TPS) Muzaffargarh, Steam Power Station (SPS) Faisalabad and Gas Turbine Power Station (GTPS) Faisalabad did not achieve their efficiency as per NEPRA targets. Resultantly, maximum energy was not generated by the power plants. Moreover, TPS Muzaffargarh was partially designed on Gas and partially on Furnace Oil for operation whereas it was operated continuously on Furnace Oil. This caused to raise the issue of maintenance, fixed O&M and major overhauling which could not be resolved during the last ten years.
- In addition, Late Payment Surcharge involving Rs. 58.205 billion was not reflected in the financial statements of the NPGCL to avoid true and fair portrayal of financial health of the company. This was violation of International Financial Reporting Standards. In another stance, an amount of Rs. 6,883.832 million was capitalized which was to be charged to profit and loss account.

The wrong booking of the expenditure gave unfair and untrue picture of the losses of the company by concealing them.

- Poor internal controls also contributed to the massive accumulated losses of the company. Audit found massive irregularities in procurement of oil, decantation of furnace oil, its storage and the payment thereof made to the PSO. These massive irregularities and losses thereof could have been averted had there been robust internal control mechanism.
- NPGCL needs to adopt a commercially viable business model, modern business practices, rationalize and enhance its HR capacity, improve technology used in power plants and get its liabilities reconciled and settled in coordination with relevant stake holders. In its current state the company is not viable to function as a going concern.

## Recommendations

- The management of the company needs to ensure that the guidelines of NEPRA are followed in letter and spirit with regards to achieve the Heat Rate so that the company may be saved from the loss occurring due to non-adherence to NEPRA's guidelines and instructions.
- Frequent forced outages, fuel adulteration and excessive heat rates are all indicative of the overall inefficient and non-transparent operations taking place in NPGCL. The lapses and fraudulent activities over the period of ten years have added to the current financial failure of the company. Ministry needs to fix responsibility at all tiers i.e. operational, managerial and supervisory for the lapses suffered by the Company. Only then can future improvements be enacted.
- Management needs to carry out major overhauling of its power plants as per manufacture's specified hours.
- Management needs to devise SOPs relating to maintain quality furnace and draining out water from storage tanks.

- Management needs to introduce stringent energy conservation measures with regards to use of auxiliary power.
- Audit recommends fixing responsibility against those involved in non-reconciliation of Late Payment Surcharge (LPS) with PSO. It is also recommended to reconcile LPS with PSO so that the same may be reflected in the books of account of NPGCL as per Fuel Supply Agreement. Moreover, management should work out its delayed payment surcharge on the payments delayed by CPPA-G since the signing of the Power Purchase Agreement. This will enable the company to depict true picture of its financial health in the financial statements.
- Management should form data protection and back up policies relating to safeguarding weighbridge software's sensitive data. To bring transparency in fuel procurement and its decanting at NPGCL, weighbridge-generated tickets may be attached with PSO invoices.
- The Ministry of Water and Power interfered into the working of NPGCL as in case of pre-COD operation of the power plant or frequent changes of NPGCL's CEOs. Audit recommends that the Ministry should avoid interfering into the working of NPGCL. Moreover, Chief Financial Officer should be appointed immediately in accordance with the relevant provision of Corporate Governance Rules.
- Robust internal control mechanism is needed to be put in place with maximum integration of all the departments in NPGCL without any delay. Staff working in banking section, decanting station, and R.E FP&S for more than 10 years are required to be reshuffled immediately. Segregation of duties among staff is needed to be done for smooth and efficient functioning of the company. Weak internal controls in the company also led to the misappropriation and adulteration of furnace oil.

# ANNEXURES

*Annexure-1 (Heat Rate)*

## Comparison of Heat Rate fixed by NEPRA with the actual Heat Rate reflected in E-Form of Thermal Power Station Muzaffargarh which caused loss to the tune of Rs.39.722 billion

| Name of Project | Year | Unit | NEPRA Heat Rate standard | Actual Heat Rate as per Form-E | Excess Heat Rate | Actual Consumption of Furnace oil (M.Ton) | Consumption of furnace oil as per NEPRA Standard (M.ton) | Excess furnace oil consumption (M.Ton) | Rate of Furnace Oil per M.Ton | Excess amount of Furnace Oil |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5=(3-4) | 6 | 7=(3*6/4) | 8=(7-6) | 9 | 10=(8*9) |
| TPS, Muzaffargarh | 2010-11 | 1 | 10,788.00 | 12,770.61 | 1,982.61 | 127,889.10 | 108,034.59 | (19,854.51) | 50,052.79 | (993,773,637.61) |
| | | 2 | 10,788.00 | 12,141.73 | 1,353.73 | 246,951.00 | 219,417.45 | (27,533.55) | 50,052.79 | (1,378,131,190.63) |
| | | 3 | 10,788.00 | 12,053.00 | 1,265.00 | 255,917.70 | 229,058.34 | (26,859.36) | 50,052.79 | (1,344,386,007.02) |
| | | 4 | 10,692.00 | 10,489.42 | (202.58) | 287,409.64 | 292,960.33 | 5,550.68 | 50,052.79 | 277,827,172.50 |
| | | 5 | 12,158.00 | 15,715.60 | 3,557.60 | 85,806.00 | 66,381.77 | (19,424.23) | 50,052.79 | (972,236,894.31) |
| | | 6 | 12,158.00 | 15,422.76 | 3,264.76 | 119,550.00 | 94,243.11 | (25,306.89) | 50,052.79 | (1,266,680,344.22) |
| | 2011-12 | 1 | 10,788.00 | 11,550.45 | 762.45 | 282,214.99 | 263,585.86 | (18,629.13) | 69,454.47 | (1,293,876,239.27) |
| | | 2 | 10,788.00 | 11,415.04 | 627.04 | 225,573.32 | 213,182.35 | (12,390.98) | 69,454.47 | (860,608,730.34) |
| | | 3 | 10,788.00 | 11,384.88 | 596.88 | 133,710.50 | 126,700.40 | (7,010.10) | 69,454.47 | (486,882,633.44) |
| | | 4 | 10,692.00 | 12,431.17 | 1,739.17 | 279,373.54 | 240,288.07 | (39,085.47) | 69,454.47 | (2,714,660,346.45) |
| | | 5 | 12,158.00 | 18,116.02 | 5,958.02 | 16,830.00 | 11,294.93 | (5,535.07) | 69,454.47 | (384,435,498.10) |
| | | 6 | 12,158.00 | 16,868.77 | 4,710.77 | 16,196.00 | 11,673.11 | (4,522.89) | 69,454.47 | (314,135,091.58) |
| | 2012-13 | 1 | 10,788.00 | 11,679.13 | 891.13 | 219,398.20 | 202,657.88 | (16,740.32) | 70,035.07 | (1,172,409,149.88) |
| | | 2 | 10,788.00 | 11,392.99 | 604.99 | 311,311.01 | 294,779.79 | (16,531.22) | 50,052.79 | (827,433,787.63) |
| | | 3 | 10,788.00 | 11,269.62 | 481.62 | 306,671.20 | 293,565.26 | (13,105.94) | 50,052.79 | (655,988,950.52) |
| | | 4 | 10,692.00 | 11,386.13 | 694.13 | 197,529.20 | 185,487.27 | (12,041.93) | 50,052.79 | (602,732,025.46) |
| | | 5 | 12,158.00 | 12,881.21 | 723.21 | 123,388.00 | 116,460.43 | (6,927.57) | 50,052.79 | (346,744,018.04) |
| | | 6 | 12,158.00 | 12,395.11 | 237.11 | 121,055.00 | 118,739.30 | (2,315.70) | 50,052.79 | (115,907,224.90) |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2013-14 | 1 | 10,788.00 | 11,532.59 | 744.59 | 232,339.40 | 217,338.64 | (15,000.76) | 71,571.90 | (1,073,632,764.80) |
| | | 2 | 10,788.00 | 11,479.14 | 691.14 | 219,864.60 | 206,626.92 | (13,237.68) | 71,571.90 | (947,446,143.93) |
| | | 3 | 10,788.00 | 11,296.14 | 508.14 | 283,256.70 | 270,514.82 | (12,741.88) | 71,571.90 | (911,960,556.07) |
| | | 4 | 10,692.00 | 11,035.36 | 343.36 | 346,832.64 | 336,041.11 | (10,791.53) | 71,571.90 | (772,370,553.39) |
| | | 5 | 12,158.00 | 12,197.96 | 39.96 | 232,361.00 | 231,599.80 | (761.20) | 71,571.90 | (54,480,872.99) |
| | | 6 | 12,158.00 | 12,349.63 | 191.63 | 158,522.00 | 156,062.20 | (2,459.80) | 71,571.90 | (176,052,275.56) |
| | 2014-15 | 1 | 10,517.00 | 11,503.43 | 986.43 | 257,067.20 | 235,023.44 | (22,043.76) | 55,522.48 | (1,223,923,972.74) |
| | | 2 | 10,660.00 | 11,469.36 | 809.36 | 243,611.92 | 226,420.92 | (17,191.00) | 55,522.48 | (954,486,836.58) |
| | | 3 | 10,291.00 | 11,275.28 | 984.28 | 200,555.50 | 183,047.93 | (17,507.57) | 55,522.48 | (972,063,772.49) |
| | | 4 | 10,276.00 | 12,815.30 | 2,539.30 | 207,986.85 | 166,775.09 | (41,211.76) | 55,522.48 | (2,288,178,861.61) |
| | | 5 | 10,942.00 | 12,552.78 | 1,610.78 | 199,021.00 | 173,482.51 | (25,538.49) | 55,522.48 | (1,417,960,299.71) |
| | | 6 | 11,241.00 | 12,719.00 | 1,478.00 | 177,314.00 | 156,709.39 | (20,604.61) | 55,522.48 | (1,144,019,297.25) |
| | 2015-16 | 1 | 10,517.00 | 11,043.19 | 526.19 | 254,332.00 | 242,213.49 | (12,118.51) | 33,111.85 | (401,266,125.33) |
| | | 2 | 10,660.00 | 11,222.52 | 562.52 | 229,602.00 | 218,093.38 | (11,508.62) | 33,111.85 | (381,071,695.95) |
| | | 3 | 10,291.00 | 11,082.22 | 791.22 | 238,252.00 | 221,241.89 | (17,010.11) | 33,111.85 | (563,236,109.80) |
| | | 4 | 10,276.00 | 11,447.74 | 1,171.74 | 209,634.75 | 188,177.46 | (21,457.29) | 33,111.85 | (710,490,405.24) |
| | | 5 | 10,942.00 | 12,411.58 | 1,469.58 | 175,485.00 | 154,706.88 | (20,778.12) | 33,111.85 | (688,001,853.12) |
| | | 6 | 11,241.00 | 12,574.91 | 1,333.91 | 177,825.00 | 158,961.84 | (18,863.16) | 33,111.85 | (624,594,141.39) |
| | 2016-17 | 4 | 10,276.00 | 11,747.20 | 1,471.20 | 350,446.11 | 306,556.82 | (43,889.29) | 37,949.69 | (1,665,585,109.87) |
| | | 5 | 10,942.00 | 11,706.13 | 764.13 | 203,392.00 | 190,115.37 | (13,276.63) | 37,949.69 | (503,843,902.68) |
| | | 6 | 11,241.00 | 12,135.78 | 894.78 | 199,246.00 | 184,555.45 | (14,690.55) | 37,949.69 | (557,501,984.17) |
| | 2017-18 | 1 | 10,517.00 | 11,088.02 | 571.02 | 155,426.00 | 147,421.74 | (8,004.26) | 44,839.38 | (358,905,892.20) |
| | | 2 | 10,660.00 | 11,207.25 | 547.25 | 157,990.00 | 150,275.35 | (7,714.65) | 44,839.38 | (345,920,188.08) |
| | | 3 | 10,291.00 | 10,795.48 | 504.48 | 168,053.00 | 160,199.77 | (7,853.23) | 44,839.38 | (352,133,922.83) |
| | | 4 | 10,276.00 | 11,641.13 | 1,365.13 | 206,505.50 | 182,289.04 | (24,216.45) | 44,839.38 | (1,085,850,618.44) |
| | | 5 | 10,942.00 | 11,923.88 | 981.88 | 95,606.00 | 87,733.26 | (7,872.74) | 44,839.38 | (353,008,826.56) |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 6 | 11,241.00 | 12,477.42 | 1,236.42 | 96,377.00 | 86,826.75 | (9,550.25) | 44,839.38 | (428,227,180.98) |
| | 2018-19 | 1 | 10,517.00 | 11,736.40 | 1,219.40 | 39,148.00 | 35,080.56 | (4,067.44) | 63,547.79 | (258,476,651.77) |
| | | 2 | 10,660.00 | 11,512.18 | 852.18 | 35,752.00 | 33,105.49 | (2,646.51) | 63,547.79 | (168,180,081.79) |
| | | 3 | 10,291.00 | 11,740.88 | 1,449.88 | 60,462.00 | 52,995.55 | (7,466.45) | 63,547.79 | (474,476,131.89) |
| | | 4 | 10,276.00 | 12,629.29 | 2,353.29 | 85,990.95 | 69,967.75 | (16,023.20) | 63,547.79 | (1,018,238,964.82) |
| | | 5 | 10,942.00 | 12,234.87 | 1,292.87 | 25,940.00 | 23,198.90 | (2,741.10) | 63,547.79 | (174,191,084.24) |
| | | 6 | 11,241.00 | 13,144.37 | 1,903.37 | 15,965.00 | 13,653.19 | (2,311.81) | 63,547.79 | (146,910,493.95) |
| | 2019-20 | 1 | 10,517.00 | 12,584.92 | 2,067.92 | 23,590.00 | 19,713.76 | (3,876.24) | 74,448.02 | (288,578,762.77) |
| | | 2 | 10,660.00 | 12,648.41 | 1,988.41 | 23,710.00 | 19,982.64 | (3,727.36) | 74,448.02 | (277,494,710.75) |
| | | 3 | 10,291.00 | 11,795.53 | 1,504.53 | 38,392.00 | 33,495.07 | (4,896.93) | 74,448.02 | (364,566,938.47) |
| | | 4 | 10,276.00 | 0 | 0 | 53.00 | 0 | 0 | 0 | 0 |
| | | 5 | 10,942.00 | 13,161.47 | 2,219.47 | 6,495.99 | 5,400.55 | (1,095.44) | 74,448.02 | (81,553,645.77) |
| | | 6 | 11,241.00 | 57,496.27 | 46,255.27 | 1,007.31 | 196.94 | (810.37) | 74,448.02 | (60,330,628.04) |

