POWER SECTOR – STRUCTURE AND DEVELOPMENTS

India's power sector can be broadly segmented as under:

Generation : Includes thermal (dominated by coal with some gas-based capacities), hydro, nuclear and renewables (mainly wind and solar).

Distribution : Mainly comprising of state-owned utilities and few private utilities.

Transmission: Comprising of state networks, inter-state networks and inter-regional networks.

The power sector is mainly regulated through Tariff Policy 2016 of the Central Government, Electricity Act, 2003 and rules and regulations framed thereunder. The regulatory set-up for power sector comprises of the federal Ministry of Power as the policy setting body, Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERCs) with clearly demarcated areas of regulation.

Generation segment is fully deregulated with freedom to set up new generation capacities, subject to compliance with applicable laws. While generation plants prior to 6th January, 2006 (with a few exceptions) continue to be entitled for cost plus prescribed Return on Equity (ROE) tariff regime under two part tariff structure, all new generation capacities have to bid for selling their power under a competitive bidding process initiated by distribution companies seeking to procure additional power.

Distribution segment is regulated by the appropriate SERCs under cost plus prescribed ROE tariff regime. The Government has declared its policy intent to further deregulate the distribution segment by unbundling of wire infrastructure and supply businesses of the distribution companies - regulating the wire business on cost plus prescribed ROE tariff regime and opening up the supply business to competition by allowing multiple suppliers and choice to consumer to decide his electricity supplier.

Transmission projects prior to 6th January, 2011 are regulated by appropriate regulatory Commissions by way of cost plus prescribed ROE tariff regime and all new inter-state transmission projects (with a few exceptions) are awarded under a tariff based competitive bidding process.

Post deregulation of electricity generation, a lot of Independent Power Producers (IPP) from private sector set up new thermal generation (coal and gas-based) capacities. This resulted in country's generation capacity exceeding the demand, leading to sharp reduction in peak power / energy deficits. Many of the IPPs set up new capacities with inadequate risk management, which also resulted in lot of stranded capacities (currently estimated at approx. 50 GW). Many of these stranded capacities are likely to be taken through the Insolvency Resolution process due to their default on financial obligations and are expected to be available at sharp discounts to current costs for creating these capacities.

Due to emphasis in Government policies and regulations aided by sharp reduction in capital costs, there has been a massive increase in installed capacities in renewable energy space – more particularly wind and solar. The Government has targeted to reach 175 GW of installed renewable energy capacity by March 2022. Wind and solar electricity prices have reached grid parity prices. The country's renewable energy capacity is expected to witness strong growth in the coming years.

Distribution segment is seen as the weakest link in India's power system and recognising this, the Central Government successfully launched its flagship scheme Ujwal Discom Assurance Yojana (UDAY) with a view to improve the operational and financial performance of the distribution companies. In addition, several policy measures have been proposed, such as stringent Aggregate Technical & Commercial (AT&C) loss targets, Direct Benefit Transfer scheme, pre-paid supply, service standards for Discoms, etc. The power-for-all scheme, Sahaj Bijli Har Ghar Yojana (SAUBHAGYA), targeted to electrify all villages in the country, has been successfully implemented by the Government during the year.

Transmission segment, which is now deregulated, witnessed 18 new projects involving investment of approximately ₹16,000 Crore being brought up for competitive bidding during the year. This segment will require huge investments in creation and upgradation of transmission capacities to cater to increased power capacities (including green corridors for renewable capacities) and improve the power flow from surplus regions to deficit regions.

BUSINESS MODEL

The Company is an integrated power utility engaged in the businesses of electricity generation, transmission and distribution with operations spread across the states of Gujarat, Maharashtra, Uttar Pradesh and Karnataka.

1. Generation

The Company has total generation capacity of 4,553.8 MW (including under construction) spread across thermal and renewable generating assets.

A. 3,092 MW Thermal Generation

i. 362 MW coal-fired thermal generation

The 362 MW AMGEN Power Plant at Ahmedabad in Gujarat is an embedded generation unit for the licensed distribution area of Ahmedabad. It is regulated by Gujarat Electricity Regulatory Commission (GERC) which allows cost plus post-tax ROE of 14% as part of the regulated tariff.

ii. 2,730 MW gas-fired thermal generation

The Company has three gas based plants namely 1,147.5 MW SUGEN Mega Power Plant, 382.5 MW UNOSUGEN Power Plant and 1,200 MW DGEN Mega Power Plant. All three are regulated by CERC which allows cost plus post-tax ROE of 15.5% as part of the regulated tariff. Of the above gas-fired thermal generation, 1,582.5 MW capacity (comprising UNOSUGEN and DGEN) is stranded for want of demand.

