



Vallur TPS



NTECL	50: 50 JV of NTPC and TNEB
Capacity	1500 MW (3 x 500 MW)
Land	Total: 1140 Acres (Main Plant-470 acres)
Coal	Mahanadi Coal Fields, Central Coal Fields, Eastern Coal Fields, SCCL & Import coal Coal transportation : Mine end to Load port – Shipping - Unloading Port (M/s KPL) – Conveyor-40B- Pipe conveyor- NTECL Coal Yard)
Source of Water	Only Sea Water drawn from CW fore bay of NCTPS, TANGEDCO
Cooling System	Closed cycle with IDCTs

Power Allocation:

	Tamilnadu	Karnataka	Telangana	Andhra Pradesh	Kerala	Puducherry
MW	1064.83	162.50	109.08	86.15	49.98	27.48
%	70.99	10.83	7.27	5.74	3.33	1.83



Unique features of NTECL

- Pipe conveyor for coal transportation from port to NTECL yard
- GIS substation
- Complete sea water based plant, Desalination plant
- Solar Desalination plant-120TPD for drinking water



Performance Summary: NTECL (2021-22)



Heat Rate (kCal/kWh)			APC (%)			SOC (ml/kWh)		Oil Comp (ml/kWh)
Norms	Comp	Actual	Norms	Comp	Actual	Norms	Actual	Total
2358.84	2453	2345	7.19*	7.84	7.77	0.50	0.52	0.07



Major HR/APC improvement activities carried during OH are

- High energy drains 6/9 attended
- All APH baskets replaced as per rolling rolling plan :42.4 Kcal/Kwh
- Condenser acid clean:32.7 Kcal/Kwh
- Draft power:2760 KW
- Boiler eff:84.9 % to 85.7%
- GTHR:47.6 Kcal/Kwh
- Unit HR: 77 Kcal/Kwh (83 Kcal/Kwh NHR)



Major HR/APC improvement activities carried during OH are

- High energy drains 5/8 attended
- APH baskets, 90 Nos replaced and remaining water washing done:3.5 Kcal/Kwh
- Condenser HP jet clean:5.5 Kcal/Kwh
- Draft power:916 KW
- Boiler eff:84.99 % to 85.01%
- GTHR:21 Kcal/Kwh
- Unit HR: 23 Kcal/Kwh (83 Kcal/Kwh NHR)



- APH water washing during SSD
- Four mill operation during Tech Min loads
- Single CEP operation during Tech Min loads
- Regular HED drain checking, O₂ mapping
- Regular Furnace temp mapping
- Frequent coal mills Isokinetic sampling for fineness
- Mills DPT/CAFT as when required
- CT: 1A2/2B2 fan blades changed from 4 to 7. (Excess air flow: 30%/20%, power saving: 10%/17%). All blades will be replaced to 7 once the 3 months trial period is completed.



NTECL-VALLUR, APC change due to Stopping 5th Mill and CEP

Unit:2, Date: 27-Apr-2019, Activity: Stopping 5th Mill, Load: 275 MW

Time		Flow in t/h					Power in KW			
From	To	Total Air	Sec Air	Pri Air	Coal	Mill	FD fans	PA fans	Remarks	
10:50	11:10	1160.29	672.65	487.39	204.90	1788.84	586.41	1833.18	5 MILLS I/S	
11:30	11:50	1160.41	728.36	432.06	203.85	1615.13	630.15	1687.36	4 MILLS I/S	
Change (KW):						-173.72	43.75	-145.83		
Net Change (KW):							-275.80			
% Reduction in APC							-0.100			

Unit:1, Date: 29-Apr-2019, Activity: Stopping 5th Mill, Load: 274.5 MW

Time		Flow in t/h					Power in KW			
From	To	Total Air	Sec Air	Pri Air	Coal	Mill	FD fans	PA fans	Remarks	
12:00	12:20	1150.24	663.23	486.82	219.69	1935.68	580.56	2109.76	5 MILLS I/S	
12:35	12:50	1150.20	726.41	423.54	223.29	1772.36	672.40	1925.86	4 MILLS I/S	
Change (KW):						-163.319	91.84	-183.89		
Net Change (KW):							-255.37			
% Reduction in APC							-0.093			