**(39,722,406,854.93)**
**Say Rs.39.722 billion**
**Less Rs.4.943 billion**
**Rs. 34.779 billion**

**Source of data**

(i). E-Form of Thermal Power Station Muzaffargarh.
(ii). Instances of Chemical Section of Thermal Power Station Muaffargarh.
(iii). Cases of misappropriation and fraud.
(iv). Instances of forced outages.
(v). Instances of liquidated damage charges.
(vi). Data deletion from the weigh bridge software.
(vii). Relevant record / data of Resident Engineer (Supply Chain) TPS Muzaffargarh.
(viii). Data collection from the Director (MMS) TPS Muzaffargarh.
(ix). Tariff Determination.

## *Annexure 2 (Heat Rate)*

| i) Statement showing the detail of excess Heat Rate regarding Nandipur w.e.f 2015-2016 to 2016-2017 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Year** | **NEPRA Heat Rate standard** | **Actual Heat Rate as per Form-E** | **Excess Heat Rate** | **Actual Consumption of Furnace Oil (M.ton)** | **Consumption of Furnace Oil as per NEPRA Standard (M.Ton)** | **Excess Furnace Oil consumption (M.Ton)** | **Average Rate of Furnace Oil per M.Ton** | **Excess amount of Furnace Oil Consumed** |
| **1** | **3** | **4** | **5 (4-3)** | **6** | **7 (3*6/4)** | **8 (7-6)** | **9** | **10 (8*9)** |
| **2015-16** | 7,584 | 8,995 | 1,411 | 296,409 | 249,924 | (46,486) | 36,198 | (1,682,680,618) |
| **2016-17** | 7,584 | 8,425 | 841 | 181,916 | 163,757 | (18,159) | 55,995 | (1,016,819,709) |
| | | | | | | | **Total** | **(2,699,500,327)** |

| ii) Statement showing the detail of excess Heat Rate regarding Nandipur w.e.f 2016-2017 to 2019-2020 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Year** | **NEPRA Heat Rate standard** | **Actual Heat Rate as per Form-E** | **Excess Heat Rate** | **Actual Consumption of Gas (MCF)** | **Consumption of Gas per NEPRA Standard (MCF)** | **Excess Gas consumption (MCF)** | **Rate of Gas Per MMBTU** | **Loss due to excess consumption of Gas from NEPRA Standard** |
| **1** | **3** | **4** | **5 =(3-4)** | **6** | **7 =(3*6/4)** | **8 =(6-7)** | **9** | **10 =(8*9)** |
| **2016-17** | 6965 | 8005.65 | (1,040.65) | 4822597.90 | 4195710.03 | -626887.87 | 912.91 | (572,292,207.64) |
| **2017-18** | 6965 | 8312.64 | (1,347.64) | 7251568.90 | 6075949.08 | -1175619.82 | 1340.00 | (1,575,330,554.27) |
| **2018-19** | 6965 | 7961 | (995.87) | 4605744.49 | 4029587.44 | -576157.05 | 1340.00 | (772,050,451.58) |
| **2019-20** | 6965 | 7789 | (824.15) | 12030474.41 | 10757566.32 | -1272908.09 | 1340.00 | (1,705,696,840.96) |
| | | | | | | | **Total** | **(4,625,370,054.44)** |
| | | | | | | | **Grand Total** | **(7,324,870,381)** |

Source: E-Form

*Annexure 3 GTPS Faisalabad*

| Statement showing the detail of Heat Rate regarding GTPS Faisalabad w.e.f 2010-2011 to 2019-2020 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Year** | **Unit** | **NEPRA Heat Rate standard** | **Actual Heat Rate as per Form-E** | **Excess Heat Rate** | **Actual Consumption of HSD Ltr** | **Consumption of HSD as per NEPRA Standard (Ltr)** | **Actual consumption on Gas (MCF)** | **Consumption of Gas as per NEPRA Standard (MCF)** | **Excess HSD consumption (Ltr)** | **Excess Gas consumption (MMBTU)** | **Rate of HSD Ltr** | **Rate of Gas (MMBTU)** | **Excess amount of HSD Consumed** | **Excess amount of Gas Consumed** | **Total Loss / Profit** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** |
| | | | | (3-4) | | (3*6/4) | | (3*8/4) | (7-6) | (9-8) | | | (10*12) | (11*13) | (14+15) |
| 2010-11 | 1 | 15,746.00 | 19,731.00 | 3,985.00 | - | - | 19,017.00 | 15,176.20 | - | (3,841) | - | 393.79 | - | (1,512,467) | (1,512,467) |
| | 2 | 15,746.00 | 19,012.00 | 3,266.00 | - | - | 50,308.00 | 41,665.78 | - | (8,642) | - | 393.79 | - | (3,403,221) | (3,403,221) |
| | 3 | 15,746.00 | 17,374.00 | 1,628.00 | - | - | 66,168.00 | 59,967.84 | - | (6,200) | - | 393.79 | - | (2,441,559) | (2,441,559) |
| | 4 | 15,746.00 | 16,569.00 | 823.00 | - | - | 232,216.00 | 220,681.58 | - | (11,534) | - | 393.79 | - | (4,542,138) | (4,542,138) |
| | 5 | 11,701.00 | 16,724.00 | 5,023.00 | 3,745,339.00 | 2,620,438.39 | 382,452.00 | 267,583.76 | (1,124,901) | (114,868) | 65.114 | 393.79 | (73,246,778) | (45,233,963) | (118,480,741) |
| | 6 | 11,701.00 | 17,021.00 | 5,320.00 | 1,342,625.00 | 922,980.74 | 488,549.00 | 335,850.53 | (419,644) | (152,698) | 65.114 | 393.79 | (27,324,717) | (60,131,131) | (87,455,848) |
| | 7 | 11,701.00 | 16,805.00 | 5,104.00 | 903,790.00 | 629,291.69 | 380,706.00 | 265,078.30 | (274,498) | (115,628) | 65.114 | 393.79 | (17,873,683) | (45,533,030) | (63,406,713) |
| | 8 | 11,701.00 | 16,550.00 | 4,849.00 | 3,736,304.00 | 2,641,600.79 | 427,007.00 | 301,897.82 | (1,094,703) | (125,109) | 65.114 | 393.79 | (71,280,505) | (49,266,744) | (120,547,249) |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2011-12 | 1 | 15,746.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 2 | 15,746.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 3 | 15,746.00 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 4 | 15,746.00 | - | (15,746.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 5 | 11,701.00 | 17,134.00 | 5,433.00 | 135,876.00 | 92,791.24 | 208,877.00 | 142,644.44 | (43,085) | (66,233) | 78.79 | 480.86 | (3,394,648) | (31,848,590) | (35,243,239) |
| | 6 | 11,701.00 | 15,973.00 | 4,272.00 | 1,453,502.00 | 1,064,760.97 | 7,079.00 | 5,185.71 | (388,741) | (1,893) | 78.79 | 480.86 | (30,628,906) | (910,406) | (31,539,313) |
| | 7 | 11,701.00 | 16,862.00 | 5,161.00 | - | - | 216,573.00 | 150,285.89 | - | (66,287) | - | 480.86 | - | (31,874,820) | (31,874,820) |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 11,701.00 | 16,013.00 | 4,312.00 | 1,389,024.00 | 1,014,985.94 | 8,581.00 | 6,270.30 | (374,038) | (2,311) | 78.79 | 480.86 | (29,470,459) | (1,111,124) | (30,581,583) |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2012-13 | 1 | 15,746.00 | 13,720.00 | (2,026.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 2 | 15,746.00 | 13,720.00 | (2,026.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 3 | 15,746.00 | 13,720.00 | (2,026.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 4 | 15,746.00 | 13,720.00 | (2,026.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 5 | 11,701.00 | 13,720.00 | 2,019.00 | - | - | 207246 | 176,748.21 | - | (30,498) | - | 488.23 | - | (14,889,936) | (14,889,936) |
| | 6 | 11,701.00 | 13,720.00 | 2,019.00 | - | - | - | - | - | - | - | - | - | - | - |
| | 7 | 11,701.00 | 13,720.00 | 2,019.00 | - | - | 200759 | 171,215.82 | - | (29,543) | - | 488.23 | - | (14,423,866) | (14,423,866) |
| | 8 | 11,701.00 | 13,720.00 | 2,019.00 | - | - | - | - | - | - | - | - | - | - | - |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2013-14 | 1 | 15,746.00 | 16859 | 1,113.00 | - | - | 68751 | 64,212.19 | - | (4,539) | - | 488.23 | - | (2,215,985) | (2,215,985) |
| | 2 | 15,746.00 | 0 | (15,746.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 3 | 15,746.00 | 16829 | 1,083.00 | - | - | 206040 | 192,780.67 | - | (13,259) | - | 488.23 | - | (6,473,604) | (6,473,604) |
| | 4 | 15,746.00 | 19656 | 3,910.00 | - | - | 3108 | 2,489.75 | - | (618) | - | 488.23 | - | (301,847) | (301,847) |
| | 5 | 11,701.00 | 16608 | 4,907.00 | - | - | 427658 | 301,302.16 | - | (126,356) | - | 488.23 | - | (61,690,712) | (61,690,712) |
| | 6 | 11,701.00 | 17149 | 5,448.00 | - | - | 424050 | 289,335.18 | - | (134,715) | - | 488.23 | - | (65,771,815) | (65,771,815) |
| | 7 | 11,701.00 | 16534 | 4,833.00 | - | - | 272990 | 193,193.18 | - | (79,797) | - | 488.23 | - | (38,959,203) | (38,959,203) |
| | 8 | 11,701.00 | 17556 | 5,855.00 | - | - | 395148 | 263,364.48 | - | (131,784) | - | 488.23 | - | (64,340,670) | (64,340,670) |
| | 9 | - | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| 2014-15 | 1 | 15365 | 16863 | 1,498.00 | - | - | 20076 | 18,292.58 | - | (1,783) | - | 488.23 | - | (870,720) | (870,720) |
| | 2 | 15365 | 0 | (15,365.00) | - | - | 0 | - | - | - | - | - | - | - | - |
| | 3 | 15365 | 17161 | 1,796.00 | - | - | 5816 | 5,207.32 | - | (609) | - | 488.23 | - | (297,175) | (297,175) |
| | 4 | 15365 | 16979 | 1,614.00 | - | - | 211 | 190.94 | - | (20) | - | 488.23 | - | (9,793) | (9,793) |
| | 5 | 8593 | 16322 | 7,729.00 | - | - | 76142 | 40,086.28 | - | (36,056) | - | 488.23 | - | (17,603,486) | (17,603,486) |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 | 8593 | 15707 | 7,114.00 | - | - | 41966 | 22,958.80 | - | (19,007) | - | 488.23 | - | (9,279,886) | (9,279,886) |
| | 7 | 8593 | 15794 | 7,201.00 | - | - | 123983 | 67,455.10 | - | (56,528) | - | 488.23 | - | (27,598,614) | (27,598,614) |
| | 8 | 8593 | 16529 | 7,936.00 | - | - | 125853 | 65,427.72 | - | (60,425) | - | 488.23 | - | (29,501,433) | (29,501,433) |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2015-16 | 1 | 15365 | 17044 | 1,679.00 | - | - | 38013 | 34,268.35 | - | (3,745) | - | 613.00 | - | (2,295,471) | (2,295,471) |
| | 2 | 15365 | 0 | (15,365.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 3 | 15365 | 16785 | 1,420.00 | - | - | 78309 | 71,684.11 | - | (6,625) | - | 613.00 | - | (4,061,058) | (4,061,058) |
| | 4 | 15365 | 17416 | 2,051.00 | - | - | 396 | 349.36 | - | (47) | - | 613.00 | - | (28,587) | (28,587) |
| | 5 | 8593 | 17385 | 8,792.00 | - | - | 991964 | 490,304.67 | - | (501,659) | - | 613.00 | - | (307,517,171) | (307,517,171) |
| | 6 | 8593 | 17036 | 8,443.00 | - | - | 781724 | 394,303.49 | - | (387,421) | - | 613.00 | - | (237,488,770) | (237,488,770) |
| | 7 | 8593 | 16953 | 8,360.00 | - | - | 865449 | 438,671.81 | - | (426,777) | - | 613.00 | - | (261,614,415) | (261,614,415) |
| | 8 | 8593 | 17016 | 8,423.00 | - | - | 874962 | 441,851.70 | - | (433,110) | - | 613.00 | - | (265,496,616) | (265,496,616) |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2016-17 | 1 | 15365 | 17137 | 1,772.00 | - | - | 5598 | 5,019.16 | - | (579) | - | 400.00 | - | (231,538) | (231,538) |
| | 2 | 15365 | 0 | (15,365.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 3 | 15365 | 16507 | 1,142.00 | - | - | 7183 | 6,686.06 | - | (497) | - | 400.00 | - | (198,776) | (198,776) |
| | 4 | 15365 | 0 | (15,365.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 5 | 8593 | 17549 | 8,956.00 | - | - | 704957 | 345,187.50 | - | (359,769) | - | 400.00 | - | (143,907,799) | (143,907,799) |
| | 6 | 8593 | 17403 | 8,810.00 | - | - | 629929 | 311,037.17 | - | (318,892) | - | 400.00 | - | (127,556,731) | (127,556,731) |
| | 7 | 8593 | 17032 | 8,439.00 | - | - | 649613 | 327,743.34 | - | (321,870) | - | 400.00 | - | (128,747,865) | (128,747,865) |
| | 8 | 8593 | 16980 | 8,387.00 | - | - | 721689 | 365,222.24 | - | (356,467) | - | 400.00 | - | (142,586,705) | (142,586,705) |
| | 9 | 0 | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| 2017-18 | 1 | 15365 | 0 | (15,365.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 2 | 15365 | 0 | (15,365.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 3 | 15365 | 0 | (15,365.00 | - | - | - | - | - | - | - | - | - | - | - |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ) | | | | | | | | | | | |
| | 4 | 15365 | 0 | (15,365.00 ) | - | - | - | - | - | - | - | - | - | - | - |
| | 5 | 8593 | 17282 | 8,689.00 | - | - | 345656 | 171,867.96 | - | (173,788) | - | 400.00 | - | (69,515,218) | (69,515,218) |
| | 6 | 8593 | 17460 | 8,867.00 | - | - | 288208 | 141,842.57 | - | (146,365) | - | 400.00 | - | (58,546,170) | (58,546,170) |
| | 7 | 8593 | 16868 | 8,275.00 | - | - | 376527 | 191,812.69 | - | (184,714) | - | 400.00 | - | (73,885,723) | (73,885,723) |
| | 8 | 8593 | 16980 | 8,387.00 | - | - | 286815 | 145,147.31 | - | (141,668) | - | 400.00 | - | (56,667,077) | (56,667,077) |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total** | | | | | **12,706,460** | **8,986,850** | **12,734,322** | **7,569,548** | **(3,719,610)** | **(5,164,774)** | | | | | **(2,765,603,327)** |