B. 1,461.8 MW Renewable Generation

i. 610.5 MW operational projects

The operational renewable generation capacity of 610.5 MW (138 MW Solar and 472.5 MW Wind) have long-term Power Purchase Agreements (PPAs) at preferential feed-in-tariffs, which ensure attractive returns. Out of this capacity, 490.5 MW capacity is for meeting the Renewable Power Purchase Obligations of Company-operated distribution utilities.

ii. 851.3 MW under construction projects

The following are the major under construction projects:

❖ **499.8 MW Wind Power Project at Gujarat**

The project was won by the Company under the SECI III auction held in FY 18 at a tariff of ₹2.44 per kWh for a period of 25 years with scheduled commissioning by November 2019. The project will be set up at an expected cost of ₹3,329 Crore and is delayed, primarily due to land availability issues in Gujarat. Currently, such delay is not expected to have any material cost impact.

❖ **126 MW Wind Power Project at Maharashtra**

The project was won by the Company under the Maharashtra State Electricity Distribution Company Limited (MSEDCL) auction held in FY 18 at a tariff of ₹2.87 per kWh for a period of 25 years with scheduled commissioning by January 2020. The project will be set up at an expected cost of ₹918 Crore within the scheduled commissioning time. The project is being implemented by Torrent Solargen Ltd, a wholly owned subsidiary of the Company.

❖ **115 MW Wind Power Project at Gujarat**

The project was won by the Company under the SECI V auction held in FY 19 at a tariff of ₹2.76 per kWh for a period of 25 years with scheduled commissioning by July 2020. The project will be set up at an expected cost of ₹800 Crore. The project is being implemented by Torrent Solargen Ltd, a wholly owned subsidiary of the Company.

- **100 MW Wind Power Project at Gujarat**

  The Company had entered into an arrangement with Inox Wind Ltd. for 150 MW wind power project won by it under the SECI I auction at a tariff of ₹3.46 per kWh for a period of 25 years. The project has been downsized from 150 MW to 100 MW. The downsized project will be set up at an expected cost of ₹683 Crore and is expected to commission by July 2019. The project is being implemented through SPVs, the ownership of which will be transferred to the Company after the transfer restriction period.

2. Distribution

The Company operates as a licensee for power distribution in the cities of Ahmedabad, Gandhinagar, Surat and Dahej, aggregating to 425 sq kms of area. During FY 19, the Company was awarded distribution license for Dholera Special Investment Region - DSIR (920 sq kms) for 25 years as an additional licensee. The licensed distribution business of the Company is regulated by GERC which allows post-tax ROE of 14% as part of the regulated tariff.

The Company operates as a franchisee (of the license holder) for power distribution in the cities of Bhiwandi and Agra, aggregating to 942 sq kms of area. The franchise agreement period for Bhiwandi is upto 2027 and for Agra is up to 2030, but may be renewed on expiry. During FY 19, the Company was awarded distribution franchise for Shil, Mumbra & Kalwa (SMK) area covering approx. 65 sq kms (under Thane urban circle) by MSEDCL, based on competitive bidding process, for a period of 20 years. The franchised distribution business of the Company is governed by the respective Distribution Franchise Agreements executed between the Company and State Discom as license holder. The main thrust of the Company is to reduce AT&C losses in the franchised areas and improve customer services.

In addition to above, the Company has non-material transmission and electrical cables manufacturing businesses.

OPERATIONAL AND FINANCIAL PERFORMANCE

1. Operating Performance

The following tables set forth the key operational parameters:

A. Thermal Generation

Particulars	AMGEN*		SUGEN	
	FY 19	FY 18	FY 19	FY 18
PAF (%)	93.13	93.21	98.46	95.86
PLF (%)	87.84	83.21	62.29	65.26
Net Generation (MUs)	2,550	2,406	6,105	6,396

*Excluding 60 MW C station which has been retired wef 2nd April, 2018

UNOSUGEN and DGEN projects did not operate during the year primarily for want of demand.

While the PLF at AMGEN was high due to better fuel cost and its status as an embedded generation plant, the PLF of SUGEN was marginally lower as compared to previous year mainly on account of lower off take by long term beneficiaries and underutilisation of merchant capacity. In spite of continuing unavailability of domestic gas and relatively higher cost of imported LNG, SUGEN was able to operate at decent PLFs compared to other gas-based plants in the country mainly on account of highly efficient plant operations, judicious usage of imported LNG contracted at attractive prices and selling of power through short term contracts.

