



POWER BULLETIN Volume 5, Issue 04

JUL 2018







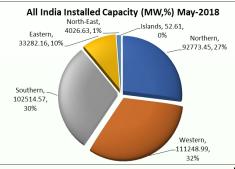
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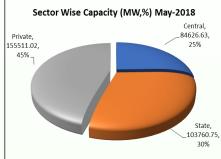
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OVERVIEW OF INDIAN POWER SYSTEM FOR MAY-2018

All	All India Installed Capacity (MW) as on 31-05-2018						All India Installed Capacity (MW) Peak Demand of DD				DD & D	NH
Region	Thermal	Nuclear	Hydro	RES	Total	as on 31-		May-		y-18	·-18	
Northern	58626.46	1620.00	19653.77	12873.22	92773.45	Sector	Generation (MW) 84626.63					
Western	81415.11	1840.00	7547.50	20446.38	111248.99			Utility	Peak Demand (MW)	Peak Met (MW)	Surplus/I	Deficit (-)
Southern	53017.26	3320.00	11808.03	34369.28	102514.57	Central					(MW)	(9/)
Eastern	27301.64	0.00	4942.12	1038.40	33282.16	State	103760.75				(IVIVV)	(%)
North-	2292.07	0.00	1452.00	282.56	4026.63	State	103700.73	DD	310	310	0	0
Eastern						Private	155511.02					
Islands	40.05	0.00	0.00	12.56	52.61							
ALL	222692.59	6780.00	45403.42	69022.40	343898.41	Total	343898.40	DNH	778	778	0	0





All India	All India Plant Load Factor (PLF) in (%)									
Sector	May-17	May-18								
Central	73.81	75.47								
State	62.72	64.49								
Private	56.28	57.84								
ALL India	63.55	65.34								

Highlights of WR Grid for May-2018

- Maximum Peak Demand Met: 54534 MW
- Energy Consumption: Total Energy Consumption in the month of May-2018 was 36392 MUs at an average of 1174 MUs/day & Maxi-mum was 1208 MUs on 29.05.2018.
- Unrestricted Demand: Maximum Unrestricted demand was 54840 MW and Average Peak Unrestricted demand was 48935 MW.
- Frequency Profile: System frequency as per IEGC band is 49.90 Hz to 50.05 Hz. Maxi-mum, Minimum & Average Frequencies 50.22 Hz, 49.95 Hz & 49.57 Hz were respectively observed in the month of May -2018.
- Voltage Profile: All 765KV nodes except Tamnar, Durg and Kotra (high voltage node) of WR were within the IEGC limit. High Voltage (greater than 420 KV) at 400KV substations were observed at Khandwa, Damoh, Raipur, Raigarh, Wardha, Dhule, Amreli, Karad, Kalwa, Dehgaon, Mapusa and Magarwada. Highest of 58.77% of time above 420KV observed at Dhule.
- Hydro Generation: Total hydro generation of Western Region was 1091 MUs at an average of 35.19 MUs/day in the month of May-2018.
- Wind Generation: Total wind generation was 2404 MUs at an average of 77.5 MUs/ day in the month of May-2018.
- Solar Generation: Total Solar generation was 632 MUs at an average of 20 MUs/ day in the month of May-2018.
- Open Access Transaction Details for May-2018:
- ⇒ No. of approvals & Energy Approved in Intra-regional: 146 & 856.09 MUs.
- ⇒ No. of approvals & Energy Approved in Inter-regional: 64 & 308.59 MUs.

	List of Transmission Lines Commissioned/Ready for Commissioning During May-2018												
	Sector		Cen	tral			Pvt.			S	tate		Total
	Voltage evel (KV)	800	765	400	220	765	400	220	765	400	230	220	
No	o. of Lines	0	0	1	0	0	1	0	0	3	3	8	16
	Li	st of Su	ubstatio		mmiss During			y for C	ommi	ssionii	ng		
	Sector		Cen	tral			Pvt.			S	tate		Total
	Voltage evel (KV)	765	400	230	220	765	400	220	765	400	230	220	
	o. of Sub- stations	0	2	0	0	0	0	0	0	2	0	8	12

