

**PRESENTATION TO
EXPERT APPRAISAL COMMITTEE (THERMAL)
MoEFCC, NEW DELHI**

FOR

**Proposed 2400 (3x800) MW Coal Based Ultra Super Critical Thermal Power Project
at Sirmatpur & Adjacent Villages, Tehsil/Block Pirpanti, District Bhagalpur, Bihar by
Adani Power Limited**

Proposal No. IA/BR/THE/569377/2026

..... EAC Meeting (Thermal Power Projects), Agenda Item no. Date : 2026

PROJECT PROPONENT

adani

Power

ADANI POWER LIMITED

ADANI CORPORATE HOUSE, SHANTIGRAM,
S G HIGHWAY, AHMEDABAD 382421, GUJARAT,
INDIA

ENVIRONMENT CONSULTANT



GAURANG ENVIRONMENTAL SOLUTIONS PVT. LTD.

#102, SNG SHRI RATNA APARTMENT, PEETAL FACTORY,

JHOTWARA ROAD, JAIPUR- 302016

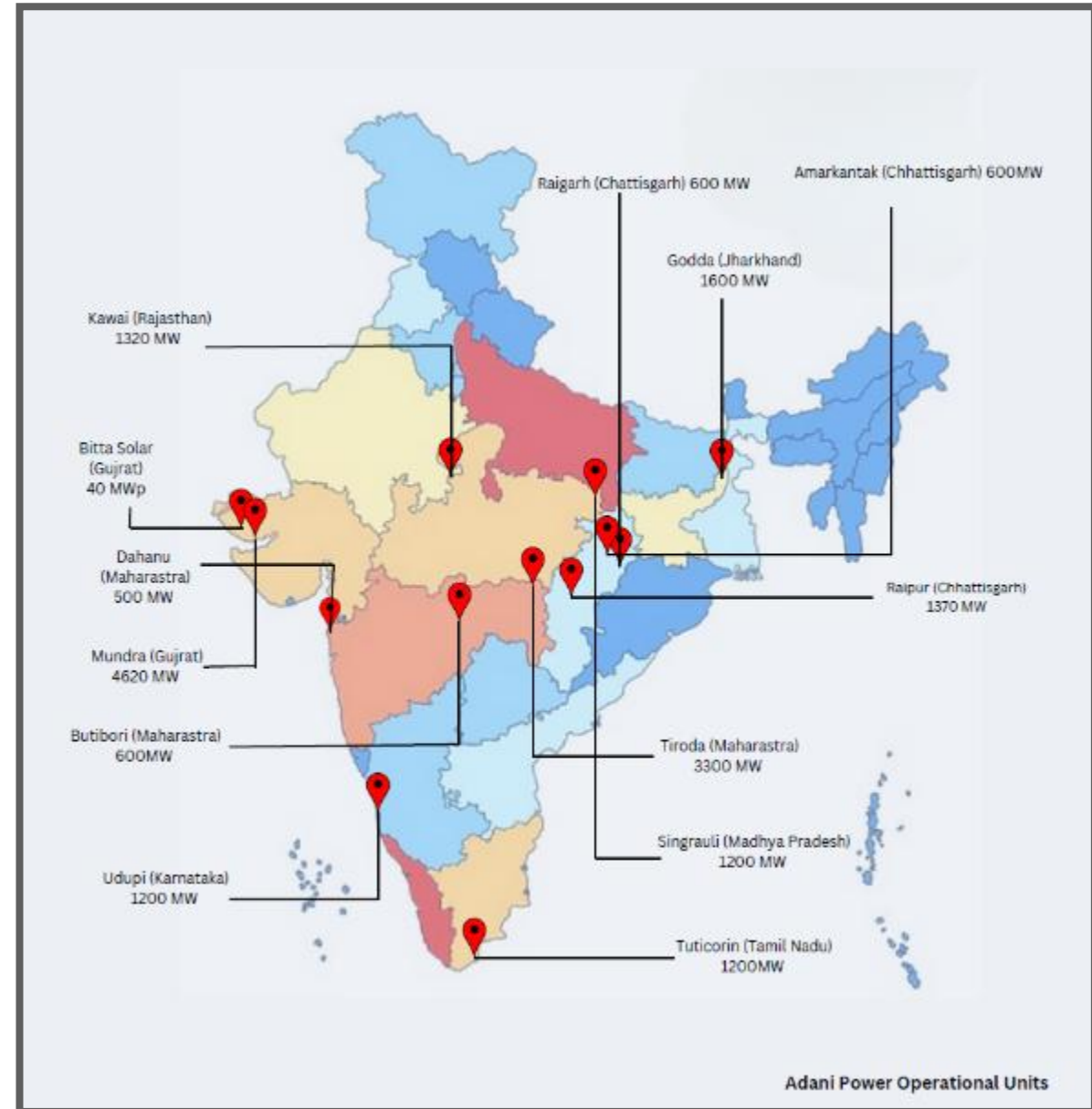
NABET ACCREDITATION No.: NABET / EIA / 23-26/RA 0338

VALID UP TO 07.12.2026

INTRODUCTION

❑ **Adani Power Limited (APL)** A flagship company of the diversified Adani Group, is India's largest private Thermal Power Producer with an overall generation capacity of 18,110 MW.

❑ APL is operating Thermal Power Plants in Gujarat, Maharashtra, Rajasthan, Karnataka, Tamil Nadu, Jharkhand, Madhya Pradesh and Chhattisgarh States of India.



PROJECT BACKGROUND

- ❑ **Adani Power Limited** has proposed to establish 2400 (3x800) MW Coal-based Ultra Supercritical Thermal Power Project at Village Sirmatpur and other adjacent villages, Tehsil Pirpainti, District Bhagalpur, Bihar.
- ❑ The Power Project is based on Ultra Super Critical Technology.
- ❑ The Total land area is 479 Ha land (with future expansion plan).
- ❑ The estimated Capital project cost is Rs. 28,225 Crore.
- ❑ The TPP project falls under Category "A", item no. "1(d) Thermal Power Plants (≥ 500 MW (~~Coal / lignite / naphtha & gas based~~) of the EIA Notification, 2006 and subsequent amendments and thus requires prior environmental clearance from MoEFCC, New Delhi.
- ❑ ToR has been issued by MoEFCC for the proposed project vide letter no. **File No: J-13012/08/2025-IA.I(T) dated 27.10.2025.**
- ❑ The baseline study period for the project was March to May 2025 ([Pre-monsoon season](#)).
- ❑ The Public hearing was conducted on **29.01.2026** at Block Office Premises, Pirpainti, District Bhagalpur, Bihar.

SALIENT FEATURES

FEATURES	DETAILS
Project Sector & Category	1(d), Thermal power Plants, Category – “A”
Project Site	Village Sirmatpur and other adjacent villages, Tehsil Pirpainti, District Bhagalpur, Bihar.
Plant capacity (In MW)	2400 (3x800) MW
Land Area (In Hectare)	479 Ha (with future expansion plan)
Greenbelt Details	124 Ha (About 33%)
Technology	Ultra Super Critical
Coal Requirement (In Million MTPA)	9.67 (at 85% PLF, GCV 3200-4300 Kcal /Kg)
Coal Source	SECL/MCL/Nearby Commercial Coal Mines through e-auction
Coal transportation	Through Rail
Water Requirement (In MCM/ Annum)	42.0 MCM (1,15,200 KLD)
Water Source	Ganga River (~14.7 km distance of intake point)
Water Supply	Through dedicated pipeline
Manpower requirement (In Nos.)	Construction phase:300 (permanent) + 7800 (contractual) Operation phase:500 (permanent) + 1800 (contractual)
Project Cost (In Crores)	Rs. 28,225/-
Seismological Information	Project site falls in Zone IV as per IS 1893

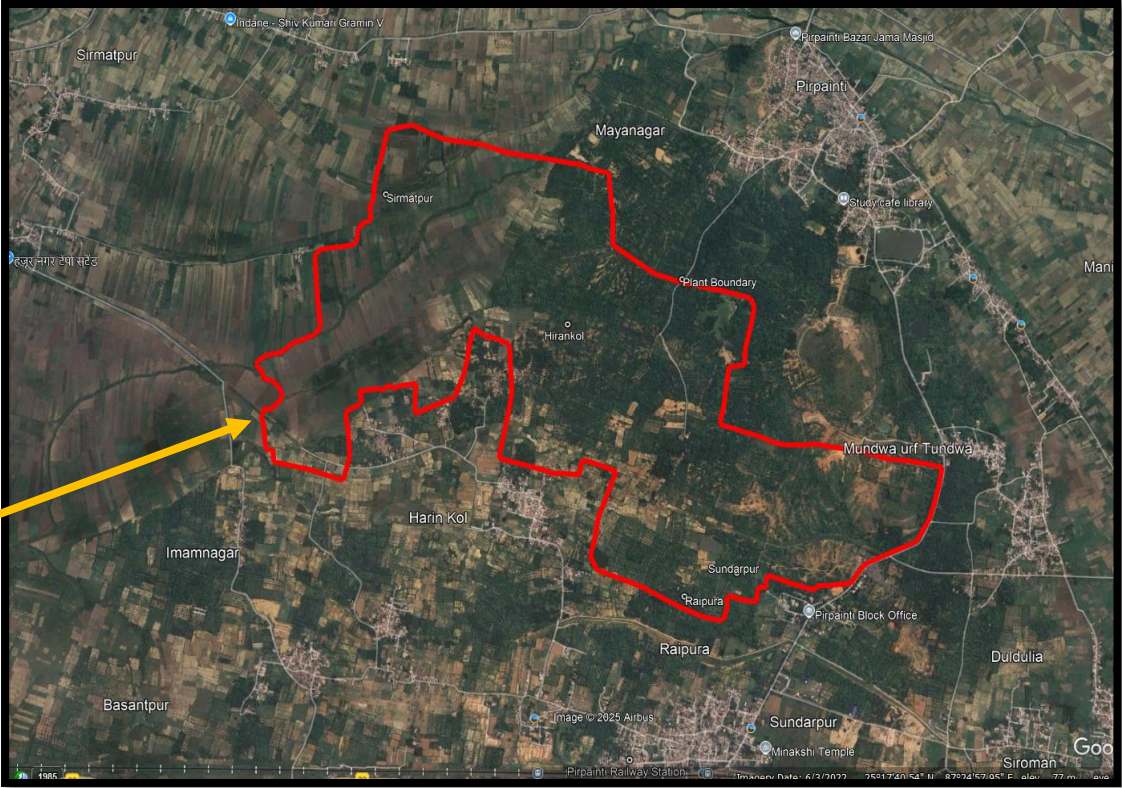
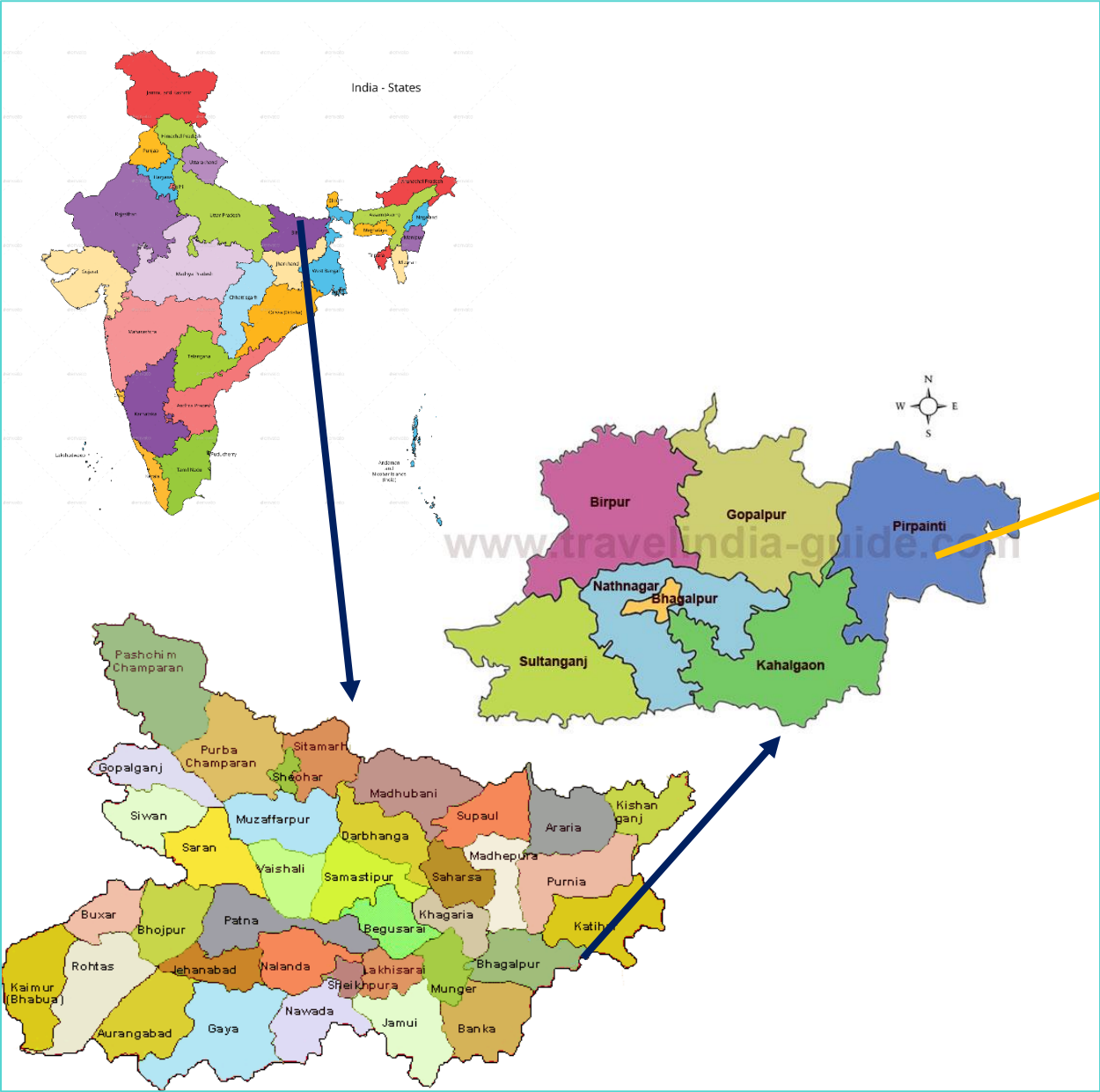
SALIENT FEATURES

FEATURES	DETAILS				
Nearest Railway Station	Pirpainti Railway Station ~ 1.0 Km towards S direction				
Nearest Airport	Purnia Airport – 48.8 Km towards North direction (aerial distance) Deogarh Airport- 117 Km towards SE direction Patna Airport- 235 Km towards W direction				
State/ National Highway	NH 33 (about 1 Km towards South direction) NH 133 (about 1.1 towards SSW direction)				
Nearest village	Village Sirmatpur, Harinkol, Sundarpur, Raipura, Mundwa and Tundwa				
Defence installations	None within 10 km radius of project site boundary				
CPA/SPA	None in 10 km of project boundary				
ETP & STP	Wastewater	Wastewater Generation Quantity (KLD)	STP & ETP capacity	Technology	Mode of Disposal
	Domestic	22	30 KLD	MBBR	STP treated water will be reused for plantation/Green Belt development/ Horticulture.
	Industrial	1730	2160 KLD	Physio- Chemical, Neutralization & Equalization	ETP treated water will be recycled in process and ash quenching.