B. Renewables

Operational Projects	Solar		Wind	
	FY 19	FY 18	FY 19	FY 18
Capacity (MW)	138	138	472.5	430.5
PLF (%)	17.57	17.27	30.08	27.33
Net Generation (MUs)	212	209	1,140	673

Solar PLF was higher than previous year on account of better solar irradiation. Wind PLF was better on account of first year of full operation of projects commissioned last year and better wind speeds.

C. Licensed Distribution

Particulars	Ahmedabad & Gandhinagar		Surat		Dahej	
	FY 19	FY 18	FY 19	FY 18	FY 19	FY 18
Area (sq. km.)	~356	~356	~52	~52	~17	~17
Sales (MUs)	7,835	7,461	3,276	3,301	426	312
Growth (%) over PY	5.02		(0.75)		36.64	
T&D Loss (%)	5.61	6.31	4.21	4.35	0.35	0.40
Open Access (MUs)	27	130	-	-	-	-
Consumer Base (lakhs, except Dahej)	19.41	18.99	6.11	6.06	106 *	101 *
Peak Demand (MW)	1,906	1,832	687	671	66	58

*represents number of industrial consumers; Dahej license area comprises the Dahej SEZ area, which is made up of export oriented manufacturing units.

The sales growth in Ahmedabad was 5.02% representing normal load growth and reduction in open access availment. The sales in Surat were marginally lower mainly on account of slowdown in textile and diamond industries. The sales in Dahej were higher by 36.64% in FY 19 mainly due to addition of new consumers and increase in industrial demand.

The Company was able to reduce T&D losses further as compared to last year and they continue to remain the lowest in the country.

GERC passed Tariff Order dated 24th April, 2019 for Ahmedabad and Surat license area, truing-up the Aggregate Revenue Requirement (ARR) of FY 18 and fixing tariff for FY 20. For the third year in succession, the Commission has kept the tariff at the same level. The Company's profit is not negatively impacted by the tariff order, considering the fact that its returns in licensed distribution business are determined by 14% post-tax ROE prescribed in the regulations.

The aggregate amount of revenue gap of past periods approved and expected to be approved by GERC as on 31st March, 2019 is ₹940 Crore and the same is appropriately accrued in the financial statements. In addition, aggregate amount of revenue gap of ₹670 Crore is under dispute at various forums (primarily comprising of claims on account of carrying costs) and not accrued in the financial statements; the same will be accrued in the financial statements of the period in which such disputes are determined by the appropriate statutory authorities.

During the year, the Company was awarded distribution licence for supply of electricity in DSIR for 25 years. DSIR license area is about 920 sq. km. and is a part of ambitious Delhi Mumbai Industrial Corridor in the state of Gujarat. The Company has started developing the distribution network in DSIR.

D. Franchised Distribution

Particulars	Bhiwandi		Agra	
	FY 19	FY 18	FY 19	FY 18
Area (sq. km.)	~721	~721	~221	~221
Sales (MUs)	3,074	3,084	1,731	1,720
Growth (%) over PY	(0.31)		0.65	
AT&C Loss (%)	14.90	17.28	16.11	20.89
Consumer Base (lakhs)	3.14	2.90	4.52	4.31
Peak Demand (MVA)	555	576	458	443

Note : SMK has yet not been taken over.

Bhiwandi sales were marginally affected on account of strike by power loom industry during the year, substantially offset by reduction in AT&C losses and increase in residential and commercial consumer sales. Agra sales growth was marginal, driven by increase in consumer base and considerable reduction in AT&C losses.

The Company achieved substantial reduction in AT&C losses in Bhiwandi and Agra due to a combination of several loss reduction efforts like focused surveillance and vigilance; theft deterrent systems, equipment and activities; undergrounding of network; distribution transformer cleaning; law enforcement against detected illegal connections; etc.

2. Consolidated Financial Performance

The key financial data from the Statement of Profit and Loss is set out below:

(₹ in Crore)

Particulars	FY 19	FY 18	Change in %
Revenue from Operations	13,151	11,512	14%
Fuel / Power Purchase / Material Cost	8,605	7,057	22%
Contribution	4,546	4,455	2%
Other Income	190	264	(28%)
G & A Expenses	1,346	1,338	1%
PBDIT	3,390	3,381	0%
Finance Cost	899	848	6%
Depreciation and Amortization Exp.	1,227	1,132	8%
Other Comprehensive Income / (Exp.)	(10)	21	(148%)
Profit Before Tax	1,254	1,421	(12%)
Tax Expenses	356	456	(22%)
Profit After Tax	898	965	(7%)

During the year most of the key operating drivers in the Company's businesses showed a positive trend – ROEs of regulated businesses increased, sales volume increased, contribution margin improved, T&D losses decreased & key efficiency parameters improved. The reported profit is however lower on account of change in accounting policy effected during the year consequent to adoption of Ind AS 115 "Revenue from contracts with customers". Reported profit before tax for FY 19 is higher than proforma profit before tax of previous year (arrived by applying the same accounting policy to previous year's numbers) by about ₹285 Crore (i.e. an increase of 29% over proforma profits of previous year), a reflection of above positive trends.

