Panacean®
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POWER BULLETIN

OCT
2019
Volume 6, Issue 7

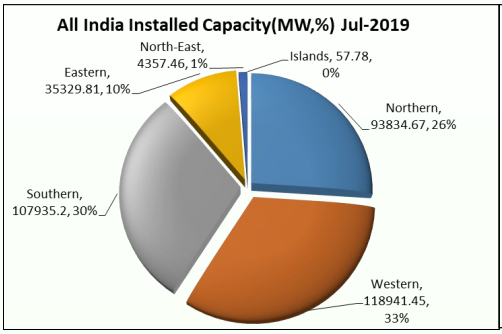
Inside

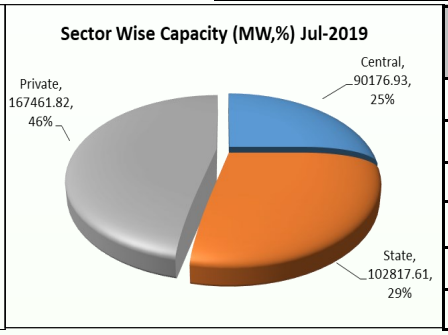
OVERVIEW OF INDIAN POWER SYSTEM FOR JUL-2019

All India Installed Capacity (MW) as on 31-07-2019					
Region	Thermal	Nuclear	Hydro	RES	Total
Northern	57648.23	1620	19707.77	14858.67	**93834.67**
Western	85200.11	1840	7547.5	24353.84	**118941.45**
Southern	53217.26	3320	11774.83	39623.11	**107935.2**
Eastern	28956.87	0	4942.12	1430.82	**35329.81**
North-Eastern	2581.83	0	1427	348.64	**4357.46**
Islands	40.05	0	0	17.73	**57.78**
ALL	**227644.34**	**6780**	**45399.22**	**80632.8**	**360456.37**

All India Installed Capacity (MW) as on 31-07-2019	
Sector	Generation (MW)
Central	90176.93
State	102817.61
Private	167461.82
Total	**360456.37**

Peak Demand of DD & DNH				
Utility	Jul-19			
	Peak Demand (MW)	Peak Met (MW)	Surplus/Deficit (-)	
			(MW)	(%)
DD	350	350	0	0
DNH	826	826	0	0





All India Plant Load Factor (PLF) in (%)		
Sector	Jul-18	Jul-19
Central	66.78	63.24
State	49.13	51.55
Private IPP	49.56	52.54
Private UTL	60.94	62.39
ALL India	54.53	55.50

Highlights of WR Grid for Aug-2019

- **Maximum Peak Demand Met:** 42633 MW
- **Energy Consumption:** Total Energy Consumption in the month of Aug-2019 was 30755 Mus at an average of 992 MUs/day & Maxi-mum was 1077 MUs on 29.08.2019.
- **Unrestricted Demand:** Maximum Unrestricted demand was 47633 MW and Average Peak Unrestricted demand was 41338 MW.
- **Frequency Profile:** System frequency as per IEGC band is 49.90 Hz to 50.05 Hz. Maxi-mum, Minimum & Average Frequencies 50.32 Hz, 49.55 Hz & 50.002 Hz were respectively observed in the month of August-2019.
- **Voltage Profile:** All 765 KV nodes of WR were within the IEGC limit except, Wardha, Durg and Gwalior which are high voltage node. High Voltage (greater than 420 KV) at 400KV substations were observed at Khandwa,Damoh, Raipur,Raigarh, Wardha,Bhilai, Dehgaon, Parli,Nagda, Kalwa,Karad,Boisar, Kasor,Amreli,Asoj,Jetpur,Vapi,Mapusa,Kala, Magarwada, Hazira & Raigarh. highest of 99.32% of time voltage remained above 420KV at Raigarh.
- **Hydro Generation:** Total hydro generation of Western Region was 1712.80 MUs at an average of 55.25 MUs/day in the month of August-2019.
- **Wind Generation:** Total wind generation was 2903 MUs at an average of 93.6 MUs/day in the month of August-2019.
- **Solar Generation:** Total Solar generation was 601 MUs at an average of 20 MUs/day in the month of August-2019.
- **Open Access Transaction Details for August-2019:**
  - ⇒ No. of approvals & Energy Approved in Intra-regional: 136 & 610.1109 Mus
  - ⇒ No. of approvals & Energy Approved in Inter-regional: 67 & 115.8149 Mus.

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List of Transmission Lines Commissioned/Ready for Commissioning During Jul-2019												Total
Sector	Central				Pvt.			State				
Voltage Level (KV)	800	765	400	220	765	400	220	765	400	230	220	
No. of Lines	0	1	3	1	0	2	5	0	1	0	0	**13**

List of Substations Commissioned/Ready for Commissioning During Jul-2019												Total
Sector	Central				Pvt.			State				
Voltage Level (KV)	765	400	230	220	765	400	220	765	400	230	220	
No. of Sub-stations	1	0	0	0	0	1	0	0	0	2	10	**14**

Region-wise Power Supply Position (Demand & Availability) in Jul-2018 & Jul-2019						
Region	Energy (MUs)				Deficit /Surplus (%)	
	Demand		Energy Met			
	Jul-18	Jul-19	Jul-18	Jul-19	Jul-18	Jul-19
Northern	38,331	40,461	37,827	39,934	**(1.3)**	**(1.3)**
Western	29,166	31,538	29,163	31,537	**0.0**	**0.0**
Southern	27,657	28,213	27,616	28,205	**(0.1)**	**0.0**
Eastern	13,097	13,189	13,065	13,189	**(0.2)**	**0.0**
North Eastern	1,587	1,540	1,536	1,482	**(3.2)**	**(3.8)**
All India	**109838**	**114942**	**109207**	**114347**	**(0.6)**	**(0.5)**