SALIENT FEATURES

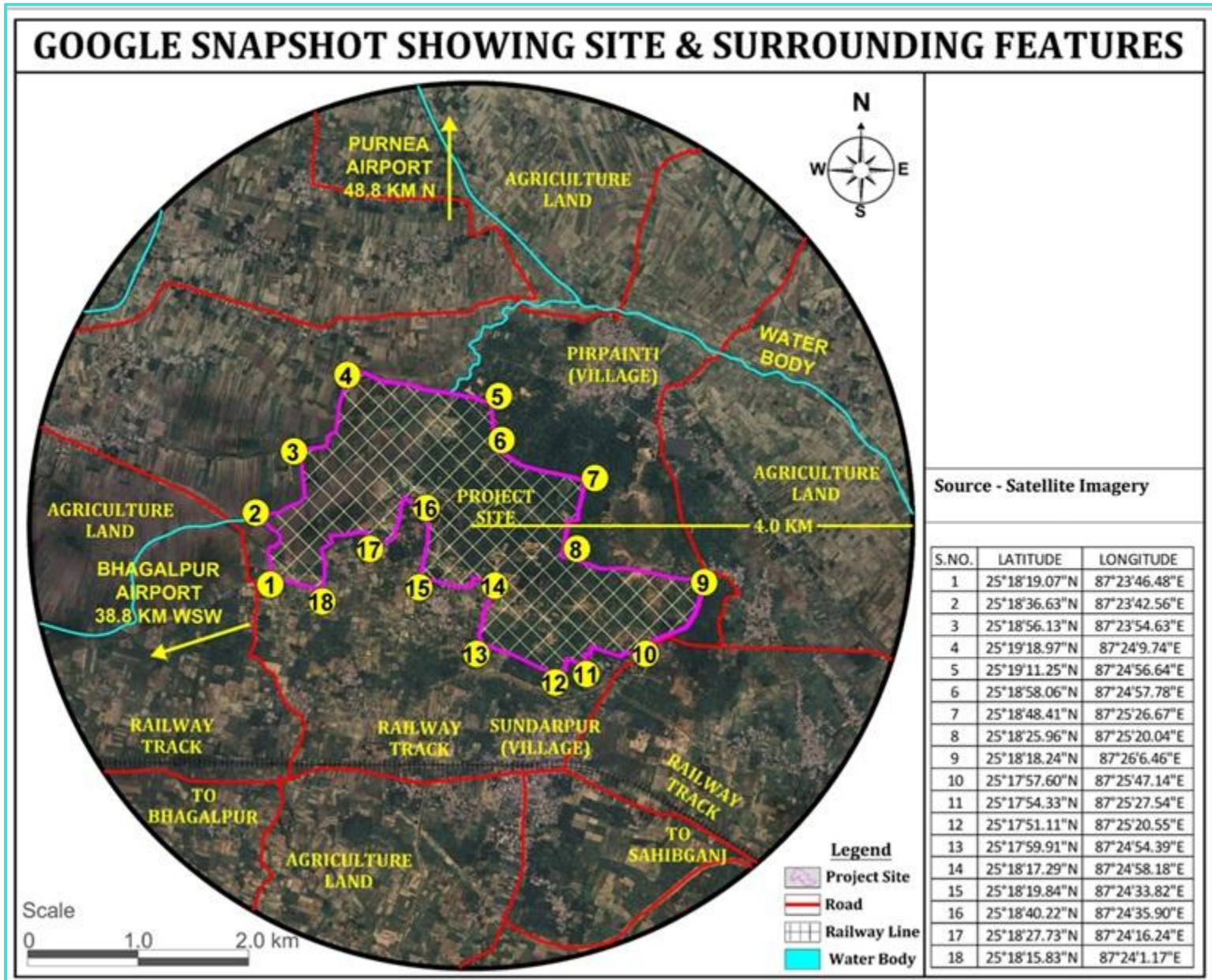
Highlights & Features	Details
Adopted State-of-the-art Technology	➤ <u>Ultra Super Critical Steam Boilers (4x800 MW) TPP</u>
Proposed Emissions Control System	➤ PM: Electrostatic Precipitator (ESP) to meet PM <30 mg/Nm³ ➤ NOx: SCR & low NOx burner to meet NOx emission as per MoEFCC norms ➤ SO₂: 275 m high Chimney is proposed. ➤ DE & DSS: Dust suppression & extraction system (bag filters) for Coal handling and ash handling system
Ash Generation and Utilization	➤ 3.87 MTPA. ➤ Ash will be used in Cement Industries, filling of abandoned mines, manufacturing of bricks, road construction, etc. as per Fly Ash Notification, 31st December'2021 and amendments.
Land Requirement	➤ 479 Ha (with future expansion plan). ➤ Land is provided by BSPGCL, Gov. of Bihar
Environment Sensitivity	➤ No National Park, Sanctuary, Elephant/Tiger Reserve, or migratory routes/wildlife corridor exists within 10 km of the power station.
Environment Management Plan	➤ Electrostatic Precipitator, Chimney, Cooling Tower, Ash Handling including ash water recirculation, Ash disposal civil work, Dust extraction & suppression system, DM Plant Waste Treatment System, Sewage collection, treatment & disposal, Green Belt & landscaping and SCR, Rainwater harvesting, Solar power harnessing, Environmental Laboratory & Monitoring, CEMS, CAAQMS, CEQMS & Display Boards, Wind Breaking Wall, Dry Fog System etc. ➤ <u>Rs. 1,908 Crores</u> is proposed. ➤ <u>Rs. 42 Crores</u> for Socio-EMP (CER)

PROJECT LOCATION



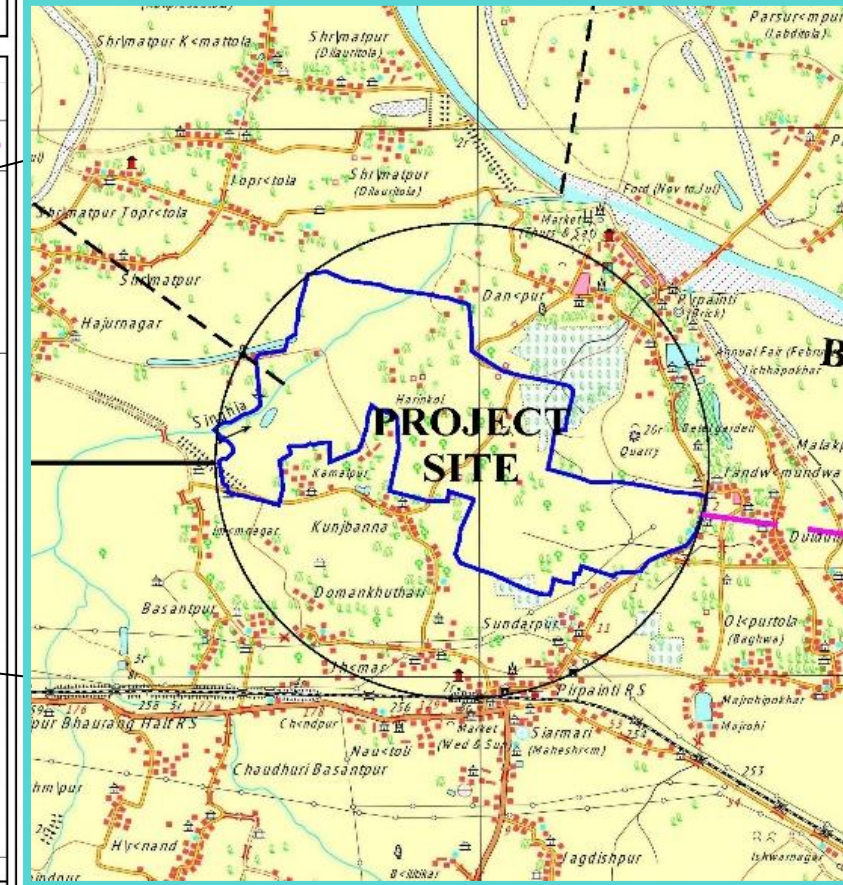
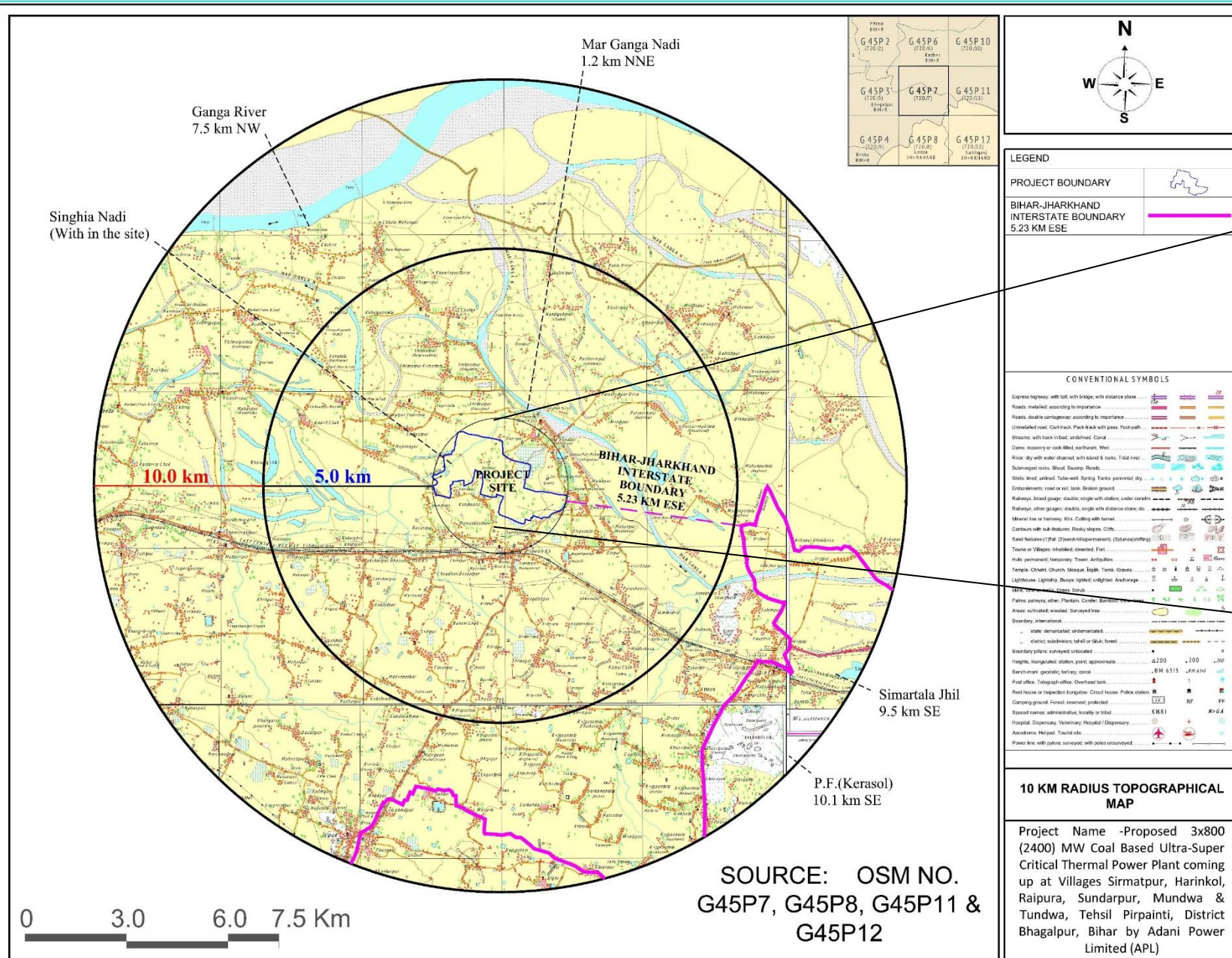
Location	Details
Villages	Sirmatpur, Harinkol, Raipura, Sundarpur, Mundwa & Tundwa
Tehsil	Pirpainti
District	Bhagalpur
State	Bihar

GOOGLE SNAPSHOT SHOWING SITE & SURROUNDING FEATURES



S.NO.	LATITUDE	LONGITUDE
1	25°18'19.07"N	87°23'46.48"E
2	25°18'36.63"N	87°23'42.56"E
3	25°18'56.13"N	87°23'54.63"E
4	25°19'18.97"N	87°24'9.74"E
5	25°19'11.25"N	87°24'56.64"E
6	25°18'58.06"N	87°24'57.78"E
7	25°18'48.41"N	87°25'26.67"E
8	25°18'25.96"N	87°25'20.04"E
9	25°18'18.24"N	87°26'6.46"E
10	25°17'57.60"N	87°25'47.14"E
11	25°17'54.33"N	87°25'27.54"E
12	25°17'51.11"N	87°25'20.55"E
13	25°17'59.91"N	87°24'54.39"E
14	25°18'17.29"N	87°24'58.18"E
15	25°18'19.84"N	87°24'33.82"E
16	25°18'40.22"N	87°24'35.90"E
17	25°18'27.73"N	87°24'16.24"E
18	25°18'15.83"N	87°24'1.17"E

