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PPO main functions, achievements

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The Ethiopian Electric Power (EEP) has been given the responsibility of building, manageing and maintaining plants, transmission and substations, wholesale of electricity, compliance research, design and survey works.

In this article, EEP subsector, Power Plant Operations (PPO) Department main functions and achievements are discussed. These are based on an interview with Tiruwork Shiferawu, Planning Manager of the department.

For her, it is a department of the institute that carries out operations, maintenance, supply of spare parts, and water management of dams at the respective power plants. It manages only those stations which are completed and have fully started generating power. Accordingly, while managing 17 power generation stations, 13 of them are water, three wind, and one solid waste power generation stations.

Power Generation Operation provides security and maintenance services for the 17 power generation stations it manages. In relation to this, the manager explained that it is the responsibility of this department to purchase and provide spare parts for the repair works.

A hydropower station has an average service life of 50 years; she specified adding that the wind power plant has 25 years durability. "All power generating stations are regularly monitored to ensure their safety and maintenance work is carried out as required."

Maintenance activities are divided into three categories: regular maintenance, light maintenance and heavy maintenance. "In the past, when there was employee capacity problem in dams and power generation units, it was foreign experts who did the repair work, but since 2020/2021 the experience of repairing problems faced has been developing by various power generation stations on their own.

The main reason for the ever-increasing self-repair capability of the stations was initiations or motivations created among the employees to fulfill EEP mission. "If the power generation stations are unable to perform the task of producing the required energy properly, the institution will not be able to effectively fulfill its national mission by providing electricity," she reasoned it out.

In consistent to this, the workers had the opportunity to repair the dams and units by using the experiences gained from the foreign professionals and the capacity building through training.

For example, one of the two units of the Tis Abai Hydropower Station was out of service for 10 years and only one unit was generating 36 megawatts. "Now, we maintained it to generate 72 megawatts on our own," she noted.

Consequently, EEP has saved an estimated cost of 850 million USD which was to be spent on foreign professionals for the maintenance works of Tis Abai - II, Gibe – II and Adama - I power stations. "The fact that it was able to fix the fault timely on its own has assisted it to prevent income loss due to the extension of work and disruption of power supply. Therefore, the sector is achieving the plan of saving foreign exchange and generating income," she calculated.

Furthermore, Koka and Awash-II Hydropower Stations are respectively 62 and 58 years old, she noted adding: "Repairing them on time on its own has helped to maintain their operation beyond the expected time avoiding major outages."

Additionally, power stations were not as diverse as they are now before ten years and there were times when power shortages occurred, the manager recalled the summer months when the water level was low.

After wind power and thermal power stations started generating power, it is used as an alternative; she noted mentioning that the diversification helps to overcome the shortage that occurs when there is water shortage and to properly manage water in the dams.

The other activities of the department are following each dam's water counts to generate power and time need to fill in advance. Wind and thermal power generators will be used to make up for the power shortage caused by the reduction of water levels in dams, and the time will be changed to reduce the pressure.

Therefore, by making most of the power generators whose water level increase during winter, and the wind speed from December to May is on average 10 to 17 meters per second, the pressure on the hydropower generators will be reduced and the power production will be done based on the current capacity of the power generation stations using wind energy, she concluded.

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