**Source of data E-form**

## *Annexure-4 (Heat Rate analysis SPS Faisalabad)*

**Statement showing the detail of Heat Rate regarding SPS Faisalabad w.e.f 2010-2011 to 2019-2020**

| Year | Unit | NEPRA Heat Rate standard | Actual Heat Rate as per Form-E | Excess Heat Rate | Actual Consumption of Furnace oil (M.Ton) | Consumption of furnace oil as per NEPRA Standard (M.ton) | Actual consumption on Gas (MCF) | Consumption of Gas as per NEPRA Standard (MCF) | Excess furnace oil consumption (M.Ton) | Excess Gas consumption (MMBTU) | Rate of Furnace Oil Per M.Ton | Rate of Gas (MMBTU) | Excess amount of Furnace Oil Consumed | Excess amount of Gas Consumed | Total Loss / Profit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** | **16** |
| | | | | (3-4) | | (3*6/4) | | (3*8/4) | (7-6) | (9-8) | | | (10*12) | (11*13) | (14+15) |
| 2010-11 | 1 | 14,269.00 | 13,304.31 | (964.69) | 29,425.26 | 31,558.87 | 12,465.00 | 13,368.83 | 2,133.61 | 903.83 | 47,082.66 | 393.79 | 100,456,184 | 355,920 | 100,812,104 |
| | 2 | 14,269.00 | 13,199.00 | (1,070.00) | 37,448.16 | 40,483.96 | 17,543.00 | 18,965.15 | 3,035.80 | 1,422.15 | 47,082.66 | 393.79 | 142,933,530 | 560,030 | 143,493,560 |
| 2011-12 | 1 | 14,269.00 | 13,324.55 | (944.45) | 20,086.56 | 21,510.30 | 38,292.00 | 41,006.15 | 1,423.74 | 2,714.15 | 67,354.62 | 495.76 | 95,895,754 | 1,345,569 | 97,241,323 |
| | 2 | 14,269.00 | 12,954.84 | (1,314.16) | 30,996.75 | 34,141.11 | 22,548.00 | 24,835.31 | 3,144.36 | 2,287.31 | 67,354.62 | 495.76 | 211,787,216 | 1,133,955 | 212,921,171 |
| 2012-13 | 1 | 14,269.00 | - | (14,269.00) | - | - | - | - | - | - | - | - | - | - | - |
| | 2 | 14,269.00 | - | (14,269.00) | - | - | - | - | - | - | - | - | - | - | - |
| 2013-14 | 1 | 14,269.00 | 14,473.90 | 204.90 | - | - | 218,263.00 | 215,173.16 | - | (3,089.84) | - | 488.23 | - | (1,508,554) | (1,508,554) |
| | 2 | 14,269.00 | 14,363.98 | 94.98 | - | - | 595,986.00 | 592,045.12 | - | (3,940.88) | - | 488.23 | - | (1,924,057) | (1,924,057) |
| 2014-15 | 1 | 14,367.00 | 13,309.98 | (1,057.02) | 7,230.24 | 7,804.44 | 42.40 | 45.76 | 574.19 | 3.37 | 69,909.28 | 488.23 | 40,141,488 | 1,644 | 40,143,132 |
| | 2 | 14,367.00 | 13,270.89 | (1,096.11) | 7,181.85 | 7,775.04 | 98.10 | 106.20 | 593.19 | 8.10 | | | - | - | - |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2015-16 | 1 | 14,367.00 | - | (14,367.00) | - | - | 0 | - | - | - | - | - | - | - | - |
| | 2 | 14,367.00 | 12,751.04 | (1,615.96) | - | - | 1328.449 | 1,496.81 | - | 168.36 | - | 668.00 | - | 112,462 | 112,462 |
| 2016-17 | 1 | 14,367.00 | - | (14,367.00) | - | - | 0 | - | - | - | | | - | - | - |
| | 2 | 14,367.00 | 12,574.54 | (1,792.46) | 15,552.89 | 17,769.90 | 971.18 | 1,109.62 | 2,217.01 | 138.44 | 50,660.36 | 400.00 | 112,314,735 | 55,375 | 112,370,111 |
| 2017-18 | 1 | 14,367.00 | - | (14,367.00) | - | - | | - | - | - | | | - | - | - |
| | 2 | 14,367.00 | 11,442.72 | (2,924.28) | - | - | 85.313 | 107.12 | - | 21.80 | - | 400.00 | - | 8,721 | 8,721 |
| 2018-19 | 1 | 14,367.00 | - | (14,367.00) | - | - | 0 | - | - | - | - | - | - | - | - |
| | 2 | 14,367.00 | - | (14,367.00) | - | - | 0 | - | - | - | - | - | - | - | - |
| 2019-20 | 1 | 14,367.00 | - | (14,367.00) | - | - | 0 | - | - | - | - | - | - | - | - |
| | 2 | 14,367.00 | - | (14,367.00) | - | - | 0 | - | - | - | - | - | - | - | - |
| **Total** | | | | | | | | | | | | | **703,528,906** | **-** | **703,669,971** |

**Source of data E-form**

## *Annexure-5 (Heat Rate analysis Piranghaib)*

| Statement showing the detail of Heat Rate regarding Pirangheb Multan w.e.f 2010-2011 to 2019-2020 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Year** | **Unit** | **NEPRA Heat Rate standard** | **Actual Heat Rate as per Form-E** | **Excess Heat Rate** | **Actual Consumption of Furnace oil (M.Ton)** | **Consumption of furnace oil as per NEPRA Standard (M.ton)** | **Excess furnace oil consumption (M.Ton)** | **Rate of Furnace Oil Per M.Ton** | **Excess amount of Furnace Oil Consumed** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| | | | | (3-4) | | (3*6/4) | (7-6) | | (8*9) |
| 2010-11 | 1 | 14,114.00 | 14,922.49 | 808.49 | 12,383.00 | 11,712.10 | (670.90) | 42,779.09 | (28,700,586) |
| | 2 | - | - | - | - | - | - | - | - |
| | 3 | 14,114.00 | 15,687.31 | 1,573.31 | 10,379.00 | 9,338.07 | (1,040.93) | 42,779.09 | (44,530,019) |
| | 4 | | - | - | - | - | - | - | - |
| 2011-12 | 1 | 14,114.00 | 16,151.56 | 2,037.56 | 15,094.00 | 13,189.85 | (1,904) | 58,076.25 | (110,585,667) |
| | 2 | - | - | - | - | - | - | | - |
| | 3 | 14,114.00 | 15,892.05 | 1,778.05 | 7,098.00 | 6,303.85 | (794) | 58,076.25 | (46,120,989) |
| | 4 | | - | - | | - | - | | - |
| **Total** | | | | | **44,954.00** | | **(4,410.12)** | | **(229,937,261)** |