SITE ON TOPOSHEET



FEATURES WITHIN STUDY AREA

SOCIAL INFRASTRUCTURE

S. No	Infrastructure Available	Name	Distance (in KM)	Directions
1.	Educational Facilities	Anganwadi School	0.5	S
		St. Xaviers Convent School	0.54	S
		Middle School Sundarpur	0.63	S
		Laxminarayan plus 2 School	0.78	ENE
		Ujwal Public School	0.95	NE
		Middle High School	1.0	NE
		Saraswati Shishu Mandir	1.2	NE
		Shermari High School	1.25	SSW
		Shri Shyam Public School	1.5	NE
		Delhi Public School	1.8	S
		Happy Valley School	1.6	S
2.	Medical Facilities	Dr Ramakrishna Arunodaya hospital	0.6	E
		Multi-Star Speciality hospital	0.77	SSW
		Yashpal Ayurvedic hospital	0.82	NE
		Ujwal Narayan Hospital	1.44	S
		Referral Hospital	1.54	SSW
3.	Temples	Bhajrangbhali Mandir	0.52	E
		Manokamna Mandir	0.45	SSW
		Iskon Temple	0.75	SE
		Minakshi Mandir	1.0	NE
		Jhamar Durga Mandir	0.95	SSW

NEAREST HABITATION

S. No.	Name	Distance (km)	Direction
1	Sirmatpur	Adjacent	W
2	Harinkol	Adjacent	S
3	Raipura	Adjacent	S
4	Mundwa & Tundwa	Adjacent	E
5	Sundarpur	Adjacent	S
6	Duldulhiya	0.75	SE
7	Imamnagar	0.62	SW
8	Vasanthpur	1.45	SW
9	Maheshram	0.14	S
10	Shermari	1.3	S
11	Olapur	1.6	SE
12	Ramnagar	1.7	N

NEAREST WATER BODY AND FOREST

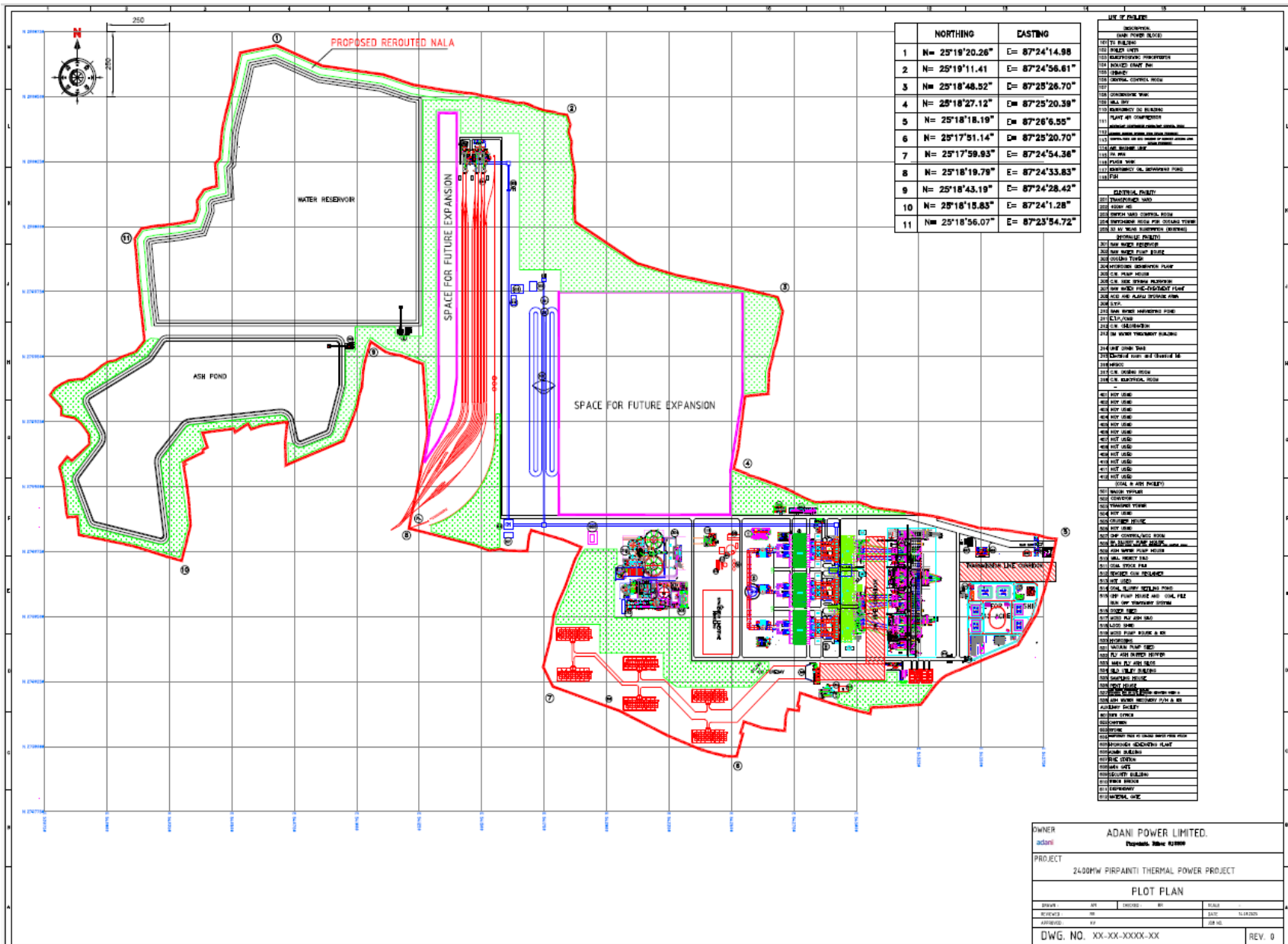
Water Bodies/River

1	Ganga	7.5	W to E
2	Mar Ganga	1.5	E to N
3	Singhia Seasonal Nallah/Stream	00	-

Forest

1	Kaushalpur Forest	8.9	SE
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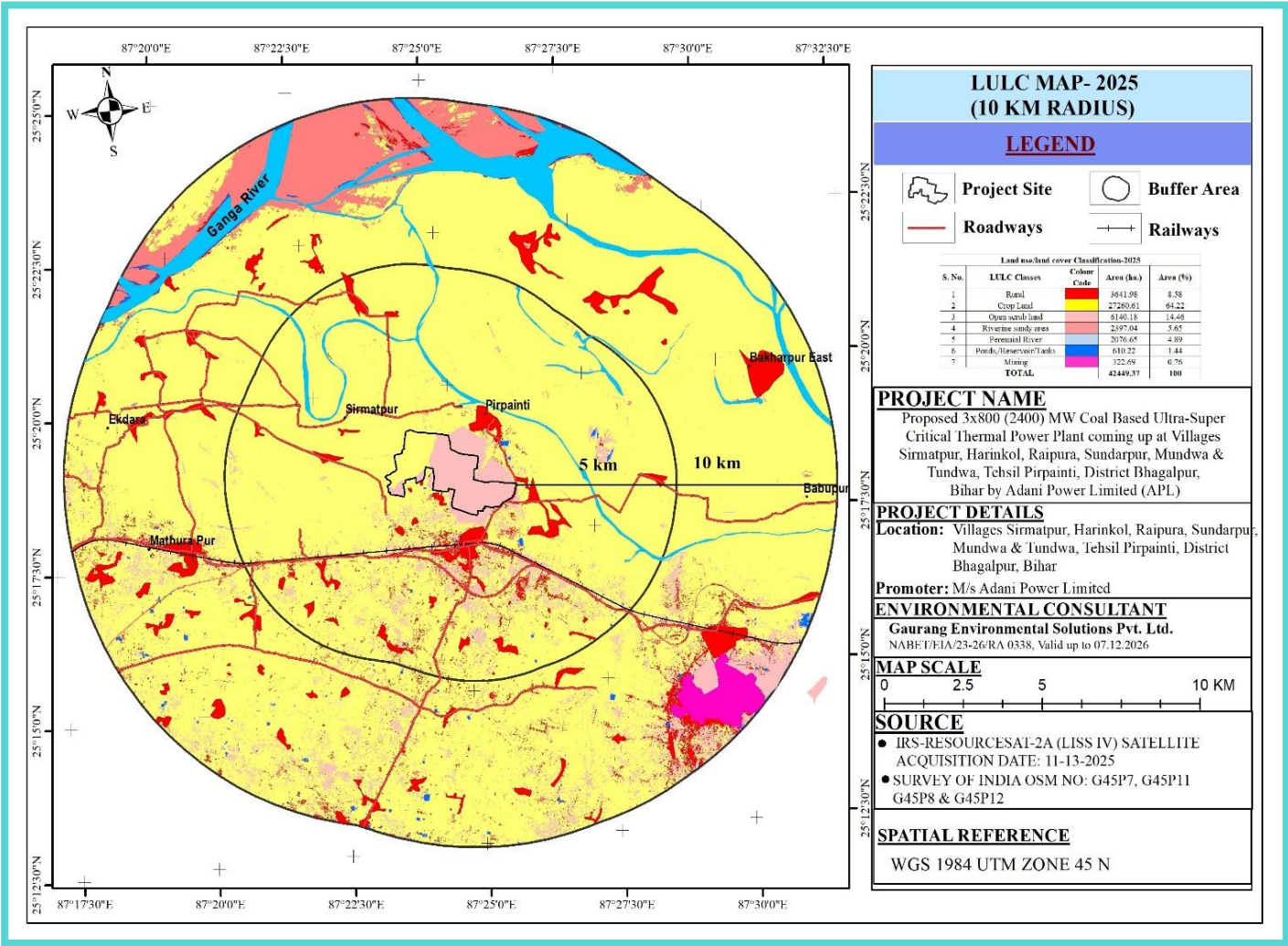
PLANT LAYOUT



Land use break up of the proposed project

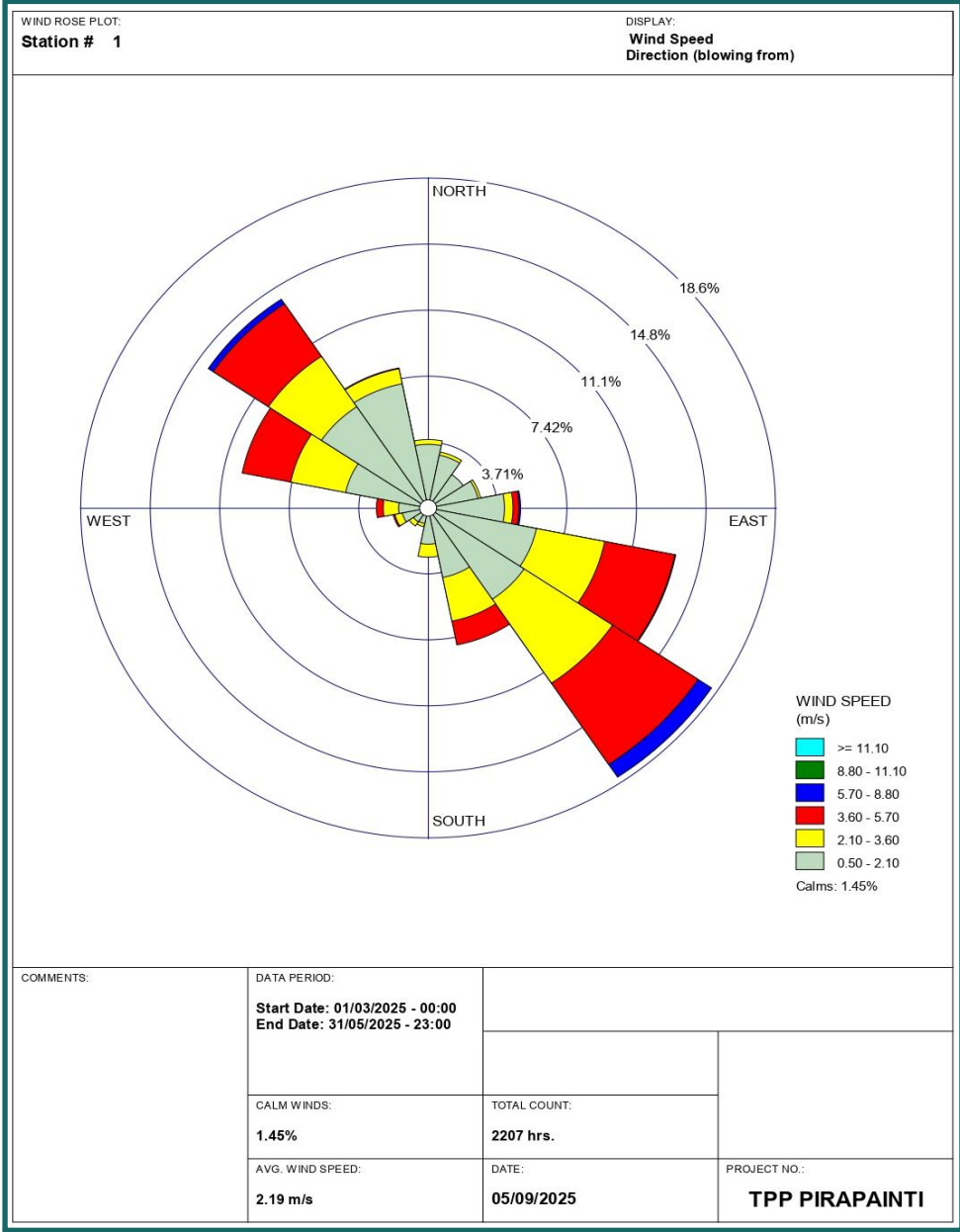
S N	Details	Area (Ha)
1	Plant Area (Including BTG, Water Facility, AHP Switchyard & Misc Facility)	67
2	Reservoir	75
3	Coal Stock Yard (Including Rail Yard)	57
4	Ash Dyke	46
5	Township	5
6	Green Belt	124
7	Land for Future Expansion	105
Total Area		479

LANDUSE MAP OF STUDY AREA



Land use/land cover Classification (10 km)				
S. No.	LULC Classes	Colour Code	Area (ha.)	Area (%)
1	Rural		3641.98	8.58
2	Crop Land		27260.61	64.22
3	Open scrub land		6140.18	14.46
4	Riverine sandy area		2397.04	5.65
5	Perennial River		2076.65	4.89
6	Ponds /Reservoir/Tanks		610.22	1.44
7	Mining		322.69	0.76
TOTAL			42449.37	100

