CHAPTER 2
NATIONAL THERMAL POWER PLANT CORPORATION

This chapter elaborates the structure of NTPC in India. It further elaborates on the profile of the NTPC at Anta.

2.1 Introduction of NTPC

NTPC Limited (previously known as National Thermal Power Corporation Limited) is an Indian Central Public Sector Undertaking (CPSU) under the Ministry of Power, Government of India possessed with the matter of period of power and bound together activities. It is an association solidified under the Organizations Demonstration 1956 and an Organization within the significance of the exhibition. Base camp of NTPC is in New Delhi. NTPC's fundamental objective includes time and offer of vitality to state-ensured power diffusing affiliations and State Power Sheets in India. The affiliation additionally tries consultancy and turnkey meander comprehends that fuse arranging, meander association, change association along with operational management and assessment of power plants.

This organization has additionally wandered towards ‘oil and gas’ investigation along with coal mining exercises. This organization can be proudly declared the biggest power organization of our country which is capable enough of generating 45,548 MW electricity. Despite of contributing almost 16% to aggregate national limit it adds to more than 25% of aggregate power era because of its consideration on working its vitality plants at higher adequacy levels (approx. 80.2% against the national PLF rate of 64.5%).
Chapter 2: National Thermal Power Plant Corporation

The bedrock of this association was founded through Indian administration in 1975. This organization which is greatest power affiliation of our country got merged in November 7, 1975 to restore power change in India. Today, it has made as Planned Power Major, with chief locale in the whole respect chain of power period business.

This association has present conveying cut-off of 30,144 MW, NTPC it has left on approaches to twist up a 75,000 MW relationship by 2017. It’s constantly working for establishing an isolated power major with area in the whole respect chain of the power time business. Close to power period, which is the establishment of the affiliation, NTPC has beginning now wandered to explore consultancy, power exchanging, slag utilization and coal mining.

Total aggregate introduced most extreme affiliations for it being 30,144 MW (checking JVs) with 15 coal based and 7 gas based stations organized all over nation. Also in the categories of JVs, 3 stations are coal based and one such station utilizes naphtha/ LNG as fuel. NTPC has structured and applied for itself a rainbow platter change structure that wires limit advancement by lush-green farm meanders, extending current power plants, co-operative endeavours, associates and reincarnation of grand old-daddy plants.

NTPC operates its stations with excellent efficiency. Despite the point that this organization has 18.79% of the total national farthest point it contributes 28.60% of total power period on account of its accentuating profitability. NTPC launched its First offer of stock (Initial open offering) in 2004. In the same year NTPC started holding 89.5% of the quality offer amount, remaining part comes under control of Institutional Financial experts plus related comprehensive groups. It proved out to be a reverberating achievement. This institution is a part of the kitty that holds five superb organizations of our motherland with respect to market capitalization.
At NTPC individuals before Plant Load Component is the mantra that associates all HR related approaches. Is the honour of being topmost, having best working environment in India among expansive relationship for the year 2008, by the Incomparable Work environment Establishment, India Part as a gathering with The Financial Times.

The possibility of Corporate Social Obligation is significantly instilled in NTPC’s lifestyle. Through its broad CSR exercises NTPC tries to make basic trust with the gatherings that envelop its vitality stations.

Starting from basic to formative work of the get-together including communal harmony and getting noteworthy self-sufficiency; the ironclad move is towards systematizing moral duty at different levels.

In a matter of seconds, NTPC creates power from Coal and Gas. Starting with introduced limit of 30,144 MW, NTPC is the biggest power creating major in the nation. Now, it is trying its luck in varying fields like hydro power, coal mining, power hardware producing, oil and gas investigation, power exchanging and conveyance. With expanding vicinity in the power esteem chain, NTPC is well on its approach to turning into a Coordinated Power Major. NTPC was the first among power utilities in India to begin Environment Sway Evaluation (EIA) examines and strengthened it with Intermittent Ecological Reviews and Audit and reviews.

2.1.1 History of NTPC

NTPC Ltd has the honour of being biggest power producing organization of our nation both as far as introduced limit and created yield. The organization is occupied with the matter of era and offer of mass power. This organization can be sub-divided into these sections: era and different business. Different fields of NTPC incorporate
giving consultancy to other sub-ordinate firms, wander organization and supervision, oil and gas examination, and coal mining. This association pours in 28.6% of the total power period of India. This organization bags the honour of holding 317th position in the 2009, Forbes Worldwide 2000 associations.

