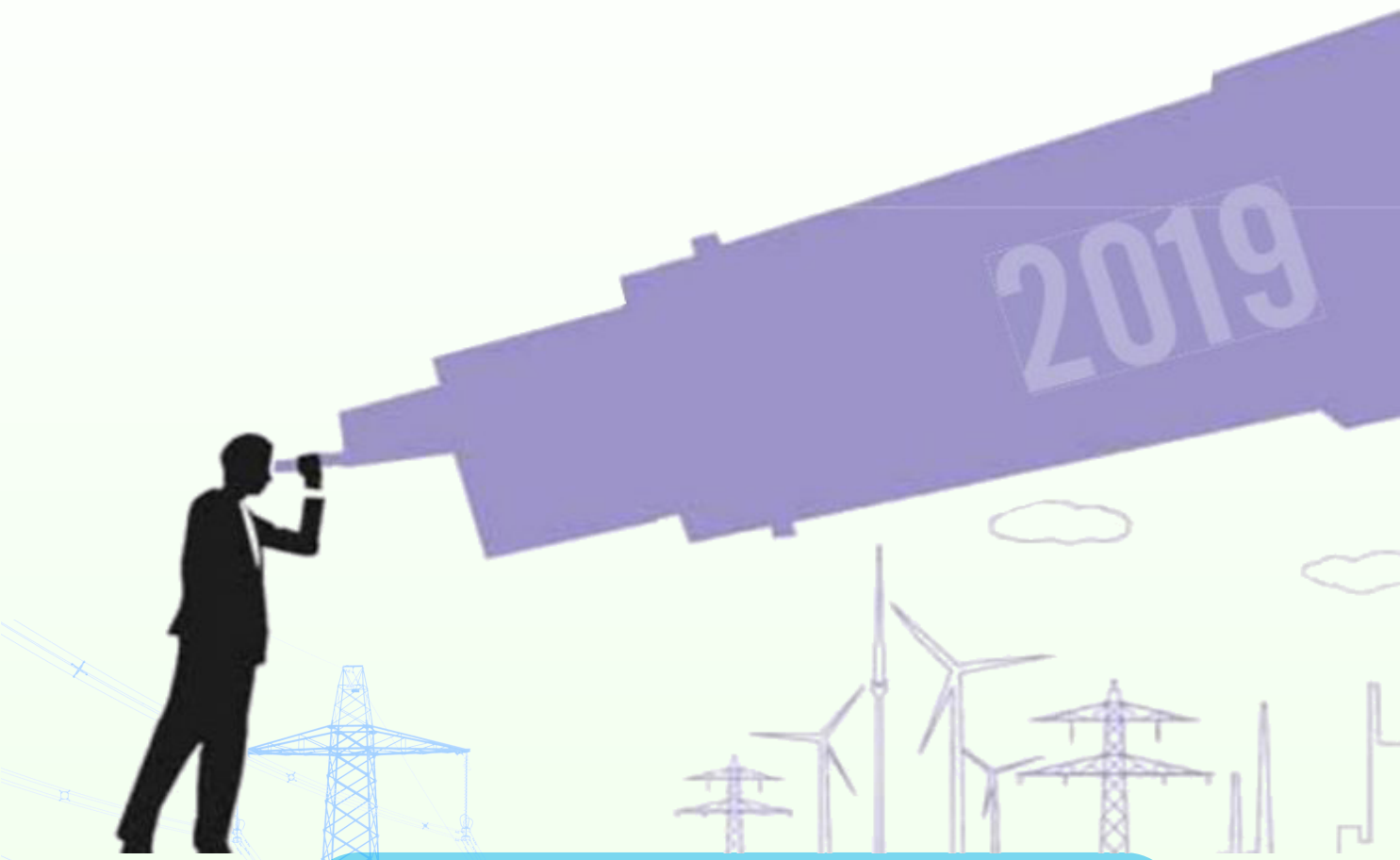




POWER BULLETIN

OUTLOOK 2019

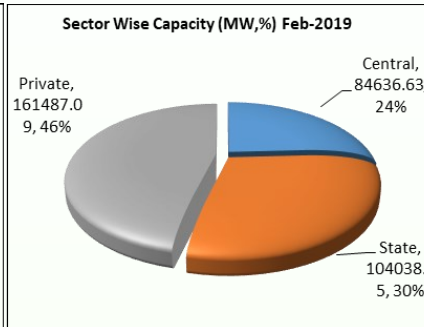
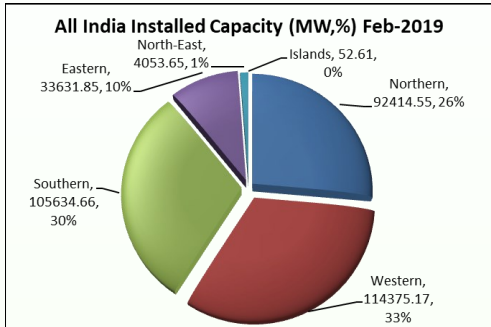


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OVERVIEW OF INDIAN POWER SYSTEM FOR FEB-2019

All India Installed Capacity (MW) as on 28-02-2019						All India Installed Capacity (MW) as on 28-02-2019		Peak Demand of DD & DNH				
Region	Thermal	Nuclear	Hydro	RES	Total	Sector	Generation (MW)	Utility	Feb-19			
Northern	57061.46	1620.00	19707.77	14025.32	92414.55				Central	84636.63	Peak Demand (MW)	Peak Met (MW)
Western	82675.11	1840.00	7547.50	22312.56	114375.17	State	104038.8	DD		331		
Southern	53517.26	3320.00	11774.83	37022.57	105634.66		Private		161487.1	DNH	800	799
Eastern	27301.64	0.00	4942.12	1388.09	33631.85	Total		350162.50				
North-Eastern	2331.83	0.00	1427.00	294.82	4053.65							
Islands	40.05	0.00	0.00	12.56	52.61							
ALL	222927.34	6780.00	45399.22	75055.92	350162.48							



All India Plant Load Factor (PLF) in (%)		
Sector	Feb-18	Feb-19
Central	76.06	74.70
State	60.82	56.92
Private IPP	52.68	52.68
Private UTL	60.38	61.25
ALL India	62.30	60.51

Highlights of WR Grid for Feb-2019

- Maximum Peak Demand Met:** 50387 MW
- Energy Consumption:** Total Energy Consumption was 30828 MUs in the month of Feb'19 at the average of 1101 MUs/day and Maximum was 1152 MUs on 22 Feb'19. Average Energy consumption increased by 5.62% w.r.t. last year (1042MUs).
- Unrestricted Demand:** Maximum Unrestricted demand was 54536 MW and Average Peak Unrestricted demand was 45880 MW.
- Frequency Profile:** System frequency as per IEGC band is 49.90 Hz to 50.05 Hz. Maximum, Minimum & Average Frequencies 50.27 Hz, 49.68 Hz & 49.99 Hz were respectively observed in the month of Feb-2019.
- Voltage Profile:** All 765 KV nodes of WR were within the IEGC limit except, Wardha, Tamnar, Durg and Kotra which are high voltage node. High Voltage (greater than 420 KV) at 400KV substations were observed at Khandwa, Damoh, Nagda, Raipur, Raigarh, Bhilai, Wardha, Dhule, Parli, Boisar, Kalwa, Karad, Kasor, Amreli, Vapi, Mapusa, Kala, Magarwada, Hazira & Dehgaon. Highest of 56.04% of time voltage remained above 420KV at Dehgaon.
- Hydro Generation:** Total hydro generation of Western Region was 636.77 MUs at an average of 22.74 MUs/day in the month of Feb-2019.
- Wind Generation:** Total wind generation was 1324 MUs at an average of 47.30 MUs/day in the month of Feb-2019.
- Solar Generation:** Total Solar generation was 688 MUs at an average of 25 MUs/day in the month of Feb-2019.
- Open Access Transaction Details for Feb-2019:**
 - Total 211 Nos. of Intra-regional & Inter-regional short term open access transactions for 2901 MUs of energy were approved in this month. From Apr'18 to Feb'19, total Nos of Intra-regional & Inter-regional short term open access transactions are 990.51 Nos and energy approved is 15297.42 MUs.