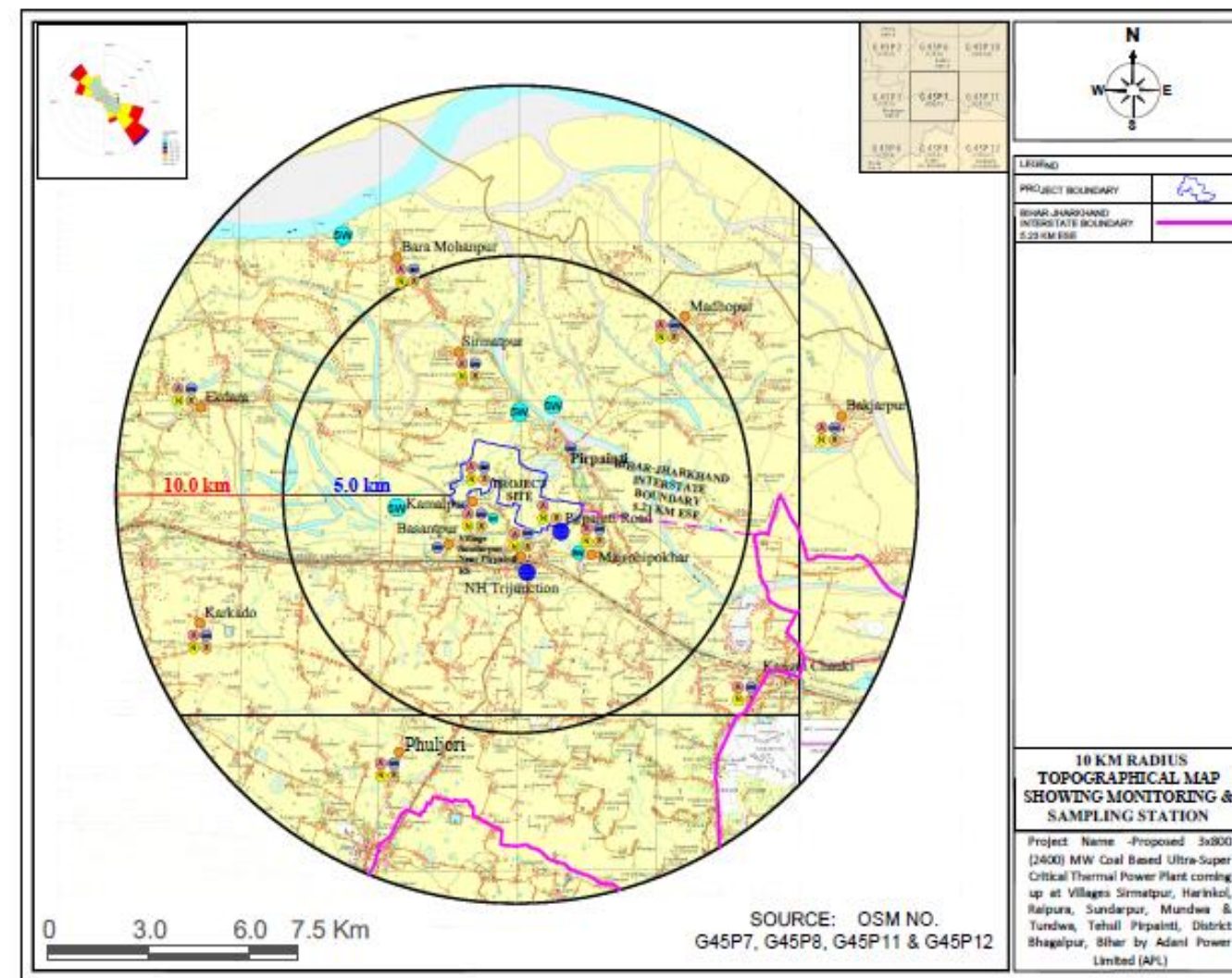
PRIMARY METEOROLOGICAL DATA ON SITE



Month	Temperature (deg C)		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max	Min	Max	Min	Max	Min	
March	39.7	11.1	90.4	2.1	9.2	0.1	00
April	43	18.9	93	2.9	10.7	0.1	49.3
May	42.2	22.9	95	15.5	12.3	0.1	90.8

Study Period – March to May'2025

BASELINE ENVIRONMENTAL MONITORING STATIONS



Location	Distance (km)	Direction	AQ A	Noise N	WQ W		Soil S
					GW W	SW W	
With in Project Site	--	--	A	N	W	---	S
With in Project Site	--	--	A	N	W	---	S
Majrohipokhar (Up wind)	1.15	SE	A	N	W	W	S
Kangal Chauki (Up wind)	7.3	SE	A	N	W	---	S
Sirmatpur (Dnwind)	2.65	NNW	A	N	W	---	S
Basantpur (Cross Wind)	1.25	SSW	---	---	W	---	---
Ekdara (Dn Wind)	7.8	WNW	A	N	W	---	S
Madhopur (Cross Wind)	6.25	NE	A	N	W	---	S
Karkado (Cross Wind)	8.4	WSW	A	N	W	---	S
Village Sundarpur (Habitation)	0.85	S	A	N	W	---	S
Phuljori (Habitation)	7.6	SW	A	N	W	---	S
Bakjarpur (Habitation)	8.2	ENE	A	N	W	---	S
Kamalpur (Habitation)	0.1	E	A	N	W	W	S
Bara Mohanpur (Habitation)	5.9	NW	A	N	W	---	S
Village Piprainti (Habitation)	1.0	NE	---	---	W	---	---
Ganga River	7.5	NW	---	---	---	W	---
Singhia Nadi (Up Stream)	1.5	W	---	---	---	W	---
Singhia Nadi (Dn Stream)	0.9	N	---	---	---	W	---
Mar Ganga Nadi	1.5	N	---	---	---	W	---
Traffic Study Point NH Trijunction	1.0	S	---	---	---	W	---
Traffic Study Point Piprainti Road	0.1	SE	---	---	---	W	---

No. of Monitoring Locations

Air	Ground Water	Surface Water	Noise	Soil
13	15	6	13	13

AIR QUALITY SUMMARY - GROUND LEVEL CONCENTRATION (GLC)

Resultant 24 hourly 98 Percentile Ground Level Concentration (GLC) during Project Operation in $\mu\text{g}/\text{m}^3$

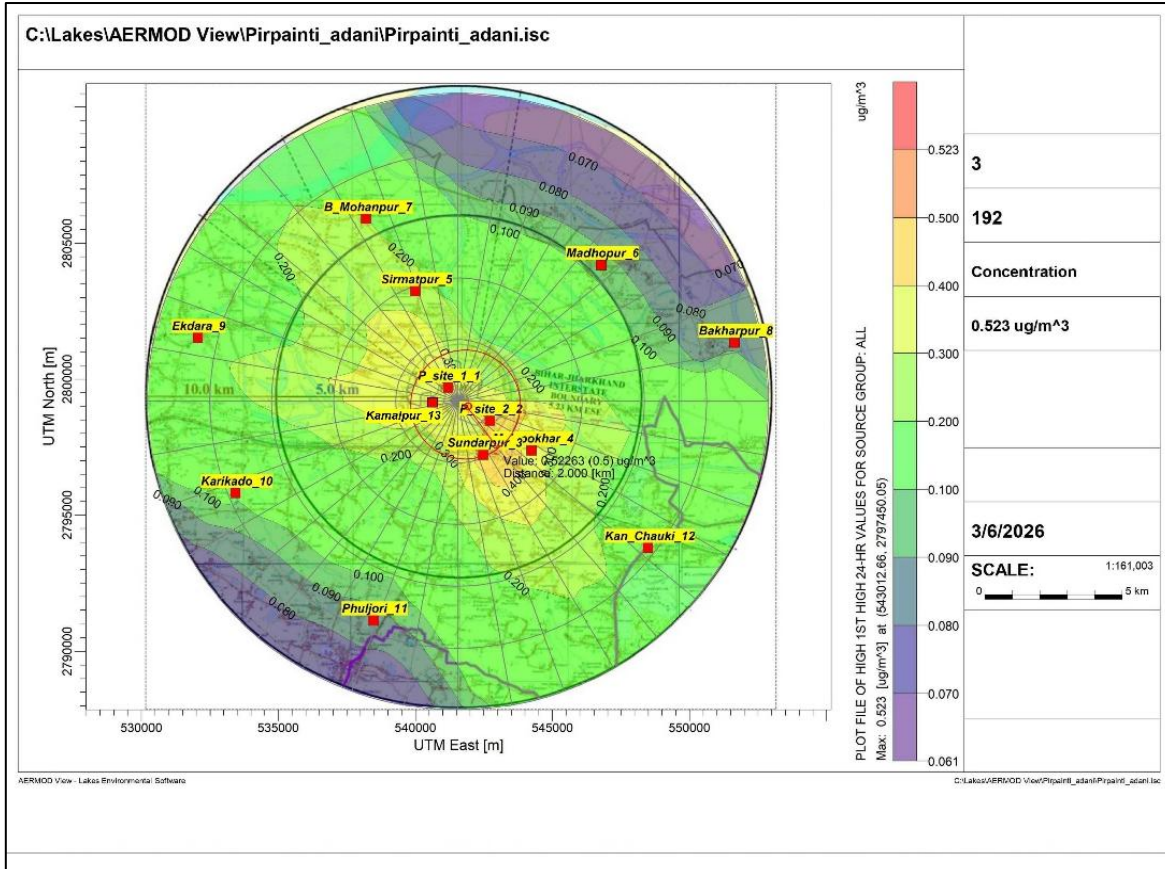
Receptor Location	Maximum Baseline Concentration($\mu\text{g}/\text{m}^3$)				Predicted Incremental GLC at Monitoring Location ($\mu\text{g}/\text{m}^3$)				Cumulative GLC (Baseline + Predicted) ($\mu\text{g}/\text{m}^3$)			
	PM ₁₀	PM _{2.5}	SO ₂	NO ₂	PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x
Project site 1	48.86	23.87	8.92	12.56	0.71	0.18	7.38	5.49	49.57	24.05	16.3	18.05
Project site 2	47.28	23.53	7.58	9.86	0.74	0.19	7.79	5.79	48.02	23.72	15.37	15.65
Majrohipokhar	42.48	20.39	6.61	9.03	0.50	0.13	5.22	3.89	42.98	20.52	11.83	12.92
Kangal Chauki	38.47	18.94	6.55	11.14	0.29	0.07	2.99	2.22	38.76	19.01	9.54	13.36
Sirmatpur	44.64	21.81	8.20	12.81	0.56	0.15	5.88	4.37	45.2	21.96	14.08	17.18
Ekdara	45.35	23.14	7.31	12.18	0.33	0.19	3.49	2.59	45.68	23.33	10.8	14.77
Madhopur	43.58	22.23	8.01	13.08	0.39	0.10	4.03	3.00	43.97	22.33	12.04	16.08
Karkado	36.58	18.66	7.07	11.66	0.19	0.05	1.99	2.59	36.77	18.71	9.06	14.25
Sundarpur	51.76	25.86	8.48	10.97	0.56	0.15	5.9	4.38	52.32	26.01	14.38	15.35
Phuljori	41.16	19.72	6.34	8.68	0.17	0.05	1.83	1.36	41.33	19.77	8.17	10.04
Bakjarpur	39.78	19.03	6.07	8.30	0.19	0.05	2.02	1.50	39.97	19.08	8.09	9.8
Kamalpur	45.80	22.07	7.27	9.93	0.51	0.13	5.31	3.95	46.31	22.2	12.58	13.88
Bada mohanpur	35.50	16.96	8.45	7.20	0.2	0.05	4.22	1.57	35.7	17.01	12.67	8.77
NAAQS	100	60	80	80	100	60	80	80	100	60	80	80

The resultant GLCs of all pollutants are well within the NAAQS

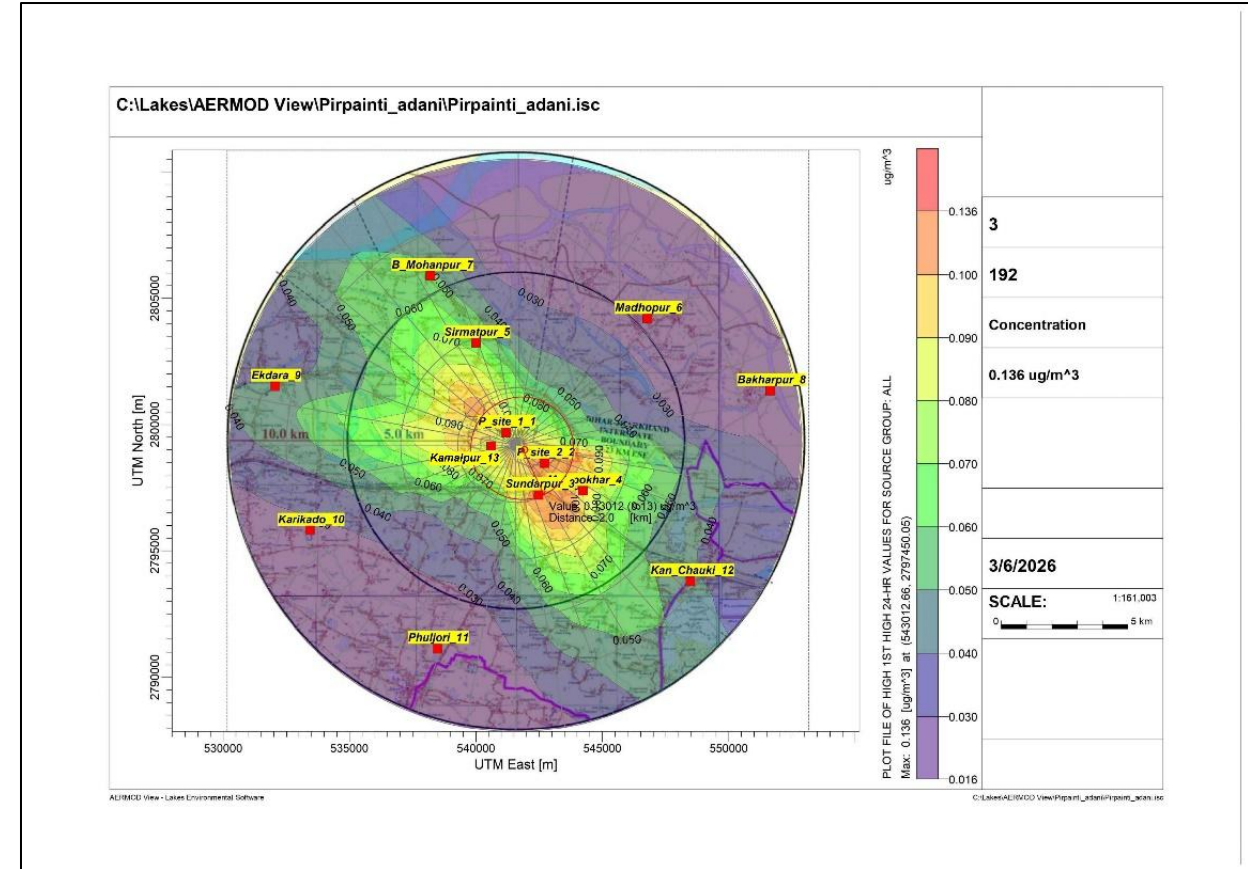
Pollution Control Measures:

- PM: Electrostatic Precipitator (ESP) to meet PM <30 mg/Nm³
- NO_x: SCR & low NO_x burner to meet NO_x emission as per MoEFCC norms
- SO₂: 275 m high Chimney is proposed.