Region-wise Peak Demand / Peak Met in Jul-2018 & Jul-2019						
Region	Power (MW)				Deficit /Surplus (%)	
	Peak Demand		Peak Met			
	Jul-18	Jul-19	Jul-18	Jul-19	Jul-18	Jul-19
Northern	63,166	65,866	61,726	65,172	**(2.3)**	**(1.1)**
Western	44,879	52,619	44,574	52,509	**(0.7)**	**(0.2)**
Southern	44,991	45,487	44,719	45,250	**(0.6)**	**(0.5)**
Eastern	22,457	23,539	21,790	23,539	**(3.0)**	**0.0**
North Eastern	2,899	2,958	2,798	2,880	**(3.5)**	**(2.6)**
All India	**1,70,076**	**1,76,159**	**1,67,798**	**1,75,124**	**(1.3)**	**(0.6)**

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POWER TRADING

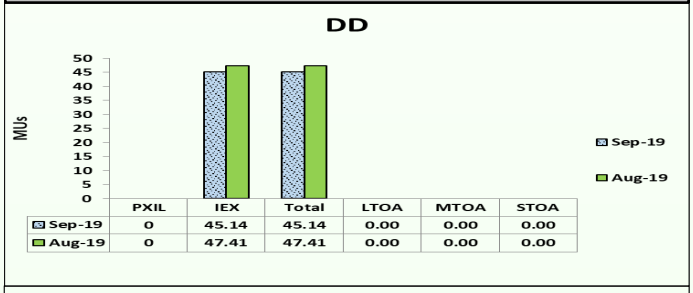
⇒ Emergence of IT has helped to create massive E-Commerce platforms in every walk of life. One such E-Commerce platform for transiting electricity for physical delivery, fine tuning daily requirements, sale of residual generation, optimal utilization of generating resources at marginal cost of production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

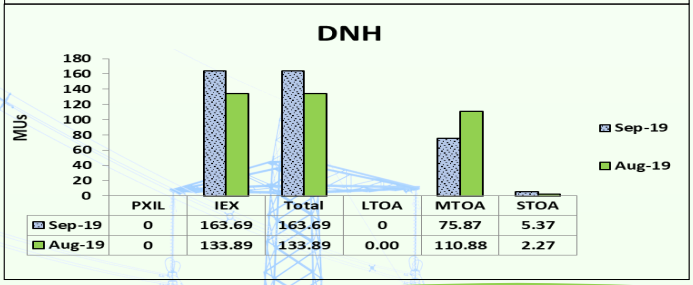
⇒ PXIL & IEX Trading summary

SEP-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	**4116.2**	**131016.2**	**-**	**4116.2**	**4116.2**	**4065879.0**	**8569763.6**	**0.0**	**3487569.5**	**3535019.0**
Min	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2670.1**	**5885.8**	**1000.4**	**2465.5**	**2465.5**
Max	**5.3**	**150.0**	**3150.0**	**5.3**	**5.3**	**9397.2**	**19389.0**	**5995.8**	**7114.1**	**7341.2**
Avg	**1.9**	**62.0**	**1179.4**	**1.9**	**1.9**	**5647.1**	**11902.5**	**2774.8**	**4843.9**	**4909.8**
AUG-2019	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	**1397.6**	**48672.6**	**-**	**1397.6**	**1397.6**	**5622422.2**	**8485342.4**	**0.0**	**4679309.6**	**4679309.6**
Min	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**3240.9**	**6181.6**	**999.8**	**3218.1**	**3218.1**
Max	**5.3**	**125.0**	**3100.0**	**5.3**	**5.3**	**13084.4**	**18676.9**	**8320.5**	**10044.6**	**10044.6**
Avg	**1.3**	**46.1**	**775.0**	**1.3**	**1.3**	**7557.0**	**11405.0**	**3316.2**	**6289.4**	**6289.4**

DD & DNH: OPEN ACCESS DETAILS



	PXIL	IEX	Total	LTOA	MTOA	STOA
Sep-19	0	45.14	45.14	0.00	0.00	0.00
Aug-19	0	47.41	47.41	0.00	0.00	0.00

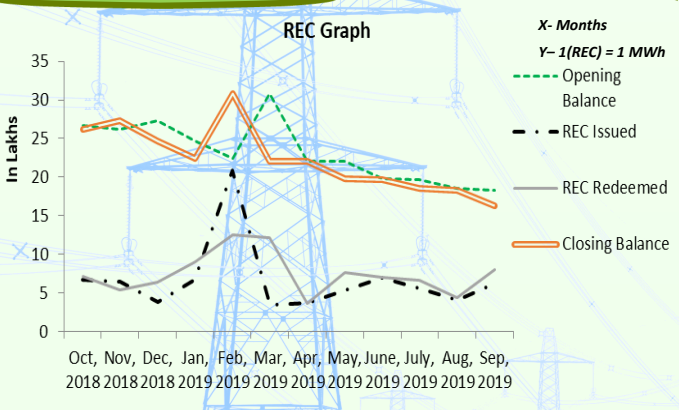


	PXIL	IEX	Total	LTOA	MTOA	STOA
Sep-19	0	163.69	163.69	0	75.87	5.37
Aug-19	0	133.89	133.89	0.00	110.88	2.27

REC Trading Session September-2019

Trader Company	PXIL		IEX	
Particular	Non-Solar	Solar	Non-Solar	Solar
Total Sell Bid (REC's)	93,345	35,234	516,811	72,780
Total Buy Bid (REC's)	182,084	217,053	449,658	630,421
Clearing Price (₹/Certificate)	1,780	2,200	1,500	2,250
Cleared Volume (REC's)	92,695	23,484	345,866	58,919

RENEWABLE ENERGY CERTIFICATE MECHANISM (REC) FROM OCT-18 TO SEP-19



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POWER MARKET UPDATE: September 2019