Region-wise Power Supply Position (Demand & Availability) in May-2017 & May-2018										
		Energy			Deficit /	Surplus (%)				
Region	Dem	and	Ener	gy Met	20	- u. p.u.o (/o)				
_	May-17	May-18	May-17	May-18	May-17	May-18				
Northern	33912	35429	33370	34887	(1.6)	(1.5)				
Western	32615	34995	32581	34979	(0.1)	(0.0)				
Southern	2119	28186	26658	28127	1158.0	(0.2)				
Eastern	11016	12403	11006	12377	(0.1)	(0.2)				
North Eastern	1270	1265	1220	1208	(3.9)	(4.5)				
All India	80932	112278	104835	111578	29.5	(0.6)				

Region-wise Peak Demand / Peak Met in May-2017 & May-2018										
		Power		Deficit /Surplus (%)						
Region	Peak De	emand	Pea	k Met	Delicity	ourpius (70)				
	May-17	May-18	May-17	May-18	May-17	May-18				
Northern	50446	54441	49588	53441	(1.7)	(1.8)				
Western	49236	53817	49076	52418	(0.3)	(2.6)				
Southern	40878	43573	408878	43573	900.2	0.0				
Eastern	19029	21209	18932	21209	(0.5)	0.0				
North Eastern	2472	2709	2391	2611	(3.3)	(3.6)				
All India	150944	173226	156733	170765	3.8	(1.4)				

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POWER TRADING

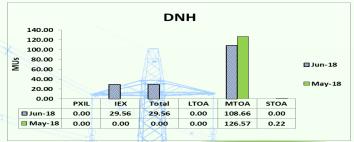
- Emergence of IT has helped to create massive E-Commerce platforms in every walk of life. One such E-Commerce platform for transiting electricity for physical delivery, fine tuning daily requirements, sale of residual generation, optimal utilization of generating resources at marginal cost of production etc. has been made possible through the commencement of Power Exchanges.
- ⇒ For more information about IEX visit (<u>www.iexindia.com</u>); For more information about PXIL visit (<u>www.powerexindia.com</u>)



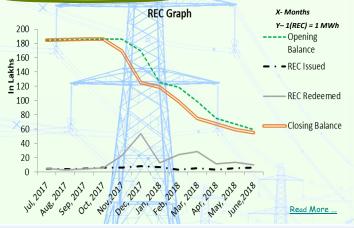
⇒ PXIL & IEX Trading summary

11.15.1			PXIL			IEX					
JUN- 2018	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	65738.0	278936.0	-	61562.0	61562.0	5961803.9	7918144.3	-	4965187.5	4984887.3	
Min	0.0	0.0	0.0	0.0	0.0	3976.4	6490.8	2025.2	3304.9	3352.5	
Max	300.0	350.0	8640.0	300.0	300.0	14129.4	17202.6	10600.3	9962.6	9962.6	
Avg	22.8	96.9	2047.3	21.4	21.4	8280.3	10997.4	3732.0	6896.1	6923.5	
MAY- 2018	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	3024.0	167500.0	-	0.0	0.0	6441019.6	6123277.0	-	4917536.7	4969749.2	
Min	0.0	0.0	0.0	0.0	0.0	3566.9	4849.4	2296.9	3313.6	3313.6	
Max	1.5	150.0	0.0	0.0	0.0	14157.8	12477.4	10463.2	10515.1	10515.1	
Avg	1.0	56.3	0.0	0.0	0.0	8657.3	8230.2	4674.5	6609.6	6679.8	

DD & DNH: OPEN ACCESS DETAILS DD 25.00 20.00 15.00 10.00 5.00 0.00 PXIL IEX Total LTOA MTOA STOA 0.00 0.00 0.00 0.00 0.00



RENEWABLE ENERGY CERTIFICATE MECHANISM (REC) FROM July-17 TO June-18



	REC Trading Session June-2018										
Trader Company	P)	(IL	IEX								
Particular	Non-Solar	Solar	Non-Solar	Solar							
Total Sell Bid (REC's)	89,676	1,634,392	295,070	2,540,984							
Total Buy Bid (REC's)	254,391	304,331	856,844	288,070							
Clearing Price (₹/Certificate)	1.050		1,150	1,000							
Cleared Volume (REC's)	82,154	304,331	221,674	288,070							

POWER MARKET UPDATE: JUNE 2018 The Day-ahead market sees highest ever monthly Trade of 4,965 MU with Avg. MCP at Rs. 3.73 per unit