IMPACT ASSESMENT SUMMARY - GROUND LEVEL CONCENTRATION (GLC) OF POLLUTANT



ISOPLETH OF PM₁₀

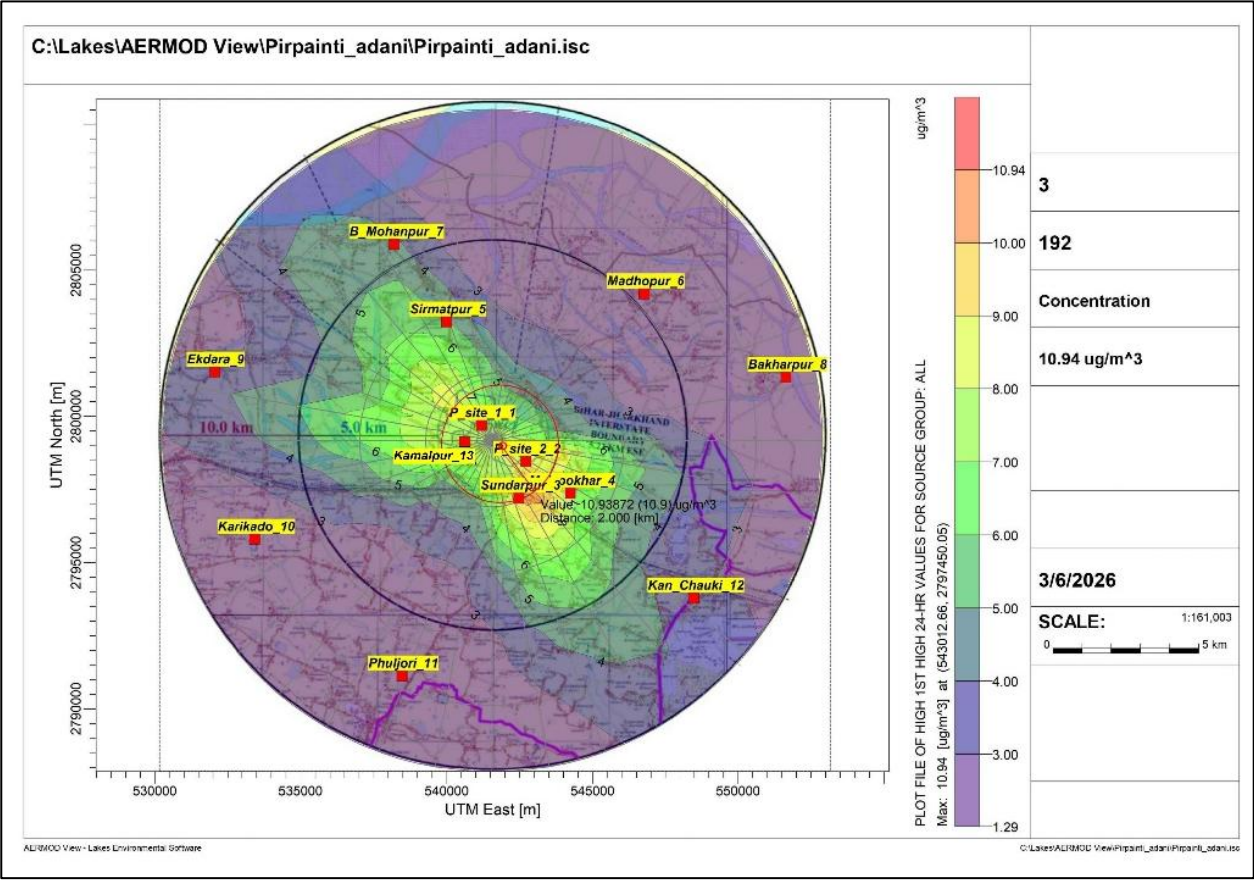
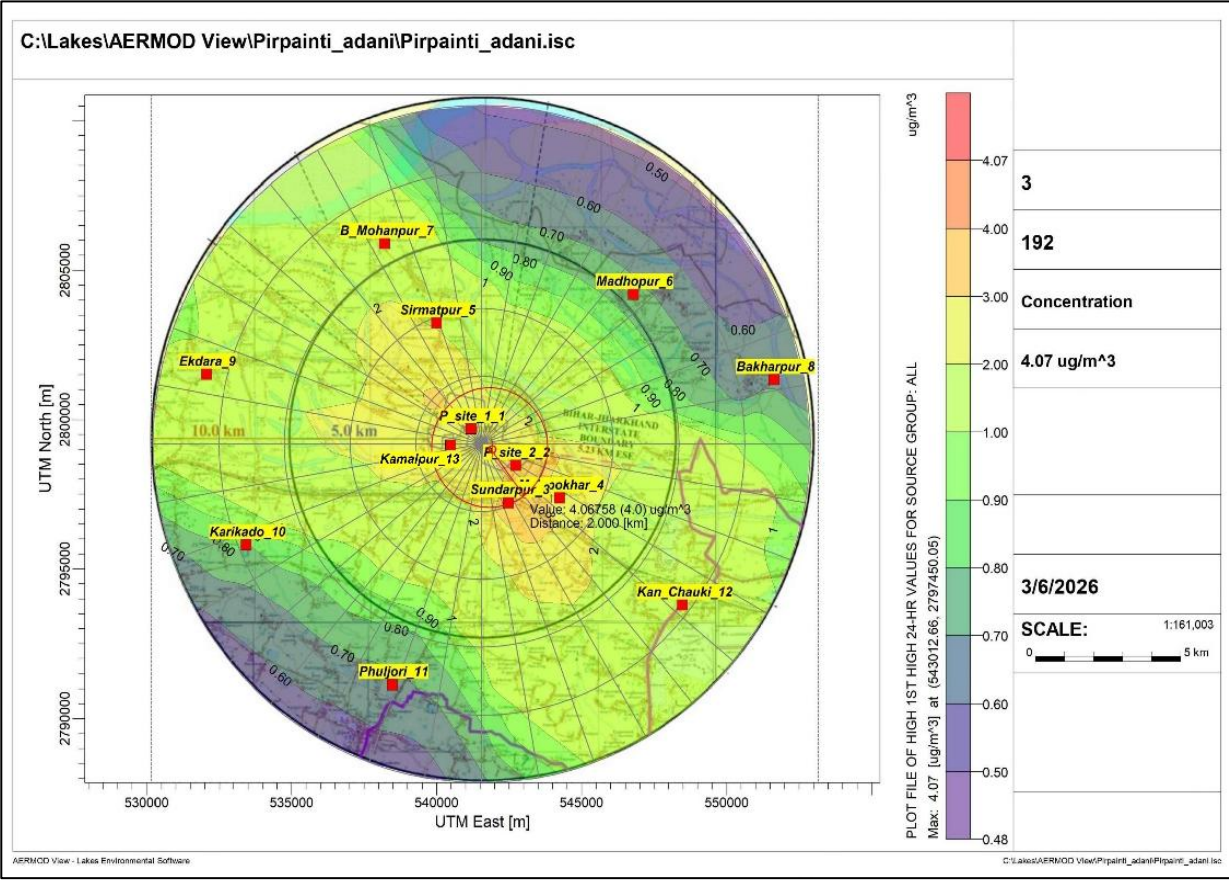


ISOPLETH OF PM_{2.5}

Parameter	Maximum GLC	Distance in meter	X in UTM	Y in UTM	Direction from Stack
PM ₁₀ (µg/m ³)	0.52	2000	543012.66	2797450.05	Downwind/S E

Parameter	Maximum GLC	Distance in meter	X in UTM	Y in UTM	Direction from Stack
PM _{2.5} (µg/m ³)	0.13	2000	543012.66	2797450.05	Downwind/S E

IMPACT ASSESMENT SUMMARY - GROUND LEVEL CONCENTRATION (GLC) OF POLLUTANT



ISOPLETHS OF NO_x

Parameter	Maximum GLC	Distance in meter	X in UTM	Y in UTM	Direction from Stack
NO _x (µg/m ³)	4.06	2000	543012.66	2797450.05	Downwind/SE

ISOPLETHS OF SO₂

Parameter	Maximum GLC	Distance in meter	X in UTM	Y in UTM	Direction from Stack
SO ₂ (µg/m ³)	10.9	2000	543012.66	2797450.05	Downwind/SE

ENVIRONMENT MANAGEMENT PLAN (BUDGET)

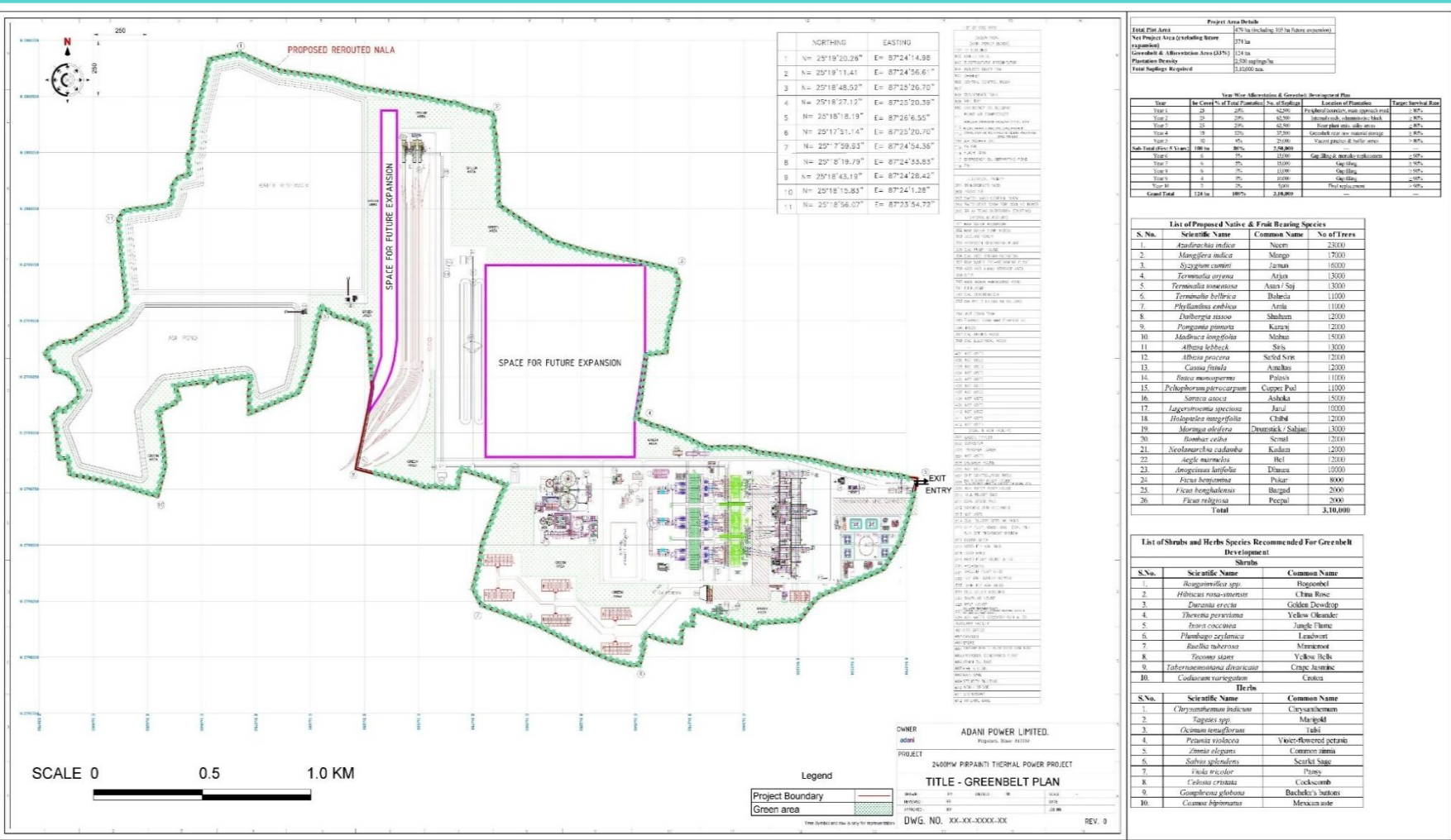
SN	EMP Description	Budget (Rs. In Cr)
1	Air Pollution Control	
	a) Electrostatic Precipitator (ESP)	712
	b) Selective Catalytic Reduction (SCR), Low Nox burner	201
	c) Chimney/Stack	230
	d) Dust Extraction & suppression system (Bag Filters, Cyclonic Separators)	13
2	Noise Control	6
3	Water Pollution Control	
	a) Cooling Tower including civil works	270
	b) DM Plant and Waste Treatment System (ETP)	95
	c) Sewerage Collection, treatment & disposal (STP)	2
4	Ash Management	
	a) Ash dyke, handling including ash water recirculation	285
	b) Ash Disposal Work	45
5	Environmental Monitoring & Management	
	a) Environmental Laboratory & Environmental Monitoring & HW Management	11
	b) CEMS, CAAQMS, EQMS monitoring system & main gate display board	11
6	Green Belt Development	14
7	Others	
	Rainwater harvesting	8
	Solar Power Harnessing	5
	Grand Total	1908

FIVE YEAR ACTION PLAN FOR PLANTATION & GREENBELT DEVELOPMENT

Greenbelt & Plantation Calculation	
Total Plot area	479 Ha.
Total Greenbelt area	124 Ha (33 %)
Tree to tree distance	2 m
Width of Greenbelt	20 m
No. of Rows	3
Trees Calculation	2500 Trees/ha
Trees will be provided	3,10,000 nos.
Survival rate or tree	>85 %

Year	Plantation on safety zone & Un-worked Area		Cost of sapling along with maintenance	
	Area (Ha.)	No. of Trees (estimated)	Capital cost	Recurring cost/Annum
2026-27	20.5	51,250	for Plantation/ Greenbelt development	Maintenance/ Casualty replacement
2027-28	32.6	81,500		
2028-29	27.5	68,750		
2029-30	20.4	51,000		
2030-31	11.4	28,500		
Remaining Area gap filling	11.6	29,000		
Total	124	3,10,000	9.5 Crores	4.5 Crores
Total 14 Crores				

GREENBELT DEVELOPMENT



Project Area Details			
Total Plot Area	124 Ha	including 100 Ha future expansion	
Net Project Area (excluding future expansion)	124 Ha		
Greenbelt & Afforestation Area (25%)	31 Ha		
Plantation Density	2,500 saplings/Ha		
Total Saplings Required	3,10,000 nos.		