Day Ahead Market Trades 3924 MU with Sep. MCP Rs. 2.77 per unit

- The market continued to be favorably inclined to the buyers both the distribution utilities as well as the open access consumers in terms of price competitiveness as well as flexibility in power procurement.
- The average market clearing price was down by 41% vis-a-vis price of Rs.4.69 per unit in September'18 and 16% on MoM basis. The reduction in prices was mainly on account of low demand, improved coal supply, extended monsoon and improved hydro power generation.
- Subdued demand for power was another reason for low prices in the market. All India peak demand at 173 GW in September'19 declined 1% over demand of 175.6 GW in Sep'18. In the similar vein, the energy met at 105 BU also declined 5% YoY according to the NLDC data.
- In the Exchange DAM market, total monthly sell bids at 8,570 MU were almost twice of total buy bids at 4,066 MU.
- The inter-state transmission corridor congestion prevailed during the month specially towards the import of power to northern states due to shutdown of 765 KV Agra Jhatikara & HVDC Champa – Kurukshetra line. Consequently, 'One Nation, One price' prevailed for only 18 days during the month.

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DEVIATION CHARGES

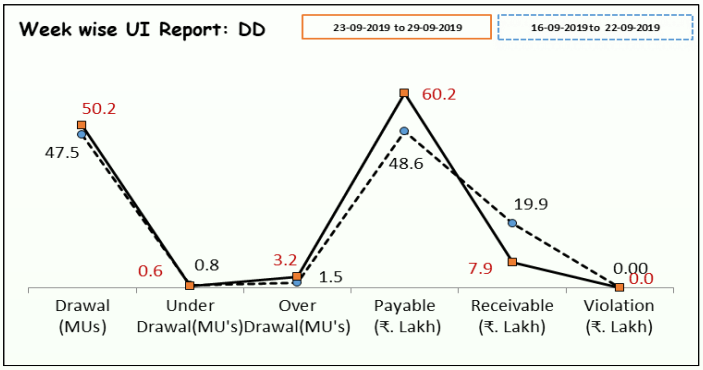
DD User Click to get UI Report
DNH User Click to get UI Report

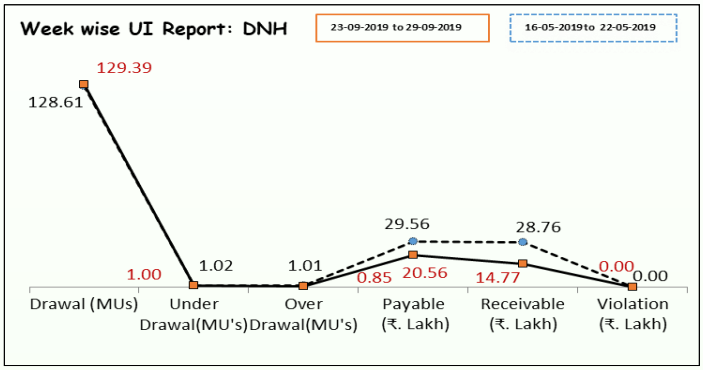
DD-Deviation Charges

FY 2019-20	Drawl (MUs)	Schedule (MUs)	UI Drawl (MUs)		UI Charges(₹. Lakh)		
			Under Drawl	Over Drawl	Payable	Receivable	Violation
Cumulative Total up to Aug-19	1092.52	1043.89	12.42	-61.06	2002.14	-358.98	115.33
23-09-2019 to 29-09-2019	50.22	47.54	0.57	3.24	60.19	7.87	0.00
23-09-2018 to 29-09-2018	48.64	40.25	0.10	8.49	253.08	2.53	--
16-09-2019 to 22-09-2019	47.53	46.78	0.76	1.52	48.58	19.90	0.00
16-09-2018 to 22-09-2018	51.47	42.39	0.01	9.09	251.13	0.09	--

DNH-Deviation Charges

FY 2019-20	Drawl (MUs)	Schedule (MUs)	UI Drawl (MUs)		UI Charges (₹. Lakh)		
			Under Drawl	Over Drawl	Payable	Receivable	Violation
Cumulative Total up to Aug-19	2784.18	2779.15	28.01	33.04	1208.98	733.04	95.07
23-09-2019 to 29-09-2019	129.39	129.55	1.00	0.85	20.56	14.77	0.00
23-09-2018 to 29-09-2018	129.44	122.21	0.15	7.38	212.52	3.51	--
16-09-2019 to 22-09-2019	128.61	128.62	1.02	1.01	29.56	28.76	0.00
16-09-2018 to 22-09-2018	128.39	119.76	0.01	-8.64	221.48	0.3	--





DD

Month	FY 2018-19 (All Freq Hz)			FY 2019-20 (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
April	0.30	(19.56)	(2.79)	1.62	(16.55)	(3.27)
May	0.57	(27.91)	(3.43)	2.73	(11.40)	(3.64)
June	0.23	(24.82)	(2.61)	2.91	(7.78)	(3.70)
July	0.16	(31.37)	(2.54)	2.38	(13.25)	(3.17)
Aug	0.10	(28.24)	(2.52)	2.76	(12.06)	(3.35)
Sep	0.14	(33.75)	(2.92)	--	--	--
Oct	0.37	(25.13)	(2.58)	--	--	--
Nov	0.65	(19.69)	(2.48)	--	--	--
Dec	0.20	(23.87)	(2.57)	--	--	--
Jan	2.25	(6.69)	(4.20)	--	--	--
Feb	2.46	(7.70)	(3.85)	--	--	--
Mar	2.21	(13.41)	(3.69)	--	--	--
Total	**9.63**	**(262.14)**	**(2.82)**	**12.4**	**(61.04)**	**(17.42)**