[Read More...](#)

List of Transmission Lines Commissioned/Ready for Commissioning During Feb-2019												Total
Sector	Central				Pvt.			State				
Voltage Level (KV)	800	765	400	220	765	400	220	765	400	230	220	
No. of Lines	0	2	4	2	0	0	2	0	7	1	11	29

List of Substations Commissioned/Ready for Commissioning During Feb-2019												Total
Sector	Central				Pvt.			State				
Voltage Level (KV)	765	400	230	220	765	400	220	765	400	230	220	
No. of Substations	1	4	0	0	0	0	1	0	6	1	12	25

Region-wise Power Supply Position (Demand & Availability) in Feb-2018 & Feb-2019						
Region	Energy (MUs)				Deficit / Surplus (%)	
	Demand		Energy Met		Feb-18	Feb-19
	Feb-18	Feb-19	Feb-18	Feb-19		
Northern	25,681	25,306	25,213	24,958	(1.8)	(1.4)
Western	28,356	29,328	28,356	29,321	0.0	0.0
Southern	26,685	27,432	26,656	27,430	(0.1)	0.0
Eastern	10,045	9770	9962	9770	(0.8)	0.0
North Eastern	1136	1301	1114	1277	(1.9)	(1.9)
All India	91903	93137	91301	92756	(0.7)	(0.4)

Region-wise Peak Demand / Peak Met in Feb-2018 & Feb-2019						
Region	Power (MW)				Deficit / Surplus (%)	
	Peak Demand		Peak Met		Feb-18	Feb-19
	Feb-18	Feb-19	Feb-18	Feb-19		
Northern	47171	45848	46578	45227	(1.3)	(1.4)
Western	48797	54536	48691	54292	(0.2)	(0.4)
Southern	45426	48000	45326	48000	(0.2)	0.0
Eastern	18810	20341	18797	20341	(0.1)	0.0
North Eastern	2387	2480	2333	2480	(2.3)	0.0
All India	158505	162242	157037	161422	(0.9)	(0.5)

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POWER TRADING

⇒ Emergence of IT has helped to create massive E-Commerce platforms in every walk of life. One such E-Commerce platform for transiting electricity for physical delivery, fine tuning daily requirements, sale of residual generation, optimal utilization of generating resources at marginal cost of production etc. has been made possible through the commencement of Power Exchanges.

⇒ For more information about IEX visit (www.iexindia.com); For more information about PXIL visit (www.powerexindia.com)

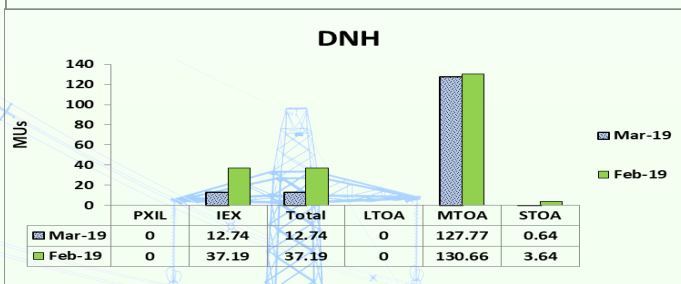
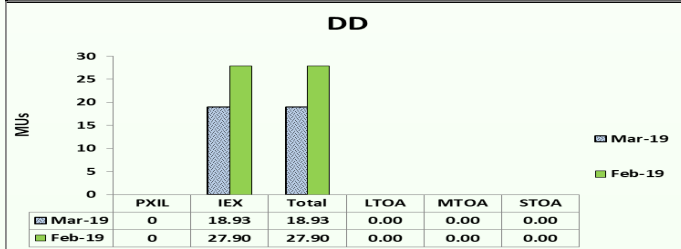


⇒ PXIL & IEX Trading summary

MAR-2019	PXIL					IEX				
	Buy Bid (MWh)	Sell Bid (MWh)	MCP (₹/MWh)	Cleared Volume (MWh)	Marginal Clear Volume (MWh)	Buy Bid (MWh)	Sell Bid (MWh)	MCP (₹/MWh)	Cleared Volume (MWh)	Marginal Clear Volume (MWh)
Total	48003.2	386003.2	-	40803.2	40611.2	4444286.0	7765381.0	-	3356076.7	3475710.7
Min	0.0	0.0	0.0	0.0	0.0	2537.3	6483.6	1999.7	2259.9	2310.8
Max	240.0	380.0	4500.0	240.0	240.0	12589.5	17859.4	5898.8	8257.5	8669.1
Avg	16.1	129.7	1450.9	13.7	0.0	5973.5	10437.3	3118.6	4510.9	4671.7

FEB-2019	PXIL					IEX				
	Buy Bid (MWh)	Sell Bid (MWh)	MCP (₹/MWh)	Cleared Volume (MWh)	Marginal Clear Volume (MWh)	Buy Bid (MWh)	Sell Bid (MWh)	MCP (₹/MWh)	Cleared Volume (MWh)	Marginal Clear Volume (MWh)
Total	1665.2	436676.0	-	926.0	926.0	3762974.7	7211786.4	-	2794087.4	2855618.4
Min	0.0	0.0	0.0	0.0	0.0	2273.1	5568.6	1500.3	2114.4	2087.6
Max	10.5	351.5	4500.0	10.5	10.5	11746.3	19895.1	5223.8	7930.9	8224.5
Avg	0.6	162.5	497.4	0.3	0.3	5599.7	10731.8	3084.0	4157.9	4249.4

DD & DNH: OPEN ACCESS DETAILS



REC Trading Session Mar-2019

Trader Company	PXIL		IEX		
	Particular	Non-Solar	Solar	Non-Solar	Solar
Total Sell Bid (REC's)	3,55,727	2,03,322	7,57,242	3,05,049	
Total Buy Bid (REC's)	1,39,814	2,34,156	10,39,447	6,86,784	
Clearing Price (₹/Certificate)	1,395	1,700	1,500	2,000	
Cleared Volume (REC's)	1,14,449	1,29,152	7,16,929	2,17,231	

POWER MARKET UPDATE: March-2019 Day Ahead Market Trades 3,356 MU with Avg. MCP at Rs. 3.12 per unit

• The average Market Clearing Price (MCP) at Rs.3.12 per unit registered 22% decline over Rs. 4.02 per unit during Mar-18.

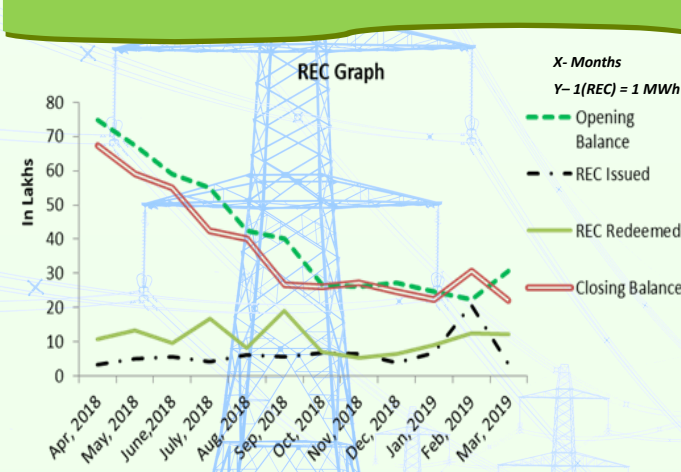
The average MCP during different time-periods of the month was:

- ◇ Morning (07:00 to 10:00 Hrs): Rs. 3.35 per unit
- ◇ Day (11:00 to 17:00 Hrs): Rs. 2.99 per unit
- ◇ Evening peak (18:00 to 23:00 Hrs): Rs. 3.53 per unit
- ◇ Night (01-06 Hrs and 24 Hrs): Rs. 2.76 per unit

• The day-ahead market experienced transmission congestion mainly towards import of power by Southern States which led to volume loss of 120 MU representing 3% of the total traded volume on the exchange. The percentage time congestion occurred was 35.6%.