- The average Market Clearing Price (MCP) discovered in the dayahead market was at Rs. 3.73 per unit, was decline with the price of May-18 which was Rs. 4.67 per unit and 44% above Rs. 2.59 per unit in Jun-17.
- A total of 4965 MU were cleared, which is almost at par with the 4915 MU traded last month and almost 27% more than 3920 MU traded in Jun-17. On a daily average basis about 166 MU were traded.
- With average daily sell and buy bids were 264 MU and 199 MU respectively.
- The One Nation, One Price was realized for 22 days in the month of June-18.
- On daily average basis 646 participants traded in the day-ahead power market in June-18.

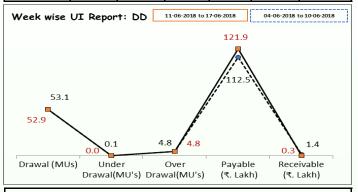


DEVIATION CHARGES

DD User Click to get UI Report
DNH User Click to get UI Report

	DD-Deviation Charges										
	Drawl	Schedule	UI Draw	l (MUs)	UI Charges(₹. Lakh)						
FY 2018-19	(MUs)	(MUs)	Under Drawl	Over Drawl	Payable	Receivable					
Cumulative Total up to May-18	440.35	393.74	0.87	47.47	1496.74	20.56					
11-06-2018 to 17-06-2018	52.87	48.10	0.02	4.79	121.93	0.32					
11-06-2017 to 17-06-2017	49.64	44.22	0.11	5.52	115.69	1.29					
04-06-2018 to 10-06-2018	53.12	48.46	0.13	4.79	112.46	1.38					
04-06-2017 to 10-06-2017	49.46	45.36	0.30	4.40	84.02	5.33					

	DNH-Deviation Charges										
	Drawl	Schedule	UI Drav	vl (MUs)	UI Charges (₹. Lakh)						
FY 2018-19	(MUs)	(MUs)	I lindor I		Payable	Receivable					
Cumulative Total up to May-18	1066.98	1030.13	2.42	39.27	1152.05	53.84					
11-06-2018 to 17-06-2018	125.51	122.20	0.29	3.60	83.28	6.40					
11-06-2017 to 17-06-2017	119.77	120.45	1.80	1.12	21.94	33.68					
04-06-2018 to 10-06-2018	127.15	124.55	0.30	2.90	63.76	3.42					
04-06-2017 to 10-06-2017	116.90	119.60	2.79	0.08	1.25	49.83					



Week wise U	/I Report: D	NH 11-06-2018	to 17-06-2018	04-06-2018 to 10-06-2018
127.1	5			
125.51				
			83.28	
\	\			
		/:	63.76	
	0.30	3.60		3.42
Drawal (MUs)	Under	Over Over	Payable	Receivable
		Drawal(MU's)	(₹. Lakh)	(₹. Lakh)

	DD											
	FY 20	17-18 (All Fr	eq Hz)	FY 2018-19 (All Freq Hz)								
Month	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)						
May	0.87	(15.28)	(2.19)	0.57	(27.91)	(3.43)						
June	1.09	(17.98)	(2.16)	-	-	-						
July	0.97	(15.89)	(2.26)	-	-	-						
Aug	0.19	(24.00)	(2.3)	-	=	-						
Sep	0.39	(24.70)	(2.64)	-	-	-						
Oct	0.13	(29.42)	(2.79)	-	-	-						
Nov	0.22	(22.01)	(2.71)	-	-	-						
Dec	0.66	(16.60)	(2.50)	-	-	-						
Jan	1.04	(18.20)	(2.63)	-	-	-						
Feb	1.33	(12.58)	(2.58)	-	-	-						
Mar	0.99	(19.63)	(2.99)	-	-	-						
Total	9.18	(227.6)	(2.55)	0.87	(47.47)	(3.17)						