History

This association came into existence in November 1975 as National Warm Power Partnership Private Restricted. Its first operation began in 1976 at Singrauli in Uttar Pradesh. Now it came to be known as National Warm Power Organization Constrained. In 1983, NTPC began business operations (of offering power) and earned advantages of INR 4.5 crores in financial year 1982-83. Prior to the end of 1985, it had fulfilled power time breaking point of 2000 MW.

The year 1986, witnessed the synchronization of its underlying 500 MW unit at Singrauli. In 1988, it designated two 500 MW units, one each in Rihand and Ramagundam. In 1989, it started a consultancy division. In 1992, it picked up Feroze Gandhi Unchahar Warm Power Station (with 2 units of 210MW farthest point each) from Uttar Pradesh RajyaVidyutUtpadan Nigam of Uttar Pradesh. Before the end of 1994, its presented limit crossed15,000 MW.

The year 1995, saw it accepting control over the Talchar Warm Power Station from Orissa State Power Board. Indian administration garlanded it with "Navratna" status in 1997. During this very period it managed to fulfil the perspective of 100 billion units of power in a year. In 1998, it dispatched its first naphtha-based plant at Kayamkulam with a farthest point of 350 MW. In 1999, its plant in Dadri, which had the most raised plant load variable (PLF) in India of 96%, was guaranteed with ISO-
14001. In the midst of 2000, it began improvement of its first hydro-electric power wander, with 800 MW limit, in Himachal Pradesh.

NTP Centered the charts of BSE and NSE on 5 November 2004. Initial issue cost of each share was INR 62, it wound up with INR 75.55 for each share. In, its infancy only it turned sinto third biggest organization in India as far as business sector capitalization.

2.1.2 Vision & Mission of NTPC

NTPC vision and mission are main thrust in our entire attempt to eventually create and convey quality power in ideal expense and eco-accommodating way through purposeful collaborations and powerful frameworks. Being a public service organization, Anta’s main goal is adjusting its services and output accordingly with corporate Mission and Vision.

MISSION: “Develop and provide reliable power, related products and services at competitive prices, integrating multiple energy sources with innovative and eco-friendly technologies and contribute to society.”

VISION: “A world class integrated power major, powering India’s growth, with increasing global presence.”

2.2 Introduction of NTPC, ANTA Thermal Power Station

ANTA GAS POWER STATION-Rapid industrialization and development in horticulture/residential utilization of power in the North India was putting a lot of pressure on the power grid. To conquer the crevice amongst supply and demand, NTPC set up its first Gas Power Station at Anta. Shortly NTPC, Anta is one of the seven Gas Stations of NTPC.
ANTA’s journey towards excellence had started since inception. Today ANTA is one of the best gas power plant in the country. It has achieved unique distinction of being the first power station of the country having Zero Forced Outage. ANTA is ISO 9001:2000, ISO14001:2004, OHSAS 18001:2007, SA 8000:2001 and FIVE-S certified.

NTPC Anta is a natural gas-fired power station located in Baran district in the Indian state of Rajasthan. It is one of the power plants of NTPC. The gas for it is sourced from GAIL HBJ Pipeline - South Basin Gas field, and its source of water is the Chambal River.

2.2.1 Location and Origin

Discovering trademark gas in Western Offshore fields of Bombay High led the Central Government to take this gas up to North India and as necessitates be lay the HBJ Pipeline beginning from Hazira. GOI formed to set up gas based joined cycle power plants close by HBJ pipeline. Initialy 3 such endeavors were considered at Anta, Kawas and Auraiya in States of Rajasthan, Gujarat and UP freely. Anta undertaking was set up to facilitate the force supply need in the Northern area which was surveyed between 13-16% of the crest request amidst the seventh approach time range. Further, looking event of the low advancement, high productivity, brisk (Black) begin and enthusiastic stacking limit with blend fuel adaptability and low sullying impact, Anta undertaking was seen as the most down to earth contrasting option to prominently satisfy the supply demand gap in Northern Region.
Fig. 2.1 Location of NTPC, ANTA
Source: www.ntpc.co.in

2.2.2 Brief Profile of NTPC, ANTA

Table 2.1 Brief profile of NTPC, Anta

<table>
<thead>
<tr>
<th>Station</th>
<th>Combined Cycle Gas Based Power Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Turbines</td>
<td>3x88.71 MW</td>
</tr>
<tr>
<td>Stream Turbines</td>
<td>1x153.2 MW</td>
</tr>
<tr>
<td>Total Capacity</td>
<td>419.33 MW</td>
</tr>
<tr>
<td>Commercial Operation</td>
<td>01.08.1990</td>
</tr>
</tbody>
</table>