**Source of Data E-form**

*Annexure-6 Forced outages*

| Statement showing the detail of forced outages in respect of Thermal Power Station (TPS) Muzaffargarh | | |
|---|---|---|
| **Year** | **Unit** | **No. of hours under forced outages (hours)** |
| **1** | **2** | **3** |
| 2010-11 | 1 | 2,054.77 |
| | 2 | 557.9 |
| | 3 | 617.09 |
| | 4 | 1,611 |
| | 5 | 2,878 |
| | 6 | 1,993 |
| 2011-12 | 1 | 411.28 |
| | 2 | 257.77 |
| | 3 | 237.36 |
| | 4 | 386.21 |
| | 5 | 1,464 |
| | 6 | 452 |
| 2012-13 | 1 | 1,135.4 |
| | 2 | 935.81 |
| | 3 | 799.66 |
| | 4 | 2,735.17 |
| | 5 | 749 |
| | 6 | 709 |
| 2013-14 | 1 | 848.423 |
| | 2 | 879.88 |
| | 3 | 703.06 |
| | 4 | 2,689.11 |
| | 5 | 1,053 |

| | | |
|---|---|---|
| | 6 | 1,218 |
| 2014-15 | 1 | 802.34 |
| | 2 | 331.19 |
| | 3 | 299.28 |
| | 4 | 642.17 |
| | 5 | 276 |
| | 6 | 183 |
| 2015-16 | 1 | 795.83 |
| | 2 | 537.91 |
| | 3 | 802.4 |
| | 4 | 2,609.75 |
| | 5 | 1,053 |
| | 6 | 974 |
| 2016-17 | 1 | 234.06 |
| | 2 | 341.31 |
| | 3 | 500.73 |
| | 4 | 1,090.9 |
| | 5 | 716 |
| | 6 | 410 |
| 2017-18 | 1 | 301.18 |
| | 2 | 254.03 |
| | 3 | 198.87 |
| | 4 | 242.01 |
| | 5 | 1171 |
| | 6 | 1646 |
| 2018-19 | 1 | 82.52 |
| | 2 | 5.033 |
| | 3 | 3.33 |
| | 4 | 139.63 |

| | | |
|---|---|---|
| | 5 | 0.7 |
| | 6 | 191 |
| 2019-20 | 1 | 178.15 |
| | 2 | 189.95 |
| | 3 | 189.95 |
| | 4 | 8,760.00 |
| | 5 | 0.7 |
| | 6 | 48 |

**Source: E-Form**

| Statement showing the detail of forced outages in respect of 525 MW CCPP Nandipur | | |
|---|---|---|
| **Year** | **Unit** | **No. of hours under forced outages (hours)** |
| 1 | 2 | 6 |
| 2015-16 | GT-1 | 1,568.36 |
| | GT-2 | 1,949.64 |
| | GT-3 | 1,719.63 |
| | STG-4 | 587.72 |
| 2016-17 | GT-1 | 111.38 |
| | GT-2 | 65.17 |
| | GT-3 | 127.19 |
| | STG-4 | 27.85 |
| 2017-18 | GT-1 | 162.9 |
| | GT-2 | 127.68 |
| | GT-3 | 109.3 |
| | STG-4 | 87.44 |
| 2018-19 | GT-1 | 312.34 |
| | GT-2 | 6.66 |
| | GT-3 | 44.31 |
| | STG-4 | 0 |
| 2019-20 | GT-1 | 929.76 |
| | GT-2 | 70.67 |
| | GT-3 | 38.45 |
| | STG-4 | 22.95 |
| **Source: E-Form** | | |

*Annexure-8*

**NORTHERN POWER GENERATION COMPANY LIMITED**
**ANALYSIS OF PROFIT AND LOSS ACCOUNTS WITH COMPONENT WISE INTO EPP**
**FROM THE FY 2010-11 TO 2019-20**

**Amount in Rupees**

| Sr. No. | Year | ENERGY PURCHASE PRICE | | |
|---|---|---|---|---|
| | | NEPRA | ACTUAL | GAIN / (LOSS) |
| 1 | 2010-11 | 59,619,107,390 | 67,438,949,118 | (7,819,841,728) |
| 2 | 2011-12 | 69,672,235,153 | 76,280,977,707 | (6,608,742,554) |
| 3 | 2012-13 | 84,762,262,363 | 90,124,517,420 | (5,362,255,057) |
| 4 | 2013-14 | 100,554,185,122 | 107,181,312,950 | (6,627,127,828) |
| 5 | 2014-15 | 70,326,217,650 | 73,275,665,556 | (2,949,447,906) |
| 6 | 2015-16 | 55,184,896,143 | 59,891,592,127 | (4,706,695,984) |
| 7 | 2016-17 | 71,379,114,286 | 73,586,354,432 | (2,207,240,146) |
| 8 | 2017-18 | 62,293,815,163 | 66,464,279,435 | (4,170,464,273) |
| 9 | 2018-19 | 37,630,310,199 | 39,768,257,673 | (2,137,947,474) |
| 10 | 2019-20 | 23,428,090,935 | 24,400,987,855 | (972,896,920) |
| **Total** | | **634,850,234,404** | **678,412,894,273** | **(43,562,659,870)** |

Source: NPGCL

*Annexure-9*

## Table: HSFO Procurement: 2014-15

| FN | Net Qty | HSFO Value | Freight | Amount | GST | Gross | No. of invoices |
|---|---|---|---|---|---|---|---|
| 2nd Jul 2014 | 500.24 | 32,421,554.00 | 2,898,890.80 | 35,320,444.80 | 6,004,475.62 | 41,324,920.42 | 83 |
| 2nd Jul 2014 | 692.60 | 44,888,791.20 | 4,013,617.00 | 48,902,408.20 | 8,313,409.39 | 57,215,817.59 | |
| 2nd Jul 2014 | 230.88 | 14,963,794.56 | 1,337,949.60 | 16,301,744.16 | 2,771,296.51 | 19,073,040.67 | |
| 2nd Jul 2014 | 1,000.08 | 64,817,184.96 | 5,795,463.60 | 70,612,648.56 | 12,004,150.26 | 82,616,798.82 | |
| 2nd Jul 2014 | 769.22 | 49,854,945.89 | 4,457,653.09 | 54,312,598.98 | 9,233,141.83 | 63,545,740.81 | |
| 2nd Aug 2014 | 115.44 | 7,406,630.40 | 668,974.80 | 8,075,605.20 | 1,372,852.88 | 9,448,458.08 | 134 |
| 2nd Aug 2014 | 461.64 | 29,618,565.76 | 2,675,180.63 | 32,293,746.39 | 5,489,936.89 | 37,783,683.28 | |
| 2nd Aug 2014 | 500.05 | 32,083,015.50 | 2,897,772.37 | 34,980,787.87 | 5,946,733.94 | 40,927,521.81 | |
| 2nd Aug 2014 | 461.15 | 29,587,384.00 | 2,672,364.27 | 32,259,748.27 | 5,484,157.21 | 37,743,905.48 | |
| 2nd Aug 2014 | 460.28 | 29,531,757.28 | 2,667,339.99 | 32,199,097.27 | 5,473,846.54 | 37,672,943.81 | |
| 2nd Aug 2014 | 230.32 | 14,777,331.20 | 1,334,704.40 | 16,112,035.60 | 2,739,046.05 | 18,851,081.65 | |
| 2nd Aug 2014 | 307.20 | 19,709,952.00 | 1,780,224.00 | 21,490,176.00 | 3,653,329.92 | 25,143,505.92 | |
| 2nd Aug 2014 | 460.40 | 29,539,264.00 | 2,668,018.00 | 32,207,282.00 | 5,475,237.94 | 37,682,519.94 | |
| 2nd Aug 2014 | 640.13 | 29,522,069.12 | 2,666,464.94 | 32,188,534.06 | 5,472,050.79 | 37,660,584.85 | |
| 2nd Aug 2014 | 460.47 | 29,543,562.72 | 2,668,406.27 | 32,211,968.99 | 5,476,034.73 | 37,688,003.72 | |
| 2nd Aug 2014 | 640.78 | 29,563,644.80 | 2,670,220.10 | 32,233,864.90 | 5,479,757.03 | 37,713,621.93 | |
| 2nd Aug 2014 | 460.31 | 29,533,553.76 | 2,667,502.25 | 32,201,056.01 | 5,474,179.52 | 37,675,235.53 | |
| 2nd Aug 2014 | 307.42 | 19,724,259.68 | 1,781,516.29 | 21,505,775.97 | 3,655,981.91 | 25,161,757.88 | |
| 1st Sep 2014 | 1,651.10 | 111,728,556.58 | 9,568,147.68 | 121,296,704.26 | 20,620,439.72 | 141,917,143.98 | 43 |
| 2nd Sep 2014 | 5,875.49 | 414,339,625.32 | 34,048,470.35 | 448,388,095.67 | 76,225,976.26 | 524,614,071.93 | 153 |
| 1st Oct 2014 | 998.56 | 65,765,161.60 | 5,755,989.52 | 71,521,151.12 | 12,158,595.69 | 83,679,746.81 | 26 |
| 2nd Oct 2014 | 2,039.77 | 131,234,464.91 | 11,757,802.76 | 142,992,267.66 | 24,308,685.50 | 167,300,953.17 | 53 |
| 1st Nov 2014 | 2,035.13 | 111,885,451.96 | 11,672,438.53 | 123,557,890.49 | 21,004,841.38 | 144,562,731.87 | 54 |
| 2nd Nov 2014 | 8,242.43 | 425,540,021.16 | 47,274,192.80 | 472,814,213.96 | 80,378,416.37 | 553,192,630.33 | 215 |
| 1st Dec 2014 | 8,135.18 | 390,423,606.55 | 45,128,696.32 | 435,552,302.87 | 74,043,891.49 | 509,596,194.36 | 212 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1st Jan 2015 | 1,001.36 | 36,548,565.64 | 5,338,800.26 | 41,887,365.90 | 7,120,852.20 | 49,008,218.10 | 26 |
| 1st Mar 2015 | 21,002.01 | 915,078,447.00 | 103,363,267.63 | 1,018,441,714.63 | 173,135,091.49 | 1,191,576,806.12 | 555 |
| 2nd Mar 2015 | 5,173.56 | 215,323,483.96 | 25,462,131.32 | 240,785,615.28 | 40,933,554.60 | 281,719,169.88 | 137 |
| 1st Apr 2015 | 12,695.80 | 472,309,226.00 | 62,483,532.16 | 534,792,758.16 | 90,914,768.89 | 625,707,527.05 | 336 |
| 2nd Apr 2015 | 9,022.66 | 358,014,996.93 | 44,405,852.92 | 402,420,849.85 | 68,411,544.47 | 470,832,394.32 | 238 |
| 1st May 2015 | 9,879.07 | 404,557,754.62 | 49,525,057.18 | 454,082,811.80 | 77,194,078.01 | 531,276,889.81 | 261 |
| 2nd May 2015 | 3,841.39 | 171,983,006.00 | 19,257,402.49 | 191,240,408.49 | 32,510,869.44 | 223,751,277.93 | 100 |
| 1st Jun 2015 | 12,788.67 | 609,681,317.40 | 65,903,609.61 | 675,584,927.01 | 114,849,437.59 | 790,434,364.60 | 347 |
| 2nd Jun 2015 | 8,835.84 | 388,322,229.89 | 44,299,786.55 | 432,622,016.44 | 73,545,742.79 | 506,167,759.23 | 233 |
| **Total 2014-15** | **121,916.63** | **5,759,823,176.35** | **633,567,440.48** | **6,393,390,616.82** | **1,086,876,404.86** | **7,480,267,021.68** | **3,206** |