	DNH														
	FY 20	17-18 (All Fr	eq Hz)	FY 2018-19 (All Freq Hz)											
Month	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	1.91	(21.52)	(2.31)	0.39	(22.51)	(2.70)									
May	13.54	(2.97)	(1.49)	2.03	(16.76)	(3.40)									
June	9.26	(3.65)	(1.98)	-	-	-									
July	6.71	(6.66)	(0.96)	-	-	-									
Aug	3.50	(14.68)	(2.15)	-	-	-									
Sep	2.06	(22.87)	(2.74)	-	·	1									
Oct	1.53	(28.73)	(2.67)	-	-										
Nov	2.23	(17.81)	(2.87)	-	-	-									
Dec	1.09	(21.60)	(2.53)	-	-	-									
Jan	0.47	(26.01)	(2.45)	-	-	-									
Feb	0.28	(22.83)	(2.46)	-	-	-									
Mar	1.03	(26.07)	(2.73)	-	-	-									
Total	43.61	(215.4)	(2.65)	2.42	(39.27)	(2.98)									

REACTIVE ENERGY CHARGES FOR DD & DNH

FY 2018-19		DD-H	igh Voltage			DD-Lc	w Voltage		DNF	I-High Volta	age	DNH-Low Voltage			
	GUJARAT		ISTS		GUJARAT		ISTS		IS	TS		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	Kdl-Vap LV	Total	
Cumulative Total MVARh till May-2018	-410.7	-717.7	24037.3	22908.9	0.0	0.3	0.0	0.3	14047.1	11631.1	25678.2	262.5	-463.8	-201.3	
Cumulative Total Charges in (₹) till May- 18	54543.0	97924.0	-3314622.5	-3162155.5	0.0	40.5	0.0	40.5	-1946044.5	-1613275.0	-3559319.5	35437.5	-62613.0	-27175.5	
04-06-2018 to 10-06-2018	-261.3	33.6	1640.2	1412.5	0.0	0.0	0.0	0.0	562.3	532.2	1094.5	550.0	286.8	836.8	
Charges in (₹)	36582.0	-4704.0	-229628.0	-197750.0	0.0	0.0	0.0	0.0	-78722.0	-74508.0	-153230.0	77000.0	40152.0	117152.0	
11-06-2018 to 17-06-2018	-254.6	32.0	2849.1	2626.5	0.0	0.0	-5.5	-5.5	821.9	893.3	1715.2	0.0	0.0	0.0	
Charges in (₹)	35644.0	-4480.0	-398874.0	-367710.0	0.0	0.0	-770.0	-770.0	-115066.0	-125062.0	-240128.0	0.0	0.0	0.0	

Note: The REC chargers has been revised to 13.5 paisa/KVARh from Apr-2017 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

- Tender Document for Planning, Design, Development, Supply, Execution and Commissioning of Class 100K Clean Room for Advanced PV characterization laboratory on Turnkey basis at National Institute of Solar Energy, Gurugram, Haryana.
- Extension of timelines of the Scheme for "Development of Solar Parks and Ultra Mega Solar Power Projects" from 2019-20 to 2021-22-reg.
- Office Memorandum Targets of Off-Shore Wind Power Installation Capacity
- Amendment in Solar Bidding Guidelines Gazette Resolution dated 14th June 2018.
- MNRE OM dated 20.06.2018 reg. Extension in Scheduled Commissioning Date of Solar Power Plants, on account of GST related issues.
- Corrigendum Amendment in the Guidelines for Implementation of a scheme for setting up of 5000 MW Grid-Connected Solar PV Power Projects with Viability Gap Funding (VGF) under Batch-IV of Phase-II of the NSM.
- Corrigendum Amendment in the Guidelines for Implementation of a scheme for setting up of 750 MW Grid-Connected Solar PV Power Projects with Viability Gap Funding (VGF) under Batch-I of Phase-II of the NSM.
- Clarification on requirement of mandatory registration with the State Renewable Energy (RE) Nodal Agencies/ State Nodal Agencies (SNA) for implementation of RE power projects.
- Corrigendum Amendment in the Guidelines for Implementation of a scheme for setting up of 2000 MW Grid-Connected Solar PV Power Projects with Viability Gap Funding (VGF) under Batch-III of Phase-II of the NSM.
- Benchmark costs for Off-grid solar PV Systems and Grid Connected Rooftop Solar Power Plants for the Year 2018-19.
- Programme/Scheme wise Physical Progress in 2018-19
 & Cumulative up to the May, 2018.

* MOP

- Appointment to the post of Director (Technical), Punatsangchhu-II Hydroelectric Project Authority, Bhutan.
- Long term growth trajectory of Renewable Purchase Obligations (RPOs) for Solar and Non-solar for a period of three years i.e 2019-20 to 2021-22

* CEA

Guidelines for Chartered Electrical Safety Engineer (CESE).