DNH

Month	FY 2018-19 (All Freq Hz)			FY 2019-20 (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
April	0.39	(22.51)	(2.70)	3.06	(10.9)	(3.62)
May	2.03	(16.76)	(3.40)	5.29	(9.45)	(5.39)
June	1.43	(15.89)	(2.57)	7.51	(5.14)	0.81
July	0.43	(25.32)	(2.37)	6.86	(3.91)	(1.25)
Aug	0.33	(35.64)	(2.35)	5.28	(3.62)	(0.90)
Sep	0.50	(33.89)	(2.73)	--	--	--
Oct	1.76	(26.70)	(2.64)	--	--	--
Nov	2.36	(18.13)	(2.67)	--	--	--
Dec	0.57	(27.12)	(2.56)	--	--	--
Jan	2.68	(7.65)	(3.84)	--	--	--
Feb	2.99	(8.68)	(3.68)	--	--	--
Mar	5.37	(8.02)	(5.90)	--	--	--
Total	**20.84**	**(246.31)**	**(2.72)**	**28**	**(33.02)**	**(10.35)**

REACTIVE ENERGY CHARGES FOR DD & DNH

FY 2019-20	DD-High Voltage				DD-Low Voltage				DNH-High Voltage			DNH-Low Voltage		
	GUJARAT		ISTS	Total	GUJARAT		ISTS	Total	ISTS		Total	ISTS		Total
	Dok-diu	Una-diu	Mgr-Vap HV		Dok-diu	Una-diu	Mgr-Vap LV		Kpd-Vap HV	Kdl-Vap HV		Kpd-Vap LV	Kdl-Vap LV	
Cumulative Total MVARh till Aug-2019	588.1	900.2	100383.9	101872.2	0.0	-5.1	0.0	-5.1	98892.0	76763.3	175655.3	1.4	711.3	712.7
Cumulative Total Charges in (₹) till Aug 19	-44848.5	-64438.0	-8979284.5	-9088571.0	0.0	-739.5	0.0	-739.5	-14339340.0	-11130678.5	-25470018.5	203.0	103138.5	103341.5
09-09-2019 to 15-09-2019	59.4	92.4	6817.7	6969.5	0.0	0.0	0.0	0.0	6803.5	3204.1	10007.6	0.0	0.0	0.0
Charges in (₹)	-8613.0	-13398.0	-988566.5	-1010577.5	0.0	0.0	0.0	0.0	-986507.5	-464594.5	-1451102.0	0.0	0.0	0.0
16-09-2019 to 16-09-2019	59.1	113.1	6081.9	6254.1	0.0	0.0	0.0	0.0	6084.5	2996.8	9081.3	0.0	-0.4	-0.4
Charges in (₹)	-8569.5	-16399.5	-881875.5	-906844.5	0.0	0.0	0.0	0.0	-882252.5	-434536.0	-1316788.5	0.0	-58.0	-58.0

Note: The REC chargers has been revised to 14.5 paisa/KVARh from Apr-2019 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

* CERC

- Draft Central Electricity Regulatory Commission (Sharing of Revenue Derived from Utilization of Transmission Assets for Other business) Regulations, 2019.
- Suo-Motu order:- Methodology for Compilation of Coal Price Index applicable for Power Sector
- Methodology of settlement of accounts for bilateral short term and collective transactions, for the period of Grid Disturbance.

* JERC

- JERC (Consumer Grievances Redressal Forum and Ombudsman) Regulations, 2019

* CEA

- Inviting Public Comments on Draft Universal Feeder Code

* POSOCO

- Revised SCED detailed Procedure w.e.f 01.10.2019

* MNRE

- Clarification regarding power generated from co-firing of biomass in thermal power plants as renewable energy
- National Renewable Energy Internship (NREI) Scheme
- 2nd Program on SOLAR ANALYTICS
- Procedural Guidelines for Dispute Resolution Mechanism to consider the unforeseen disputes between solar/wind power developers and SECI/ NTPC, beyond contractual agreements –reg.

* MISCELLANEOUS

- **NLC India Commissions 351 MW of Solar Projects in Tamil Nadu**
  - ⇒ Now, the overall installed solar power capacity of NLC has gone up to 1.3 GW
- **MAHAGENCO Seeks Landowners for Development of 600 MW of Solar Projects**
  - ⇒ MAHAGENCO plans to develop the capacity in consortium with NTPC
- **Gujarat Alkalies Commissions 20 MW of Solar Projects at Gujarat's Charanka**
  - ⇒ In the first phase, the company commissioned 15 MW of solar projects
- **SolarArise India Commissions 27 MW of Solar Projects in Karnataka**
  - ⇒ The project is expected to generate 47 million kWh of solar power
- **UPERC Approves Amended PPAs for 500 MW of Solar Projects**
  - ⇒ The commission has approved the tariffs ranging between ₹3.17 and ₹3.23/kWh
- **Bharathi Cement Turns to Solar with a 10 MW Solar Project at its Facility in Andhra Pradesh**
  - ⇒ The project was executed by Fourth Partner Energy
- **Safeguard Duty to be Considered as Change in Law for ACME's Solar Projects in Karnataka**
  - ⇒ The commission, however, has denied ACME a mechanism to compensate it for the increase in project costs
- **Tata Power Commissions a 150 MW Solar Project in Rajasthan**
  - ⇒ The company's overall operating renewable capacity now stands at 2,628 MW in India
- **Maharashtra Commission Allows Modifications in PPAs and PSAs for 252 MW of Solar Projects**
  - ⇒ The petition has been filed to allow modifications in the Change in Law clause, scheduled commercial operation timelines, and deemed generation compensation clause
- **Adani Commissions 200 MW of Solar Projects in Rajasthan**
  - ⇒ The projects were won by Adani in the auction held by MSEDCL last year
- **Himachal Pradesh to Develop 250 MW of Solar Projects**
  - ⇒ The projects will be developed by ReNew Power and CSE Development
- **Himachal Pradesh Launches Program to Deploy 28 MW of Solar Projects**
  - ⇒ The program intends to facilitate the development of solar projects in Himachal Pradesh by making use of barren lands
- **NLC India Commissions a 95 MW Solar Project, Exceeds 1 GW of Renewable Capacity**
  - ⇒ The project is part of a 109 MW solar project in Ramanathapuram district of Tamil Nadu
- **Danube Group Partners with CleanMax Solar, Commissions 1,200 kW Solar Projects**
  - ⇒ The UAE-based company will save~$81,000 on their electricity bills every year
- **The Indian Academy Dubai School Installs 192 kW Rooftop Solar System**
  - ⇒ The project is expected to generate 307,000 kWh of electricity per annum
- **Emirates Flight Catering Installs Solar System to Power Eight of its Facilities**
  - ⇒ The solar project is expected to generate 4,195 MWh of solar power annually
- **Perovskite and CIGS Semiconductors Could Boost Efficiency of Solar Modules**
  - ⇒ The tandem module technology is being developed as part of a study sponsored by the German Ministry of Economic Affairs
- **MNRE Exempts BIS Certification for Replacement of Solar Modules**
  - ⇒ The notification allows an exemption for the replacement of up to two modules per MW only
- **Indian Army's 1 MW Solar Project That Exceeded 50% of its Contract Demand Gets Approved**
  - ⇒ The solar project is located in Gujarat's Vadodara
- **Industry Organization Recommends Modifications to KUSUM Solar Program**
  - ⇒ Modifications proposed in component A, B and C of the program
- **Solar and Other Renewable Policy Roundup: Key Announcements From September 2019**