Source: http://www.ntpc.co.in/en/about-us/ntpc-overview
2.2.3 Silent Feature of NTPC, ANTA

Table 2.2 Salient features of NTPC, Anta

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas turbine</td>
<td>88 Mw, Type Abb Gas Turbine, 5 Stage</td>
</tr>
<tr>
<td>Gt compressor</td>
<td>18 Stage Axial Flow (Type Va 140 18)</td>
</tr>
<tr>
<td>Combustion chamber</td>
<td>Single Silo Type</td>
</tr>
<tr>
<td>Burner</td>
<td>Single Stge Dual Fired</td>
</tr>
<tr>
<td>Air intake filter type</td>
<td>Self Cleaning Tenekay Cartridges</td>
</tr>
<tr>
<td>Bypass stack</td>
<td>Vertical 25m high</td>
</tr>
<tr>
<td>Whrb</td>
<td>Double drum, Unifired, Assisted circulation type</td>
</tr>
<tr>
<td>WHRB : Steam Parameters:</td>
<td></td>
</tr>
<tr>
<td>HP</td>
<td>Pressure: 62.7 BAR; Flow: 163T/HR; Temperature: 485* C</td>
</tr>
<tr>
<td>LP</td>
<td>Pressure: 5.5 BAR; Flow: 39.1T/HR; Temperature: 207* C</td>
</tr>
<tr>
<td>Condensor</td>
<td>2 Pass Surface Condensor with stainless steel tubes, total cooling area 13988 M2</td>
</tr>
</tbody>
</table>

Source: http://www.ntpc.co.in/en/about-us/ntpc-overview

2.2.4 Products, Services and Delivery Mechanism at NTPC, ANTA

Ultimate production by NTPC-Anta has to be electrical power generated by using gas or naphtha keeping in mind that here it is the basic fuel. Power thus produced gets transported via six 220 KV Lines. So, role of this association is constrained till the limit of Switchyard, past which PGCIL system sustains to separate DISCOMs. Its client comprises of state dispersion organizations in part conditions of northern framework viz. Rajasthan, UP, Delhi, Punjab, Haryana, Himachal Pradesh,
Uttaranchal, J&K and Chandigarh. The coordination for era booking is finished by Anta with the NRLDC (Northern Region Load Dispatch Center) of Power Grid situated at New Delhi. Anta contently satisfies it’s client necessities regarding satisfactory solid power, besides aggressive cost additionally works with the client to keep up lattice solidness in the bigger enthusiasm of the district. To keep up the network soundness, the free market activity are to be reliably coordinated for which, the correspondence between the faculty keeping an eye on the control room at Anta and the NRLDC is set up on persistent premise.

Chart 2.1 Allocation of Different States in Anta’s Power

<table>
<thead>
<tr>
<th>State</th>
<th>Power Located</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td>10.5</td>
</tr>
<tr>
<td>Haryana</td>
<td>5.73</td>
</tr>
<tr>
<td>H.P.</td>
<td>3.78</td>
</tr>
<tr>
<td>J&amp;K</td>
<td>6.92</td>
</tr>
<tr>
<td>Punjab</td>
<td>11.69</td>
</tr>
<tr>
<td>Rajastahn</td>
<td>19.81</td>
</tr>
<tr>
<td>U.P.</td>
<td>21.75</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>3.79</td>
</tr>
<tr>
<td>Unlocated</td>
<td>15.04</td>
</tr>
</tbody>
</table>

Allocation of Different States in Anta’s Power

Source: http://www.ntpc.co.in/power-generation/gas-based-power-stations/anta
2.2.5 Organizational Hierarchy NTPC, ANTA

Present 3 layered structure involves Corporate Center (CMD, Board of Directors and Corporate capacities), Regional Head Quarters (five in numbers – NCR, NR, SR, ER with WR) and Stations/Projects, Anta being one of the stations. Anta falls under NCR-HQ. The business unit head of ANTA is the GENERAL MANAGER (GM). Power production here is regulated, maintained and controlled by Operations and Maintenance Department headed by AGM (O&M) answerable to GM. This department has numerous faces comprising mainly Operations, Mechanical Maintenance, Electrical Maintenance, C&I Maintenance, Chemistry, EEMG, MTP, every sub segment is going by a DGM/Senior Manager. Most important and essential bolster capacity divisions like F&A, HR, Contracts &Materials, Safety, TQM, IT and so forth, headed by DGM/Senior Managers are straightforwardly under the control of General Manager.

