

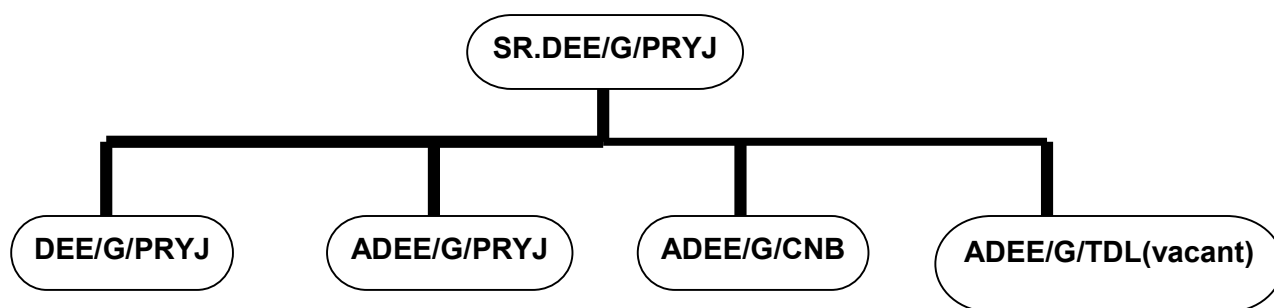
ELECTRICAL (G)

Role of department:

Electrical/G department is responsible for maintenance of Power Supply equipment, viz. HT/LT substations, transformers, associated under ground and over head supply network, DG sets, pumps, escalators, lifts, water coolers, air-conditioners, Rooftop Solar Power Plants in service buildings. The department is also responsible for maintenance of power supply to colour light signaling equipment with least interruptions i.e. AT cable & ACLS panel, illumination at manned LC gates.

Gazetted Organisation chart:

Sr. DEE/G/PRYJ is assisted by one DEE at Prayag Raj and three ADEEs namely at Prayag Raj, Kanpur and Tundla. They are entrusted with maintenance and upkeep of Electrical General Power services. The work force under Electrical General organization is as under:



Staff position:

Category	Sanctioned	On Roll	Vacancy	% Vacancy
Supervisors	74	51	23	31.08%
Technician	469	312	157	33.47%
Helper	280	319	+39	(-)13.92%
Ministerial	30	16	14	46.66%
TOTAL	853	698	155	18.17%

UPPCL Energy consumption (Average/Month):-

Parameter	2018-19	2019-20	2019-20 Upto Feb-2020	2020-21 Upto Feb-2021	Remarks
Energy in kWh	6320778	6389393	6252196	5293142	(+)16.93% (saving) wrt connected load. Connected load increased (+)1.91% w.r.t. last year
% increased/decreased	-3.45%	-1.08%	+0.10%	+15.33%	
Amount Paid in Rs. Lakh	576.96	612.91	586.27	515.51	
% increased/decreased	-15.23%	-6.23%	-3.98%	+12.06%	
Connected Load in KW	51497	56269	56236	57315	
% increased/decreased	+7.00%	+9.26%	+9.40%	+1.991%	
IOU (KWh/KW)	127.21	116.69	114.54	92.99	
% increased/decreased	-0.39%	+8.26%	+9.39%	+18.81%	
(+) sign shown Improvement			(-) sign shown decrement		

Important Electrical Assets:

SN	Assets	Qty.	S. N.	Assets	Qty.
01	33/11 KV substation	05	08	Lifts (Passenger+staff)	32
02	11/0.4 KV substation	59	09	Water Coolers	382
03	Transformers 33/11kV of 05/03/1.6 MVA	10	10	Window AC & Split AC	2124
04	Transformers 11kV/440V	122	11	Package Type AC	87
05	D.G. Set	141	12	Total Electrified Qtrs.	14445
06	Pumps	207	13	High Mast Towers	212
07	Escalators	16			

Position of Railway station:

SN	Description	Qty.
1	Total Nos. of Stations	151
2	Station Electrified through UPPCL supply	132
3	Station Electrified through AT supply	01
4	Un-electrified Station (All are Halts) (Get Relax by GM)	18

Position of Manned LC gates:

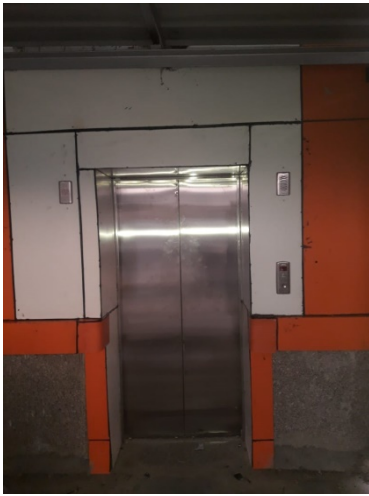



SN	Items	Nos.
1	No. of manned Level Crossing Gates	214
2	No. of electrified Level Crossing Gates (through SEB)	31
3	No. of electrified Level Crossing Gates (through SEB+AT)	03
4	No. of electrified Level Crossing Gates (through SEB+solar)	19
5	No. of electrified Level Crossing Gates (through Solar)	53
6	No. of electrified Level Crossing Gates (through AT)	103
7	No. of electrified Level Crossing Gates (through AT+solar)	04
8	Balance Level Crossing Gates yet to be electrified (no hut)	01

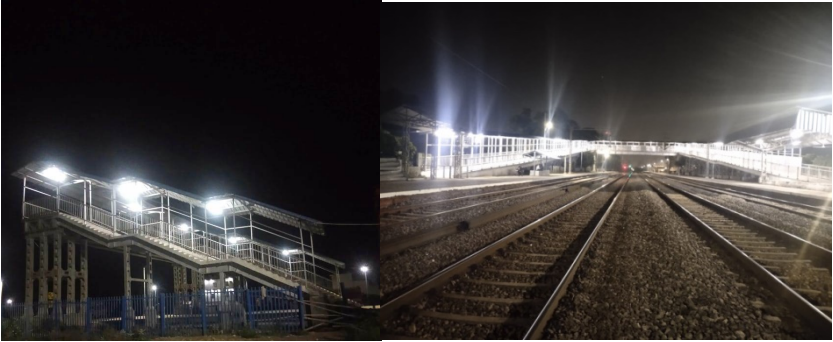

Performance (Elect G): in FY 2020-21 (upto Feb) vis-à-vis Last year same period



SN	Items	Cumm Target 2020-21	Prop. Target	Progress in FY 2019-20 (upto Feb)	Progress in FY 2020-21 (upto Feb)	Variation w.r.t last year/ Remark
A	Energy Conservation					
1	Non-traction electric consumption (in MU) (3% reduction in comparison to last year)	74.37MU	68.17	68.77	58.22	(+) 15.33%
2	Provision of Pre-paid energy meter for Vendors/Stalls	140	128	0	0	
3	Open Access at Major load centre in MW	8MW	8 MW	0	Under process	DSA agreement done
4	Energy audit of major load centre	7	6	14	0	Under process
5	Timer switch on high mast towers-yard lighting/street lighting.	100%	91.66%	59	72	(+)22.03% (All completed)
6	Green Building Certification	2	1	0	0	Process By EnHM GMO
B	Improvement in illumination level					
1	Improvement of illumination level at stations at par with Airport standard having footfall more than 2000 per day	21	19	0	0	Tender awarded & Work in progress
C	Solar					
1	Provision of solar plants on roof top of office buildings/stations/ Sheds (KWp)	1.5MWp	1375KWp	0	0	
2	Electrification of Gang Hut through SPV Module	12	11	01	01	
3	Electrification of L-Xing gates through SPV module	9	8	02	19	(+)850%
D	Escalators & Lifts					
1	Provision of Escalators at stations	6	5	01	01	
2	Provision of Lifts at stations	5	4	06	02	(-)66.66% (Due to COVID-19)
3	Provision of new lifts in offices	2	1	0	0	
E	Pumps					
1	Automation of pumps using mobile technology	15	14	02	06	(+)200%
2	Installation of new pump house	9	8	31	04	(-) 87.09%
F	Others					
1	Rewiring of staff quarters as per required (taking in consideration of codal life)	500	458	25	22	(-)12%
2	Scrap Disposal in MT					
a	Ferrous	35.61	32.64	36.262	53.505	(+)47.55%
b	Non-ferrous	14.73	13.50	13.771	3.876	(-)71.85%