- The One Nation, One Price was realized for 3 days in the month of Mar-19.
- On daily average basis 735 participants traded in the power market in Mar-19.
- In fiscal 2018-19, DAM cumulatively traded 50,063 MU over 44,842 traded in the previous fiscal registering 12% increase

RENEWABLE ENERGY CERTIFICATE MECHANISM (REC) FROM APR-18 TO MAR-19



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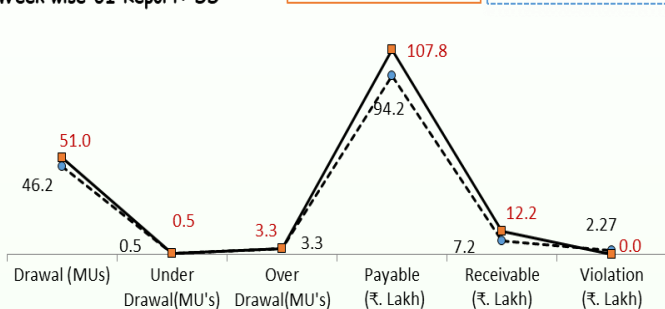
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DEVIATION CHARGES

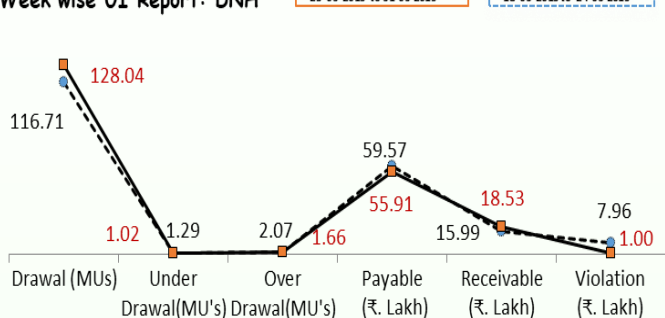
[DD User Click to get UI Report](#)
[DNH User Click to get UI Report](#)

DD-Deviation Charges								DNH-Deviation Charges							
FY 2018-19	Drawl (MUs)	Schedule (MUs)	UI Drawl (MUs)		UI Charges(₹. Lakh)			FY 2018-19	Drawl (MUs)	Schedule (MUs)	UI Drawl (MUs)		UI Charges (₹. Lakh)		
			Under Drawl	Over Drawl	Payable	Receivable	Violation				Under Drawl	Over Drawl	Payable	Receivable	Violation
Cumulative Total up to Mar-19	2575.43	2322.94	9.63	221.94	7355.90	10.10	85.35	Cumulative Total up to Mar-19	6337.59	6112.15	20.84	246.31	6577.73	455.76	303.71
18-03-2019 to 24-03-2019	46.23	43.43	0.49	3.29	94.15	7.18	2.27	18-03-2019 to 24-03-2019	116.71	115.93	1.29	2.07	59.57	15.99	7.96
18-03-2018 to 24-03-2018	51.93	48.55	0.31	3.69	94.89	-6.43	--	18-03-2018 to 24-03-2018	123.16	117.60	0.04	6.50	150.04	0.69	--
25-03-2019 to 31-03-2019	50.95	48.17	0.53	3.31	107.84	12.16	0	25-03-2019 to 31-03-2019	128.04	127.40	1.02	1.66	55.91	18.53	1
25-03-2018 to 31-03-2018	50.65	46.54	0.27	4.37	128.64	4.62	--	25-03-2018 to 31-03-2018	123.63	116.69	0.13	7.07	191.04	2.07	--

Week wise UI Report: DD



Week wise UI Report: DNH



DD							DNH						
Month	FY 2017-18 (All Freq Hz)			FY 2018-19 (All Freq Hz)			Month	FY 2017-18 (All Freq Hz)			FY 2018-19 (All Freq Hz)		
	Under Drawl in MU's	Over Drawl in MU's	UI Rate in ₹/Unit	Under Drawl in MU's	Over Drawl in MU's	UI Rate in ₹/Unit		Under Drawl in MU's	Over Drawl in MU's	UI Rate in ₹/Unit	Under Drawl in MU's	Over Drawl in MU's	UI Rate in ₹/Unit
April	1.29	(11.30)	(2.48)	0.30	(19.56)	(2.79)	April	1.91	(21.52)	(2.31)	0.39	(22.51)	(2.70)
May	0.87	(15.28)	(2.19)	0.57	(27.91)	(3.43)	May	13.54	(2.97)	(1.49)	2.03	(16.76)	(3.40)
June	1.09	(17.98)	(2.16)	0.23	(24.82)	(2.61)	June	9.26	(3.65)	(1.98)	1.43	(15.89)	(2.57)
July	0.97	(15.89)	(2.26)	0.16	(31.37)	(2.54)	July	6.71	(6.66)	(0.96)	0.43	(25.32)	(2.37)
Aug	0.19	(24.00)	(2.3)	0.10	(28.24)	(2.52)	Aug	3.50	(14.68)	(2.15)	0.33	(35.64)	(2.35)
Sep	0.39	(24.70)	(2.64)	0.14	(33.75)	(2.92)	Sep	2.06	(22.87)	(2.74)	0.50	(33.89)	(2.73)
Oct	0.13	(29.42)	(2.79)	0.37	(25.13)	(2.58)	Oct	1.53	(28.73)	(2.67)	1.76	(26.70)	(2.64)
Nov	0.22	(22.01)	(2.71)	0.65	(19.69)	(2.48)	Nov	2.23	(17.81)	(2.87)	2.36	(18.13)	(2.67)
Dec	0.66	(16.60)	(2.50)	0.20	(23.87)	(2.57)	Dec	1.09	(21.60)	(2.53)	0.57	(27.12)	(2.56)
Jan	1.04	(18.20)	(2.63)	2.25	(6.69)	(4.20)	Jan	0.47	(26.01)	(2.45)	2.68	(7.65)	(3.84)
Feb	1.33	(12.58)	(2.58)	2.46	(7.70)	(3.85)	Feb	0.28	(22.83)	(2.46)	2.99	(8.68)	(3.68)
Mar	0.99	(19.63)	(2.99)	2.21	(13.41)	(3.69)	Mar	1.03	(26.07)	(2.73)	5.37	(8.02)	(5.9)
Total	9.18	(227.6)	(2.55)	9.64	(262.14)	(2.982)	Total	43.61	(215.4)	(2.65)	(20.84)	(212.91)	3.38

REACTIVE ENERGY CHARGES FOR DD & DNH

FY 2018-19	DD-High Voltage				DD-Low Voltage				DNH-High Voltage			DNH-Low Voltage		
	GUJARAT		ISTS		Total	GUJARAT		Total	ISTS			ISTS		
	Dok-diu	Una-diu	Mgr-Vap HV	Total		Dok-diu	Una-diu		Mgr-Vap LV	Total	Kpd-Vap HV	Kdl-Vap HV	Total	Kpd-Vap LV
Cumulative Total MVARh till Feb-2019	-1361.0	-1380.4	220788.3	218046.9	58.7	5.0	-5.5	58.2	265992.8	101475.9	367468.7	6443.5	3583.1	10026.6
Cumulative Total Charges in (₹) till Feb-19	41032.5	15369.5	-23338151.0	-23281749.0	8218.0	700.0	-770.0	8148.0	-34477061.0	-11813015.5	-46290076.5	902090.0	501634	1403724
11-03-2019 to 17-03-2019	57.9	-7.7	5988.9	6039.1	0.0	0.0	0.0	0.0	7318.7	3867.2	11185.9	0.0	0.0	0.0
Charges in (₹)	-8106.0	1078.0	-838446.0	-845474.0	0.0	0.0	0.0	0.0	-1024618.0	-541408.0	-1566026.0	0.0	0.0	0.0
18-03-2019 to 24-03-2019	19.7	-9.1	3748.1	3758.7	0.0	0.0	0.0	0.0	6956.8	286.8	7243.6	0.0	0.0	0.0
Charges in (₹)	-2758.0	1274.0	-524734.0	-526218.0	0.0	0.0	0.0	0.0	-973952.0	-40152.0	-1014104.0	0.0	0.0	0.0

Note: The REC chargers has been revised to 14 paisa/KVARh from Apr-2018 as per clause of 6.6 of revised IEGC.

Note: Bracket Value () indicates the negative value(-ve). Note: For REC table -Ve Value indicates Receivable & +Ve Value indicates Payable.



POWER SECTOR ACTIVITIES



* MNRE

- MNRE launched Guidelines for enlistment under Approved Models and Manufacturers of Solar Photovoltaic Modules (Requirements for Compulsory Registration) Order, 2019.