* CERC

- Calculation of Average Power Purchase Cost (APPC) at the national level.
- Petition under Section 41 of the Electricity Act, 2003 read with Central Electricity Regulatory Commission (Sharing of Revenue derived from utilization of transmission assets for other business) Regulations, 2007 for intimation to engage in other business for optimum utilization of transmission assets.
- * JERC

Joint Electricity Regulation Committee invites the state of GOA and other Union Territory for suggestion/comments on Draft (Multi Year Tariff) 2018, Suggestion/Comments reach before 24.07.2018

POWER NEV

* MERC

 Suggestions/objections on Mindspace Business Parks Private Limited (MBPPL) Petition for approval of truing up of FY 2015-16, FY 2016-17, provisional truing up of FY 2017-18 and for approval of revised forecast of Aggregate Revenue Requirement and Tariff for FY 2018-19 and FY 2019-20.

NISE

- Clean Room Tender for Advanced PV characterization on turnkey basis at NISE.
- Tender Notice for Award of Annual contract for Housekeeping Services at NISE, Gurugram, Last date for bids submission is 16th July 2018.
- Tender Notice for running Canteen at NISE, Gurugram, Last date for bids submission is 16th July 2018.

* SECI

- Amendment No-1 & Clarification No-1 For 10 MW DRDO Solar PV Project At Kolar, Karnataka
- Rescheduling Of Second Pre-Bid Meeting Ii: Selection Of Solar Power Developers For Setting Up Of 5GW (Per Annum).
- Extension Of Bid Submission Deadline-lii: Selection Of Solar Power Developers For Setting Up Of 150MW (50MW X 3) Grid Connected Floating Solar Power Projects To Be Installed At Rihand Dam, UP.
- Applications Are Invited For Filling Up One Post Of Director (Solar) In Solar Energy Corporation Of India (SECI) Ltd.
- Notification For Empanelment Of Experts With SECI For Inspection Cum Third Party Verification Of Grid Connected ed Solar PV Power Plants.

* MISCELLANEOUS

- 2 smart city projects get administrative nod.
 - ⇒ The solar power plant will be set up on a 15-acre land near the sewage treatment plant (STP) at Ukkadam. The plant will be constructed at a cost of Rs 17 crore. It will have 11,286 solar panels, each of which can produce 320 watts.
- Seminar on business opportunities in India's solar sector held in China.
- Proposal for solar-powered ferry boats gains steam.
- Tackling climate change is tough, but also a huge business opportunity.
- Himachal Pradesh gives subsidy on rooftop solar power installations.
- The HP government announced a subsidy of 10% or Rs 4,000 per KW, whichever is less, to all domestic consumers, institutions and those in the social sectors for installation of solar power plants at the rooftop.
- Federal judge fines Chinese wind turbine maker \$1.5 million.