**Source: Store Measurement Books CCPP Nandipur**

*Annexure-10*

## Table: HSFO Procurement 2015-16

| FN | Net Qty | HSFO Value | Freight | Amount | GST | Gross | No. of invoices |
|---|---|---|---|---|---|---|---|
| 1st Jul 2015 | 1,935.02 | 81,319,047 | 9,906,140 | 91,225,188 | 15,508,282 | 106,733,470 | 51 |
| 2nd Jul 2015 | 18,055.53 | 683,654,588 | 92,433,661 | 776,088,249 | 131,935,002 | 908,023,251 | 481 |
| 1st Aug 2015 | 18,462.18 | 676,971,326 | 94,515,484 | 771,486,811 | 131,152,758 | 902,639,568 | 485 |
| 2nd Oct 2015 | 10,018.63 | 317,139,606 | 49,746,686 | 366,886,292 | 73,377,258 | 440,263,550 | 262 |
| 1st Nov 2015 | 21,685.29 | 643,576,007 | 107,676,568 | 751,252,575 | 150,250,515 | 901,503,090 | 567 |
| 2nd Nov 2015 | 22,254.71 | 645,342,197 | 110,504,002 | 755,846,199 | 151,169,240 | 907,015,438 | 591 |
| 2nd Dec 2015 | 9,901.21 | 255,639,315 | 49,689,712 | 305,329,028 | 61,065,806 | 366,394,833 | 265 |
| 1st Jan 2016 | 20,667.66 | 421,496,176 | 103,721,665 | 525,217,841 | 105,043,568 | 630,261,410 | 544 |
| 2nd Jan 2016 | 25,420.59 | 500,200,930 | 127,574,497 | 627,775,427 | 125,555,085 | 753,330,512 | 666 |
| 1st Feb 2016 | 15,742.23 | 276,449,371 | 77,565,293 | 354,014,664 | 70,802,933 | 424,817,597 | 413 |
| 1st Mar 2016 | 10,398.87 | 189,613,069 | 49,659,303 | 239,272,371 | 47,854,474 | 287,126,846 | 275 |
| 2nd Mar 2016 | 21,385.68 | 435,989,797 | 102,126,231 | 538,116,028 | 107,623,206 | 645,739,234 | 562 |
| 1st Apr 2016 | 14,266.90 | 306,709,881 | 66,114,255 | 372,824,136 | 74,564,827 | 447,388,963 | 379 |
| 1st May 2016 | 997.69 | 24,610,118 | 4,665,945 | 29,276,063 | 5,855,213 | 35,131,276 | 26 |
| 1st May 2016 | 18,723.18 | 461,844,656 | 87,563,253 | 549,407,909 | 109,881,582 | 659,289,491 | 492 |
| 2nd May 2016 | 27,419.22 | 714,544,951 | 128,232,303 | 842,777,254 | 168,555,451 | 1,011,332,705 | 716 |
| 1st Jun 2016 | 6,009.78 | 165,725,804 | 28,106,137 | 193,831,941 | 38,766,388 | 232,598,329 | 157 |
| 2nd Jun 2016 | 11,457.50 | 334,662,001 | 53,583,615 | 388,245,616 | 77,649,123 | 465,894,739 | 300 |
| **Total 2015-16** | **274,801.88** | **7,135,488,840** | **1,343,384,751** | **8,478,873,591** | **1,646,610,711** | **10,125,484,302** | 7232 |

**Source: Store Measurement Books CCPP Nandipur**

*Annexure-11*

## Table: HSFO Procurement 2016-17

| **FN** | **Net Qty** | **HSFO Value** | **Freight** | **Amount** | **GST** | **Gross** | No. of inv |
|---|---|---|---|---|---|---|---|
| 1st Jul 2016 | 12,142.38 | 365,752,800 | 56,786,637 | 422,539,438 | 84,507,888 | 507,047,326 | 317 |
| 2nd Jul 2016 | 14,430.80 | 441,813,373 | 67,488,955 | 509,302,328 | 101,860,466 | 611,162,794 | 377 |
| 1st Aug 2016 | 20,472.12 | 624,398,623 | 95,742,419 | 720,141,042 | 144,028,208 | 864,169,250 | 538 |
| 2nd Aug 2016 | 15,660.91 | 446,946,825 | 73,241,866 | 520,188,691 | 104,037,738 | 624,226,429 | 410 |
| 1st Sep 2016 | 17,114.40 | 513,517,572 | 80,039,428 | 593,557,000 | 118,711,400 | 712,268,400 | 446 |
| 1st Jan 2017 | 15,115.42 | 573,539,610 | 71,927,798 | 645,467,409 | 129,093,482 | 774,560,890 | 392 |
| 2nd Jan 2017 | 19,983.35 | 821,435,462 | 95,092,156 | 916,527,617 | 183,305,523 | 1,099,833,141 | 519 |
| 1st Feb 2017 | 26,712.95 | 1,099,611,709 | 127,115,423 | 1,226,727,133 | 245,345,427 | 1,472,072,559 | 694 |

## *Annexure-12 Sharqpur Power Plant*

| Sr.No. | Month | Total Generation in Kwh | Gas supplied in MCF to RPP | Guaranteed Availability (92%) | Rate of rent per Kwh (US$) | Rent paid monthly in US$ | No. of units less produced KWH | Excess amount of rent paid US$ | Rate of US$ TO Pak rupees | Excess amount rent paid (Pak Rs.) |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8 =(5-3)** | **9=(8*6)** | **10** | **11 =(9*10)** |
| 1 | Mar-07 | 28,940,000 | 442,682 | 99,360,000 | 0.0313 | 2,714,255 | 70,420,000 | 2,206,259 | 60.75 | 134,030,210 |
| 2 | Apr-07 | 33,180,000 | 450,772 | 99,360,000 | 0.0313 | 2,714,255 | 66,180,000 | 2,073,419 | 60.59 | 125,628,481 |
| 3 | May-07 | 66,010,000 | 857,751 | 99,360,000 | 0.0313 | 2,714,255 | 33,350,000 | 1,044,856 | 60.59 | 63,307,795 |
| 4 | Jun-07 | 85,200,000 | 9,067,368 | 99,360,000 | 0.0313 | 2,714,255 | 14,160,000 | 443,633 | 60.43 | 26,808,730 |
| 5 | Jul-07 | 87,990,000 | 1,091,163 | 99,360,000 | 0.0313 | 2,714,255 | 11,370,000 | 356,222 | 60.45 | 21,533,626 |
| 6 | Aug-07 | 91,180,000 | 1,139,039 | 99,360,000 | 0.0313 | 2,714,255 | 8,180,000 | 256,279 | 60.60 | 15,530,532 |
| 7 | Sep-07 | 82,390,000 | 1,050,085 | 99,360,000 | 0.0313 | 2,714,255 | 16,970,000 | 531,670 | 60.62 | 32,229,841 |
| 8 | Oct-07 | 93,620,000 | 1,184,677 | 99,360,000 | 0.0313 | 2,714,255 | 5,740,000 | 179,834 | 61.17 | 11,000,458 |
| 9 | Nov-07 | 81,880,000 | 1,032,503 | 99,360,000 | 0.0313 | 2,714,255 | 17,480,000 | 547,648 | 61.05 | 33,433,935 |
| 10 | Dec-07 | 4,950,000 | 48,724 | 99,360,000 | 0.0313 | 2,714,255 | 94,410,000 | 2,957,865 | 62.59 | 185,132,789 |
| 11 | Jan-08 | 12,970,000 | 149,340 | 99,360,000 | 0.0313 | 2,714,255 | 86,390,000 | 2,706,599 | 63.02 | 170,569,850 |
| 12 | Feb-08 | 11,220,000 | 142,827 | 99,360,000 | 0.0313 | 2,714,255 | 88,140,000 | 2,761,426 | 62.85 | 173,555,637 |
| 13 | Mar-08 | 43,140,000 | 536,766 | 99,360,000 | 0.0313 | 2,714,255 | 56,220,000 | 1,761,373 | 63.46 | 111,776,705 |
| 14 | Apr-08 | 52,400,000 | 1,134,901 | 99,360,000 | 0.0313 | 2,714,255 | 46,960,000 | 1,471,257 | 69.40 | 102,105,222 |
| 15 | May-08 | 88,510,000 | 1,051,579 | 99,360,000 | 0.0313 | 2,714,255 | 10,850,000 | 339,931 | 66.88 | 22,734,552 |
| 16 | Jun-08 | 81,050,000 | 1,097,255 | 99,360,000 | 0.0313 | 2,714,255 | 18,310,000 | 573,652 | 68.33 | 39,197,662 |
| 17 | Jul-08 | 93,460,000 | 1,205,403 | 99,360,000 | 0.0313 | 2,714,255 | 5,900,000 | 184,847 | 77.00 | 14,233,219 |
| 18 | Aug-08 | 69,150,000 | 890,397 | 99,360,000 | 0.0313 | 2,714,255 | 30,210,000 | 946,479 | 76.00 | 71,932,427 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 | Sep-08 | 67,930,000 | 792,095 | 99,360,000 | 0.0313 | 2,714,255 | 31,430,000 | 984,702 | 80.40 | 79,170,033 |
| 20 | Oct-08 | 36,700,000 | 538,261 | 99,360,000 | 0.0313 | 2,714,255 | 62,660,000 | 1,963,138 | 80.25 | 157,541,808 |
| 21 | Nov-08 | 18,520,000 | 236,164 | 99,360,000 | 0.0313 | 2,714,255 | 80,840,000 | 2,532,717 | 78.90 | 199,831,387 |
| 22 | Dec-08 | 3,280,000 | 38,966 | 99,360,000 | 0.0313 | 2,714,255 | 96,080,000 | 3,010,186 | 80.85 | 243,373,570 |
| 23 | Mar-09 | 40,234,000 | 501,560 | 99,360,000 | 0.0313 | 2,714,255 | 59,126,000 | 1,852,418 | 81.25 | 150,508,928 |
| 24 | Apr-09 | 55,846,000 | 620,628 | 99,360,000 | 0.0313 | 2,714,255 | 43,514,000 | 1,363,294 | 82.25 | 112,130,900 |
| 25 | May-09 | 38,800,000 | 595,302 | 99,360,000 | 0.0313 | 2,714,255 | 60,560,000 | 1,897,345 | 83.75 | 158,902,627 |
| 26 | Jun-09 | 61,490,000 | 743,871 | 99,360,000 | 0.0313 | 2,714,255 | 37,870,000 | 1,186,467 | 83.75 | 99,366,620 |
| 27 | Jul-09 | 40,290,000 | 515,909 | 99,360,000 | 0.0313 | 2,714,255 | 59,070,000 | 1,850,663 | 83.75 | 154,993,035 |
| 28 | Aug-09 | 27,860,000 | 353,551 | 99,360,000 | 0.0313 | 2,714,255 | 71,500,000 | 2,240,095 | 83.75 | 187,607,956 |
| 29 | Sep-09 | 20,350,000 | 279,724 | 99,360,000 | 0.0313 | 2,714,255 | 79,010,000 | 2,475,383 | 83.75 | 207,313,351 |
| | | | | | | | | | **Total** | **3,105,481,887** |

Source: NPGCL

*Annexure-13*

## Statement showing the detail of non supply of Gas to Sharqpur Rental Power Plant

| Sr. No. | Month | Total Generation in Kwh | Gas supplied in MCF to RPP | Payment made on monthly basis in US$ | Amount equal to Pak. Rs. | Reason of less gas supplied / non-supplied of gas |
|---|---|---|---|---|---|---|
| 1 | Jan-09 | | - | 2,714,256.00 | 215,321,928 | SNGPL not provide Gas |
| 2 | Feb-09 | | - | 2,714,256.00 | 219,447,597 | SNGPL not provide Gas |
| 3 | Oct-09 | - | - | 2,714,256.00 | 226,314,665 | SNGPL not provide Gas |
| 4 | Nov-09 | - | - | 2,714,256.00 | 226,314,665 | SNGPL not provide Gas |
| 5 | Dec-09 | - | - | 2,714,256.00 | 226,314,665 | SNGPL not provide Gas |
| 6 | Jan-10 | - | - | 2,714,256.00 | 228,947,493 | SNGPL not provide Gas |
| 7 | Feb-10 | - | - | 2,714,256.00 | 228,947,493 | SNGPL not provide Gas |
| | | | **Total** | **18,999,792.00** | **1,571,608,506** | |

