

Electrical Power Scenario In Uttarakhand

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Abstract

Electricity utilization is a vital index that decides the progress level of state. The 'power for all' program is a foremost stride in this way. Power sector plays a vital role in infrastructure growth of economy of every state. Uttarakhand has grown at a faster rate in order to eliminate the difference between its other existing state. The government of India and government of Uttarakhand aim to augment the satisfaction level of the consumers and peak up the quality of people's life via 24x7 power supply. An efficient and financially sound power sector is a prime factor for growth as well as poverty reduction.

Key Words: Electric power, Generation, Transmission Distribution, Solar Energy

1 INTRODUCTION

Power sector is a crucial infrastructure ingredient for expansion of an economy. The accessibility of dependable, quality and inexpensive power is imperative for brisk growth in crop growing, manufacturing for overall fiscal expansion of a state. For this a well-organised, pliant and monetarily vigorous power sector is an indispensable prerequisite for development of a state and financial empowerment of the common man. Under the Indian constitution, electricity is a concurrent subject. As per electricity act 2003, it is obligation of distribution licence to extend and preserve an efficient, synchronized and cost effective distribution system in the mandated area of supply as well as furnish electricity in agreement with the provision contained in the act. The state electricity Regulatory commission (SERC), as per the provisions of the act, specifies and enforces the standards with respect to quality and reliability of supply by licence and also monitors the performance of distribution companies (Licensee) on the basis of notified performance of standards.

Uttarakhand was introduced to the map of India on 09 November 2000 after the bifurcation of Uttar Pradesh. It faced expectations related to the development infrastructure needs of the state. Dehradun was declared the capital of Uttarakhand and stood as prime focus to meet the increasing

economic and political activities. All these also resulted in an increase in power demand and supply. Uttarakhand has a total area of 53,483 Km² of which 86% is mountainous and 65.3% is covered by the forest and northern part of the state is covered by Himalayan peaks and glaciers. The most significant sector is hydropower as well as industries



Figure 1 Uttarakhand Map

2 POWER SECTOR BACKGROUND IN UTTARAKHAND

Uttar Pradesh state electricity board (UPSEB) was founded on 1 April 1959. However on 14 January 2000, the function of UPSEB were transferred to the following three corporations registered under Indian companies Act, 1956:

2.1 Uttar Pradesh Jal Vidyut Nigam Limited (UPJVNL)

It owns and operates the existing and conduction hydropower stations of UPSEB.

2.2 Uttar Pradesh Rajya Vidut Utapadan Nigam Limited

It owns and operates the existing Thermal power stations of UPSEB.

2.3 Uttar Pradesh Power Corporation Limited (UPPCL)

It operates for Transmission and Distribution for electricity in Uttar Pradesh. Uttarakhand was

introduced with UPCL& PITCUL as a functional bifurcated utilities responsible for the Electricity Distribution and Power Transmission within the state. The Company consists of 3,487 Human Capital Workforce, Committed 24 × 7 High Reliability and Quality Power supply to 1.89 million electricity consumers spread across the 13 Districts in the state of Uttarakhand viz Dehradun, Uttarkashi, Haridwar, Pauri, Tehri Chamoli Rudrapur, Almora, Bageshwar, Pithoragarh and Champawat respectively. UPCL aims to reduce the AT&C Losses of Company for FY2015-16 to around 17% and set target for future reduction to 14% by March 2020. The company operates and maintains the following Substation:

- a. 295 Substation of 33/11 Kv with capacity of 3122 MVA.
- b. 66/33/11 Kv-48 MVA.
- c. 4526 Km-33 Kv, 38204 Km-11 KV lines and 59401 Km LT Lines spread across the state periphery.
- d. 602980 Distribution Substation of 11/0.4 KV-3602 MVA Capacity with sub-station and Distribution system Network of 211 Km-66 KV.