* CERC

- CERC launched Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) (Sixth Amendment), Regulations, 2019.
- CERC launched Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019
- CERC launched Central Electricity Regulatory Commission (Cross Border Trade of Electricity) Regulations, 2019

* SECI

- SECI launched "Amendment 01 and Clarification 01 for Implementation of 97.5MWp Grid Connected Rooftop Solar PV System Scheme for Government Buildings in Different States/ Union Territories of India Under CAPEX/ RESCO Model".
- SECI launched NIT for Implementation of ERP on Cloud Platform, Supply of Licenses Including O&M at SECI.
- Request for Selection (RfS) for 2000 MW Solar Power Projects Under CPSU Scheme Phase-II.

* APERC

- Andhra Pradesh to Amend its Regulation on Open Access Power Transactions

* MERC

- Maharashtra Issues Draft First Amendment to its Open Access Regulations

* MISCELLANEOUS

- Maharashtra Commission Allows Grid Connectivity to 1.36 MW Rooftop Solar Project
- MERC Rejects Plea to Allow Open Access Facility and Banking of Power from a Solar Project
- Maharashtra Exempts Agencies from Scheduling and Forecasting Charges for Solar and Wind
- Karnataka Court Quashes KERC Order Increasing Wheeling Charges for Open Access
- Cross-Border Power Trading Can be the New Frontier for Solar Growth
- Himachal Pradesh Issues Draft Order on Net Metering for Rooftop Solar Systems
- Rajasthan Amends Regulations to Determine Tariffs for Solar and Wind Projects
- After January's Slump, Solar Auctions Gather Speed in February 2019
- 70 MW Open Access Solar Project to be Developed in Uttar Pradesh
- Lucknow's Sanjay Gandhi Medical Institute Installs 1.1 MW of Solar
- Gujarat Has a New Policy for Small-Scale Distributed Solar PV Projects

- Second Phase of Grid-Connected Rooftop Solar PV Program Approved
- SECI Amends Change in Law Clause in RfS for 3 GW Solar with 1.5 GW Manufacturing Tender
- Power Sale Agreement Between SECI and Tata Power for 300 MW of Solar Gets Approval
- MNRE Addresses Land, Power Evacuation Issues in its Modification of Solar Park Program
- Haryana's Amended Solar Policy Provides Exemption of Wheeling and Cross Subsidy Charges
- Rajasthan Amends Net Metering Regulations for Rooftop and Small Solar Systems
- Maharashtra to Consult Public on Proposed Amendments to Net-Metering Regulations
- Program for Farmers to Set Up Solar Pumps and Grid-Connected Solar Projects
- SECI's New Solar Tender Calls for 750 MW of Projects in Rajasthan with Long-Term Open Access
 - ⇒ SECI has set the upper ceiling tariff at ₹2.68 (~\$0.039)/kWh
- Madhya Pradesh Announces RESCO Tender for 25 MW of Rooftop Solar Projects
 - ⇒ Power generated will be sold to industries
- 2 GW of Solar Projects Tendered Under Second Phase of Government's CPSU Program
 - ⇒ The maximum permissible limit for VGF will be Rs. 7 million.
- OPIC Provides Initial Financing for SunFunder's \$85 Million Solar Energy Transformation Fund
 - ⇒ As one of the major industrial hubs in the country, Aurangabad is among the areas in the state that have been witnessing huge unrest over the tariff policies of the state government.
- No Increase in RPO of Captive Projects if Additional Capacity Not Added: Ministry of Power
 - ⇒ The Ministry of Power has passed an order stating that the renewable purchase obligations (RPO) of captive power projects should be fixed at the appropriate level in the year such projects are commissioned.
- Government Proposes \$700 Million Plan for EV Infrastructure Revamp in the Next 5 Years
 - ⇒ The Ministry of Power has also proposed a \$12 billion plan to reduce emissions from power plants.
- Electric vehicles to get cheaper by up to Rs 2.5 lakh
 - ⇒ Electric Vehicle will get cheaper by Rs 20,000 to Rs 2.5 lakh, following the government's go-ahead to Niti Aayog's proposal to give purchase rebate as incentive to buyers.
- FAME-II will help commit investments in EV: Auto industry
 - ⇒ Automobile industry players Friday said the government's announcement of Rs. 10,000-crore FAME-II scheme brings clarity and policy stability, and will provide a big fillip to popularization of electric vehicles in India.

Note: Click on Head lines for More Info



- **Green companies continue to bid aggressively for solar power projects**
 - ⇒ Renewable energy firms are continuing with aggressive bids for solar projects, with the winners in the latest auction including Finland's Fortum and US-based Acme quoting a tariff of Rs 2.48 per unit.
- **Adani starts solar panel retailing in Rajasthan**
 - ⇒ The channel partner in the state will be responsible for all the retail requirements. It will be assigned an exclusive territory to manage orders of solar panels up to 150KW and be responsible for overall lead generation, conversion and service.
- **NIT for Setting Up of 250MW Floating Solar PV Power Plants in Tamil Nadu**
 - ⇒ Solar Energy Corporation of India Ltd. (SECI) invites online bids for 250 MW Floating Solar PV Power Plant in the state of Tamil Nadu, India.
- **Kerala Commission Approves Modifications in Bid Documents for 200 MW of Solar Projects**
 - ⇒ After 3 months of process Kerala modified Documents.
- **APERC move to reduce PPA duration worries green energy companies**
 - ⇒ Reduction on PPA time period may disrupt the investments in the states of Andhra Pradesh.
- **Rajasthan 750 MW solar auction: Five firms to invest Rs 3,000 crore**
 - ⇒ Rajasthan opened an auction for 7.5GW and state got huge investments.
- **Setting Up of 150MW Floating Solar PV Power Plants at Ranchi, Jharkhand**
 - ⇒ Solar Energy Corporation of India Ltd. (SECI) invites online bids for 100 MW Floating Solar Power Plant at the reservoir of Getalsud Dam, Ranchi, Jharkhand and 50 MW Floating Solar Power Plant at the Reservoir of Dhurwa Dam, Ranchi, Jharkhand.
- **BHEL installs first solar EV charging station on Delhi-Chandigarh highway**
 - ⇒ The project is covered under the Faster Adoption and Manufacturing of (Hybrid) & Electric Vehicles in India scheme of DHI.
- **Gujarat's green energy policy will lead to land hoarding, fear small firms**
 - ⇒ New policy does not make power purchase agreements mandatory while applying for land for new projects in the state.
- **MNRE to Frame Rules for Manufacture, Disposal, Import of Antimony-Coated Solar Modules**
 - ⇒ The MNRE will soon come up with a blueprint for the utilization, manufacture, disposal, and import of solar photovoltaic (PV) module and glass containing antimony.
- **Solar and Renewable Energy Policy Roundup from February 2019**
 - ⇒ The shortest month of the year came with a spate of policy highlights from the center and the state.
- **India's ₹100 Billion Budget to Promote Adoption and Manufacturing of Electric Vehicles**
- **CERC Rules Against Power Grid, Provides Relief to Solar Developer in Madhya Pradesh**
 - ⇒ Notice issued by Power Grid to terminate Transmission Service Agreement has been quashed
- **Karnataka's Pavagada Solar Park to be Fully Operational by December 2019**
- **MNRE Issues Draft Guidelines for Grouping Solar PV Inverters for Testing in Labs**
- **MNRE Suggests Mandatory Recycling of Solar Panel Glass Containing Antimony**
- **MNRE to Hold the Third Edition of RE-INVEST in October 2019**
- **No Additional Surcharge for Captive Power Projects, Rules Appellate Tribunal in Maharashtra**
- **Grid Access Registration Fees Set for DISCOMs, Power Traders, Generating Companies**
- **Tariff of ₹7.5/kWh Maintained for Increased Capacity of Two Waste to Energy Projects**
- **Solar EPC Company Sterling and Wilson Files for ₹45 Billion IPO**
- **CERC Asks National Load Dispatch Centre to Issue RECs for Commissioned Renewable Projects**
- **Any Tax Levied Through an Act of Parliament Resulting in Extra Cost is 'Change in Law': CERC**
 - ⇒ The commission was hearing a petition filed by Parampujya Solar Energy Pvt. Limited
 - ⇒ The commission observed that it has already cleared that any tax levied through an Act of Parliament after the cut-off date which results in the additional expenditure by the petitioner is covered as 'Change in Law.' Previously, it also made it clear that any tax or application of the new tax on 'supply of power' covers the taxes on inputs required for such generation and supply of power to the DISCOMs.
- **India and Denmark to Work Together in the Offshore Wind Sector**
- **India's Peak Power Deficit During FY 2018-19 Was 0.6%**
- **SECI's 1.2 GW Wind Tender Undersubscribed by 50% Owing to Tariff Cap and Land Woes**
- **Indian Solar Industry Sluggish Amid General Elections**
- **One Reason for Lower Power Demand - UJALA Which Has Cut Down Peak Power Demand by 9 GW**
- **CERC's Adani order has set precedent for Mundra tariff hike**
- **Waste management: Six Punjab cities to set up waste-to-energy plants**