Liquidity, Capex and Debt Positions

The Company's liquidity including mutual fund investments and bank / financial institution deposits was ₹1,145 Crore at the start of the year. Liquidity as at the end of the year was ₹1,253 Crore, an increase of ₹108 Crore. For the year, net cash inflow from (a) operating activities was ₹1,784 Crore & (b) net borrowing was ₹418 Crore; and net cash utilised during the year was (a) capital expenditure ₹1,722 Crore, (b) dividends distributed ₹292 Crore & (c) non-current investments ₹80 Crore, leaving a closing liquidity of ₹1,253 Crore.

During the year, the Company incurred capital expenditure (i.e. capitalisation, capital work-in-progress and capital advances) of ₹1,692 Crore as under:

Particulars	Amount (₹ in Crore)
Licensed Distribution	896
Franchised Distribution	229
Thermal Generation	35
Renewable Generation	503
Others	29
Total	**1,692**

The long term debt of the Company at the year-end was ₹9,455 Crore, net increase of ₹118 Crore over the previous year (new debt raised ₹860 Crore less repayment of past debt ₹742 Crore). The weighted average rate of interest at the year-end was 9.08% with repayment profile as under:

Financial Year	**Repayment Amount (₹ in Crore)**
2019-20	844
2020-21 to 2023-24	3,209
2024-25 to 2027-28	2,656
2028-29 to 2031-32	2,323
2032-33 to 2034-35	423
Total	**9,455**

The Company's credit rating was unchanged during the year and was as follows at end of the year:

Long term rating : CRISIL AA- / Stable

Short term rating : CRISIL A1+

The following table sets forth key financial ratios with brief explanation on changes, where relevant.

Particulars	**FY 19**	**FY 18**	**Reason for Significant Change, if any**
Debtors Turnover	10.29 (~35 days)	10.28 (~35 days)	
Interest Coverage	3.89	4.16	Not comparable due to change in accounting policy during the year. If the same accounting policy is applied to FY 18, the pro-forma Interest coverage ratio for FY 18 is 3.59.
Current Ratio	1.46	1.23	
Long Term Debt to Equity Ratio	0.90	1.01	Reduced due to increase in equity from current year profits and recognition of non-disputed regulatory claims in opening equity.
Net Debt to EBITDA	2.61	2.49	Not comparable due to change in accounting policy during the year. If the same accounting policy is applied to FY 18, the pro-forma Net Debt to EBITDA ratio for FY 18 is 2.89.
EBITDA Margin	24.74%	28.53%	Not comparable due to change in accounting policy during the year. If the same accounting policy is applied to FY 18, the pro-forma EBITDA margin for FY 18 is 25.61%. Adjusted for one-time gains, pro-forma EBITDA margin for FY 18 is 24.74% versus 24.67% for FY 19.
Net Profit Margin	7.41%	9.59%	Not comparable due to change in accounting policy during the year. If the same accounting policy is applied to FY 18, the pro-forma Net Profit margin for FY 18 is 6.82%.
Return on Net Worth	9.54%	12.62%	Not comparable due to change in accounting policy during the year. If the same accounting policy is applied to FY 18, the pro-forma Return on Net Worth for FY 18 is 7.88%.

RISKS AND CONCERNS

Key risks and concerns in the businesses of the Company are briefly explained below:

❖ The Company has operational gas-based power generation capacity of 2,730 MW, out of which 910 MW is tied up under long term PPAs and balance 1,820 MW untied capacity is dependent on short term power contracts for their operation. During the year, substantial portion of such capacity remained unutilised for want of short term power contracts or unviability of prices in the short term power market.

  The Company has built capabilities to import LNG from international markets at efficient prices to operate its power plants. However, such prices are subject to fluctuations and associated foreign exchange risks, consequent to which there would be periods during which power from these plants would be uncompetitive.