Major Highlights of Electrical (G) Over Prayag Raj division

A	Green Initiatives:
1	<u>Installation of Solar Power Plants:</u> <div data-bbox="180 327 1471 556" data-label="Image"> </div> <p>Mela Shed at PRYJ station CNB station COP at TDL station GM Office, SFG</p> <p>Total 3.608 MWp (By Rly: 120 KWp+By Renew: 1 MWp+ by Azure: 2.488 MWp) Roof top solar power plants have been installed on roof of various service buildings and Cover Over Platforms over Prayagraj division so far. Total 27.52 Lakh units electrical energy has been generated upto the month of January in FY 2020-21, resulting in aprox. Rs. 98.30 Lakh railway revenue is saved in same duration and approx. 2.20KilloTon CO2 to be reduced from environment. These are installed on PPP mode and no railway revenue is invested in this project.</p>
2	<u>Use of Inverter type Air conditioner:</u> <p>842 Inverter type air conditioners are installed at various Running rooms over PRYJ division. Due to this approx. 12.95 lakh electrical units and Rs1.09 Crore railway revenue to be saved per annum and approx. Rs1.03killoton CO2 to be reduced from environment per year in comparison of conventional type air conditioners.</p> <p>Drainage water of air conditioner is being used as distilled water for battery.</p>
B	Passenger's Amenity:
3	<u>Passenger's Lift at CNB:</u> <div data-bbox="453 1425 1255 1803" data-label="Image"> </div> <p>All the lifts at Kanpur Central Railway station has been dedicated to passengers by Hon'ble MP Kanpur on 15.02.2021. Same would be helpful for Divyang& Senior Citizen Passengers for accessing all the Island platforms from HWH end FOB at Kanpur Central Railway station.</p>

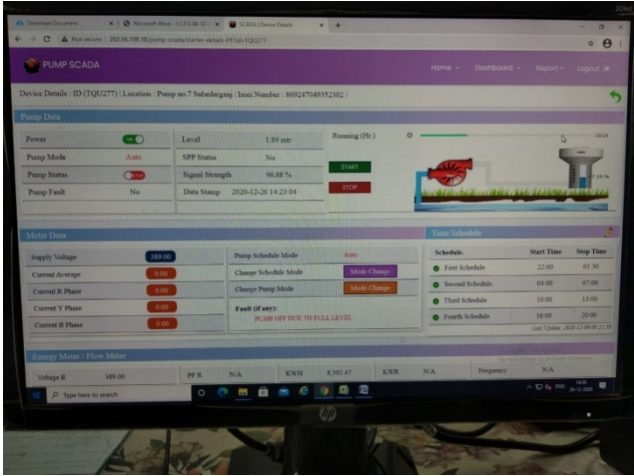
4	 <p>One new passenger's Lift has been commissioned on FOB no. 02 PF no. 2/3 at Prayagraj Railway station on 12.02.2021. This would be helpful for old & physically special passengers.</p>
5	 <p>One new passenger's Escalator has been commissioned in Civil Lines side circulating area near Smith Road on FOB no. 01 at Prayagraj Railway station on 24.02.2021. This would be helpful for descending from FOB to ground to Railway passengers.</p>
6	<p>AC in VIP room at ETW& PCOI:</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> ETW PCOI </div> <p>To improve the passenger's amenity, VIP room at Etawah & Prayagraj-Chheoki Railway stations have been made air conditioned.</p>

7	<p>FOB Electrification:</p>  <p style="text-align: center;">MNQ BMU</p> <p>To improve the passenger's amenity at Mainpuri, Bohmrauli and PCOI Railway stations, electrification of FOBs have been done.</p>
8	<p>To improve the facility of special challenge passengers at Govindpuri Railway station, Divyang-toilet has been made illuminated.</p>
9	<p>To improve the water supply reliability, following new pump houses have been commissioned:</p> <ol style="list-style-type: none"> 1. Manikpur (3000 GPH/05 HP) 2. Manikpur (1000 GPH/02 HP) 3. GMC Kanpur (15000 GPH/30 HP) 4. Kanwar (1000 GPH/01 HP)
10	 <p style="text-align: center;">PrayagrajKhurja</p> <p>To improve illumination, following new high masts have been installed:</p> <ol style="list-style-type: none"> 1. East side yard at Dadri. 2. Etah Goods shed. 3. Firozabad Goods shed. 4. Harduaganj Goods shed. 5. Ballast siding at Khurja 6. Branch washing Line at Prayagraj.