List of Abbreviations

• APERC :Andhra Pradesh Electricity Regulatory Commission	• NISE :National Institute of Solar Energy
• BHEL :Bharat Heavy Electricals Limited	• NDMC :New Delhi Municipal Council
• CERC :Central Electricity Regulatory Commission	• NITI Aayog :National Institute of Transforming India
• CAPEX :Capital Expenditure	• NIT :Notice Inviting Tender
• DISCOM :Distributions Company	• OPIC :Overseas Private Investment Corporation
• EVA :Ethylene Vinyl Acetate	• PV :Photovoltaic
• EV :Electric Vehicle	• PPA :Power Purchase Agreement
• EESL :Energy Efficiency Services Limited	• RPO :Renewable Purchase Obligation
• GIB :Great Indian Bustard	• RETD :Renewable Energy Technology Deployment
• ISTS :Inter State Transmission System	• RESCO :Renewable Energy Service Company
• JNNSM :Jawaharlal Nehru National Solar Mission	• RfS :Request for Selection
• J&K :Jammu & Kashmir	• SECI :Solar Energy Corporation of India Limited
• KfW :Kreditanstalt für Wiederaufbau	• UPERC :Uttar Pradesh Electricity Regulatory Commission
• MOP :Ministry of Power	• FAME :Faster Adoption & Manu
• MNRE :Ministry of New & Renewable Energy	
• MSEDCL :Maharashtra State Electricity	



ALL INDIA LIST OF ELEMENTS COMMISSIONED DURING THE FY 2018-19



All India List of Substations, Transmission Lines & Generators Commissioned during Feb-2019

◆ Substations

- * 765/400kV Banaskanta S/S (PGCIL)
- * 400/220kV Rajarhat (GIS) S/S 1st Unit (PGCIL)
- * 400/220kV Cuddapah (Extn.) (PGCIL)
- * 400/220kV Patna (500- 315) (PGCIL)
- * 400/220kV Rewa (ICT-III) (PGCIL)
- * 400/220kV Jagdalpur S/s (CSPTCL)
- * 400/220kV Sanand (ICT-II) (GETCO)
- * 400/220kV Jaisalmer -2 S/S (RVPNL)
- * 400/220kV Chandrapur (ICT-II) (MSETCL)
- * 400/132kV Basti (Aug) T/F-II (200-160) (UPPTCL)
- * 400/132kV Masauli (Prayagraj) (New) T/F-I (UPPTCL)
- * 230/110kV Gummidipoondi (TANTRANSCO)
- * 220/110kV KB Cross Spare (Aug.) (KPTCL)
- * 220/132kV Barhi (GIS) S/S (HVPNL)
- * 220/132kV Ghazipur (Aug) T/F-II (UPPTCL)
- * 220/132kV Hardoi Road (Aug) T/F-II (UPPTCL)
- * 220/132kV Muradnagar Ghaziabad (UPPTCL)
- * 220/132kV Pahari T/F-I (UPPTCL)
- * 220/132kV Domjur (WBETCL)

- * 220/33kV RGECE Sonipat S/S (HVPNL)
- * 220/66kV Tughlakabad S/S (DTL)
- * 220/66kV Kawant S/S 2nd T/F (GETCO)
- * 220/110kV B.Bagewadi (Aug.) (KPTCL)
- * 220/132/33kV GSS Ranpur Kota S/S (APL)

◆ Transmission Lines

- * 765kV Banaskantha-Chittorgarh Line (PGCIL)
- * 765kV Bhuj-Banaskantha-2 (PGCIL)
- * 400kV LILO of Farakka - Jeerat line at Baharampur (PGCIL)
- * 400kV LILO of Subhashgram - Jeerat at Rajarhat (PGCIL)
- * 400kV Cuddapah - Madhugiri (QM) (PSITL - TBCB) (PGCIL)
- * 400kV Banaskanta - Sankhari line (PGCIL)
- * 400kV LILO of both Ckt. of Suryapet - Shankarpally(ckt-II) Kethireddypalli (Manikonda) SS (TSTRANSCO)
- * 400kV LILO of both Ckts Nagda- Rajgarh at Badnawar (MPPTCL)
- * 400kV LILO of one ckt of 400 kV D/C Kosamba - Chorania line at 400 kV Pachchham S/s (GETCO)
- * 400kV LILO of one ckt. Ukai - Kosamba at Vav S/s (GETCO)
- * 400kV LILO of Rewa (Allahabad) - Meja lie at Masauli (UPPTCL)
- * 400kV Pithampur-Badnawar DCDS (Qad Moose) line (MPPTCL)
- * 400kV Shri Singaji TPS - Pithampur DCDS (QM) line (MPPTCL)

- * 230kV Kamudhi - Kavanoor Ckt-II (TANTRANSCO)
- * 220kV NLC - Karaikal line (PGCIL)
- * 220kV LILO of Agra - Bharatpur at Agra line (PGCIL)
- * 220kV Bahraich - Gonda (400) Ckt-II) (UPPTCL)
- * 220kV Chandrapur-II - Chandrapur MIDC (Tadali) (MSETCL)
- * 220kV Gaurichak - Bihta (New) line (BSPTCL)
- * 220kV Inter-connector between Sailana - Ratlam switching (GEC-I) (MPPTCL)
- * 220kV LILO of Badapur TPS - Mehrauli at Tughlakabad (DTL)
- * 220kV LILO of one Ckt. Jabalpur - Amarkantak at Gorabazar JBP (MPPTCL)
- * 220kV LILO of Parli - Osmanabad line at Parli (PG) (MSETCL)
- * 220kV Okhla - Tughlakabad (DTL)
- * 220kV Rewa Road Allahabad - Pahari Chitrakoot line (UPPTCL)
- * 220kV Sirohi-Pindwara line (RVPNL)
- * 220kV Tanda (NTPC) - Tanda (New) line (UPPTCL)
- * 220kV LILO of 220 kV S/C KTSP - Modak line (APL)
- * 220kV LILO of Kota - Badod line at Ranpur GSS (APL)

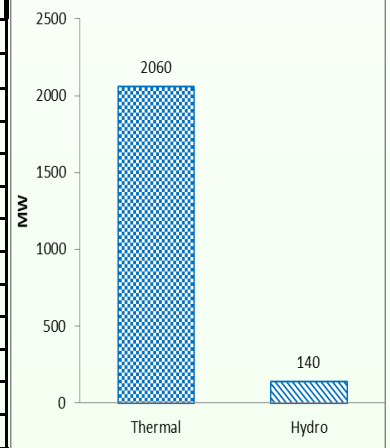
◆ Generators

- * Nil

All India No. of Generators Commissioned during FY 2018-19 (till Feb-2019)

Month	Thermal					Hydro					Nuclear				
	WR	NR	NER	ER	S R	WR	NR	NER	ER	SR	WR	NR	NER	ER	SR
Apr-18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May-18	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Jun-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul-18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug-18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sep-18	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
Oct-18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nov-18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dec-18	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Jan-19	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Feb-19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	0	0	3	1	0	0	1	0	1	0	0	0	0	0

Additional Generation Capacity During FY 2018-19 (Till Feb-2019)



All India No. of Line Reactors (LR), Transmission Lines (T/L), Substations (S/S) and Bus Reactors (BR) Commissioned for FY 2018-19 (till Feb-2019)