Unit:2, Date: 27-Apr-2019, Activity: Stopping 2nd CEP, Load: 275 MW

Time		Power in KW							
From	To	CEP-A Flow	CEP-C Flow	CEP Disch Hdr Pr	CEP-A	CEP-C	Total CEP	Remark	
10:50	11:10	455.51	446.00	30.92	609.61	605.26	1214.87		
11:10	11:25	417.51	417.93	31.01	554.06	590.78	1144.84	LPBP Spray Closed	
11:30	11:50	0.00	799.17	25.25	0.00	824.52	824.52	CEP-A Stopped	
Net Change (KW):							-390.35		
% Reduction in APC							-0.142		



- Using TDBFPs during unit start ups

Unit no	Unit 1		Unit 2		Unit 3		Station	
MDBFP Running Hrs	Hours	MU	Hours	MU	Hours	MU	Hours	MU
Yearly	49.04	0.32	65.75	0.43	57.99	0.38	172.78	1.12

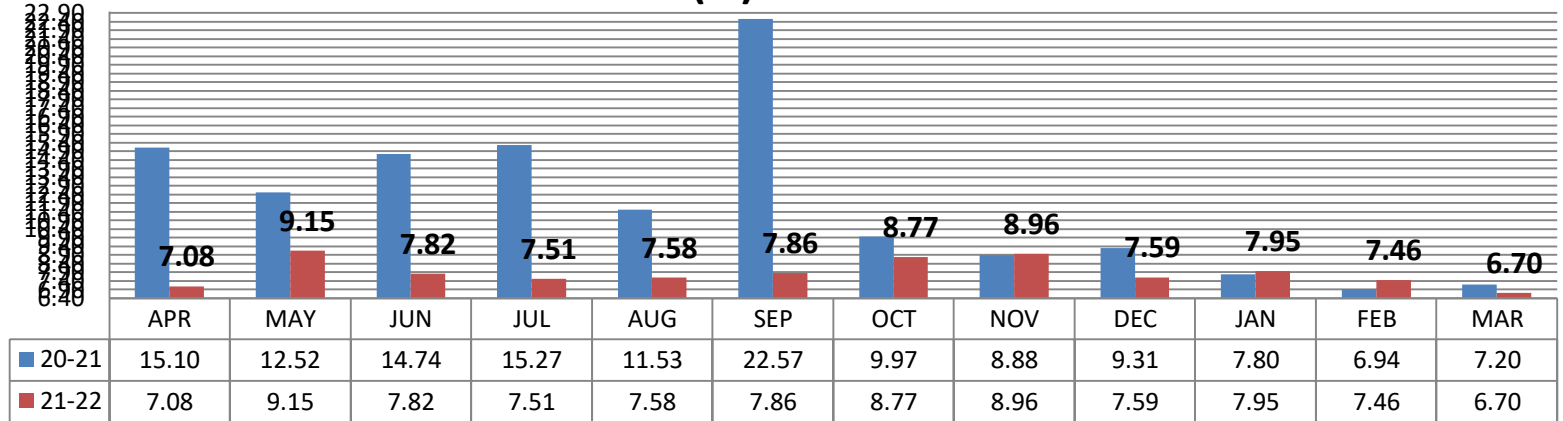
- Compressed air pressure set point reduced from 7.2 to 6.2 Ksc

Saving in compressor power		
		UoM
Before changing set point	1206	Kw
After changing set point	1176	Kw
Per hour savings	30	Kw
Average running hrs in a day	8	Hrs
Daily energy savings	240	KWH

