

This audit inspection report has been prepared on the basis of information provided by Executive Engineer, 220 KV, O&M, PTCUL, Haldwani, Nainital. The office of the Principal Accountant General (Audit) Uttarakhand, Dehradun disclaims any responsibility for any misinformation, non submission or submission of incomplete records.

Audit inspection of accounting records of Executive Engineer, 220 KV PTCUL, Haldwani, Nainital for the period September 2013 to March 2018 was carried out in exercise of the power conferred by section 19 of the C&AG, DPC Act, 1971 read with section 143 of Companies Act, 2013. Audit Inspection was conducted by Shri Manoj Kumar Negi, AAO and Shri Seeti Ram Meena, Auditor under the supervision of Shri Amit Kumar Mishra, Audit Officer during the period from 09 August 2018 to 14 August 2018.

Part-I

1. **Introduction:-** The last audit of this unit was carried out by Shri Roshan Lal Sharma, Asst. Audit Officer and Shri Akhand Pratap Singh, Asst. Audit Officer under the partial supervision of Shri Mukesh Kumar, Audit Officer in which accounting records of the period from April 2007 to September 2013 were generally examined. In current audit, accounting records of the period from September 2013 to March 2018 were generally examined.

2. (i) **Functions and geographical jurisdiction of the unit:**

The function of the Executive Engineer, 220 KV,O&M, PTCUL, Haldwani, Nainital is to transmit the electricity to Nainital district and keep as well as expand the electricity transmission system to this area. The geographical jurisdiction of the division is within Nainital district.

(ii) **Auditing methodology and scope of audit:**

Executive Engineer, 220 KV,O&M, PTCUL, Haldwani, Nainital was covered in the audit. Inspection reports of all independent Drawing and Disbursing officers are being issued separately. This audit inspection report is based on findings of audit and March 2014, June 2014, April 2015, March 2017 & November 2017

for detailed examination and November 2013, January 2015, August 2015, October 2016 & July 2017 were selected for Arithmetical Accuracy.

(iii)

Year	Revenue	Expenditure (in ₹)	Profit
2017-18	--	78646668.90	--

(To the extent this information is available & applicable)

(iv) Organisation structure of the unit and reporting lines.

The Office of the Executive Engineer, 220 KV,O&M, PTCUL, Haldwani, Nainital is an electricity transmission division of PTCUL which is officiated by the Executive Engineer.

Part II A

-----NIL-----

Part II B

Para 1: Blockade of scrap inventory amounting to ₹ 36.63 lakh

Inventory is a tangible property held for sale in the ordinary course of business, or in the process of production for such sale, or for consumption in the production of goods or services for sale, including maintenance supplies and consumable stores and spare parts meant for replacement in the normal course. Inventory normally comprises of raw materials, work-in-process, finished goods including by-products, stores and spare parts and loose tools. Inventory constitutes a major element of working capital which needs efficient management. Inventory management covers fixation of minimum and maximum levels, determining the size of inventory to be carried, deciding about the issues, receipts and inspection procedures, determining the economic order quantity, proper storage facilities, keeping check over obsolescence and ensuring control over movement of inventories. Thus, it is important that inventory is properly controlled.

Audit observed that the division has three sub-stations namely 132 KV sub-station Kathgodaam, 132 KV sub-station Bhawali and 220 KV sub-station Kamluaganja. In these substations various type of inventory (obsolete/ unserviceable/ usable/scrap) are lying idle and in the open as detailed below:

(in ₹)

Sl. No.	Name of Sub- Station	Value of obsolete / Scrap
1.	132 KV sub-station Kathgodam and line	966320
2.	132 KV sub-station Bhawali and line	1195075
3.	132 KV sub-station Kamluaganja	1502302
Total		3663697

Most of the inventories in the above mentioned substations are lying for more than 10 years. As a huge amount is involved in these inventories, division should make efforts for disposal off the same.

Non-disposal of inventories has resulted in blockade of funds amounting to ₹ 36.67 lakh.

Division accepted audit observation and replied that the work of disposal of inventory is being done by material management wing of head quarter. The actual disposal of the old and obsolete inventory will be watched in next audit.

Para 2: Poor implementation of PSDF scheme

(A) Government of India (GoI) in January, 2014 approved Ministry of Power proposal of Power System Development Fund (PSDF) to improve, renovate and augment their power transmission assets of strategic importance. National Load Dispatch Centre (NLDC) was nodal agency for implementation of the scheme.