Month	800 KV			765 KV			400 KV			230 KV			220 KV			Total					
	T/L	S/S	LR	T/L	S/S	BR	LR	T/L	S/S	BR	LR	T/L	S/S	BR	LR	T/L	S/S	BR			
Apr-18	0	0	0	4	4	0	0	14	10	0	0	0	0	0	8	5	0	0	26	19	0
May-18	0	0	0	0	2	0	0	19	12	0	0	3	0	0	10	8	0	0	32	22	0
Jun-18	0	0	0	4	1	0	0	8	9	0	0	0	0	0	15	8	0	0	27	18	0
Jul-18	0	0	0	2	0	0	0	10	9	0	0	0	3	0	16	17	0	0	28	29	0
Aug-18	0	0	0	4	3	0	0	15	8	0	0	0	0	0	16	17	0	0	35	28	0
Sep-18	0	0	0	0	0	0	0	14	8	0	0	0	2	0	17	12	0	0	31	22	0
Oct-18	0	0	0	3	0	0	0	11	9	0	0	0	2	0	22	11	0	0	36	22	0
Nov-18	0	0	0	3	0	0	0	10	10	0	0	1	0	0	7	10	0	0	21	20	0
Dec-18	0	0	0	2	1	0	0	7	4	0	0	3	0	0	10	9	0	0	22	14	0
Jan-19	0	0	0	2	2	0	0	7	5	0	0	0	3	0	4	10	0	0	17	17	0
Feb-19	0	0	0	2	1	0	0	11	10	0	0	1	1	0	15	12	0	0	29	24	0
Total	0	0	0	26	14	0	0	127	84	0	0	8	11	0	140	119	0	0	304	235	0

Note 1: Data is taken from CEA and NLDC websites.

Note 2: No data for Branch Reactors (BR) and Line Reactors (LR) for the month of Feb-2019.

* Tabulated Data is up to 220 KV level.

CEA : [Read more...](#)

NLDC: [Read more...](#)



POWER SYSTEM SOLUTIONS THAT WORK FOR YOUR BUSINESS

Can You Imagine a World Without Power? ...Because, we can't.

We, at Panacean Energy Solution are committed to our core values integrity, excellence, enriched innovation and stand committed to nurture our talented work force and continually enhance our local insights and global perspective to bring about paradigm shift in the Indian Power Sector, through providing real solution.

We assist you to understand impact of Electricity Regulations applicable to you by providing tailor made gist of the new regulatory developments on case to case basis. With nation-wide experience of our team, and also with the valuable experience of handling overseas projects, we can assist you in planning and operations of your system.



Why Panacean?

Because....We Can Energize Your Business

We're extremely serious about being your power solution advocate. We envision an Indian Power Sector enriched with solutions to enhance its capability to ensure quality power to end consumers with reliability, efficiency and economy on ethical grounds through providing "IT and network" solutions to different segments of Indian Power Sector. Maximize long-term return to Owner.

Our Clients Prefer Working Directly With Us

Because we arm them with valuable resources for contract negotiation. We help them manage the minutest detail behind their big business decisions.

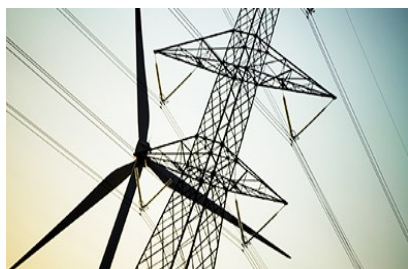
Panacean Energy Solution



PanaCean®
(An ISO 9001:2015 Company)
More Power to You



Area of Services



Power Services



- ◆ Power System Studies
- ◆ Utility Load Forecast
- ◆ Transmission and distribution planning
- ◆ Reactive Power Optimization
- ◆ Fault MVA calculation and improvements
- ◆ GPS/GIS Asset Mapping
- ◆ Load survey
- ◆ Street light survey
- ◆ Policy making
- ◆ Implementation of Electricity Act 2003 and State Regulations
- ◆ Operation and maintenance of substation
- ◆ Power System Training
- ◆ PSS@E Training
- ◆ Power Procurement under Case-I and Case-II bidding
- ◆ Tender Preparation and Management
- ◆ Project Management Consultant
- ◆ DSM Management
- ◆ Drawl and Generation schedule optimization
- ◆ Regulatory Support
- ◆ DPR preparation for submission to JERC / CEA.
- ◆ IPDS Scheme
- ◆ UDAY Scheme
- ◆ Smart city Implementation
- ◆ Techno commercial feasibility of substation
- ◆ Techno-commercial feasibility of transmission line
- ◆ T&D CAPEX optimization
- ◆ Distribution business optimization
- ◆ Transmission business optimization
- ◆ Optimal power scheduling for system operators

- ◆ Open Access implementation, operation and management
- ◆ Resources optimization in transmission and distribution business
- ◆ Training in system operation
- ◆ Support in Regulatory matters
- ◆ Energy Accounting

Renewable Energy



- ◆ Detailed Project Report preparation
- ◆ Feasibility Study for Renewable Power Generation
- ◆ EPC of Solar Power
- ◆ O&M of Renewable Power Plant Operation

Energy Efficiency

- ◆ Energy Audit
- ◆ Development of State Designated Agency
- ◆ Development of State Nodal Agency
- ◆ Power Quality Management



IT Services

- ◆ Software for Transmission and Distribution Companies
- ◆ Regulatory Information Management System
- ◆ Complaint Management System
- ◆ Customer Care Centre
- ◆ Standard of Performance
- ◆ Document Management System
- ◆ ERP for Power Company
- ◆ Energy management system
- ◆ Optimal Power Schedule

Area of Clients

Distribution Sector

- ◆ Electricity Department of Daman and Diu
- ◆ DNH Power Distribution Corporation Ltd.

Transmission Sector

- ◆ Maharashtra State Electricity Transmission Company Ltd.
- ◆ Reliance Infrastructure Ltd.
- ◆ Electricity Department of Darda and Nagar Haveli
- ◆ Uganda Electricity Transmission Company Ltd.

Generation Sector

- ◆ Essar M.P. Power Ltd.
- ◆ Ind-Barath Power

Others

- ◆ Indian Institute of Technology, Bombay
- ◆ Alok Industries
- ◆ Abhijeet Ferrotech Ltd.
- ◆ Reliance Industries Ltd.
- ◆ Macquarie Infrastructure
- ◆ IXORA Construction
- ◆ ICRA Management and Consultancy Services
- ◆ CLP India Pvt. Ltd., Mumbai

Reach us at

Registered Office

203, Antartica – D, Lodha Aqua CHS Ltd., Opp. to Thakur Mall, Mahajanwadi, Mira Road (E) Thane – 401107, Maharashtra.

Corporate Office

Mumbai

Gala No. 209, 2nd Floor, Nikisha Ind. Estate, Premises No 2, Pandurang Wadi, Mira Road (East), Thane- 401107.

Silvassa

Flat no 503, 1st Floor, Radha krishna tower, Opp. petrol pump, Amla, Silvassa-396230.

Daman

1/320, Bhidbhajan Mahadev Chawl, Wadi Falia, New Vegetable Market, Nani Daman, Daman – 396210.

Surat

206, Santiniketan Flora Business Hub, Nr. Sanskartirth Gyanpith School, Abrama Road, Mota Varachha, Surat – 394105.



PANACEAN AT WORK FOR YOU

CONNECTING YOUR POWER NEEDS TO THE PANACEAN RESOURCES

IT SUPPORT TO YOUR POWER SOLUTIONS

- INFRASTRUCTURE MANAGEMENT (MAPS)
- COMPLAINT MANAGEMENT SYSTEM (CMS)
- REGULATORY INFORMATION MANAGEMENT SYSTEM (RIMS)
- MAINTENANCE MANAGEMENT SYSTEM (MMS)
- INVENTORY MANAGEMENT (STORE)
- OPTIMAL POWER SCHEDULE

ONLINE ACCESS BROWSER COMPATIBILITY



INDEPENDENT OF DATABASE



The software is compatible with Oracle, Microsoft SQL, and MySQL database.



FLEXIBLE SOLUTIONS FOR YOUR POWER NEEDS

Introduction

Power UI (Power System User Interface) is a cloud-based application specifically designed for power sectors organizations mainly, Transmission Utilities and Distribution Utilities. Presently, Power UI integrates various power system utilities such as Infrastructure management (MAPS), Complaint Management (CMS), Maintenance Management System (MMS), Regulatory Information Management system (RIMS), Inventory Management (Store).