3. ONGOING SCHEMES

The on-going scheme for the Distribution system Improvement work entails an investment of Rs. 715 Crores during the FY 2015-16. The Company introduced the following two new schemes for 24 × 7 working:

3.1 Power For All (Pfa)

The Ministry of Power for the state, the Deen Dayal Upadhyay Gram Jyoti Yojan (DDUGJY) estimated to the tune of Rs. 3332.37 Crores additionally replacing the completed RGGVY to the rural consumers and ensuring last-mile connectivity and access of electricity to rural households.

3.2 The Integrated Power Development Scheme (IPDS) Which is a way forward to the on-going R-APDRP with the additional investment about Rs-233.54 Crores for the implementation 12th Five year plan (FYP 2012-17) and upcoming 13th Five year plan (2017-2022) aim to provide 24 × 7 Reliable, Secure, Safe electricity for all rural & urban and semi-urban household ultimately reducing the AT&C loss of the company below 14% by 31st March 2022 under the scheme.

Table 1: POWER CAPACITY OF STATE

S.NO	Type of Plant	Capacity in Mw
1.	Coal	399.50
2.	Gas	69.35
3.	Nuclear	22.28
4.	Hydro	2441.80
5.	Other Renewable Source	244.32

3.3 Hydro Power

Uttarakhand is estimated to have a hydropower potential to the tune of 20,236 MW against which around 3594.85 MW has been harnessed so far through hydroelectric projects. The state is gifted by nature with rivers like Ganga, Yamuna, Kosi. So provides an ideal location for hydropower development. In Uttarakhand, operation and execution of various schemes based on non-conventional energy resource is handled by Uttarakhand Renewable Energy Development Agency (UREDA) through local Panchayat, Volunteer organizations and district administration. Some are listed in table 2.

Table 2: Uttarakhand Hydro Power Plants

S.NO	PROJECT DETAILS	INSTALLED CAPACITY (MW)
1.	Project of Alaknanda River Basian	455.45
2.	Project in Bhagirathi River Basian	1850.90
3.	Project in Gangan sub Basian	173.70
4.	Project in Ramganga	210.50
5.	Project in Sharda River Basian	426.15
6.	Project in Yamuna River Basian	478.15
	GRAND TOTAL	3594.85

3.4 Solar Power

In order to promote solar power generation in the state, the Uttarakhand Renewable Energy Development Agency (UREDA) has decided to set up over 2,000 units, which will produce 44 MW of electricity using solar energy. As per new rules, Uttarakhand will have to purchase 8% power generated through solar plants. Earlier the state was required to purchase just 3% power generated by such plants. It has 23 solar power generation plants and these are sufficient to fulfill the mandatory power purchase of 3%. New solar power generation options have been worked out for all state and under this campaign young entrepreneurs will be involved to enhance the total power generation capacity. In order to match the criteria laid out by the Union Ministry the state will have to work towards setting up new power infrastructure. For this over 2000 plants of varying capacity will be set up at different places. All infrastructures will be funded under central government schemes.

4 FACTORS CAUSING SET BACK

Uttarakhand has certainly showed signs of growth of the last few years but the growth has not been uniform. The growth process in Uttarakhand has been limited to the plain Districts excluding the hilly areas, which is due to location of manufacturing units in the plain Districts. However, 40% of the population of the state still lives below poverty lines, despite a very low rate of unemployment. It is due to the low wage and income rate in the state, which leads to the problems of poor working. So, there is need for the

productive employment demands of the rural populations in the state which can be achieved through an efficient and reliable access to energy. The development approaches are depend on the old energy sources that worked for the plain, which are not much effective in hills due to the associated difficult terrain. Many thermal power plants also contributed towards power demand in Uttarakhand. But renewable energy sector is the main focus due to various factors now a days.

5 CONCLUSION

Power sector of Uttarakhand is rising at a very good pace and will definitely contribute towards larges part on overall energy demands of our country,which require such contribution to be the top development country.

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