Note: Click on Head lines for More Info

⇒ The month saw the announcement of major economic overhauls to improve the sluggish pace of the economy

- **Solar REC Price Spikes to a Record ₹2,250 in September 2019**

  ⇒ The solar REC market saw an increase of approximately 20% in traded volumes on a month on month basis

- **Quality Consciousness in Indian Solar Projects a Mixed Bag: DuPont Interview**

  ⇒ While some developers go to great lengths to ensure all the quality standards are conformed with, there are some for whom the cheapest materials work.

- **Important Headlines from India's Renewable Industry in September 2019**

  ⇒ Some ongoing troubles for the industry like PPA renegotiations in Andhra Pradesh dragged on into September 2019

- **UPERC Approves Tariffs for 550 MW of Solar Projects Ranging Between ₹3.02-3.08/kWh**

  ⇒ The project capacities were allotted during the auction held in December 2018

- **Tata, Hild, Refex & Adani to Develop 769 MW of Solar Capacity for NTPC**

  ⇒ NTPC had won the capacity under SECI's 2 GW CPSU solar tender with VGF and had issued a tender to contract EPC companies

- **Huawei Inks Deal with Adani Green Energy for 860 MW of Solar Projects**

  ⇒ The deal was signed on the sidelines of REI 2019

- **Visaka Industries and Sonam Wangchuk Launch Solar Battery House for Army in Ladakh**

  ⇒ The system has four ATUM panels that can generate 1.3 kW of electricity for a single battery house pilot project

- **Punjab Renewable Policy Targets 3 GW of Solar Capacity by 2030**

  ⇒ The state has launched a draft version of its latest renewable energy policy

- **Four Solar Developers Get Safeguard Duty Relief from CERC**

  ⇒ Petitioners include: ReNew Power, Mahoba Solar, Phelan Energy, and Clean Sustainable Energy

- **Trump Administration Withdraws Tariff Exemption for Bifacial Solar Modules**

  ⇒ The USTR has withdrawn its June 2019 order that would exempt safeguard duty on bifacial modules

- **Solar Tender Announcements Dropped in September While Auction Activity Increased**

  ⇒ Over 3.1 GW of tender announcements were made in the month

- **Railways Announces Tender for 32.5 MW of Rooftop Solar Projects**

  ⇒ The deadline for the submission of bids is December 9, 2019

- **Haryana to Procure 300 MW of Solar Power on Short-Term Open Access Basis**

  ⇒ Haryana Power Purchase Company is looking to procure the solar power for 366 days

- **Haryana to Procure 100 MW of Solar & Wind Power with Energy Storage to Fulfil its RPO**

  ⇒ The last date of submission of bids for this tender is November 13, 2019

- **New Guidelines Propose Charging Stations for Heavy EVs Every 100 kilometers on Highways**

  ⇒ The new guidelines also propose charging stations at every 3 km range in the cities

- **Adani Green Raises $362.5 Million Through Issuance of Green Bonds**

  ⇒ The proceeds from the issue are expected to be used by Adani subsidiaries to pay off their existing loans and meet other capital expenditure

- **Public Health Department in Rajasthan Issues Tender for Installation of Solar Pumps**

  ⇒ The deadline for the submission of bids is November 6, 2019

- **A Solar Cell is Domestically Manufactured only if Made in India with Undiffused Silicon Wafer**

  ⇒ The Ministry of New and Renewable Energy (MNRE) has issued a clarification stating that if diffused silicon wafer (blue wafer) is imported and is used as a raw material for the manufacture of solar photovoltaic (PV) cells, it will not qualify as domestically manufactured solar photovoltaic cells.

- **Airtel Makes its Foray into Solar Through the Group Captive Model**

  ⇒ Acquires 26% stake in AMPSolar for $1.2 million through the group captive model.

- **AAI Floats a 3.7 MW Solar Tender for Raipur, Coimbatore, and Aurangabad Airports**

  ⇒ The deadline for the submission of bids is November 21, 2019.

- **SECI's 1.2 GW Solar Tender Attracts Technical Bids from Four Developers**

  ⇒ SECI's 1.2 GW ISTS- connected solar tender saw a 100% subscription

- **Hild Energy Bags 40 MW of Solar Projects Floated by EESL for Maharashtra**

  ⇒ The project is part of a 100 MW EPC tender issued by EESL earlier this year

- **Center Mulls 5-Min Time-Block for Deviation Settlement as Renewable Generation Surges**

  ⇒ The CII's fourth edition of Energizing South conference was held in Chennai between October 14 and 15, 2019.