Simple and Intuitive UI

We have kept in mind simplest ever user interface while designing the software. The user interface is so intuitive that, anyone having basic knowledge of operating computer will be able to handle various applications with ease. The technical modules only require basic training for successful operation. The software will have inbuilt guiding system for assuring hassle free completion of almost all activities.

Cloud Based:

The software run from cloud and is accessible over internet / intranet. This avoids installation of copies of software in each system. Management and upgradation of this cloud based application can become easier than ever.

Auto Backup:

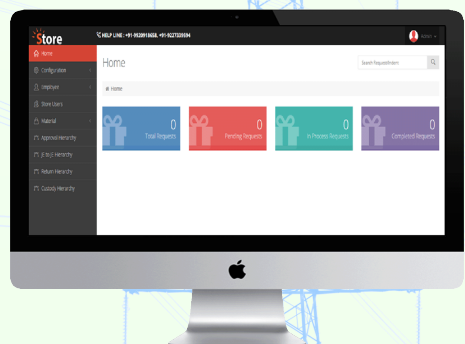
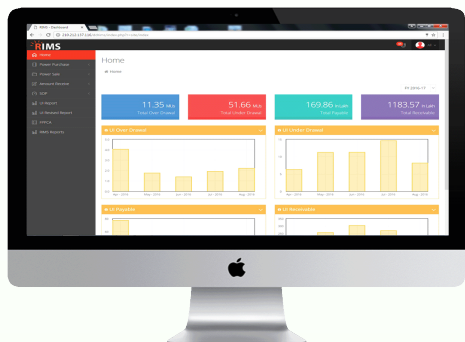
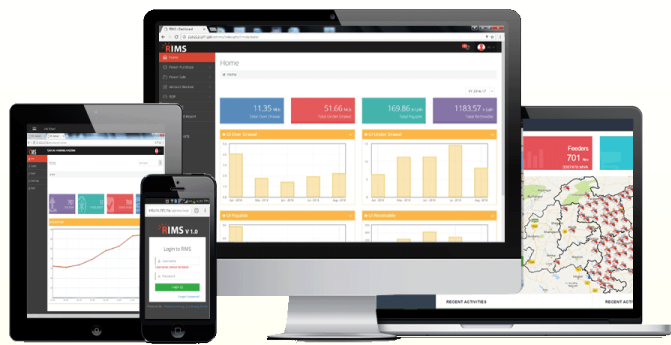
The data of all enterprise applications is of utmost importance. Power UI comes with Auto Backup facility where an authorized person can schedule auto backup of full / partial data of the software. In case of data lost or hardware failure, no or minimal data is lost.

Event Notification:

The user and/or administrator will not be unaware of activities and events being carried out by the members. All activity updates will be delivered to the concerned person via appropriate notification. Apart from inbuilt notification system, such alerts can also be combined with Email and SMS notification.



LAPTOP, TABLET & MOBILE FRIENDLY



REGULATORY INFORMATION MANAGEMENT SYSTEM IMS

RIMS keeps track of power purchase, power sale, trading, DSM (formerly known as “UI”), SEM data, Reliability Indices etc. It translates every bit of information for successful derivation various reports as intended by State Electricity Regulatory Commission.

COMPLAINT MANAGEMENT SYSTEM MS

CMS enables utility to get in touch with its consumers. At one end it provides feedback and complaints of consumers, and on the other end it provides analytical tools for identifying time-bound resolving consumer complaints and improving consumer satisfaction.

INVENTORY MANAGEMENT SYSTEM (STORE):

Full proof inventory management is ensured by Store. With self-auditing feature of the software, it is ensured that no material is lost unknowingly. It ensures accountability at every step right from receipt of the material to usage of the material. It also provides handful information for material usage pattern, consumption of various material and its category, material expenses many more at micro level as well as macro level. This helps in improving our planning procedures and material management. Readily available audit reports enhances applicability of the module for financial compliances.

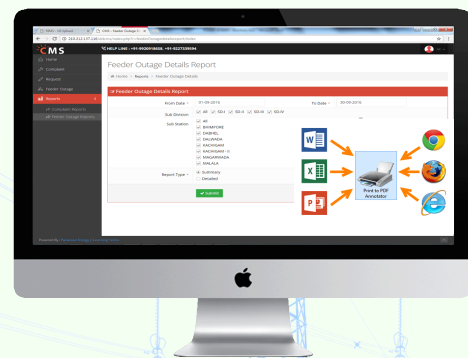
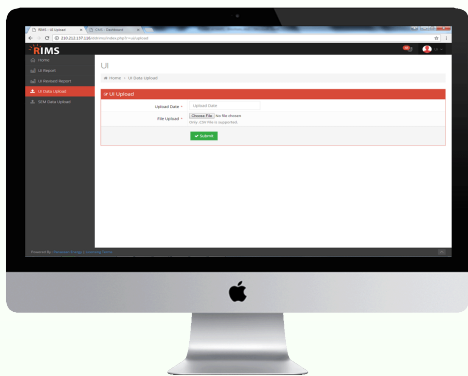


Transmission

Best Suitable Utilities

Distribution





M AINTENANCE MANAGEMENT SYSTEM (MMS)

MMS is designed to improve inbuilt maintenance management facilities and hence reduce the failure rates of equipment. With equipment being part of MMS, the concerned person is reminded for inspection and taking corrective actions. The module supports maintenance routines in various categories such as preventive maintenance, breakdown maintenance, event based maintenance, and routine maintenance. The software will ensure accountability of maintenance team and improves reliability of equipment in service.

This module contains all functionalities involved in maintenance management of a utility. Specific provisions for this objective are provided in this module as given below;

- ◆ Preventive & Routine Maintenance Operations
- ◆ Breakdown and Event based Operations

D ATA HANDLING:

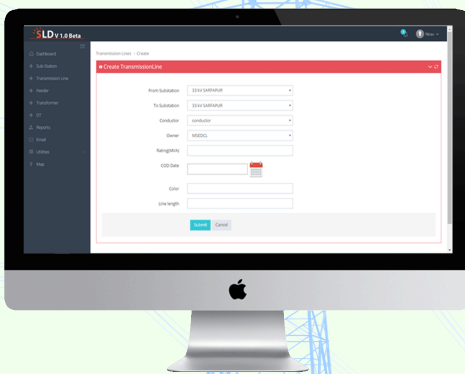
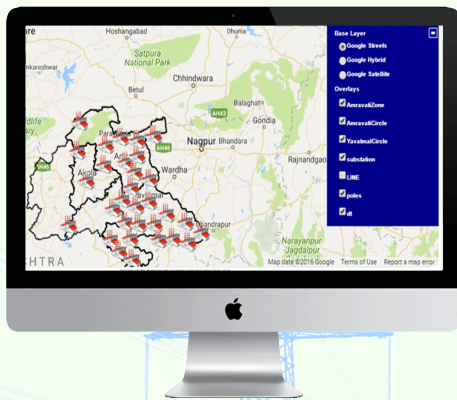
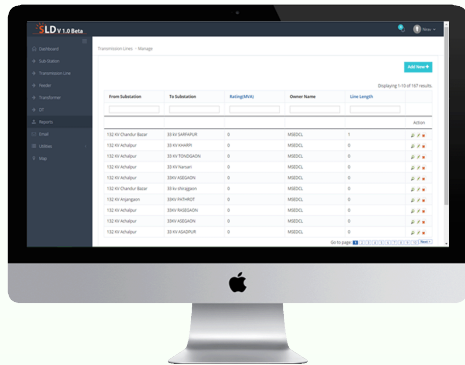
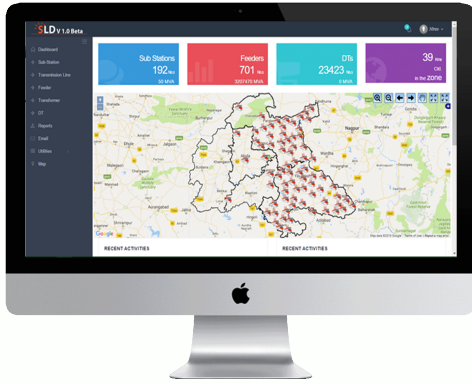
The software shall have a provision to handle huge volumes of data. Features such as import of excel files and import of data from databases shall be provided to facilitate bulk data entry and its corresponding map location display. Given below is a sample bulk data entry feature in POWERUI.