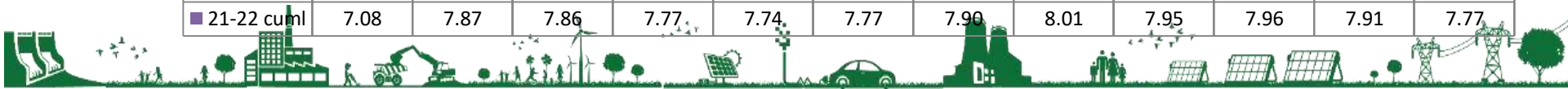
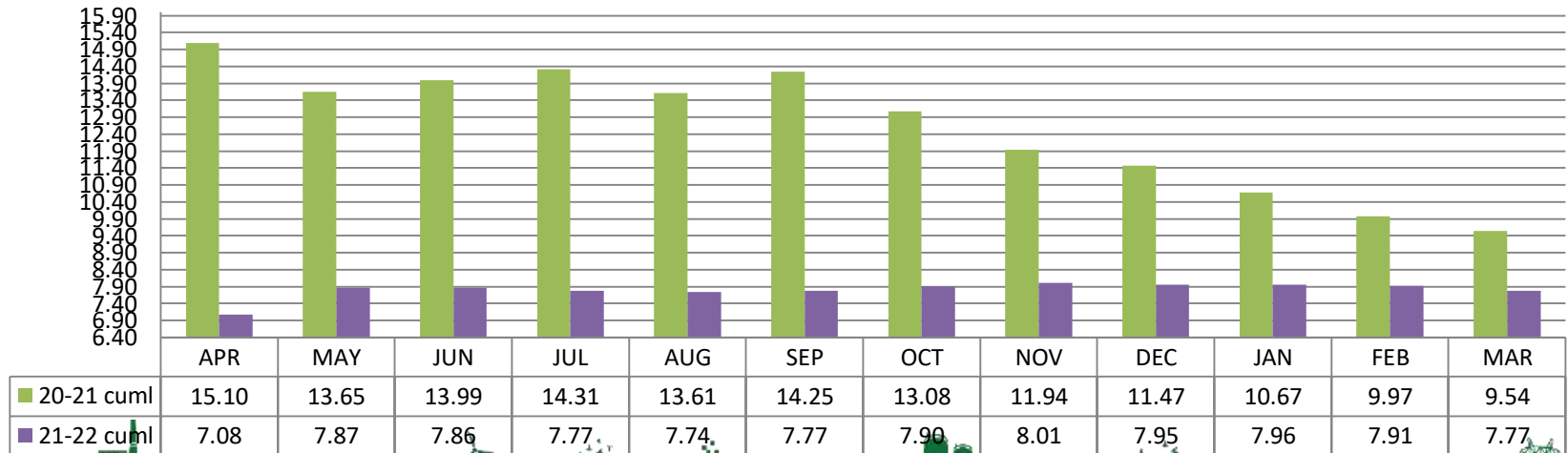


COMPARISON WITH PREVIOUS YEAR

APC (%)