List of Abbreviations

- **AAI** : Airports Authority of India
- **BIS** :Bureau of Indian Standards
- **CEL** :Central Electronics Limited
- **CAPEX** : Capital Expenditure
- **CIGS** : Copper Indium Gallium Selenide
- **CPSU** :Central Public Sector utility
- **CSE** :Computer Science Engineering
- **CERC** :Central Electricity Regulatory Commission
- **DISCOM** :Distribution Companies
- **EPC** :Engineering Procurement & Construction
- **GW** :Giga Watt
- **ISTS** :Inter State Transmission System
- **ITI** :Industrial Training Institute
- **JERC** : Joint Electricity Regulatory Commission
- **KUSUM** :Kishan Urja Suraksha evam Utthan Mahaabhiyan
- **kW** :Killo Watt
- **kWH** :killo Watt Hour
- **MW** :Megawatt
- **MNRE** :Ministry of New & Renew able energy
- **MSEDCL** :Maharashtra Stare Electricity Distribution Corporation Ltd.
- **NREI** : National Real Estate Investor
- **NTPC** :National Thermal Power Corp
- **OPEX** :Operational Expenditure
- **PV** :Photovoltaic .
- **PSA** : Power Supply Agreement
- **PPA** : Power Purchase Agreement
- **REC** : Renewable Energy Certificate
- **REI** : Renewable Energy India
- **RESCO** :Renewable Energy Service Co
- **SJVN** : Satluj Jal Vidhyut Nigam
- **SECI** :Solar Energy Corporation of India Limited
- **UAE** : United Arab Emirates
- **UPERC** : Uttar Pradesh Electricity Regulatory Commission
- **UPSEDA** : Uttar Pradesh State Energy Development Agency
- **VGF** : Viability Gap Funding

ALL INDIA LIST OF ELEMENTS COMMISSIONED DURING THE FY 2019-20

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

♦ Substations

* 765/400 Bikaner S/S (2x1500 MVA)
* 400/220 Prithala (Palwal) (GIS) (GPTL - TBCB)
* 230/110 Arani Addl T/F (TANTRANSCO)
* 230/33 Porur Addl T/F
* 220/132 Jansath Muzaffarnagar (Aug.) T/F-I (160-100)
* 220/132 Raja ka Talab S/S (Varanasi)
* 220/132 Gazol GIS
* 220/33 Kashipur S/S
* 220/132 Jaypatna S/S
* 220/66 Koramangala
* 220/66 Shivanasamudra (Hebbani Village limits)
* 220/66 Motigop T/F-I
* 220/132 Dohna Bareilly (Aug.) T/F-II (160-100)
* 220/132 Faridnagar Ghaziabad (Aug.) Addl T/F

♦ Transmission Lines

* 765 Ajmer (new) - Bikaner line
* 400 Chilkaluraipeta - Narasaraopeta (QM) (PSITL - TBCB)
* 400 LILO of One ckt. of Bhadla (RVPN) - Bikaner (RVPN) line at Bikaner (New)
* 400 Nabinagar-II - Patna line (Q)
* 400 Aligarh - Prithala (GPTL - TBCB)
* 400 LILO of Arambag - Durgapur at N. Chanditala
* 400 Rampura - Jagalur (Hiremallanahole)
* 220 Kishanganga - Wagoora line
* 220 Jagalur (Hiremallanahole) - Thallak
* 220 LILO of Mainpuri- Sikandrarao at Jawarharpur TPS
* 220 LILO of Malda (PG) - Dalkhola (PG) at Gozol
* 220 LILO of one ckt of Indravati - Thervali line at Jaypatna
* 220 Sahupuri -Raja ka Talab

♦ Generators

♦ Thermal

* Nabinagar STPP Unit 1, M/s NPGCL, Bihar, Central Sector, Thermal Coal - 660MW
* IB Valley TPP Unit-3, M/s OPGCL, Odisha, State Sector, Thermal Coal – 660 MW

♦ Hydro

* Nil

♦ Nuclear

* Nil

All India No. of Generators Commissioned during FY 2019-20 (till Jul-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-19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun-19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul-19	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Total	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**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) FY 2019-20 (till Jul-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	LR	T/L	S/S	BR
Apr-19	0	0	0	0	1	0	0	2	9	0	0	0	0	0	0	7	13	0	0	9	23	0
May-19	0	0	0	0	0	0	0	7	8	0	0	0	0	0	0	6	6	0	0	8	12	0
Jun-19	0	0	0	0	0	0	0	2	5	0	0	1	1	0	0	7	12	0	0	10	18	0
Jul-19	0	0	0	1	1	0	0	6	1	0	0	0	2	0	0	6	10	0	0	13	14	0
Total	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**17**	**23**	**0**	**0**	**1**	**3**	**0**	**0**	**26**	**41**	**0**	**0**	**30**	**67**	**0**

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

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

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 Enterprise 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®
(An ISO 9001:2015 Company)

More Power to You

Panacean Enterprise Pvt. Ltd.

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.
- Power Grid Company of Bangladesh Limited (PGCB)

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
- Essar Bulk Power Terminal Limited

Reach us at

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

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Mumbai

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Daman

A2-603, Fortune DP Nanp-1, Somnath Kachigam Road, Nr. Vidyut Bhavan, Daman – 396210.

IT SUPPORT TO YOUR POWER SOLUTIONS

- INFRASTRUCTUTR 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

PANACEAN AT WORK FOR YOU

CONNECTING YOUR POWER NEEDS TO THE PANACEAN RESOURCES

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.