D ATA / REPORT EXPORT AND PRINTING FACILITIES:



O NLINE COMPLAINT AND FEEDBACK REPORTING

We are always listening to your feedback in terms of feature request, bug reporting, complaint, suggestion or any such thing for improving our service for your satisfaction. All such activities are only click away. User can report feedback online or by calling us on our helpline numbers.



MAPS includes infrastructure mapping of various assets of a utility. All assets with geotag (Longitude and Latitude) can be displayed and managed with ease.

POWERUI - MAPS

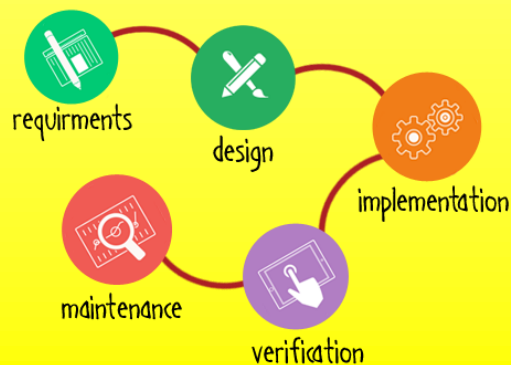
POWERUI MAPS is a map based application where all important assets and infrastructure of a Distribution company and transmission company are displayed on maps using their exact geographic coordinates. Display of all mapped distribution equipment on google maps, along with establishment of comprehensive database maintaining dynamic data of all attributes of major equipment in the distribution network is the core objective of this application. The map will be loaded with several customized user interactive features which aid in day to day monitoring and supervision of operations of the distribution network. Along with this, features facilitating operations such as assignment of O & M tasks to personnel based on equipment monitoring on map, tracking work status and review of operations on a large scale are provided in this application.

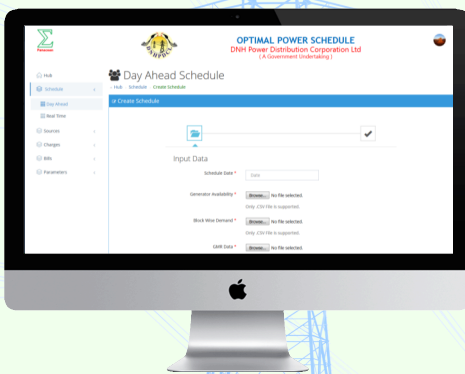
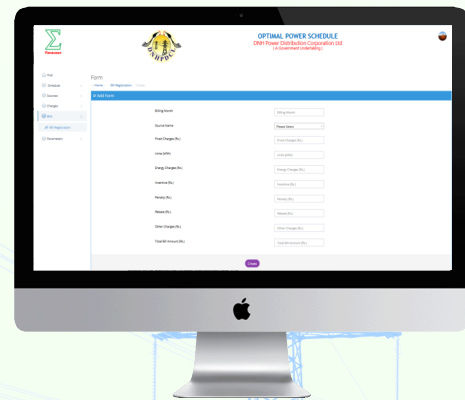
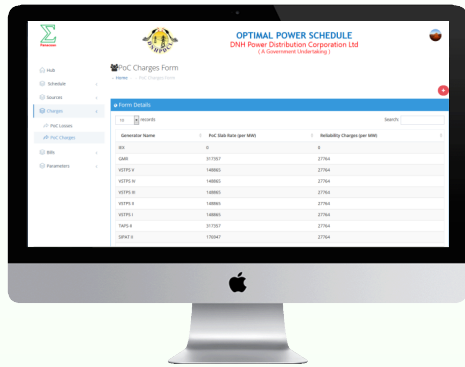
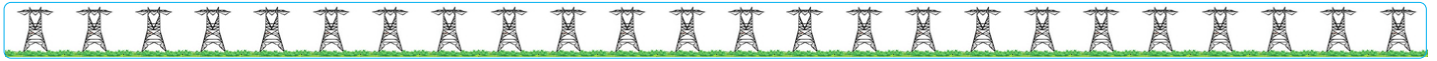
LAYER FACILITY:

Given a large and a highly dense network as that of MSDCL, selective viewing of different components of maps is required. The Layer facility enables the user to turn ON/OFF display of certain elements on the map. This feature provides greater clarity of viewing and ease of operation of the software.

DATABASE - MAP COMMUNICATION:

Provision for any element to be inserted into the database or updation of any element in the database can be done through both map means and database means.

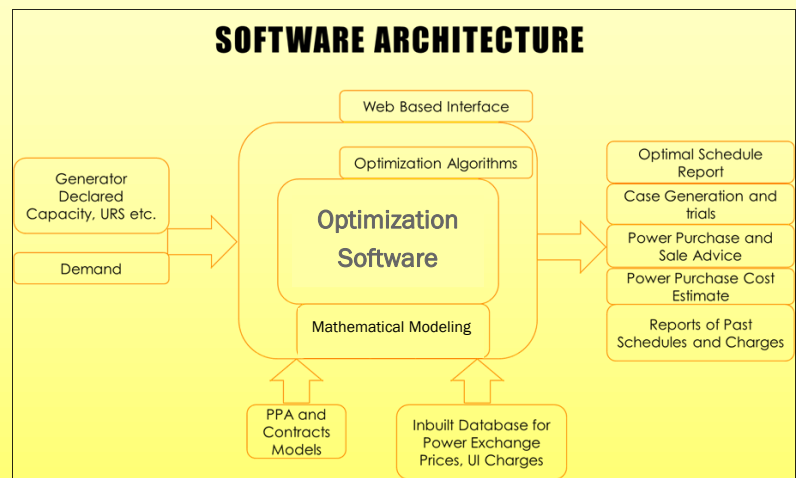




OPTIMAL POWER SCHEDULING SOFTWARE

The primary objective of this software shall be to provide Cost optimal generator wise day ahead schedule (MW) based on block wise demand of the utility and declared capacity of the generator; subject to all major constraints, with an account of all possible factors in determining the merit order of generators for each block.

Introduction: Optimal Power Scheduling is a custom made software for Power Distribution companies and load dispatch centres. Based on the principles of optimization, this software models complex issues of power purchase such as Power purchase agreements (PPA), Power Exchange, Un-scheduled Interchange (UI), and Un-requisitioned Surplus (URS) etc. into a single integrated platform using a industrial popular software to get an optimal power purchase solution. The schematic diagram of Optimal Power Scheduling Software is shown below,



FEATURES

- ◆ Day ahead and Intra-day optimal solutions for bidding.
- ◆ PPA Modelling concept, governing all PPA terms and Conditions.
- ◆ Analysis of Power Exchange and DSM prices based on Historical data.
- ◆ Indicative Power Purchase and Sale Solutions to bid optimally at the Power Market.
- ◆ Block wise Power Purchase cost estimation to explore all possible options to limit power purchase expenditure.
- ◆ Reports to analyse and summarize power scheduling over a period of time.



F **Feasibility Study for Renewable Power Generation :** Feasibility studies involve studying the technical and financial implications of commissioning of a project. Feasibility studies are almost always conducted where large sums are at stake. Various renewable energy options such as solar, wind, biomass etc., are evaluated for commercial availability, economic feasibility, siting potential, and climatic resource. It is an assessment of the practicality of a proposed Renewable Power Generation plan or method.



O **&M of Renewable Power Plant Operation :** Panacean undertakes Operation and maintenance of several solar plants for its clients. With increasing emphasis on solar power by the Govt. of India our experience in O & M of solar plants is very valuable.



D **etailed Project Report Preparation (DPR):** is a part of the total business plan submitted to venture capitalists or financial institutions. It is the culmination of all analyses related to the project. The analyses of market demand as well as technical and financial are presented in a systematic format, in the DPR. The Estimate for the proposal of any scheme majorly is based on various factors such as

- ◆ Estimate of scheme is prepared on budgetary offer received for similar work of scheme by venture capitalists.
- ◆ The estimate also considers expenses towards the cost of civil structure works, transportation, installation, testing, commissioning charges & contingencies.
- ◆ Land cost
- ◆ Packing, forwarding, inland transportation & insurance at the rate of 2.5% for all equipment have been considered.
- ◆ Erection, testing & commissioning charges are considered as 8% of supply cost for mechanical & electrical equipment.
- ◆ 3% of the equipment cost has been considered towards cost of spares.
- ◆ Goods & Service tax at the rate of 18%.



We have the experience of DPR preparation for various schemes.