Note: Click on Head lines for More Info



- Six UP cities can generate 11.4 GW of solar power.
- Adani Solar gets global recognition on durability and reliability.
- Solar power comes to the rescue of 1,617 schools without electricity in Aurangabad.
- Vadodara airport to switch to solar power soon.
 - ⇒ The power would be sourced from a plant located in the airport complex, having a capacity to generate 675 KW of power, which would help the airport save Rs 60 lakh every year on its electricity cost.
- 1.5 lakh farmers to get grant for solar pumps: Haryana Minister.
- Solar tariffs show upward trend again; rise to Rs 2.71 in SECI auction.
- Rewa mega solar power project starts operations, to serve Delhi Metro.
- India will get 75% electricity from renewable energy in 2050: BNEF.
- Bacteria-powered solar cell can produce electricity on cloudy days.
- Gujarat HC notice to government on allotment of village land for windmill projects.
 - ⇒ In his petition, Kasam Sidhig said that environmental impact assessment was not done before giving away these land to private wind-energy firms.
- Two million new jobs to be offered in wind energy sector by 2022: Suzlon Chairman Tulsi Tanti.
- Goa CM Parrikar meets power department over solar policy roll-out.
- Rooftop solar power panels can cut 95 per cent of bill: Study.
- India tops global pollution deaths of 9 million a year: Study.
- UP weavers to get solar charkhas, khadi benefits.
 - ⇒ UP will become the first state to recognize cloth woven on solar charkhas as khadi. Solar charkhas are used in other states also, but cloth so produced is not considered khadi and therefore weavers don't get government benefits under khadi promotion.
- Tata Power Renewable Energy commissions 100 MW solar project in AP.
- NABARD sanctions over Rs 735 cr for solar, irrigation projects in Bengal.
 - ⇒ The financial institution said the grid connected solar power projects would generate 88.61 MU of green energy per annum.
- Fortum launches charging stations for electric vehicles in Hyderabad.
- Telangana power generation utility spent Rs 800 crore on repairs.
 - ⇒ The Central Electricity Authority opined that the units were generating high heat rate. As such 4x60 MW units could be retired in 2016-17 and 4x120 MW units may be withdrawn in a phased manner.
- Punjab, Haryana power utilities improve their rankings.
- President Ramnath Kovind launches Solar Charkha Mis-
 - ⇒ Under this mission, the Ministry of Micro Small and Medium Enterprise (MSME) will cover 50 clusters and each cluster will employ 400 to 2,000 artisans.
- Maharashtra government forms study committee for floating solar power plant.
- Government hikes ethanol price by Rs 2.85/litre to Rs PANACEAN POWER BULLETIN | Volume 5 | Issue 04 | Jul-2018

- 43.70 for 2018-19.
- India plans to cut emission from old power plants to national standards by 2022.
- China considering further reduction in electric-vehicle subsidies.
- Maharashtra assembly adjourned due to no power sup-
- India Inc likely to report double-digit profit growth for 3rd quarter in a row.
- Coal imports by power sector in April-May down 15 per cent: Piyush Goyal.
- China to cut coal use, curb steel in 2018-2020 pollution plan.
- Delhi on the verge of blackout without enough coal for power plants.
- GSPC to commission Mundra LNG terminal in Gujarat in 2-3 months.
 - ⇒ IOC(Indian Oil Corporation) had in August last year stated that it will acquire up to a 50% stake in the Mundra LNG import terminal for an estimated Rs 750 crore.
- Japan's first LNG bunkering vessel to be launched in 2020.
- Petroleum products to be brought under GST in stages, savs Hasmukh Adhia.
- Six major wealth funds agree to encourage greener economy.
 - ⇒ The six funds from Norway, United Arab Emirates, Saudi Arabia, Qatar, Kuwait and New Zealand released a joint framework on 6th July 2018 to encourage investors to take climate-related risks into consideration when invest-
- Struggling to save nuclear deal, Iran and world powers meet.
- South Korea suspends Iranian oil loading in July for first time since 2012.

List of Abbreviations

• AP	:Andhra Pradesh	• HP	:Himachal Pradesh
• BNEF	:Bloomberg New Energy	JERC	:Joint Electricity Re
	Finance		ry Commission

CEA :Central Electricity Author

:Central Electricity Regu CERC latory Commission

 CM :Chief Minister

:Compressed Natural CNG Gas

• CR

• DRDO :Defence Research and **Development Organisa**

• FY :Financial Year

• GERC :Gujarat Electricity Re gulatory Commission

:Gujarat State Petroleum GSPC Corporation

 GST :Good & Services Tax

GW :Giga Watt

HC :High Court

egulato

 KW :Killo Watt

LNG :liquefied natural gas

MERC :Maharashtra Electricity Regulatory Commission

MNRE :Ministry of New & new able energy

MOP :Ministry of Power

MW :Megawatt

• NABARD: National Bank for Ag riculture and Rural De velopment

NISE :National Institute of So lar Energy

 OM :Office Memorandum

 PV :Photovoltaic

 SECI :Solar Energy Corporation of India Limited

 UP :Uttar Pradesh





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



All India List of Substations, Transmission Lines & Generators Commissioned during May-2018