  The Company is making efforts to get long term power purchase arrangements for its unutilised gas power capacity. However, Government's thrust to increase renewable generation capacity in the country coupled with falling tariffs of renewable power poses a risk to the Company's uncontracted generation capacity.

❖ The Company's 362 MW AMGEN coal-based power plant is required to comply with stricter emission norms by December 2022. Such compliance is expected to involve significant capital expenditure, which will significantly increase the cost of electricity from this plant in view of limited remaining useful life of the plant. In absence of compliance, the Company may be required to phase out AMGEN on or before December 2022.

❖ The Company has 851 MW of under construction renewable projects, of which projects of 625 MW are facing project execution challenges causing a delay in completion.

❖ The Company's licensed distribution business faces the risk of a delay in recovery of some part of cost of supply due to regulatory conditions. The unrecovered & undisputed regulatory claim as at year end was ₹940 Crore, recognised in the financial statements for the year. While such recoveries are permitted with carrying costs for delayed recovery, the same may delay the cash flows of the Company.

  In addition, regulatory disputes also cause a delay in recovery of some part of the cost of supply. Such disputed regulatory claims as at the end of the year was ₹670 Crore, not recognised in the financial statements for the year.

❖ Increasing digitization and digital inter-connections in the power system of the country have made the stakeholders (generators, transmission entities, distribution entities and load dispatch centres) exposed to increased cyberattacks and vulnerable to widespread and prolonged service disruptions and data leakage, fraud, etc. The Company has set in place multi–layered firewalls to restrict unauthorised access along with security controls. Periodic audit and risk assessment is carried out and vulnerabilities, if any, are addressed.

BUSINESS OUTLOOK

1. Thermal Generation

SUGEN plant is expected to operate at reasonable PLF levels on back of long term PPAs for 82% capacity; however due to tightening of norms in the tariff regulations for control period 2019 to 2024, it will experience a reduction in profits due to reduction in efficiency gains. SUGEN will continue to harvest opportunities in short term power market by operating its untied capacity.

UNOSUGEN and DGEN plants remained stranded due to lack of demand. UNOSUGEN plant has a long term power selling arrangement with Company's distribution business, which is under the process of approval by the regulator. DGEN plant is expected to operate for supply in short term power market. In the longer term, the prospects for DGEN plant have improved due to various favourable developments for gas-based plants such as, (i) increased availability of domestic gas; (ii) expected surge in power demand, including peak demand due to several governmental initiatives; (iii) need for balancing power to manage the intermittency of renewable power; (iv) expected increase in pollution tax / costs on coal based plants, thus creating a level playing field; and (v) ability to service peak load and provide ancillary services in the power system.

2. **Renewables**

The wind projects under development in Gujarat are facing significant delays on account of land acquisition. However the associated project costs will also get delayed. Due to force majeure nature of the delays, the Company expects to get suitable extension of project completion dates from the power procurers and does not expect to incur any significant financial cost. The Company will focus on completion of these projects and build in-house O&M capabilities.

3. **Distribution**

In Licensed Distribution business, the Company will focus on developing the new licensed area of DSIR and expanding and upgrading its network in existing areas of Ahmedabad, Gandhinagar, Surat and Dahej SEZ to cater to the growth in demand and further reduce T&D losses.

In Franchised Distribution business, the Company will focus on developing the new franchised area of SMK and expanding and upgrading its network in existing areas of Bhiwandi and Agra to cater to the growth in demand and further reduce AT&C losses.

The Company will continue to look out for new opportunities in distribution sector in form of privatisation or franchise of existing areas.

4. **Transmission**

Currently, the Company has limited investments in the Transmission segment; however, given the huge investment opportunity available in this segment, robust regulatory mechanisms, limited counter-party risks and the Company's strengths in financing and executing large projects, this is an area earmarked for future growth. The Company intends to selectively participate in tariff based competitive bidding for transmission projects (inter-state and intra-state) at attractive returns.

INTERNAL CONTROL SYSTEMS

The Company's Internal Control System is commensurate with the size and nature of its operations aimed at achieving efficiency in operations, optimum utilisation of resources, reliable reporting and compliance with all applicable laws and regulations. Deloitte Haskins and Sells LLP is the Internal Auditor of the Company. The key observations and recommendations from such internal audit and follow up actions for improvement of the business processes and control are periodically reviewed and monitored by the Audit and Risk Management Committee.

CAUTIONARY STATEMENT

Certain statements in the Management Discussion and Analysis Report may be forward-looking. Actual outcomes may vary from those expressed or implied. The Company assumes no responsibility to publicly amend, modify or revise any such statements on the basis of subsequent developments, information or events.