C	Staff's Amenity:
11	<p>AC in Running Room:</p>  <p>AnwarganjManikpurDiesel RR/PRYJ</p> <p>Kanpur</p> <p>All the Driver & Guard Running rooms over Prayagraj division have been made air conditioned.</p>
12	All the Officer's chambers over Prayagraj division have been made air conditioned.
13	Diesel Driver & Guard lobby at Kanpur-Anwarganj has been made air conditioned.
14	Electrification and air conditioning of Newly developed EDPM Center at Prayagraj has been done.
15	 <p>Electrification & air conditioning of newly developed Conference room, OPD rooms, Dark room, Store room etc. has been done in Loco hospital at Kanpur.</p>
16	 <p>New Class rooms, Simulator room & CBT room of Electric Training Centre at Kanpur have been made air conditioned.</p>

17	 <p>Newly constructed Gym-Hall at DSA Prayagraj has been made air conditioned.</p>
18	 <p>To improve the staff facility in DRM's office at Prayagraj, Mechanical, Personnel, Engineering, Commercial, RPF section, Pay-bill section and Account section have been made air cooled.</p>
D	Safety Works:
19	<p>Solar at LC gates:</p>  <p>19 LC gates over PRYJ division have been illuminated through Solar system.</p>
20	<p>AC in RRI/GMC:</p>  <p>RRI GMC Kanpur has been made air conditioned by installing 2x22 TR package type ductable AC plants.</p>
21	<p>In view of improving staff amenity & safety, Gang hut no. 16 (CPU-AGY section) has been illuminated through UPPCL power supply.</p>

22	<div data-bbox="180 79 997 359" data-label="Image"> </div> <p data-bbox="180 394 1528 472">New Loco 'B' cabin at Kanpur has been made air conditioned by installing Centralized air conditioner units of capacity 3x11 TR.</p>
23	<div data-bbox="568 516 1143 783" data-label="Image"> </div> <p data-bbox="180 783 1528 861">Electrification of newly developed "Mahila Help desk" at Tundlaand Firozabad Railway station have been done.</p>
E	<p data-bbox="180 861 568 913">Hospitals (COVID-19):</p>
24	<p data-bbox="180 913 470 955">Isolation Coach:</p> <div data-bbox="594 997 1117 1274" data-label="Image"> </div> <p data-bbox="683 1274 1024 1306">At SubedarganjAt Kanpur</p> <p data-bbox="180 1306 1528 1386">Air cooling system were provided in Isolation Rakes at Subedarganj and Kanpur.</p>
25	<p data-bbox="180 1386 576 1428">AC in ICU (COVID-19):</p> <div data-bbox="748 1425 963 1711" data-label="Image"> </div> <p data-bbox="180 1711 1528 1837">Newly developed ICU ward at Central hospital Prayagraj has been made air conditioned by installing 03 nos. Inverter type split AC unit of capacity 2.0TR each.</p>

F	System Improvement:
26	To improve the power supply reliability and monitor the electrical consumption and real time interruption, Ring Main SCADA system has been developed at Prayagraj. Due to this all substations at PRYJ have been connected with 33 KV substation and each substation has redundancy of power supply source.
27	To improve the power supply reliability at Naini and CPC substation, new LT electric panels have been commissioned in place of old panel in substations.
28	One electrical connection (HP-13) at Aligarh has been surrendered to DISCOM, resulting in Rs 5.36 Lakh railway revenue to be saved per annum. This substation has been connected with 33/11 KV substation.
29	 <p>Six nos. pumps (Pump no. 01, 02, 03, 04 in Railgaon colony, SFG pump no. 07 and RPF barrack pump no. 02) at Subedarganj have been modified to operate in fully auto mode through mobile app. These would be helpful in view of energy conservation as well as saving of man power.</p>