Year Wise Allocation & Growth Management Plan			
Year	No. of Saplings	Location of Plantations	Target Survival Rate
Year 1	25%	15,500	85%
Year 2	25%	15,500	85%
Year 3	25%	15,500	85%
Year 4	25%	15,500	85%
Year 5	25%	15,500	85%
Sub-Total (5 Years)	125,000	62,750	85%
Year 6	25%	15,500	85%
Year 7	25%	15,500	85%
Year 8	25%	15,500	85%
Year 9	25%	15,500	85%
Year 10	25%	15,500	85%
Grand Total	1,250,000	627,500	85%

List of Proposed Native & Fruit Bearing Species			
S. No.	Scientific Name	Common Name	No. of Trees
1.	Mangifera indica	Mango	2500
2.	Manihot indica	Manihot	2500
3.	Styragia sumatrensis	Styragia	1000
4.	Terminalia arjuna	Arjun	1000
5.	Terminalia tomentosa	Amra / Saj	1000
6.	Terminalia bellica	Bahela	1000
7.	Phyllanthus emblica	Amla	1000
8.	Dalbergia sissoo	Shisham	1000
9.	Pongamia pinnata	Karai	1000
10.	Madraca longifolia	Melau	1000
11.	Albizia lebbek	Sisa	1000
12.	Albizia procera	Sekid Sisa	1000
13.	Cassia fistula	Amchus	1000
14.	Butea monosperma	Palash	1000
15.	Peraphoranthus parviflorus	Copper Peel	1000
16.	Sesuvium portulacastrum	Ashoka	1000
17.	Lagerströmia speciosa	Jauz	1000
18.	Hibiscus rosa-sinensis	Chub	1000
19.	Moringa oleifera	Drumstick / Sahjan	1000
20.	Simarouba indica	Semal	1000
21.	Neolamarckia cadamba	Kodam	1000
22.	Aegle marmelos	Bel	1000
23.	Anogeissus latifolia	Dhaura	1000
24.	Ficus religiosa	Pekar	1000
25.	Ficus benghalensis	Buggad	1000
26.	Ficus religiosa	Pearl	1000
Total			3,10,000

List of Shrubs and Herbs Species Recommended For Greenbelt Development			
Shrubs			
S.No.	Scientific Name	Common Name	
1.	Bougainvillea speciosa	Bougainvillea	
2.	Hibiscus rosa-sinensis	China Rose	
3.	Duranta erecta	Golden Dewdrop	
4.	Thevetia peruviana	Yellow Oleander	
5.	Barringtonia speciosa	Orange Flame	
6.	Plumbago zeylanica	Leadwort	
7.	Baccharis pinnatifida	Mimosa	
8.	Tecoma stans	Yellow Bells	
9.	Tabernaemontana divaricata	Crape Jasmine	
10.	Colubium variegatum	Croton	
Herbs			
S.No.	Scientific Name	Common Name	
1.	Chrysanthemum indicum	Chrysanthemum	
2.	Tagetes spp.	Marigold	
3.	Cosmos tenuiflorus	Taget	
4.	Penstemon violaceus	Violet-flowered petunia	
5.	Zinnia elegans	Common zinnia	
6.	Sabuna splendens	Scented Sage	
7.	Isola erector	Pine	
8.	Cleome cristata	Cockscomb	
9.	Gomphrena globosa	Bachelor's button	
10.	Cosmos bipinnatus	Mexican aster	

Year	Area (Ha.)
1st Year Plantation	20.5
2nd Year plantation	32.6
3rd Year plantation	27.5
4th Year plantation	20.4
5th Year plantation	11.4
Remaining Green area	11.6
Total Area	124

List of plant species proposed for Greenbelt Development

Trees

S. No.	Scientific Name	Common Name	No of Trees
1	<i>Azadirachta indica</i>	Neem	23000
2	<i>Mangifera indica</i>	Mango	17000
3	<i>Syzygium cumini</i>	Jamun	16000
4	<i>Terminalia arjuna</i>	Arjun	13000
5	<i>Terminalia tomentosa</i>	Asan / Saj	13000
6	<i>Terminalia bellirica</i>	Baheda	11000
7	<i>Phyllanthus emblica</i>	Amla	11000
8	<i>Dalbergia sissoo</i>	Shisham	12000
9	<i>Pongamia pinnata</i>	Karanj	12000
10	<i>Madhuca longifolia</i>	Mahua	15000
11	<i>Albizia lebeck</i>	Siris	13000
12	<i>Albizia procera</i>	Safed Siris	12000
13	<i>Cassia fistula</i>	Amaltas	12000
14	<i>Butea monosperma</i>	Palash	11000
15	<i>Peltophorum pterocarpum</i>	Copper Pod	11000
16	<i>Saraca asoca</i>	Ashoka	15000
17	<i>Lagerstroemia speciosa</i>	Jarul	10000
18	<i>Holoptelea integrifolia</i>	Chilbil	12000
19	<i>Moringa oleifera</i>	Drumstick / Sahjan	13000
20	<i>Bombax ceiba</i>	Semal	12000
21	<i>Neolamarckia cadamba</i>	Kadam	12000
22	<i>Aegle marmelos</i>	Bel	12000
23	<i>Anogeissus latifolia</i>	Dhaura	10000
24	<i>Ficus benjamina</i>	Pukar	8000
25	<i>Ficus benghalensis</i>	Bargad	2000
25	<i>Ficus religiosa</i>	Peepal	2000
Total			3,10,000

Shrubs

S.No.	Scientific Name	Common Name
1	<i>Bougainvillea spp.</i>	Bogoonbel
2	<i>Hibiscus rosa-sinensis</i>	China Rose
3	<i>Duranta erecta</i>	Golden Dewdrop
4	<i>Thevetia peruviana</i>	Yellow Oleander
5	<i>Ixora coccinea</i>	Jungle Flame
6	<i>Plumbago zeylanica</i>	Leadwort
7	<i>Ruellia tuberosa</i>	Minnieroot
8	<i>Tecoma stans</i>	Yellow Bells
9	<i>Tabernaemontana divaricata</i>	Crape Jasmine
10	<i>Codiaeum variegatum</i>	Croton

Herbs

S.No.	Scientific Name	Common Name
1	<i>Chrysanthemum indicum</i>	Chrysanthemum
2	<i>Tagetes spp.</i>	Marigold
3	<i>Ocimum tenuiflorum</i>	Tulsi
4	<i>Petunia violacea</i>	Violet-flowered petunia
5	<i>Zinnia elegans</i>	Common zinnia
6	<i>Salvia splendens</i>	Scarlet Sage
7	<i>Viola tricolor</i>	Pansy
8	<i>Celosia cristata</i>	Cockscomb
9	<i>Gomphrena globosa</i>	Bachelor's buttons
10	<i>Cosmos bipinnatus</i>	Mexican aste

PROPOSED ASH GENERATION

The 100% Ash utilization from commissioning of the plant as per Fly Ash Notification dated 31.12.2021 and its subsequent amendments.

MoUs have been signed between APL and ACC & Ambuja Cements Ltd..

S. No.	Description	Ash quantity in Million TPA	Management & disposal
1.	Fly ash	3.09	Collection in dry form, pneumatic transfer to closed silos & sent to Cement manufacturing, Construction work (RMC plant, Roads, Highways), Brick Manufacturing, etc.
2.	Bottom ash	0.77	Collection in wet & dry form and utilized in Ready Mix Concrete (RMC) / brick producers / filling of mine voids and construction purpose.
Total ash		3.87	
Unutilized Fly ash and bottom ash shall be disposed via High/Medium Concentration Slurry disposal system to Ash dyke in case of exigencies.			

CER Budget With Physical Targets

Sr. No	Key Area Identified under Socio-EMP (CER) based on needs highlighted during Public Hearing	Time bound (Year wise) expenditure (in Crores)					Budget (in Cr)
A	Educational Initiatives	1st	2nd	3rd	4th	5th	
	Modernization, Repair & construction/maintenance of identified Primary / Higher Secondary School of nearby villages of the project site in consultation with Local Government/School Authorities in villages Olapur & Pirpainti.	0.4	0.5	0.55	0.5	0.5	2.45
	Distribution of drinking water filters/Drinking water coolers in schools in Pirpainti, Sundarpur and others nearby villages.	0.4	0.5	0.5	0.3	0.3	2
	Basic teaching and learning infrastructure support to Govt. Schools, Supporting in creation of assembly halls, prayer halls, classrooms and smart class, computer room, space for mid-day meals, playground, school boundary walls etc. for government schools in villages Harinkol, Olpaur, Manikpur.	0.4	0.7	0.7	0.9	0.9	3.6
	Online courses for students in emerging technologies such as Artificial Intelligence, Electric Vehicles, Renewable Energy etc. to equip students with job-ready skills through Adani Skill Development Centre (ASDC).	0.25	0.25	0.25	0.25	0.3	1.3
	Sub Total	1.45	1.95	2	1.95	2	9.35
B	Community Health Initiatives						
	Development of hospitals, strengthening of PHC's & CHC's, and improvement of health facilities in Pirpainti & other nearby villages	1	1.1	1.1	1.1	1.1	5.4
	Rural Medical Camps through Medical Team of Primary Health Centre @ 5 Nos. of camps per month (@ 75 patients per camp), Safe Menstrual Hygiene Management Awareness, Mega Health Camp, Cataract Screening & Operation in Pirpainti, Sirmatpur, Harinkol & other nearby villages. Sanitary napkin vending & disposal machine, provision of Girls' Toilets with regular water supply facilities.	0.75	0.75	0.75	1	1.1	4.35
	Promotion of awareness of malnutrition and anemia.	0.15	0.2	0.2	0.25	0.3	1.1
	Promotion of Poshan Vatika at backyard of villagers & Project Suposhan.	0.2	0.25	0.25	0.25	0.25	1.2
	Sub Total	2.1	2.3	2.3	2.6	2.75	12.05

CER Budget With Physical Targets

C	Sustainable Livelihood and Women Empowerment						
	Adani Skill Development Centre (ASDC/SDC) to train the youth under different trades viz. Welding, Fitting, Masonry & Bar-bending, Electrical, industrial machine operating & digital literacy/smart classes.	0.9	0.9	0.9	0.9	1	4.6
	Development & Support for Drip irrigation, assistance for mushroom, vegetable cultivation and livestock management in core zone villages.	0.3	0.4	0.4	0.4	0.5	2
	Sub Total	1.2	1.3	1.3	1.3	1.5	6.6
D	Community Infrastructure Development						
	Repairing, strengthening & Maintenance of Existing Roads in consultation with Gram Panchayats/Local Administration in Sirmatpur & other nearby villages	0.4	0.5	0.5	0.5	0.5	2.4
	To provide facility for potable drinking water, and water supply system through overhead tanks	0.8	0.9	0.9	0.9	0.9	4.4
	Upgradation & Renovation of sanitation facilities such as toilets in schools with priority for girls.	0.25	0.65	0.65	0.75	0.75	3.05
	Provision of Solar Power and street lighting/panels in nearby schools, local health centers of nearby villages, green nurturing programs, plantation drives etc.	0.3	0.4	0.4	0.4	0.4	1.9
	Sub Total	1.75	2.45	2.45	2.55	2.55	11.75
E	Sports & Culture Development						
	Promotion of sports for youths and women	0.1	0.1	0.1	0.1	0.1	0.5
	Cultural activities for villagers	0.05	0.05	0.05	0.05	0.05	0.25
	Sub Total	0.15	0.15	0.15	0.15	0.15	0.75
F	Tree plantation in Govt. School and Community Health Centre in Villages Umarda, Chhatai & Tarsili	0.2	0.3	0.3	0.3	0.4	1.50
	Total Budget	6.85	8.45	8.85	8.85	9.35	42

Key Areas Covered under CSR

Key Areas Covered under CSR

Educational Initiatives	Community Health Initiatives	Sustainable Livelihood Development	Community Rural Infrastructure Development	Sports & Culture Development
- Modernization, Repair & construction/maintenance of nearby schools - Basic teaching and learning infrastructure support to Govt. Schools - Online courses for students - Providing drinking water facility in schools	-Development of hospitals, strengthening of PHC's & CHC's -Providing healthcare services in nearby villages. -Rural Medical Camps through Medical Team of Primary Health Centre. -Promotion of awareness of malnutrition & anemia.	-Adani Skill Development Center (ASDC) -Development & Support for drip irrigation, vegetable & mushroom cultivation, livestock management etc	-Repairing & Maintenance of Existing Roads -Providing facility for potable drinking water -Installation of solar streetlights -Plantation program/Greenbelt Development in nearby villages.	-Promotion of sports for youths and woman -Cultural activities for villagers.