Audit noticed that under this scheme, Haldwani division sent requirement for replacement of insulators, RTCC panels. It had been seen during the audit that the division has only single battery set which was used for operation of control & rely panel. As the battery set was old & need regular maintenance, due to this, the department is executing the maintenance cost from their own pocket, considering this, the division can request for change of battery set. During discussion, division informed that these equipments may breakdown as their working life has already expired and as a sub-division have only single battery set up which is not reliable the working of protection equipments may be affected adversely. Since life expectancy of these equipments is not certain so breakdown may occur in at any point of time and this may affect functioning of Sub-station and quality of supply of electricity in the Sub-Station region.

The division had an opportunity to replace these battery sets and also include the secondary battery set in PSDF Scheme but division did not include these batteries set in PSDF Scheme equipments requirement proposal sent to Headquarter Office. In the absence of specific requirement from the division in respect of batteries set the same could not be included in the DPR OF PSDF and now PTCUL may have to replace the same from the internal resources of the Company.

Thus, non inclusion of above items may result in avoidable expenditure to the tune of the price of the battery set which could have been managed through PSDF grant had these items included in the DPR.

(B) The work of PSDF was awarded to M/s Raj Shyama and M/s Ishaan. On the basis of the documents provided by the division audit observed that the agreement of M/s Raj Shyam and M/s Ishaan were turnkey agreements which comprised of supply as well as erection.

The supply of were received by division on 31 March 2018 against which erection work was done only by M/s. Raj Shyama till that date. The work related to 220 KV sub-station except for installation of lightening arrester were complete by July 2018. The work which was to be done by M/s Ishaan is still pending. Similarly, the work related to 132 KV sub-stations were also almost complete but the work related to safety and fire were not completed by M/s. Ishaan.

Due to non-erection of material in time the guarantee of the items may become void and also the intended objective of the work is not achieved. Also, the scheme has already expired in April 2018.

Division accepted the audit observation and stated that in absence of clear guidelines above work were not included in PSDF and division is regularly writing to contractors for completion of work.

Reply of the division is not convincing as due to non inclusion of the above work PTCUL may have to get the above work completed from internal resources. Also, due to delay execution of the work the guarantee of the items may be expired even before its installation.

Para 3 : Inadequate facilities for Safety and System restoration

(A) The transmission lines are used for transmitting electricity at very high voltage these lines are constructed in a manner to carry power to distant places. Transmission of electricity is defined as bulk transfer of power over long distances at high voltage, generally at 132 KV and above. Electric power generated at relatively low voltages in power plants, is stepped up to high voltage power before it is transmitted to reduce loss in transmission and to increase efficiency in the Grid. Sub-stations are facilities within the high voltage electric system used for stepping-up/stepping down voltages from one level to another, connecting electric systems and switching equipments which are within as well as out of the system. The step up transmission sub-stations uses transformers to increase the voltages for transmission over long distances.

Transmission loss is the difference between energy received from the generating station/Grid and energy sent to distribution companies As per Uttarakhand Electricity Regulatory Commission (UERC) the transmission loss for the control period was two percent against which the losses of Kamluaganja –Kathgodam line had a transmission loss of 3.99 per cent in 2016-17 and 1.93 percent in 2017-18. Also, the system availability of 132 KV Kathgodam S/S had system availability of less than 98 percent. The main reason of less system availability is higher number of tripping and electrical faults. Thus, the high line loss and less system availability may result in the poor performance of the division. Division accepted audit observation and stated that there was improvement in the situation due to work done in PSDF. Reply of the division is not convincing as despite experiencing the benefit of the PSDF it failed to complete the work and completely omitted about the effect of tripping on line loss.

(B) Division has 3 Substations, namely Kamluaganja, Kaathgodam and Bhawali. The referred substations are responsible for maintaining the power supply of Haldwani city and adjoining area. Audit noticed that during 2017-18 the referred three Substations were experiencing electrical defects resulting in frequent tripping of the feeders. After each tripping, Substation took 15 minutes to 7hrs in the restoration of power supply. During the year 2017-18, 63 tripping observed and due to tripping the power supply of the area were affected for 10 minutes to 15.52 hrs. The power for 15.52 hrs. was affected due to blast in CT at the sub-stations.

The main reason of tripping was that the dissolved gas analysis of CT works not done during the year.