Source: NPGCL

*Annexure-14 Bhikki Power Plant*

| Sr. No. | Month | Total Generation in Kwh | Gas supplied in MCF to RPP | Guaranteed Availability (92%) | Rate of rent per Kwh (US$) | Rent paid monthly in US$ | No. of units less produced KWH | Excess amount of rent paid US$ | Rate of US$ to Pak rupees | Excess amount rent paid (Pak Rs.) |
|---|---|---|---|---|---|---|---|---|---|---|
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8 =(5-3)** | **9=(8*6)** | **10** | **11 =(9*10)** |
| 1 | Dec-07 | 14,435,000 | 19.4018817 | 90,086,400 | 0.0313 | 938,143 | 75,651,400 | 2,370,158 | 63.00 | 149,319,977 |
| 2 | Jan-08 | 20,854,000 | 28.0295699 | 90,086,400 | 0.0313 | 2,083,051 | 69,232,400 | 2,169,051 | 63.00 | 136,650,219 |
| 3 | Feb-08 | 27,836,000 | 39.9942529 | 90,086,400 | 0.0313 | 2,017,386 | 62,250,400 | 1,950,305 | 69.00 | 134,571,047 |
| 4 | Mar-08 | 46,841,000 | 62.9583333 | 90,086,400 | 0.0313 | 2,017,386 | 43,245,400 | 1,354,878 | 67.00 | 90,776,852 |
| 5 | Apr-08 | 48,391,000 | 67.2097222 | 90,086,400 | 0.0313 | 2,861,414 | 41,695,400 | 1,306,317 | 70.00 | 91,442,182 |
| 6 | May-08 | 36,835,000 | 49.5094086 | 90,086,400 | 0.0313 | 2,861,330 | 53,251,400 | 1,668,366 | 72.70 | 121,290,235 |
| 7 | Jun-08 | 23,109,000 | 32.0958333 | 90,086,400 | 0.0313 | 2,861,330 | 66,977,400 | 2,098,402 | 78.70 | 165,144,233 |
| 8 | July-08 | 47,168,000 | 63.3978495 | 90,086,400 | 0.0313 | 1,565,105 | 42,918,400 | 1,344,633 | 81.20 | 109,184,238 |
| 9 | Aug-08 | 37,369,000 | 50.2271505 | 90,086,400 | 0.0313 | 2,861,541 | 52,717,400 | 1,651,636 | 81.10 | 133,947,691 |
| 10 | Sep-08 | 60,671,000 | 84.2652778 | 90,086,400 | 0.0313 | 2,861,541 | 29,415,400 | 921,584 | 78.70 | 72,528,699 |
| 11 | Oct-08 | 34,354,000 | 46.1747312 | 90,086,400 | 0.0313 | 2,861,541 | 55,732,400 | 1,746,096 | 78.70 | 137,417,762 |
| 12 | Nov-08 | 13,828,000 | 19.2055556 | 90,086,400 | 0.0313 | 2,861,541 | 76,258,400 | 2,389,176 | 79.00 | 188,744,878 |
| 13 | Dec-08 | 6,756,000 | 9.08064516 | 90,086,400 | 0.0313 | 2,861,541 | 83,330,400 | 2,610,741 | 79.00 | 206,248,573 |
| 14 | Mar-09 | 59,779,000 | 80.3481183 | 90,086,400 | 0.0313 | 2,861,541 | 30,307,400 | 949,531 | 81.22 | 79,855,544 |
| 15 | Apr-09 | 49,320,000 | 68.5 | 90,086,400 | 0.0313 | 2,861,541 | 40,766,400 | 1,277,211 | 81.99 | 106,813,182 |
| 16 | May-09 | 56,870,000 | 76.438172 | 90,086,400 | 0.0313 | 2,861,541 | 33,216,400 | 1,040,670 | 84.10 | 86,947,963 |
| 17 | Jun-09 | 62,035,000 | 86.1597222 | 90,086,400 | 0.0313 | 2,861,541 | 28,051,400 | 878,850 | 83.63 | 73,427,948 |
| 18 | Jul-09 | 40,547,000 | 54.4986559 | 90,086,400 | 0.0313 | 2,861,541 | 49,539,400 | 1,552,069 | 83.55 | 129,675,399 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 | Aug-09 | 27,196,000 | 36.5537634 | 90,086,400 | 0.0313 | 2,861,541 | 62,890,400 | 1,970,356 | 83.55 | 164,623,263 |
| 20 | Sep-09 | 20,358,000 | 28.275 | 90,086,400 | 0.0313 | 2,861,541 | 69,728,400 | 2,184,591 | 83.55 | 182,522,559 |
| 21 | Mar-10 | 4,600 | 0.0061828 | 90,086,400 | 0.0313 | 2,861,541 | 90,081,800 | 2,822,263 | 83.55 | 235,800,056 |
| 22 | Apr-10 | 4,253,000 | 5.90694444 | 90,086,400 | 0.0313 | 2,861,541 | 85,833,400 | 2,689,160 | 83.55 | 224,679,353 |
| 23 | May-10 | 42,040,000 | 56.5053763 | 90,086,400 | 0.0313 | 2,861,541 | 48,046,400 | 1,505,294 | 83.55 | 125,767,290 |
| 24 | Jun-10 | 28,609,000 | 39.7347222 | 90,086,400 | 0.0313 | 2,861,541 | 61,477,400 | 1,926,087 | 83.55 | 160,924,564 |
| | | | | | | | | | **Total** | **3,308,303,705** |

Source: NPGCL

*Annexure-15*

# Bhikki Rental Power Plant

| Sr.No. | Month | Total Generation in Kwh | Gas supplied in MCF to RPP | Payment made on monthly basis in US$ | Amount equal to Pak. Rs. | Reason of less gas supplied/non-supplied of gas |
|---|---|---|---|---|---|---|
| | | **14% Advance Payment** | | **7,211,083** | **43,406,267** | |
| 1 | Jan-09 | - | - | 1,973,136 | 159,666,225 | SNGPL did not provide Gas |
| 2 | Feb-09 | 5,000 | - | 1,973,136 | 159,725,419 | |
| 3 | Oct-09 | - | - | 1,973,136 | 166,730,054 | SNGPL did not provide Gas |
| 4 | Nov-09 | - | - | 1,973,136 | 166,730,054 | SNGPL did not provide Gas |
| 5 | Dec-09 | - | - | 1,973,136 | 166,730,054 | SNGPL did not provide Gas |
| 6 | Jan-10 | - | - | 1,973,136 | 167,716,622 | SNGPL did not provide Gas |
| 7 | Feb-10 | - | - | - | - | SNGPL did not provide Gas |
| 8 | Mar-10 | 4,600 | - | 1,973,136 | 168,308,563 | SNGPL did not provide Gas |
| **Total** | | | | **13,811,952** | **1,155,606,991** | |
| **Grand Total (Annx.12 to 15)** | | | | | **9,141,001,089** | |

Source: NPGCL

*Annexure-16*

# Major record wise expenditure incurred during the year 2010-11 to 2019-20

**Rupees in billion**

| **Sr. No.** | **Financial year** | **Furnace Oil** | **Gas** | **Chemical** | **Pay & allowance** | **Repair & maintenance** | **Other** | **Total expenditure** |
|---|---|---|---|---|---|---|---|---|
| 1 | 2010-11 | 56.235 | 0.141 | 0.052 | 0.480 | 0.176 | 1.166 | 58.25 |
| 2 | 2011-12 | 66.252 | 0.182 | 0.339 | 0.361 | 0.178 | 1.159 | 68.471 |
| 3 | 2012-13 | 89.601 | 0.167 | 0.111 | 0.691 | 0.249 | 1.198 | 92.017 |
| 4 | 2013-14 | 105.438 | 0.153 | 0.154 | 0.711 | 0.332 | 1.328 | 108.116 |
| 5 | 2014-15 | 71.546 | 0.103 | 0.224 | 0.765 | 0.532 | 2.239 | 75.409 |
| 6 | 2015-16 | 42.454 | 3.168 | 0.260 | 0.853 | 0.246 | 3.140 | 50.121 |
| 7 | 2016-17 | 58.718 | 0.309 | 0.107 | 0.932 | 0.535 | 3.002 | 63.603 |
| 8 | 2017-18 | 39.462 | 2.257 | 0.075 | 1.012 | 0.637 | 3.070 | 46.513 |
| 9 | 2018-19 | 16.499 | 0.322 | 0.041 | 1.102 | 0.130 | 1.240 | 19.334 |
| 10 | 2019-20 | 6.908 | 0.082 | 0.024 | 1.138 | 0.045 | 1.216 | 9.413 |
| Total | | **553.113** | **6.884** | **1.387** | **8.045** | **3.06** | **18.758** | **591.247** |

Source: NPGCL

*Annexure-17*

## Present status of plant wise installed/de-rated capacity of NPGCL

| Sr. No. | Name of Power Plant | Installed Capacity | Generation/de-rated Capacity in MW | Present status /Remarks |
|---|---|---|---|---|
| 1 | TPS Muzaffargarh | 1,350 | 1,150 | In operation |
| 2 | GTPS Faisalabad | 244 | 117 | NEPRA Cancelled generation license of unit. 01 to 04 w.e.f 02-05-2018 while unit No. 05 to 09 are still in operation. |
| 3 | SPS Faisalabad | 132 | 97 | NEPRA declared the plant defunct w.e.f 02-05-2018 due to completion of useful life. |
| 4 | 525 MW Power Plant Nandipur | 525 | 521 | In operation |
| 5 | GTPS Shahdra, Lahore | 85 | Nil | NEPRA has declared power plant defunct in 2008 due to completion of useful life. |
| 6 | NGPS Piranghaib | 260 | Nil | NEPRA has declared the plant defunct w.e.f 16-04-2014 due to completion of useful life. |
| | Total | **2,596** | **1,885** | |

Source: NPGCL

*Annexure-18*

## Status of energy of Northern Power Generation Company (NPGCL)

| Financial year | TPS Muzaffargarh MKWH | CCPP Nandipur MKWH | SPS Faisalabad MKWH | GTPS Faisalabad MKWH | Piran Ghaib MKWH | Total Generation in MKWH | Cost per KWH Rs. |
|---|---|---|---|---|---|---|---|
| 2010-11 | 4,107.24 | - | 208.065 | 194.027 | 60.8507 | **4,570.19** | 12.75 |
| 2011-12 | 3,681.23 | - | 163.352 | 47.8412 | 55.6746 | **3,948.09** | 17.34 |
| 2012-13 | 4,955.51 | - | - | 35.4538 | - | **4,990.96** | 18.44 |
| 2013-14 | 5,728.91 | - | 51.748 | 136.5506 | - | **5,917.21** | 18.27 |
| 2014-15 | 4,863.07 | - | 53.117 | 31.6348 | - | **4,947.82** | 15.24 |
| 2015-16 | 5,147.50 | 1,321.65 | 96.321 | 28.952 | - | **6,594.42** | 7.60 |
| 2016-17 | 5,700.88 | 1,433.93 | 122.088 | 225.744 | - | **7,482.64** | 8.50 |
| 2017-18 | 3,371.19 | 2,463.95 | 7.191 | 110.8136 | - | **5,953.14** | 7.81 |
| 2018-19 | 942.7218 | 1,784.29 | - | 157.1596 | - | **2,884.17** | 6.70 |
| 2019-20 | 335.5459 | 1,527.66 | - | - | - | **1,863.21** | 5.05 |
| **Total** | **38,833.78** | **8,531.47** | **701.882** | **968.1766** | **116.5253** | **49,151.84** | |