COMPLIANCE OF TERMS OF REFERENCES (ToR)



SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.1 : Project proponent shall explore the feasibility of using air cooled condenser in place of water cooled condenser and details shall be incorporated in the final EIA-EMP report.	Feasibility for installing of air-cooling condenser (ACC) has been evaluated and observed that the efficiency of the plant will reduce as heat rate will be high which will lead to higher coal and higher auxiliary power consumption. Addition to above, installing ACC will further increase the CAPEX and OPEX for the project which will make it techno-economically non-viable. Measures taken to optimize water requirement: • The total water requirement for the proposed project is 1,15,200 KLD (42 MCM/Year) i.e. <2.5 m³/MWh, which is well within the stipulated norms and standards. The water will be sourced from Ganga River through water pipeline of about 14.7 km in length. • The Plant is designed for zero Liquid Discharge (ZLD). • Dry Ash Handling System, COC of Cooling Tower will be developed for optimizing the water requirement as per CEA guidelines. Similarly, treated sewage water will be reused for horticulture.
ToR 1.2: Ash Dyke is proposed in 46 Ha, i.e., 0.019 Ha/MW, which is much less than 0.1 Ha/MW (i.e. 240 Ha) as per MoEF&CC Notification S.O. 5481(E) dated 31.12.2021.	Ash Dyke is proposed in 46 Ha, i.e., 0.019 Ha/MW, which is much less than 0.1 Ha/MW (i.e. 240 Ha) as per MoEF&CC Notification S.O. 5481(E) dated 31.12.2021
ToR 1.3: Certificate from concerned District Magistrate/Executive Engineer from the State Water Resources department (or) any officer authorized by the State Government in this regard shall be submitted stating that project site is not located within flood plain of Ganga river corresponding to one in 25 years of flood as per Ministry's O.M. dated 14/02/2022.	Certificate obtained from Executive Engineer, Flood Control Division, Bhagalpur vide letter no. 167/Bhagalpur dated 06.02.2026.
ToR 1.4: PP needs to submit NOC/permission from the State Water Resource Department /Irrigation Dept. in case of diversion of any Nala/Stream/water bodies.	The seasonal nala/stream is passing through the project premises, as per WRD office, there is no such type of Nala in their record. However, we have requested to WRD office to provide NOC for re-routing of seasonal stream/nala. The approval for diversion of the nala is recommended by Superintending Engineer, WRD, Bhagalpur.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.5: All the parameters as mentioned in the National Ambient Air Quality Standards (NAAQS) shall be monitored by the project proponent.	All parameters, as per the National Ambient Air Quality Standards (NAAQS), were monitored during one season (March to May 2025). Environmental monitoring for primary data was carried out by NABL and MoEF&CC approved laboratory M/s Vibrant Techno Lab Pvt. Ltd., Jaipur. The results of the monitored data are given in Chapter III of Final EIA-EMP report.
ToR 1.6: Project proponent shall also obtain recommendations from the State Forest department regarding the impact of project on the nearby Reserved Forests, if any, along with the mitigation measures to be followed.	There are no Reserved Forests near the Project Area. Kaushalpur Forest is located about 9 Km away from the Project Site. No National Park, Elephant/Tiger Reserve, or migratory routes/wildlife corridor exists within 10 km of the proposed TPP. The proposed project does not fall in any Wildlife Corridor.
ToR 1.7: EIA-EMP study shall take in to consideration the different scenarios arising due to change of coal source, impact on environmental attributes due to change of coal source along with corresponding mitigation measures with EMP budget shall be submitted	Coal will be sourced from ECL/MCL/SECL, Nearby Commercial Coal mines & e-auction and shall be transported by Rail, ensuring an efficient and reliable fuel supply. Therefore, coal characteristic remains same for the project. Mitigation measures • Installation of high-efficiency ESPs, 275m height Chimney are proposed. • Adoption of dry ash handling systems and high/medium concentration slurry disposal (HCSD/MCSD) systems where feasible. • Covered conveyors, water sprinkling, and closed storage silos are proposed. The EMP budget for these measures capital cost is ₹1908 crore, with an annual recurring cost of ₹19.0 crore. Details given in Chapter X of Final EIA-EMP Report.
ToR 1.8: Biodiversity analysis of the project site and study area shall be done through any NABET accredited consultant. The study report shall inter-alia include impact of release of cooling tower water on aquatic life and action plan for complying with the mitigation measures shall be submitted	The Biodiversity Analysis Report prepared by NABET accredited expert. The project is based on Zero Liquid Discharge hence no impact on aquatic life is anticipated from cooling tower water blow down.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.9: Project proponent shall commission a study on Hydrology and Hydrogeology of the project site as well as the study area of the project site through a NABET accredited consultant. The study report along with the action plan for implementing the recommendations of the report shall be submitted along with the EIA-EMP report	Hydrology and Hydrogeology of the project site as well as the study area of the project site is prepared by NABET accredited expert of Akshar Geo Services. The study report along with the action plan for implementing the recommendations of the report is given in Chapter VII of final EIA-EMP report.
ToR 1.10: Radioactivity studies along with coal analysis to be provided (Sulphur, ash percentage and heavy metals including Pb, Cr, As and Hg). Details of auxiliary fuel, if any including its quantity, quality, storage, etc. should also be given.	Details of Coal analysis is given in Chapter II & Radioactivity studies is conducted by "Department of Atomic Energy, Board of Radiation and Isotope Technology (BRIT)" Government of India. Analysis report is enclosed in slide no. 64. Auxiliary fuel, viz. LDO /HSD would be required (@ 25000KL per annum) for start-up and flame stabilization. Details of the same are elaborated at Chapter II & Chapter VII of the Final EIA-EMP report.
ToR 1.11: PP should submit the detailed plan in tabular format (year-wise) for concurrent afforestation and green belt development in and around the project site covering 33 % of the project area. The PP should submit the number of saplings to be planted, names of native species, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling should be of native and few fruit bearing species mainly, of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided.	▪ Greenbelt on plant periphery and plantation within plant premises is proposed in 124 Ha. It is proposed to plants 3,10,000 nos. of native trees species. ▪ Brief of greenbelt development are as below: ✓ Total Plot area: 479 Ha (including future expansion of 105 Ha). ✓ Total Plantation Area: 124 Ha (33 % of 374 Ha, excluding future expansion area) ✓ Trees required @2500 per Ha. ✓ Total tree will be provided: $2500 \times 124 = 3,10,000$ nos. The details of greenbelt development are given in Chapter IV of Final EIA-EMP report.
ToR 1.12: Action plan for development of three-tier plantation programme (33 % of total project cover area) along the periphery of the project boundary and the coal transportation route shall be provided. PP shall submit concurrent plantation plan.	Action plan for development of 3-tier plantation along project periphery is detailed in Chapter IV of Final EIA-EMP report.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.13: Detailed action plan shall be prepared for maintenance of air pollution control equipment for proposed units and shall be incorporated in the EIA-EMP report.	Action plan for maintenance of air pollution control equipment is given in Chapter VI of Final EIA-EMP Report.
ToR 1.14: Details of Ash management plan as per MoEF&CC notification dated 31/12/2021 & its subsequent amendment for the proposed project shall be submitted. MoU signed for ash utilization with companies shall be submitted.	MoU has been signed with ACC Limited & Ambuja Cement Limited for 100% utilization of Fly Ash and is enclosed in Final EIA-EMP report.
ToR 1.15: Action plan for dry ash collection system (Bottom ash and Fly ash) shall be submitted.	Fly Ash, from ESP hoppers shall be collected in dry form and then conveyed to fly ash silos having capacity of >16 hrs storage for further utilization. Unutilized Fly ash and bottom ash shall be disposed via Medium/High Concentration Slurry disposal (MCSD/HCSD) system to Ash dyke in case of exigencies.
ToR 1.16: Action plan for disposal of ash through High Concentration Slurry Disposal (only in emergency conditions) shall be submitted	Fly ash and bottom ash shall be disposed via Medium/High Concentration Slurry disposal (MCSD/HCSD) system to Ash dyke in case of exigencies. Details are given in Chapter II of Final EIA-EMP Report.
ToR 1.17: Proper protection measures like high-density polyethylene (HDPE) lining, appropriate height of bund and adequate distance between the proposed Ash pond and water body (minimum 60 meters) etc. shall be planned to reduce the possibility of mixing leachate with any freshwater body for ash pond. A high-density Slurry disposal plan shall be prepared.	All the protection measures such as HDPE lining, appropriate height of bund, etc. as specified by CPCB/ CEA have been considered for design of ash pond. The nearest river to the proposed project site is Mar Ganga Nadi at ~1.5 km & Ganga River is at ~7.5 km. Details of the ash disposal system & medium/high-density Slurry disposal plan are given in Chapter II of Final EIA-EMP report.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.18: Pond and ground water quality (10 locations within 2 km radius of the plant boundary) shall be studied and report be submitted along with EIA-EMP. Action plan for Ground water monitoring stations on all hotspots like schools/hospitals within 2 km radius of the plant boundary be submitted. Baseline Study for Heavy metals in Groundwater, Surface water and soil to be carried out and incorporated in EIA-EMP report.	Baseline monitoring locations have been selected considering available ground water and surface water sources in the study area. 7 no of ground water locations & 5 no of surface water locations are within 2.0 km radius of project boundary (excluding core zone) & 8 no of ground water monitoring locations & 1 no of surface water monitoring location are within 2.1 to 10 km radius of project site. Summary of baseline monitoring for ground water, surface water and soil quality are given in Chapter III of Final EIA-EMP Report.
ToR 1.19: Details pertaining to water source, treatment and discharge should be provided.	Source of Water: Ganga River through dedicated water pipeline at a distance of about 14.7 km Treatment: ETP is proposed for wastewater streams from plant and STP is proposed for domestic sewage treatment. The treated wastewater will be utilized for plant consumptive requirements and for green belt development. Discharge: The Plant is based on Zero Liquid Discharge (ZLD).
ToR 1.20: PP shall provide the details of wastewater treatment facilities to be installed within its capacity, timeline and budget	ETP (2160 KLD) is proposed for wastewater streams from plant and STP (30 KLD) is proposed for domestic sewage treatment and will be established with the TPP Construction. Budgetary allocation for water pollution control measures in given in Chapter X of the Final EIA-EMP Report. The treated wastewater will be utilized for plant consumptive requirements and for green belt development
ToR 1.21: Project Proponent to conduct Environmental Cost Benefit Analysis for the project in EIA-EMP Report.	Environmental Cost Benefit Analysis is given in Chapter 9 of Final EIA-EMP report.
ToR 1.22: An action plan shall be prepared for Water shed development within 10 km radius of the plant boundary in consultation with reputed government institution and incorporated in EIA-EMP report.	Action Plan for Watershed development study within 10 km radius of the plant boundary has been prepared in consultation with reputed government institution and is given in Chaper VII of Final EIA-EMP Report. The Budgetary allocation for implementation of water shed management plant is Rs. 32.5 Lakhs.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.23: PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total material handled) and steps to be taken for reduction of the same. The year-wise target for reduction in the specific diesel consumption needs to be submitted. PP shall also explore the possibility of using e-vehicles/LNG/CNG-based machinery and trucks for the operation and transportation of Coal and ash and submit an implementation strategy.	Specific diesel consumption is @1 ml per unit (kWh) Diesel used in trucks and vehicles for transportation of ash, LDO/HSD etc. is limited as coal will be transported through rail and more than 80% of ash to be generated will be transported through rail. Common Vehicles/Transport will used for manpower. Will explore the possibilities for using E- vehicles/ CNG based vehicles within the plant.
ToR 1.24: PP shall provide the details of transportation of fly ash from the plant, transportation route etc. Further, carry out a traffic study for at least one month and provide the impact of transportation along with the mitigation measures.	It is proposed that >80% of the Fly ash from the plant will be transported through railway. Remaining fly ash will be transported in closed bulkers. Summary of traffic study done during baseline period is given in Chapter III of the Final EIA-EMP report and impact is presented in Chapter IV of Final EIA-EMP Report. Details also presented in Slide no <u>67</u>
ToR 1.25: PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022	Action Plan for Compliance with Plastic Waste Management Rules, 2016 & MoEFCC O.M. dated 18.07.2022 is as below: •Ban on Single-Use Plastics (SUPs) in plant premises. •Promote alternatives like biodegradable packaging, cloth bags, and reusable containers. •Plastic Waste Collection System with placement of separate bins for recyclable & non-recyclable waste. •Tie-up with authorized recyclers for proper disposal. •Conduct awareness campaigns for employees, vendors, and contractors on plastic waste reduction, segregation, and disposal •To display signages on plastic waste disposal guidelines across the plant premises. •To encourage employee participation in plastic-free initiatives.
ToR 1.26: Details on renewable energy (solar plant) proposed to be installed as energy conservation measures shall be submitted.	A roof top solar PV plant of 1.0 MW is proposed within plant premises for harnessing solar power. Additionally, it is proposed to install solar streetlights in the plant premises.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.27: The input parameters for the AAQ modelling and the influence of various combinations of these on the AAQ must be reported in the EIA-EMP Report. In addition to the Wind Rose diagram collected for one season during the preparation of the E.I.A., wind rose diagram for all seasons must be provided using secondary data from sources such as IMD/CPCB etc.	AAQ Modeling details are given in Chapter IV of the Final EIA-EMP report & Wind rose diagram is given in Chapter IV of the Final EIA-EMP report.
ToR 1.28: Project proponent shall take all necessary steps to control the Air Quality and take additional mitigation measures for proposed TPP to maintain the Ambient Air Quality values within the limits. The action plan regarding maintaining ambient quality standards (Time weighted average for 24 hours and Annual both) be submitted. Further, project proponent shall submit an undertaking to abide by the provisions of the notification number G.S.R 465 (E) dated 11/07/2025 related to FGD, as amended, and any subsequent amendment there of pursuant to the outcome of study carried out by CPCB in this regard.	Details of Air Quality Mitigation measures are given in Chapter IV of Final EIA-EMP report & summary is as below: • High efficiency 99.9% Electrostatic Precipitator (ESP) with boiler, Dust suppression & extraction system in coal handling area. • Pirpainti Thermal Power Plant of APL falls under "C category" as per the MoEF&CC notification dated 11.07.2025. • Tri-flue Stack with 275 m height is proposed. • Low NOx Burners / SCR and Secondary Over Fire Air Damper (SOFA) System to meet NOx emission limits. Other: • Metalled roads for transportation • Coal transport through covered conveyor within plant premises. • Regular sweeping of roads, platform & storage area • Greenbelt development & plantation • The top surface of coal wagons will be adequately sprinkled to reduce fugitive emissions during transportation. • Auxiliary fuel transportation will be occasional; hence its impact will be for limited time period. • Pneumatic conveyor system for fly ash extraction & storage • Dry Ash Handling system with ash silos will be provided with bag filter. APL will abide by the provisions of the notification vide G.S.R 465 (E) dated 11.07.2025.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. [A] Environmental Management and Biodiversity Conservation.