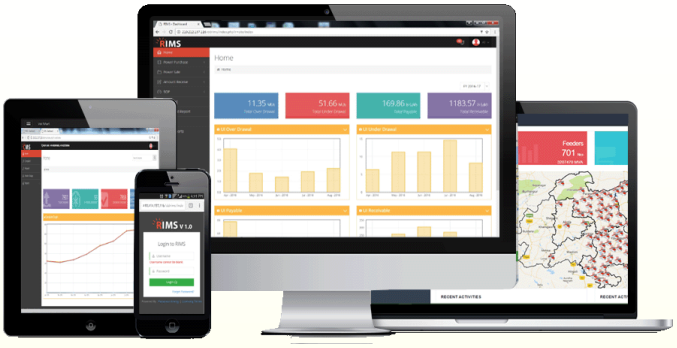
Auto Backup:

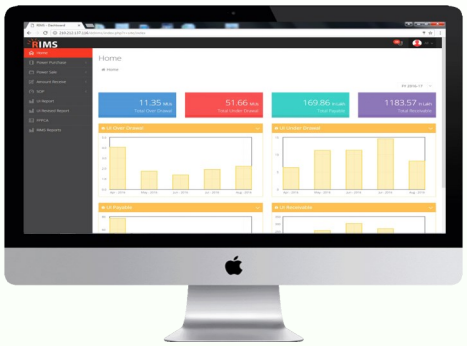
The data of all enterprise applications is of utmost importance. Power UI comes with Auto Backup facility where an authorized person can schedule auto backup of full / partial data of the software. In case of data lost or hardware failure, no or minimal data is lost.

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



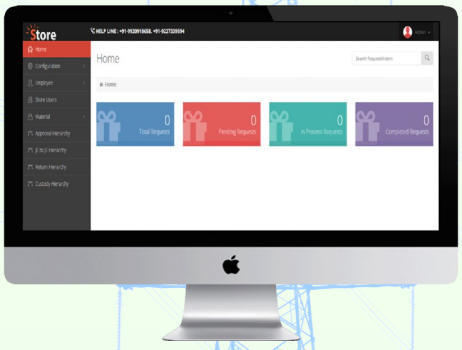


Regulatory Information Management System
RIMS

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
CMS

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.

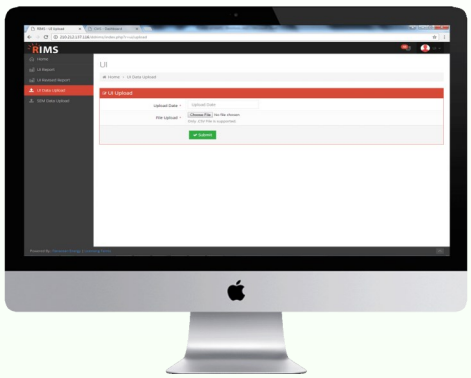


Inventory Management System (Store):

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.

Maintenance Management System (MMS)

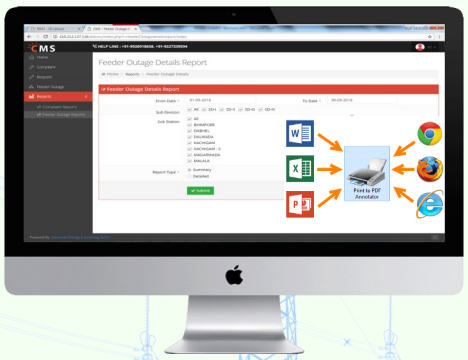
MMS it designed to improve inbuilt maintenance management facilities and hence reduce the failure rates of equipment. With equipment being part of MMS, the concerned person is reminded for inspection and taking corrective actions. The module supports maintenance routines in various categories such as 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

Data Handling:



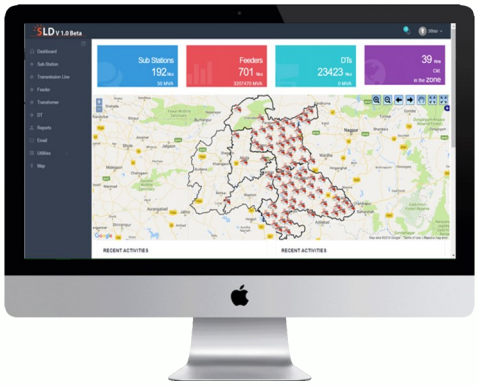
The software shall have a provision to handle huge volumes of data. Features such as import of excel files and import of data from databases shall be provided to facilitate bulk data entry and its corresponding map location display. Given below is a sample bulk data entry feature in POWERUI.

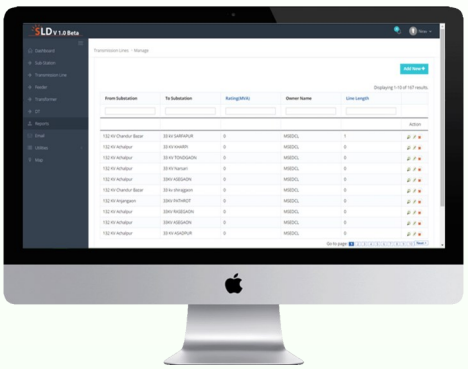
Data / Report export and printing facilities:

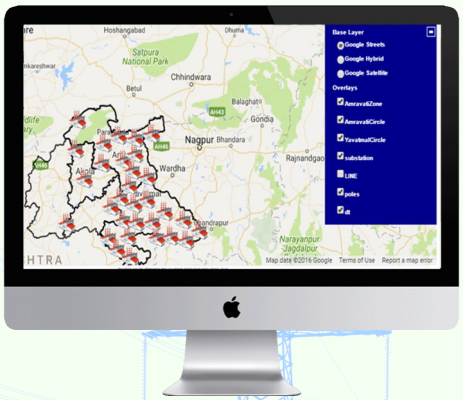


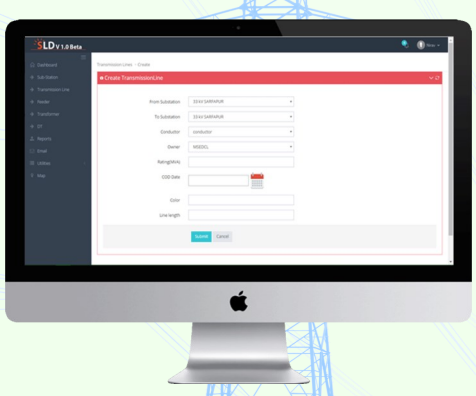
Online Complaint and Feedback Reporting

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

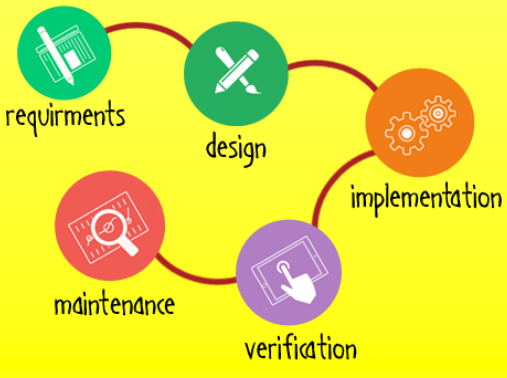
POWERUI MAPS is a map based application where all important assets and infrastructure of a Distribution company and transmission company are displayed on maps using their exact geographic coordinates. Display of all mapped distribution equipment on google maps, along with establishment of comprehensive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

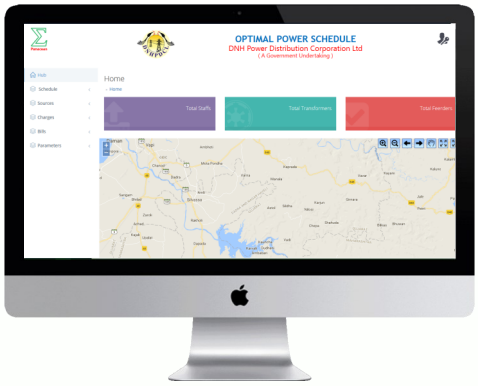
LAYER FACILITY:

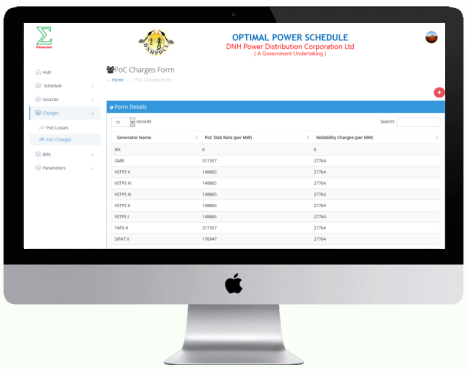
Given a large and a highly dense network as that of MSEDCL, selective viewing of different components of maps is required. The Layer facility enables the user to turn ON/OFF display of certain elements on the map. This feature provides greater clarity of viewing and ease of operation of the software.

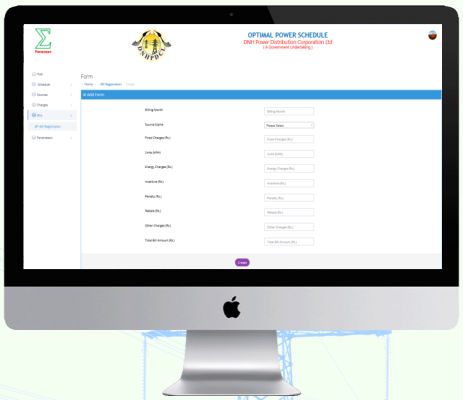
DATABASE – MAP COMMUNICATION:

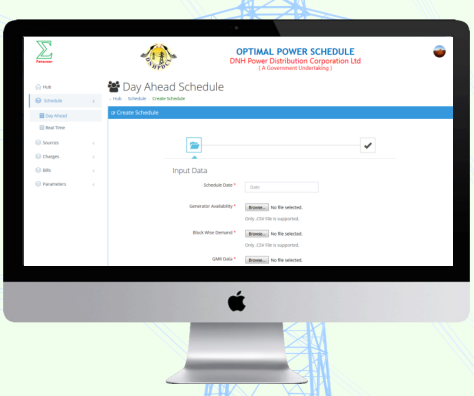
Provision for any element to be inserted into the database or updation of any element in the database can be done through both map means and database means.







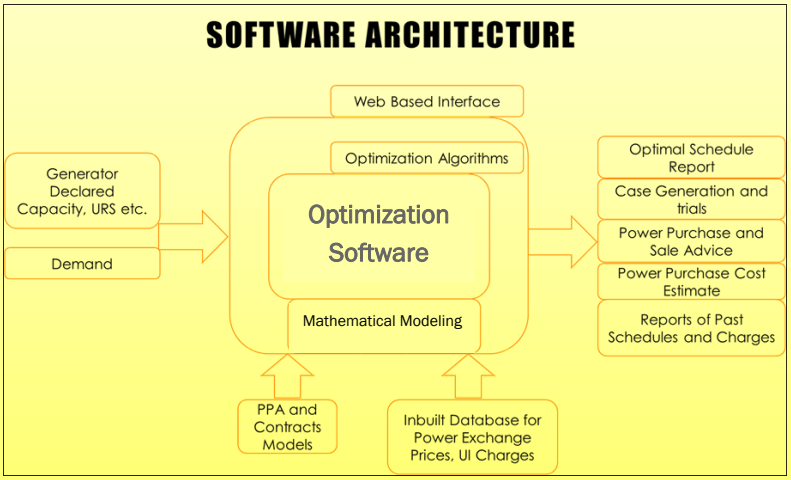




OPTIMAL POWER SCHEDULING SOFTWARE

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, 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,



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.