Division replied that there was a shut down which was wrongly depicted as tripping of 15 hours. Reply of the division is not convincing as it also failed to conduct the required test to check the fitness of the CT .

(C) SF 6 Circuit breaker is used in transmission substation for switching purposes and protection of transformers and lines. SF 6 Circuit breaker uses sulfur hexafluoride. During operation SF6 Circuit breakers produce solid ash products, which is in the form of white or off white ash like: powder. Contact of this product may cause irritation or possible painful fluoride burn. Thus, the ash produced in the process is extremely harmful for human body and environment.

During inspection of the sub stations audit noticed that in three substations under the jurisdiction of office of Executive Engineer O&M 220 KV Haldwani division there are 43 SF6 CBs were installed. Further, under PSDF all SF-6 circuit breakers of 132 KV and 33 KV (38) were replaced with new SF-6 circuit breakers in above circuit breakers. However, it was noticed that there is no mechanism for effective disposal of the hazardous wastes. All material used in the cleanup operation of SF6 arc products shall be placed in 55 gal drum and disposed of as hazardous waste.

During the process of maintenance/over hauling the following items should be disposed of in proper manner:

- solid arc products
- disposable protective Clothing
- cleaning rags.
- Filters from respirations
- Molecular sieve from breaker and gas car
- Vacuum filter equipments

The division failed to take appropriate action for the same.

Division replied that the O&M manual of the PTCUL doesn't provide specific guidelines for the disposal of the same. Reply of the division is not convincing as there should be appropriate process for disposal of hazardous waste.

(D) Availability of Diesel generating (DG) sets and synchrosopes¹ which form part of Disaster Management facilities at Extra High Tension (EHT) Sub-stations, connecting major generating stations, should be ensured.

The DG set are required in case of grid failure and total black out also pump set at sub-stations are required for draining water from the trenches and avoid any electrical accident. Audit noticed that the three sub-divisions of the division namely 220 KV Kamluaganja, 132 KV Kathgodam and 132 KV Bhowali had neither pump sets nor DG sets thus, these sub-station of the division are ill equipped for any disaster.

Division replied that main reason of the low system availability and high line loss was work of PSDF and the same has improved recently. Also, there was a shutdown of 15 hours which was wrongly being depicted as tripping .The division agreed with the audit observation, however the fact remains that division failed to take up the matter with the headquarters.

¹ In an AC electrical power system, it is a device that indicates the degree to which two systems generators or power networks are synchronised with each other.

Part III

Details of unsettled paras of previous inspection reports:-

Sl. No.	AIR for the period	Part-II-A	Part-II-B
1.	4/1991 to 3/1992	1,2	-
2.	4/1992 to 3/1993	1,2,3	1
3.	4/1993 to 3/1995	1,2,3	1
4.	4/1995 to 3/1997	-	1,2,3
5.	4/1997 to 3/1999	-	1,2
6.	4/1999 to 3/2000	-	1,2
7.	4/2000 to 3/2003	1	1
8.	4/2003 to 3/2004	-	1,2
9.	4/2004 to 3/2007	1,3,4,5,6	-
10.	4/2007 to 9/2013	--	1,2,3

Compliance report of unsettled paras of previous inspection report-

Inspection report period and number	Para No. Audit observation	Compliance report	Comments of Audit Party	Remarks
-	-	-	-	-

Part IV

Best practices of the unit

--NIL--

Part V

Acknowledgement

1. Office of The Principal Accountant General (Audit) Uttarakhand, Dehradun expresses gratitude towards Executive Engineer, 132 KV PTCUL, Haldwani, Nainital and their officers and employees for promptly providing desired documents and information including infrastructure related co-operation during the course of audit.

Though following documents were not produced during audit:

NIL

2. **Persistent irregularities.**

NIL

3. **The following officers held the charge of head of the office during the audit period:**

Sr. no.	Name	Post
(i)	Shri P.K. Bhaskar	Executive Engineer.
(ii)	Shri A.K. Gupta	Executive Engineer.
(iii)	Shri Deepak Rawat	Executive Engineer.

Minor and operational irregularities which could not be resolved at the time of audit and have been included in Temporary Audit Note with the request that the compliance report on the same may be sent to Deputy Accountant General/Economic Sector-I, Office of the Principal Accountant General (Audit), Uttarakhand, Mahalekhakaar Bhawan, Kaulagarh, Dehradun- 248195 within one month of receipt of the letter.

Sr.AO/ES-I