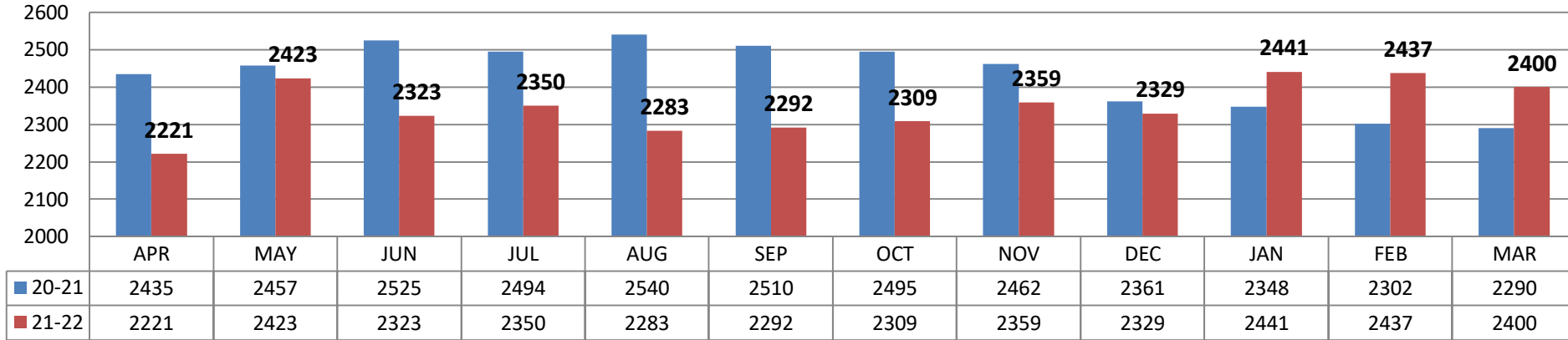


APC (%) - Cumml

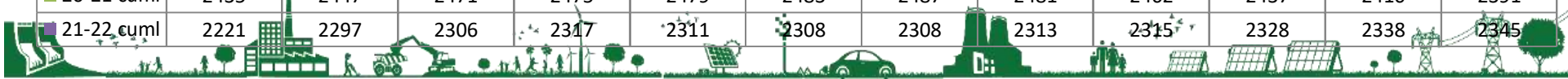
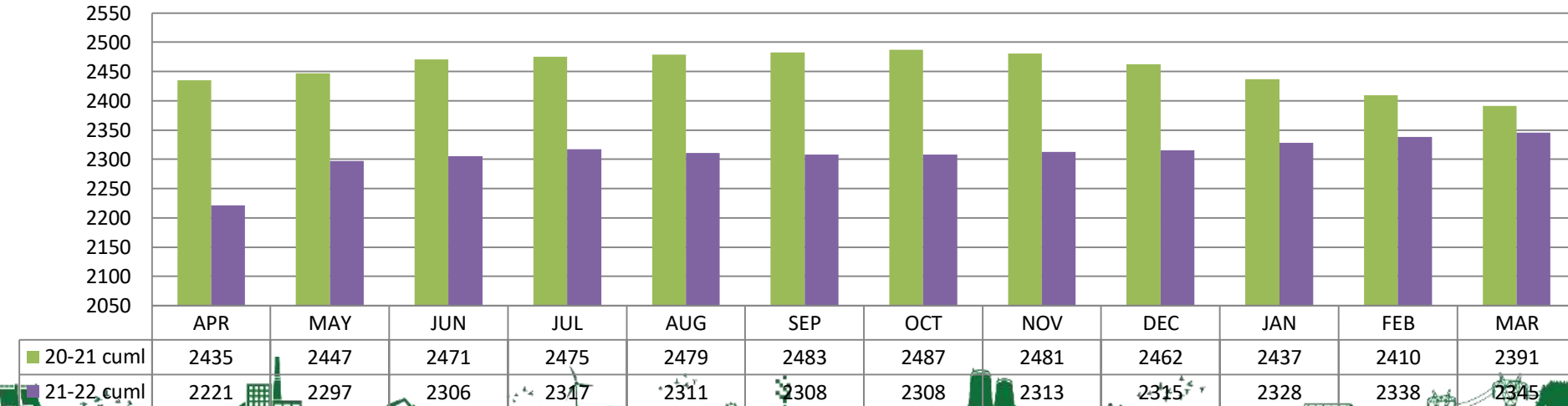


COMPARISON WITH PREVIOUS YEAR

HEAT RATE (Kcal/Kwh)