Fig. 2.2 Organisation Chart of NTPC, ANTA
2.3 Human Resource at NTPC

People are the heart, blood and soul of NTPC. The company is deeply passionate about ensuring the holistic development of all its employees as distinct individuals and good citizens. Currently it is the source of daily bread of approximately 24,546 employees.

Competence building, Commitment building, Culture building and Systems building are the four support systems of this company.

2.3.1 HR Vision

To enable their people to be a family of committed world class professionals, making NTPC a learning organisation.

2.3.2 Recruitment

NTPC believes in paving its own way. Official Trainee system was shown in 1977 with the target of raising a structure of homemade masters. In any case Division Post Graduates and Graduate Engineers are contracted through the country over open capable examinations and grounds enrolments. Contracting is trailed by 52 weeks of completely paid activation. Different types of training that are provided by NTPC for betterment of itself and its employees comprise of - hypothetical contribution, on occupation training, identity improvement and administration modules.

2.3.3 Professional success and Opportunities

NTPC has a settled capacity organization system set up, to ensure that they fulfil on their part vital improvement and applicable challenges for their delegates. Capacity organization structure includes Performance Management, Career Paths and Leadership Development.
2.3.4 Rewards & Recognitions

NTPC perceives that prizes and acknowledgments inspire their partners. To this end, they have made a separate regulatory body looking after prizes and appreciation through celebration of various achievements and seeing the duties behind such accomplishment.

2.3.5 Innovate, Create & Compete

NTPC has familiar different exercises which search for with redesign the creativity, advancement, down to earth wellness and collaboration of their specialists. These exercises consolidate the National Open Competition for Executive Talent (NOCET), Professional Circles, Quality Circles, Business Minds and MedhaPratiyogita (a test for their specialists). An organization publication by the name Skyline gets quarterly distributed which engages its labourers in disclosing personal contemplations, involvements plus experiences with this association.

2.3.6 Quality of Work-Life

This association pledges for providing accessible, comfortable and economic living atmosphere to its representatives. Notwithstanding guaranteeing safe and tastefully satisfying work places, NTPC effectively energizes a society of common regard and true belief between its companions, bosses and workers.

Away from the hustle-bustle of metro cities, NTPC townships depict examples of quietness, common magnificence showcasing communal harmony. An extent of welfare and delight workplaces including schools, recuperating focuses and social clubs are given at the townships to enhance the individual fulfilment and the thriving of agents and their families. An entire degree of points of interest, from take care
withdraws to post-retirement wellbeing. Favourable circumstances are extended to labourers to beat the challenges that come across in the journey of life.

2.3.7 Knowledge Management in NTPC

For fulfilling NTPC’s potential target of transforming this body in a learning hub, a coordinated Knowledge Management System has been created, which encourages unsaid information through learning and encounters of work.

2.3.8 Training & Development

NTPC believes that in any institution proficiency, adequacy and achievements depend greatly on the aptitudes, capacities and duty of the representatives who constitute the most essential resource of the organization. NTPC have built up their exhaustive training framework.

2.3.9 Education Up-gradation Schemes

When any organisation upgrades its specialist's aptitudes, it updates itself. NTPC adequately empowers its potentially capable and willing candidates for pursuing further education while still being actively involved in their respective jobs. Thus they are able to acquire advanced knowledge which is in accordance with their jobs. NTPC has tie-ups with driving establishments like MDI, Gurgaon; IIT Delhi; BITS Pilaniare eye-witnesses of its policies. NTPC reinforces gatherings of delegates who are drafted into their courses in perspective of their execution rating in the association and their execution in the choice test coordinated by the individual foundations. Not at all like other study leave and occasions, do delegates encountering have these courses foregone their compensation or advancement in the midst of the course.
2.3.10 Looking for Feedback

NTPC effectively looks forward at representative criticism and suggestions so that their HR intercessions along with recommendations stay applicable plus important. They routinely direct Employee Satisfaction and Organizational Climate Surveys.

2.3.11 Recompenses

Throughout all the functioning times, NTPC has gotten various recompenses, acknowledgments which have strengthen their HR reasoning and policies. It acts as a score sheet that they are moving on the right path with the help of their equally effective HR venture.

2.3.12 Corporate Social Responsibility at NTPC, ANTA

Anta incorporates numerous CSR activities like provincial wellbeing registration camps, rustic games, school outfitting, professional trainings and so on. Anta workers and their relatives are included in different exercises of CSR like intentional administrations giving instruction to rural population, providing a helping hand at crisis circumstances, vision-correction camps, and family planning campaigns, so on.