♦ Substations

- 765/400 KV Warora PS (CKT No. I) (1500 MVA)
- 765/400 KV Warora PS (CKT No. II) (1500 ◆ Transmission Lines MVA)
- 400/220 KV Boisar (Extn.) (500 MVA)
- 400/220 KV Khandwa (Extn.) (500 MVA)
- 400/220 KV Sattenapalli ICT-III (315 MVA)
- * 400/220 KV Obra -BTPS (Aug.) ICT-II (75
- * 400/220 KV Boisar (CKT No. IV) (75 MVA)
- 400/220 KV Khandwa ((CKT No. III) (500 MVA)
- 400/220 KV Dehgam (CKT No. III) (500 MVA)
- 400/220 KV Morena (CKT No. I) (MVA)
- * 400/220 KV Morena (CKT No. II) (315 MVA)
- 400/220 KV Gajwel (CKT No. IV) (MVA)
- * 400/220 KV Khammam (CKT No. III) (MVA)
- 400/220 KV Sattenapalli (CKT No. III) (MVA)
- 220/66 KV Gurgaon Sec. -57 (100 MVA)
- 220/132 KV Sarh (Kanpur Dehat New) ICT-I (100 MVA)
- 220/132 KV Sikandara (Kanpur Dehat New) (100 MVA)
- 220/132 KV Hindaun (160-50) (110 MVA)
- 220/132 KV Barasat GIS (320 MVA)
- 220/132 KV Jalore (160-50) (110 MVA)
- 220/132 KV Bachrawan Raebareli (New)ICT

- -I (160 MVA)
- 220/132 KV Baghpat (Aug.) (160-100) (60 * 400 KV Julurupadu-KTPS U7 (CKT No.I)

- * 400 KV LILO of Wardha Parli at Warora PS (PWTL-TBCB)
- * 400 KV Banda Orai
- 400 KV LILO of one ckt. of Kishanpur New wanpoh at Baglihar HEP
- 400 KV Phagi (Jaipur South) Ajmer Ckt-II
- 400 KV Gwalior-Morena (Quad) (C-WRTL-TBCB)
- 400 KV Wardha-Warora PS (LILO of Wardha-Parli D/C at Warora) (CKT No. I)
- * 400 KV Wardha-Warora PS (LILO of Wardha-Parli D/C at Warora) (CKT No. II)
- * 400 KV Warora PS Parli (PG) (LILO of Wardha-Parli D/C at Warora) (CKT No. I)
- * 400 KV Warora PS Parli (PG) (LILO of * Wardha-Parli D/C at Warora) (CKT No. II)
- * 400 KV Gwalior PG Morena (CKT No. I)
- * 400 KV Gwalior PG Morena (CKT No. II)
- * 400 KV Wanakbori AIS-Wanakbori GIS (CKT No. I)
- * 400 KV Yermarus TPS Bellary PS (CKT No. 1)
- * 400 KV Yermarus TPS Bellary PS(CKT No. II)
- * 400 KV Gajwel-Ramdugu(CKT No. I)

- * 400 KV Ramdugu-Singareni (CKT No. I)
- * 400 KV Julurupadu-KTPS U7 (CKT No.II)
- * 400 KV Karaikudi-Kamuthi (CKT No. II)
- 230 KV Arasur Gobi
- * 230 KV Karaikudy Sembatty
- * 230 KV Koyambedu 230kV AIS Guindy 230 kV GIS
- * 220 KV Balapur Malegaon line (Ckt-II)
- * 220 KV Fatehpur PG Sarh
- * 220 KV LILO of Amawan PG Sarojni Nagar at Bachrawan
- 220 KV LILO of Bhauti Orai at Sikandara
- * 220 KV Nanded (Kumbhargaon) Jalkot line
- 220 KV Nanded (Kumbhargaon) Nanded (Waghala) Ckt.-II
- 220 KV Raipur Doma
- 220 KV Yelanhanka CCPP Yelanhanka (KPTCL)
- 220 KV Vapi-Bhilosa (LILO of Vapi-Kharadpada-II at Bhilosa) (CKT No. I)
- * 220 KV Bhilosa-Kharadpada (LILO of Vapi-Kharadpada-II at Bhilosa)(CKT No. II)

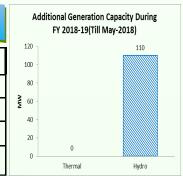
◆ Generators

♦ Thermal

* Pare, Unit -1 and Unit-11 (110 MW) was Commissioned on 28.05.2018 ,21.05.2018

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

Month		7	Γherma	I				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	
Total	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	



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

	800 KV		765 KV			400 KV				230 KV				220 KV				Total				
Month	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	LR	T/L	S/S	BR
Apr-18	0	0	0	4	4	0	0	14	10	0	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	0	10	8	0	0	32	22	0
Total	0	0	0	4	6	0	0	33	22	0	0	3	0	0	0	18	13	0	0	58	41	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 May-2018.