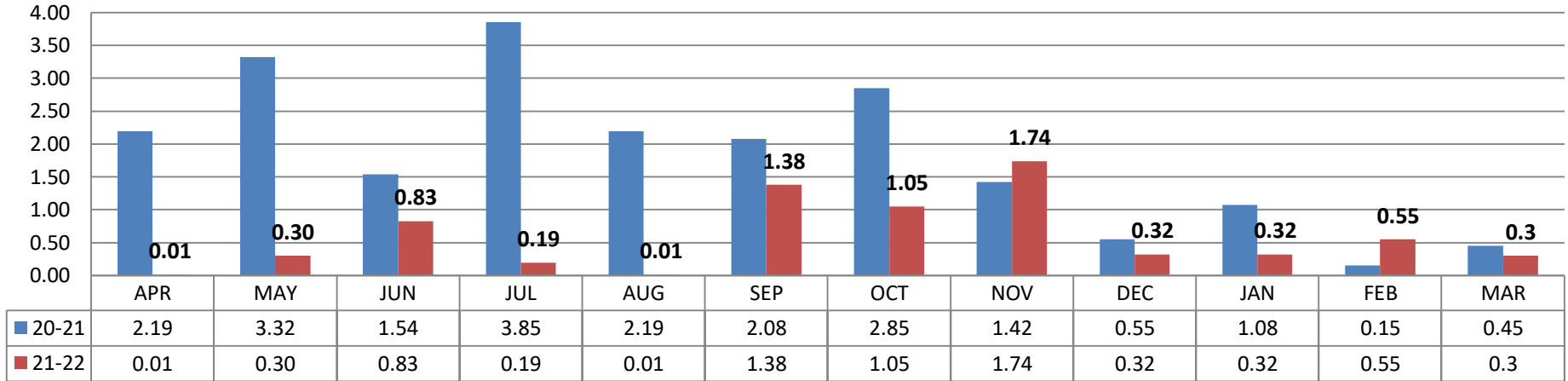


HEAT RATE (Kcal/Kwh) - Cumml

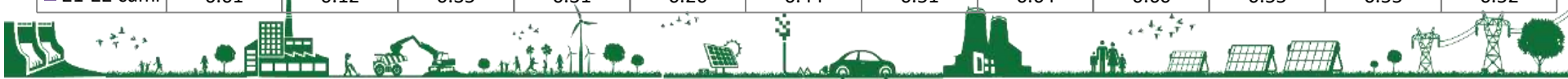
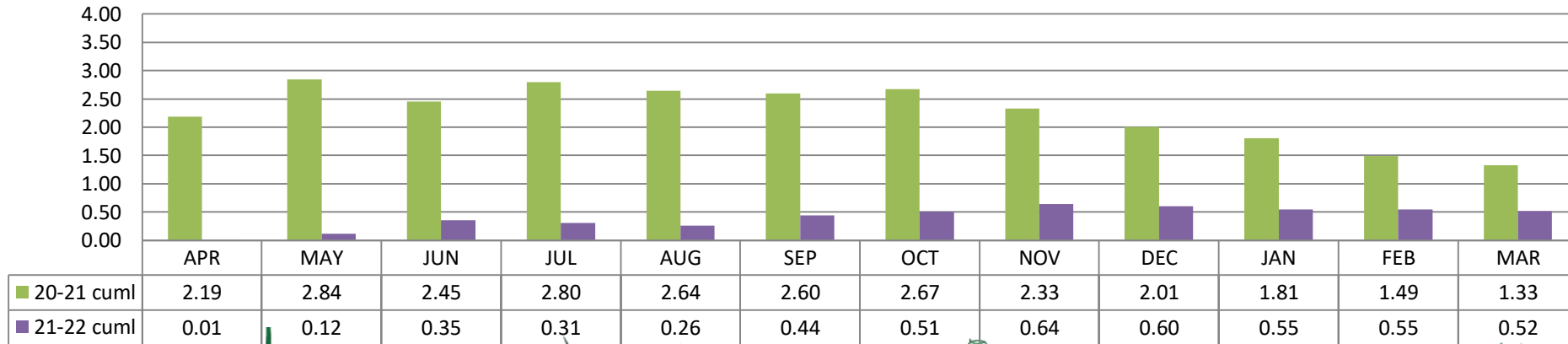


COMPARISON WITH PREVIOUS YEAR

Sp Oil Cons (ml/kwh)



Sp Oil Cons (ml/kwh) - Cumml



Thank You