Source: NPGCL

*Annexure- 19*

# (Auxiliary Consumption)

| Loss due to excess auxiliary consumption from NEPRA approved standard in respect of TPS Muzaffargarh for the period 2010-11 to 2019-20 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Name of Company: - Northern Power Generation Company Limited** | | | | | | | | | |
| **Year** | **Unit** | **Units generated during the year** | **Actual Auxiliary Consumption** | **% age of Actual Auxiliary Consumption** | **% age of Auxiliary consumption approved by NEPRA** | **Auxiliary consumption approved by NEPRA** | **Excess Auxiliary Consumption** | **Average unit cost as per Form-E** | **Total loss (Rs)** |
| 1 | 2 | 3 | 4 | 5 (4/3*100) | 6 | 7 (3*6) | 8 (7-4) | 9 | 10 (8 x 9) |
| **2010-11** | 1 | 470,590,000 | 59,588,174 | 12.66% | 7% | 32,941,300 | (26,646,874) | 14.178 | (377,799,380) |
| | 2 | 909,762,000 | 79,993,921 | 8.79% | 7% | 63,683,340 | (16,310,581) | 14.178 | (231,251,417) |
| | 3 | 946,810,000 | 76,958,723 | 8.13% | 7% | 66,276,700 | (10,682,023) | 14.178 | (151,449,722) |
| | 4 | 1,124,630,400 | 150,735,119 | 13.40% | 10% | 112,463,040 | (38,272,079) | 14.178 | (542,621,536) |
| | 5 | 275,961,466 | 50,660,248 | 18.36% | 10% | 27,596,147 | (23,064,101) | 14.178 | (327,002,830) |
| | 6 | 379,489,320 | 60,179,037 | 15.86% | 10% | 37,948,932 | (22,230,105) | 14.178 | (315,178,429) |
| **2011-12** | 1 | 1,096,380,000 | 100,559,692 | 9.17% | 7% | 76,746,600 | (23,813,092) | 18.6 | (442,923,511) |
| | 2 | 881,563,000 | 77,260,525 | 8.76% | 7% | 61,709,410 | (15,551,115) | 18.6 | (289,250,739) |
| | 3 | 523,745,000 | 43,734,567 | 8.35% | 7% | 36,662,150 | (7,072,417) | 18.6 | (131,546,956) |
| | 4 | 1,073,025,600 | 152,309,482 | 14.19% | 10% | 107,302,560 | (45,006,922) | 18.6 | (837,128,749) |
| | 5 | 55,188,000 | 16,175,324 | 29.31% | 10% | 5,518,800 | (10,656,524) | 18.6 | (198,211,346) |
| | 6 | 51,324,840 | 12,581,550 | 24.51% | 10% | 5,132,484 | (7,449,066) | 18.6 | (138,552,628) |
| **2012-13** | 1 | 852,100,000 | 85,392,581 | 10.02% | 7% | 59,647,000 | (25,745,581) | 18.562 | (477,889,475) |
| | 2 | 1,213,860,000 | 104,332,460 | 8.60% | 7% | 84,970,200 | (19,362,260) | 18.562 | (359,402,270) |
| | 3 | 1,193,355,000 | 90,098,250 | 7.55% | 7% | 83,534,850 | (6,563,400) | 18.562 | (121,829,831) |
| | 4 | 800,222,400 | 101,549,043 | 12.69% | 10% | 80,022,240 | (21,526,803) | 18.562 | (399,580,517) |
| | 5 | 450,825,480 | 46,285,772 | 10.27% | 10% | 45,082,548 | (1,203,224) | 18.562 | (22,334,244) |
| | 6 | 445,147,920 | 51,196,496 | 11.50% | 10% | 44,514,792 | (6,681,704) | 18.562 | (124,025,790) |
| **2013-14** | 1 | 901,130,000 | 90,624,944 | 10.06% | 7% | 63,079,100 | (27,545,844) | 18.862 | (519,569,710) |
| | 2 | 852,010,000 | 78,865,386 | 9.26% | 7% | 59,640,700 | (19,224,686) | 18.862 | (362,616,027) |
| | 3 | 1,099,150,000 | 91,008,218 | 8.28% | 7% | 76,940,500 | (14,067,718) | 18.862 | (265,345,297) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 4 | 1,440,478,000 | 180,206,751 | 12.51% | 10% | 144,047,800 | (36,158,951) | 18.862 | (682,030,134) |
| | 5 | 850,174,946 | 86,827,690 | 10.21% | 10% | 85,017,495 | (1,810,195) | 18.862 | (34,143,906) |
| | 6 | 585,968,014 | 68,991,036 | 11.77% | 10% | 58,596,801 | (10,394,235) | 18.862 | (196,056,053) |
| **2014-15** | 1 | 1,000,350,000 | 102,724,502 | 10.27% | 7.93% | 79,327,755 | (23,396,747) | 15.232 | (356,379,250) |
| | 2 | 934,958,000 | 82,365,964 | 8.81% | 7.80% | 72,926,724 | (9,439,240) | 15.232 | (143,778,504) |
| | 3 | 784,750,000 | 69,455,017 | 8.85% | 7.09% | 55,638,775 | (13,816,242) | 15.232 | (210,448,998) |
| | 4 | 782,589,300 | 132,757,191 | 16.96% | 9.64% | 75,441,609 | (57,315,582) | 15.232 | (873,030,952) |
| | 5 | 715,697,640 | 80,254,070 | 11.21% | 7.82% | 55,967,555 | (24,286,515) | 15.232 | (369,932,190) |
| | 6 | 644,720,580 | 84,187,607 | 13.06% | 9.08% | 58,540,629 | (25,646,978) | 15.232 | (390,654,774) |
| **2015-16** | 1 | 1,064,407,173 | 91,463,164 | 8.59% | 7.93% | 84,407,489 | (7,055,675) | 9.485 | (66,923,079) |
| | 2 | 944,517,031 | 77,322,817 | 8.19% | 7.80% | 73,672,328 | (3,650,489) | 9.485 | (34,624,884) |
| | 3 | 931,009,255 | 70,726,433 | 7.60% | 7.09% | 66,008,556 | (4,717,877) | 9.485 | (44,749,062) |
| | 4 | 939,958,538 | 113,320,771 | 12.06% | 9.64% | 90,612,003 | (22,708,768) | 9.485 | (215,392,664) |
| | 5 | 639,752,677 | 71,042,347 | 11.10% | 7.82% | 50,028,659 | (21,013,688) | 9.485 | (199,314,827) |
| | 6 | 627,851,405 | 78,973,371 | 12.58% | 9.08% | 57,008,908 | (21,964,463) | 9.485 | (208,332,936) |
| **2016-17** | 1 | 1,053,166,066 | 87,080,928 | 8.27% | 7.93% | 83,516,069 | (3,564,859) | 11.084 | (39,512,897) |
| | 2 | 1,005,984,525 | 79,324,080 | 7.89% | 7.80% | 78,466,793 | (857,287) | 11.084 | (9,502,170) |
| | 3 | 938,079,713 | 66,145,992 | 7.05% | 7.09% | 66,509,852 | 363,860 | 11.084 | 4,033,020 |
| | 4 | 1,306,090,024 | 155,822,040 | 11.93% | 9.64% | 125,907,078 | (29,914,962) | 11.084 | (331,577,435) |
| | 5 | 713,888,684 | 73,422,398 | 10.28% | 7.82% | 55,826,095 | (17,596,303) | 11.084 | (195,037,421) |
| | 6 | 683,667,460 | 78,946,875 | 11.55% | 9.08% | 62,077,005 | (16,869,870) | 11.084 | (186,985,635) |
| **2017-18** | 1 | 595,762,558 | 55,279,642 | 9.28% | 7.93% | 47,243,971 | (8,035,671) | 13.722 | (110,265,480) |
| | 2 | 595,491,729 | 51,937,526 | 8.72% | 7.80% | 46,448,355 | (5,489,171) | 13.722 | (75,322,406) |
| | 3 | 647,310,976 | 47,082,770 | 7.27% | 7.09% | 45,894,348 | (1,188,422) | 13.722 | (16,307,524) |
| | 4 | 845,858,902 | 102,260,494 | 12.09% | 9.64% | 81,540,798 | (20,719,696) | 13.722 | (284,315,666) |
| | 5 | 350,398,133 | 40,204,142 | 11.47% | 7.82% | 27,401,134 | (12,803,008) | 13.722 | (175,682,876) |
| | 6 | 336,364,612 | 45,512,453 | 13.53% | 9.08% | 30,541,907 | (14,970,546) | 13.722 | (205,425,835) |
| **2018-19** | 1 | 143,980,570 | 15,958,332 | 11.08% | 7.93% | 11,417,659 | (4,540,673) | 20.488 | (93,029,304) |
| | 2 | 132,724,670 | 13,449,190 | 10.13% | 7.80% | 10,352,524 | (3,096,666) | 20.488 | (63,444,488) |
| | 3 | 215,668,167 | 18,047,440 | 8.37% | 7.09% | 15,290,873 | (2,756,567) | 20.488 | (56,476,544) |
| | 4 | 306,852,985 | 45,262,181 | 14.75% | 9.64% | 29,580,628 | (15,681,553) | 20.488 | (321,283,663) |
| | 5 | 89,550,749 | 11,694,511 | 13.06% | 7.82% | 7,002,869 | (4,691,642) | 20.488 | (96,122,370) |
| | 6 | 53,944,616 | 9,342,832 | 17.32% | 9.08% | 4,898,171 | (4,444,661) | 20.488 | (91,062,212) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **2019-20** | 1 | 86,746,761 | 14,622,371 | 16.86% | 7.93% | 6,879,018 | (7,743,353) | 27.229 | (210,843,755) |
| | 2 | 85,047,930 | 13,027,211 | 15.32% | 7.80% | 6,633,739 | (6,393,472) | 27.229 | (174,087,862) |
| | 3 | 138,697,270 | 13,091,550 | 9.44% | 7.09% | 9,833,636 | (3,257,914) | 27.229 | (88,709,728) |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 22,211,515 | 5,023,530 | 22.62% | 7.82% | 1,736,940 | (3,286,590) | 27.229 | (89,490,546) |
| | 6 | 2,842,444 | 3,135,519 | 110.31% | 9.08% | 258,094 | (2,877,425) | 27.229 | (78,349,408) |
| **Total** | | **38,833,784,047** | **4,056,382,254** | | | **3,193,914,035** | **(862,468,215)** | | **(13,650,104,820)** |

Source: E-Form

# (Auxiliary Consumption)

## Loss due to excess auxiliary consumption from NEPRA approved standard in respect of SPS Faisalabad for the period 2010-11 to 2017-18

## Name of Company: - Northern Power Generation Company Limited

| Year | Unit | Units generated during the year KwH | Actual Auxiliary Consumption | % age of Actual Auxiliary Consumption | % age of Auxiliary consumption approved by NEPRA | Auxiliary consumption approved by NEPRA | Excess Auxiliary Consumption | Average unit cost as per Form-E | Total loss (Rs in million) |
|---|---|---|---|---|---|---|---|---|---|
| **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9 (8-5)** | **10** | **11 (9 x 10)** |
| **2010 - 11** | 1 &2 | 208,065,000 | 24,130,000 | 11.60% | 8% | 16,645,200 | (7,484,800) | 15.95 | (119,382,560) |
| **2011 - 12** | 1 &2 | 163,352,000 | 19,705,000 | 12.06% | 8% | 13,068,160 | (6,636,840) | 22.39 | (148,598,848) |
| **2012-13** | 1 &2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **2013-14** | 1 &2 | 51,748,000 | 7,031,000 | 13.59% | 8% | 4,139,840 | (2,891,160) | 11.85 | (34,260,246) |
| **2014-15** | 1 &2 | 53,117,000 | 6,302,000 | 11.86% | 8% | 4,249,360 | (2,052,640) | 23.41 | (48,052,302) |
| **2015-16** | 2 | 96,321,000 | 10,895,000 | 11.31% | 8% | 7,705,680 | (3,189,320) | 11.26 | (35,911,743) |
| **2016-17** | 2 | 122,088,000 | 14,774,000 | 12.10% | 8% | 9,767,040 | (5,006,960) | 12.07 | (60,434,007) |
| **2017-18** | 2 | 7,191,000 | 935,000 | 13.00% | 8% | 575,280 | (359,720) | 40.94 | (14,726,937) |
| | **Total** | **701,882,000** | **83,772,000** | | | **56,150,560** | **(27,621,440)** | | **(96,345,750)** |

Source: E-Form

*Annexure- 21*

## (Auxiliary Consumption)

**Loss due to excess auxiliary consumption from NEPRA approved standard in respect of GTPS Faisalabad for the period 2010-11 to 2017-18**