* 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 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







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 Dadra 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

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Silvassa

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Daman

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

Surat

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





SUPPORT TO YOUR POWER SOLUTIONS

- INFRASTRUCTUTR MANAGEMENT (MAPS)
- COMPLAINT MANAGEMENT SYSTEM (CMS)
- REGULATORY INFORMATION MAN-AGEMENT SYSTEM(RIMS)
- MAINTENANCE MANAGEMENT SYS-TEM(MMS)
- INVENTORY MANAGEMENT(STORE)
- OPTIMAL POWER SCHEDULE

ONLINE ACCESS BROWSER COMPATI-BILITY



INDEPENDENT OF DATABASE



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





FLEXIBLE SOLUTIONS FOR YOUR POWER NEEDS

PANACEAN AT WORK FOR YOU

CONNECTING YOUR POWER NEEDS TO THE PANACEAN RESOURCES

ntroduction

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).

imple 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.

loud 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.

uto Backup:

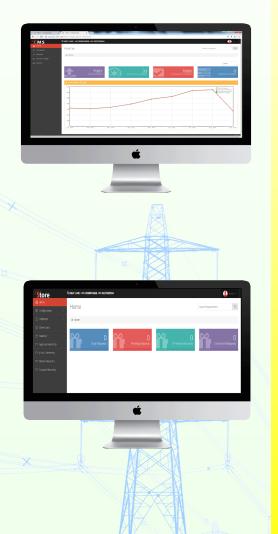
The data of all enterprise applications is of utmost importance. Power UI comes with Auto Backup facility where an authorized person can schedule auto backup of full / partial data of the software. In case of data lost or hardware failure, no or minimal data is lost.

vent 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







EGULATORY INFORMATION MANAGEMENT SYSTEM

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.

OMPLAINT 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.

NVENTORY 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









AINTENANCE MANAGEMENT SYSTEM (MMS)

MMS it 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

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.

ATA / REPORT EXPORT AND PRINTING FACILITIES:





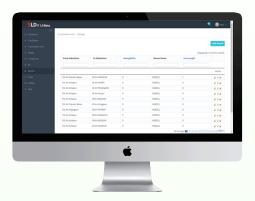




NLINE COMPLAINT AND FEEDBACK REPORTING

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.







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

OWERUI - MAPS

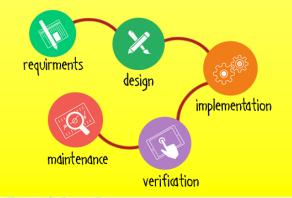
POWERUI MAPS is a map based application where all important assets and infrastructure of a Distribution company and transmission company are displayed on maps using their exact geographic coordinates. Display of all mapped distribution equipment on google maps, along with establishment of comprehensive 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 0 & 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.

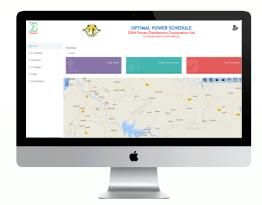
AYER FACILITY:

Given a large and a highly dense network as that of MSEDCL, 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.

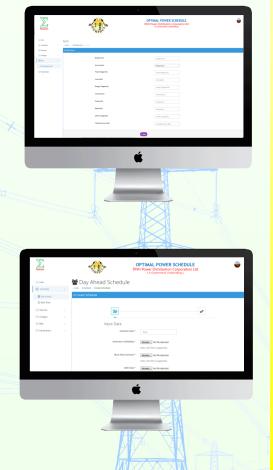
ATABASE - MAP COMMUNICATION: Provision for any element to be in

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.





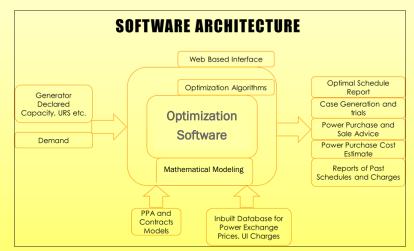




TIMAL POWER SCHEDULING SOFTWARE

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.

ntroduction: 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, Unscheduled 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,



EATURES

- 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.