**Name of Company: - Northern Power Generation Company Limited**

| Year | Unit | Units generated during the year | Actual Auxiliary Consumption | % age of Actual Auxiliary Consumption | % age of Auxiliary consumption approved by NEPRA | Auxiliary consumption approved by NEPRA | Excess Auxiliary Consumption | Average unit cost as per Form-E | Total loss (Rs) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 (4/3*100) | 6 | 7 (3*6) | 8 (7-4) | 9 | 10 (8 x 9) |
| **2010-11** | 1 | 884,000 | 48,360 | 5.47% | 1.5% | 13,260 | (35,100) | 8.47 | (297,297) |
| | 2 | 2,427,000 | 21,744 | 0.90% | 1.5% | 36,405 | 14,661 | 8.47 | 124,179 |
| | 3 | 3,493,000 | 17,850 | 0.51% | 1.5% | 52,395 | 34,545 | 8.47 | 292,596 |
| | 4 | 12,588,000 | 36,978 | 0.29% | 1.5% | 188,820 | 151,842 | 8.47 | 1,286,102 |
| | 5 | 29,282,000 | 48,600 | 0.17% | 2.15% | 629,563 | 580,963 | 8.47 | 4,920,757 |
| | 6 | 29,252,000 | 146,500 | 0.50% | 2.15% | 628,918 | 482,418 | 8.47 | 4,086,080 |
| | 7 | 22,774,000 | 49,580 | 0.22% | 2.15% | 489,641 | 440,061 | 8.47 | 3,727,317 |
| | 8 | 32,040,000 | 176,200 | 0.55% | 2.15% | 688,860 | 512,660 | 8.47 | 4,342,230 |
| | 9 | 61,020,000 | 4,656,900 | 7.63% | 2.15% | 1,311,930 | (3,344,970) | 8.47 | (28,331,896) |
| **2011-12** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 11,444,000 | 39,200 | 0.34% | 2.15% | 246,046 | 206,846 | 15.55 | 3,216,455 |
| | 6 | 3,781,000 | 31,700 | 0.84% | 2.15% | 81,292 | 49,592 | 15.55 | 771,148 |
| | 7 | 11,747,000 | 28,480 | 0.24% | 2.15% | 252,561 | 224,081 | 15.55 | 3,484,452 |
| | 8 | 3,708,000 | 250,400 | 6.75% | 2.15% | 79,722 | (170,678) | 15.55 | (2,654,043) |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | 9 | 17,161,200 | 1,756,600 | 10.24% | 2.15% | 368,966 | (1,387,634) | 15.55 | (21,577,712) |
| **2012-13** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 11,195,000 | 71,240 | 0.64% | 2.15% | 240,693 | 169,453 | 13.24 | 2,243,551 |
| | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 7 | 11,108,000 | 54,820 | 0.49% | 2.15% | 238,822 | 184,002 | 13.24 | 2,436,186 |
| | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 9 | 13,150,800 | 1,261,100 | 9.59% | 2.15% | 282,742 | (978,358) | 13.24 | (12,953,457) |
| **2013-14** | 1 | 3,729,400 | 46,044 | 1.23% | 1.5% | 55,941 | 9,897 | 9.05 | 89,568 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 11,196,600 | 28,460 | 0.25% | 1.5% | 167,949 | 139,489 | 9.05 | 1,262,375 |
| | 4 | 144,600 | 24,558 | 16.98% | 1.5% | 2,169 | (22,389) | 9.05 | (202,620) |
| | 5 | 23,549,000 | 146,860 | 0.62% | 2.15% | 506,304 | 359,444 | 9.05 | 3,252,964 |
| | 6 | 22,613,000 | 41,200 | 0.18% | 2.15% | 486,180 | 444,980 | 9.05 | 4,027,064 |
| | 7 | 15,099,000 | 33,940 | 0.22% | 2.15% | 324,629 | 290,689 | 9.05 | 2,630,731 |
| | 8 | 20,583,000 | 117,600 | 0.57% | 2.15% | 442,535 | 324,935 | 9.05 | 2,940,657 |
| | 9 | 39,636,000 | 2,703,600 | 6.82% | 2.15% | 852,174 | (1,851,426) | 9.05 | (16,755,405) |
| **2014-15** | 1 | 1,092,600 | 16,671 | 1.53% | 1.5% | 16,389 | (282) | 17.16 | (4,839) |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 311,000 | 23,460 | 7.54% | 1.5% | 4,665 | (18,795) | 17.16 | (322,522) |
| | 4 | 11,400 | 24,018 | 210.68% | 1.5% | 171 | (23,847) | 17.16 | (409,215) |
| | 5 | 4,281,000 | 27,940 | 0.65% | 2.15% | 92,042 | 64,102 | 17.16 | 1,099,982 |
| | 6 | 2,452,000 | 240,200 | 9.80% | 2.15% | 52,718 | (187,482) | 17.16 | (3,217,191) |
| | 7 | 7,204,000 | 30,540 | 0.42% | 2.15% | 154,886 | 124,346 | 17.16 | 2,133,777 |
| | 8 | 6,987,600 | 27,460 | 0.39% | 2.15% | 150,233 | 122,773 | 17.16 | 2,106,792 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 9 | 9,296,200 | 1,225,200 | 13.18% | 2.15% | 199,868 | (1,025,332) | 17.16 | (17,594,692) |
| **2015-16** | 1 | 2,061,000 | 29,639 | 1.44% | 1.5% | 30,915 | 1,276 | 9.08 | 11,586 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 4,311,400 | 25,730 | 0.60% | 1.5% | 64,671 | 38,941 | 9.08 | 353,584 |
| | 4 | 21,000 | 21,454 | 102.16% | 1.5% | 315 | (21,139) | 9.08 | (191,942) |
| | 5 | 52,729,000 | 49,580 | 0.09% | 2.15% | 1,133,674 | 1,084,094 | 9.08 | 9,843,569 |
| | 6 | 42,405,000 | 269,840 | 0.64% | 2.15% | 911,708 | 641,868 | 9.08 | 5,828,157 |
| | 7 | 47,174,000 | 44,780 | 0.09% | 2.15% | 1,014,241 | 969,461 | 9.08 | 8,802,706 |
| | 8 | 47,501,400 | 39,420 | 0.08% | 2.15% | 1,021,280 | 981,860 | 9.08 | 8,915,290 |
| | 9 | 93,319,200 | 6,106,450 | 6.54% | 2.15% | 2,006,363 | (4,100,087) | 9.08 | (37,228,792) |
| **2016-17** | 1 | 307,000 | 45,198 | 14.72% | 1.5% | 4,605 | (40,593) | 7.72 | (313,378) |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 409,000 | 17,440 | 4.26% | 1.5% | 6,135 | (11,305) | 7.72 | (87,275) |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 37,556,000 | 33,320 | 0.09% | 2.15% | 807,454 | 774,134 | 7.72 | 5,976,314 |
| | 6 | 34,020,100 | 30,600 | 0.09% | 2.15% | 731,432 | 700,832 | 7.72 | 5,410,424 |
| | 7 | 35,849,000 | 78,800 | 0.22% | 2.15% | 770,754 | 691,954 | 7.72 | 5,341,881 |
| | 8 | 39,948,000 | 234,920 | 0.59% | 2.15% | 858,882 | 623,962 | 7.72 | 4,816,987 |
| | 9 | 77,454,000 | 5,016,000 | 6.48% | 2.15% | 1,665,261 | (3,350,739) | 7.72 | (25,867,705) |
| **2017-18** | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 5 | 19,499,000 | 38,260 | 0.20% | 2.15% | 419,229 | 380,969 | 17.8 | 6,781,239 |
| | 6 | 16,092,000 | 28,780 | 0.18% | 2.15% | 345,978 | 317,198 | 17.8 | 5,646,124 |
| | 7 | 21,762,000 | 182,260 | 0.84% | 2.15% | 467,883 | 285,623 | 17.8 | 5,084,089 |
| | 8 | 16,467,000 | 104,980 | 0.64% | 2.15% | 354,041 | 249,061 | 17.8 | 4,433,277 |
| | 9 | 36,993,600 | 3,248,100 | 8.78% | 2.15% | 795,362 | (2,452,738) | 17.8 | (43,658,729) |
| **Total** | | **1,071,120,103** | **29,099,558** | | | **22,749,667** | **(6,349,887)** | | **(83,948,519)** |

Source: E-Form

*Annexure- 22*

## (Auxiliary Consumption)

**Loss due to excess auxiliary consumption from NEPRA approved standard in respect of Piranghaib Multan for the period 2010-11 to 2011-12**

**Name of Company: - Northern Power Generation Company Limited**

| Year | Unit | Units generated during the year | Actual Auxiliary Consumption | % age of Actual Auxiliary Consumption | % age of Auxiliary consumption approved by NEPRA | Auxiliary consumption approved by NEPRA | Excess Auxiliary Consumption | Average unit cost as per Form-E | Total loss (Rs in million) |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 (8-5) | 10 | 11 (9 x 10) |
| 2010-11 | 1 | 33,856,700 | 5,465,427 | 16.14% | 9% | 3,047,103 | (2,418,324) | 22.67 | (54,823,405) |
| | 2 | - | - | - | | - | - | - | - |
| | 3 | 26,994,000 | 4,357,593 | 16.14% | 9% | 2,429,460 | (1,928,133) | 22.67 | (43,710,775) |
| | 4 | - | - | - | | - | - | - | - |
| 2011-12 | 1 | 37,670,600 | 6,342,091 | 16.84% | 7% | 2,636,942 | (3,705,149) | 30.11 | (111,562,036) |
| | 2 | | | | 7% | - | - | | - |
| | 3 | 18,004,000 | 3,031,090 | 16.84% | 7% | 1,260,280 | (1,770,810) | 30.11 | (53,319,089) |
| | 4 | - | | | 10% | - | - | 18.6 | - |
| **Total** | | **116,525,300** | **19,196,201** | | | **9,373,785** | **(9,822,416)** | | **(263,415,306)** |

Source: E-Form

*Annexure-23 Heat Rate*

**NORTHERN POWER GENERATION COMPANY LIMITED**
**ANALYSIS OF PROFIT AND LOSS ACCOUNTS WITH COMPONENT WISE INTO EPP & CPP & OTHER**
**FROM THE FY 2010-11 TO 2019-20**

*(Amount in Rupees)*

| Sr. No. | Year | ENERGY PURCHASE PRICE | | | CAPACITY PURCHASE PRICE | | |
|---|---|---|---|---|---|---|---|
| | | NEPRA | ACTUAL | GAIN / (LOSS) | NEPRA | ACTUAL | GAIN / (LOSS) |
| **1** | **2010-11** | 59,619,107,390 | 67,438,949,118 | (7,819,841,728) | 6,594,733,303 | 6,763,656,335 | (168,923,032) |
| **2** | **2011-12** | 69,672,235,153 | 76,280,977,707 | (6,608,742,554) | 6,124,056,943 | 3,282,679,899 | 2,841,377,044 |
| **3** | **2012-13** | 84,762,262,363 | 90,124,517,420 | (5,362,255,057) | 4,957,350,855 | 3,852,861,154 | 1,104,489,701 |
| **4** | **2013-14** | 100,554,185,122 | 107,181,312,950 | (6,627,127,828) | 5,080,238,151 | 3,563,362,498 | 1,516,875,653 |
| **5** | **2014-15** | 70,326,217,650 | 73,275,665,556 | (2,949,447,906) | 5,996,933,117 | 4,542,635,776 | 1,454,297,341 |
| **6** | **2015-16** | 55,184,896,143 | 59,891,592,127 | (4,706,695,984) | 13,453,824,993 | 12,715,628,187 | 738,196,806 |
| **7** | **2016-17** | 71,379,114,286 | 73,586,354,432 | (2,207,240,146) | 14,379,738,623 | 11,415,924,188 | 2,963,814,435 |
| **8** | **2017-18** | 62,293,815,163 | 66,464,279,435 | (4,170,464,273) | 14,836,540,292 | 9,845,620,747 | 4,990,919,546 |
| **9** | **2018-19** | 37,630,310,199 | 39,768,257,673 | (2,137,947,474) | 13,866,414,814 | 12,240,684,261 | 1,625,730,553 |
| **10** | **2019-20** | 23,428,090,935 | 24,400,987,855 | (972,896,920) | 14,387,648,405 | 14,096,026,211 | 291,622,194 |
| | **TOTAL** | **634,850,234,404** | **678,412,894,273** | **(43,562,659,870)** | **99,677,479,496** | **82,319,079,256** | **17,358,400,241** |