ToR 1.29: Details of air pollution control devices to be installed in the proposed 3x800 MW TPP along with its maintenance schedule shall be incorporated in EIA-EMP report.	Details of air pollution control devices to be installed in proposed project are given below: ▪ Electrostatic Precipitator (ESP) with boiler, Dust suppression & extraction system in coal handling area. ▪ Low NOx Burners / SCR / Secondary Over Fire Air Damper (SOFA). ▪ Tri flue Stack with 275 m height. ▪ Pneumatic conveyor system for fly ash extraction & storage. ▪ Dust Extraction System. ▪ Dry Ash Handling system with ash silos will be provided with bag filter Action plan for maintenance of air pollution control equipment is given in Chapter VI of Final EIA-EMP Report.
ToR 1.30: Carbon emission due to TPP and allied carbon sequestration/ carbon offsetting plan be submitted	The Decarbonization/Carbon Sequestration Plan is given in Chapter VII of Final EIA-EMP Report.
ToR 1.31: PP is advised to implement the 'Ek Ped Maa Ke Naam' Campaign, which was launched on 5th June 2024 on the occasion of the World Environment Day to increase the forest cover across the Country. This plantation drive is other than Green belt development. An action plan in this regard shall be submitted.	Greenbelt & plantation plan in study area in line to 'Ek Ped Maa Ke Naam' Campaign is incorporated in the Final EIA Report. As part of this campaign, in operational phase total 2300 persons will be employed (Permanent: 500, Contract: 1800) will plant a tree in honor of Mother Earth. A separate budget Rs. 1.5 crore (out of 42 crore) towards CER activities is allocated for plantation drive under Social EMP (CER) activities. Proposed species for plantation mentioned in Chapter 7 of Final EIA-EMP report.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

2. [B) Disaster Management

ToR 2.1: A Disaster Management Plan shall be prepared and incorporated in the EIA-EMP report.

A comprehensive Disaster Management Plan (DMP) has been developed, incorporating a thorough risk assessment study that specifically addresses potential fire and explosion risks associated with fuel storage and utilization. The plan meticulously accounts for the maximum inventory of storage on-site at any given time, with risk contours illustrated on the plant layout map, outlining potential impacts on proposed activities in the event of an accident. Furthermore, the plan outlines proposed safeguard measures, including preventive measures against fire hazards. The integration of mock drills will be conducted to assess and enhance the effectiveness of the formulated emergency response plans. Details are given in Chapter VII of the Final EIA-EMP report.

3. [C) Socio-economic Study

ToR 3.1: Public Health Action Plan including the provisions for drinking water supply for the local population shall be in the EIA-EMP Report. The status of the existing medical facilities in the project area shall be discussed. Possibilities of strengthening of existing medical facilities, construction of new medical infrastructure etc. will be explored after assessing the needs of the labour force and local populace.

- Drinking water facilities have been taken care under community infrastructure development. A separate budget of Rs 4.4 Crore has been earmarked for the same. A separate budget of Rs: 2.0 Cr. also earmarked towards distribution of drinking water filters/Drinking water coolers in schools in nearby villages.
- Existing medical facilities: Dr Ramakrishna Arunodaya hospital and Multi-Star Speciality hospital at a distance of 0.6 and 0.77 km respectively
- To strengthen medical facilities, a separate budget of Rs. 12.05 crore has been earmarked for Community health services out of the total Social EMP (CER) cost of Rs42.00 Crores.
- Action plan with budgetary allocation to address PH issues & Social EMP action plan is given in slide 23-25

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

3. [C] Socio-economic Study

ToR 3.2: Public consultation (Public Hearing and Written submission) shall be conducted as per the provisions of EIA Notification, 2006 and as amended. As per the Ministry's OM dated 30.09.2020, to address the concern raised during the Public Hearing, the Project Proponent is required to submit the detailed activities proposed with year-wise budgetary provision (Capital and recurring) for 5 years. Activities proposed shall be part of EMP. Tentative no. of project affected families (if any) shall be identified and accordingly appropriate Rehabilitation & Resettlement plan shall be prepared. The recommendation Socio-economic study may also be considered while planning the activities & budget.	▪ The public hearing was conducted on 29.01.2026 at Block Office Campus, Pirpanti Bhagalpur District, Bihar as per the provisions of EIA Notification, 2006 (as amended) and O.M.s issued in this regard by MoEF&CC in consultation with BSPCB ▪ >90% villagers have requested employment opportunities which shall be taken care during construction & operational phase of the plant. ▪ A budget of Rs. 42.0 crore earmarked for Social EMP (CER) activities based on Public Hearing issues & socio-economic survey of the study area. Details are given in slide 23-25. ▪ R&R is not envisaged as the land is allotted by BSPGCL, Govt. of Bihar.
ToR 3.3: A need based Social Impact Assessment Study shall also be carried out and an action plan on its recommendations may also be submitted with budgetary provisions.	A Need based assessment & SIA has been carried out for study area through Indian Institute of Social Welfare & Business Management, (A Constituent Institute of University of Calcutta) & details provided in Chapter 7 of Final EIA-EMP report A budget of Rs. 42.0 crore earmarked for CER activities based on Public Hearing issues & socio-economic survey of the study area. Details are given in slide 23-25
ToR 3.4: Demographic details and land use change details in 10 km area shall be submitted.	Demographic details of 10 km study area based on primary field survey and secondary data are given in Chapter III of Final EIA report. LULC details of the study are given in Chapter III of Final EIA-EMP report.

4. [D) Miscellaneous

Tor 4.1: Plot the wind rose diagram using the typical meteorological year (TMY) data for the period considered for the study. The monitoring units shall be deployed in the field based on the coverage area ratio and direction of the wind. A mathematical model shall be developed for the local site rather than using the standard model available in software for both air & water quality modeling.	▪ Wind rose plotted for TMY is given in Chapter III of Final EIA-EMP report. The monitoring stations were selected covering predominant wind direction, down wind direction and sensitive receptors. ▪ For the purpose of present study, air quality modelling has been done using AERMOD dispersion model for different stability state Gaussian plume dispersion, designed for multiple point sources for short term and developed by United States Environmental Protection Agency [USEPA] has been used for simulations. The input data and isopleths depicting the GLC levels are provided in Chapter IV of Final EIA-EMP report. ▪ The project does not involve any ground water abstraction and/or waste water discharge, hence water quality modeling has not been carried out.
ToR 4.2: PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.	APL recognizes the importance of aligning its operations with global sustainability initiatives, particularly the SDGs outlined by the United Nations, and is committed to supporting India's pledge toward achieving net-zero emissions by 2050. The following measures highlight the alignment of the proposed Ultra Super Critical (USC) Thermal Power Plant project with relevant SDGs and the roadmap for progressing toward the net-zero mission: 1. <i>Alignment with Sustainable Development Goals (SDGs)</i> • SDG 7: Affordable and Clean Energy ◦ The adoption of USC technology significantly improves thermal efficiency, thereby reducing fuel consumption and greenhouse gas emissions compared to conventional power plants.

4. [D) Miscellaneous

ToR 4.2: PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.

Continues....

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- **SDG 9: Industry, Innovation, and Infrastructure**
 - Installation of advanced emission control systems such as Electrostatic Precipitators (ESP), Stack (Tri-flue) 275 Meters Height and Low NOx Burner/SCR & SOFA to minimize environmental impact.
 - Implementation of real-time emission monitoring systems (CEMS) & CAAQMS to ensure regulatory compliance and maintain transparency.
- **SDG 13: Climate Action**
 - Reduction in CO₂ emissions per unit of energy generated by adopting Ultra-supercritical technology.
 - Active participation in afforestation projects and carbon offset programs to contribute to climate mitigation.
- **SDG 6: Clean Water and Sanitation**
 - Incorporating Zero Liquid Discharge (ZLD) systems to ensure efficient water usage and recycling within the plant operations.
- **SDG 12: Responsible Consumption and Production**
 - Fly Ash utilization in cement and construction industries to ensure waste-to-resource conversion.
 - Maximizing efficiency in coal usage through advanced coal handling and combustion techniques.

4. [D) Miscellaneous

ToR 4.2: PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.

Continues....

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2. Net Zero by 2050: Roadmap and Actions

To align with the mission of achieving net-zero emissions by 2050, APL's Pirpainti USC thermal power plant will adopt the following measures:

- Energy Efficiency and Emission Reductions
 - Maintain plant efficiency, leveraging USC technology to minimize CO₂ emissions per unit of energy produced.
- Ensure compliance with stringent emission norms through state-of-the-art pollution control systems.
- Carbon Offsetting and Sequestration
- Stakeholder Engagement and Reporting

3. Key Actions

- Installation of USC boilers, which improve efficiency and have reduced CO₂ emissions.
- Latest pollution control equipment (e.g., ESP, Low NOx burner/SCR & SOFA, 275 m Stack) to achieve emissions well within prescribed norms.
- Implementation of Zero Liquid Discharge (ZLD) to ensure water conservation and waste management.
- Utilization of fly ash for cement and brick manufacturing to achieve 100% utilization targets.

4. [D) Miscellaneous

ToR 4.2: PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC.

Continues....

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4. Commitments and Future Reporting

APL is committed to:

- Periodically updating the regulatory authority & stakeholders with progress reports on SDG alignment and the net-zero roadmap.
- Undertaking third-party audits to validate emission reductions and sustainability efforts.
- Engaging with international climate action programs to align with global best practices in decarbonization.

This comprehensive strategy reflects APL's commitment to sustainable growth while supporting India's and the world's journey toward a low-carbon future.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

4. [D) Miscellaneous

ToR 4.3: PP shall submit the EIA-EMP report after the plagiarism check using authenticated plagiarism software.	Final EIA-EMP report is submitted after the plagiarism check using authenticated plagiarism software and the plagiarism certificate is enclosed with Final EIA-EMP report.
ToR 4.4: Detailed description of all the court cases along with its current status shall be submitted	There are no court cases pertaining to Environment and Forest.
ToR: 4.5: PP should provide in the EIA Report details of all the statutory clearances, permissions, no objection certificates, consents etc. obtained for this project under various Acts, Rules and regulations shall be submitted. Further, all the permissions/MoUs obtained for this project shall be revalidated and submitted along with the EIA-EMP report	Details of statutory clearances, permissions, no objection certificates, consents etc. applicable for the project are given in Chapter I of Final EIA-EMP report.
ToR 4.6: The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs, which will analyze the samples	The photographs of monitoring stations & sampling locations are submitted along with Final EIA-EMP Report.

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

4. [D) Miscellaneous

ToR 4.7: PP should clearly bring out the details of the manpower to be engaged for this project with their roles /responsibilities/designations. In addition to this PP should mention the number and designation of persons to be engaged for the implementation of environmental management plan (EMP). The capital and recurring expenditure to be incurred needs to be submitted	<table><tr><td> Construction: Permanent: 300 Contractual: 7800 </td><td> Operation phase: Permanent: 500 Contractual:1800 </td></tr></table> The comprehensive handling of environmental considerations during the construction and operation phases of the thermal power station will be entrusted to a dedicated and fully equipped Environmental Management Division (EMD) comprising of suitably qualified manpower. The estimated budget of Rs. 1908 Crores and the recurring cost of Rs. 19.0 Cr per annum is proposed. for implementation of Environmental Management Plan (EMP).	Construction: Permanent: 300 Contractual: 7800	Operation phase: Permanent: 500 Contractual:1800
Construction: Permanent: 300 Contractual: 7800	Operation phase: Permanent: 500 Contractual:1800		
ToR 4.8: PP should submit the year-wise, activity wise and time-bound budget earmarked for EMP, occupational health surveillance, and activities proposed to address the issues raised during Public Hearing. The capital and recurring expenditure to be incurred needs to be submitted	A capital cost provision of 1908 Cr towards environmental protection measures/EMP and the recurring cost of Rs. 19.0 Cr per annum is proposed. A time bound, year-wise & activity wise social-EMP plan has been developed in line to Ministry's O.M. dated 30.09.2020 to address issues raised during the Public Hearing & socio-economic survey of the study area with a budgetary allocation of Rs. 42 crore.		
ToR 4.9: Activities shall be prepared based on the issues arise during public hearing conducted and fresh written submission with defined timeline and budgetary provisions.	Action plan with timeline & budgetary allocation based on need based survey and also suggestions received during public hearing is given in Chapter VII of Final EIA-EMP report. Details are given in slide 23-25		
ToR 4.10: Aerial view video of project site and coal transportation route proposed for this project shall be recorded through drone and be submitted. Along with this plan of 3 tier plantation on coal transportation route shall be submitted.	Aerial view video of proposed project site and coal transportation route will be submitted during appraisal for Environmental Clearance.		

SPECIFIC TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

4. [D) Miscellaneous

ToR 4.11: The PP should ensure that only NABET-accredited consultants shall be engaged for the preparation of EIA-EMP Reports. PP shall ensure that the accreditation of the consultant is valid during the collection of baseline data, preparation of EIA-EMP report and the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.	Contents of para 4.11 are duly noted. Details are as below: • NABET accredited EIA consultant organization: Gaurang Environmental Solutions Pvt. Ltd. • NABET Certificate: NABET / EIA / 23-26/RA 0338 valid upto 07.12.2026 • The copy of NABET accreditation certificate is given at S. No. A as per Index of Final EIA-EMP report. • NABL certified environmental monitoring laboratory: Vibrant Techno Lab Pvt. Ltd., Jaipur • NABL Certificate Number & Validity: Certificate No.: TC-16019; Validity period: 02.05.2025 to 19.12.2028 • The copy of NABL Certificate is enclosed with baseline monitoring reports and is submitted along with Final EIA-EMP Report. Copy of undertaking in compliance to ToR point 4.11 by EIA Coordinator & PP is submitted along with Final EIA Report.
ToR 4.12: PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after the grant of EC	Details of statutory clearances, permissions, no objection certificates, consents etc. applicable for the project are given in table no. 1.5 of Chapter I of Final EIA-EMP report.
ToR 4.13: All the certificates viz. involvement of Forest land, distance from the protected area, and list of flora & fauna should be duly authenticated by the Forest Department. The Certificate should bear the name, designation, official seal of the person signing the certificate and dispatch number	• The total project area is 479 Ha (including space for future expansion). The project does not involve any forest land. • NOC received from DFO, Bhagalpur vide Letter No. 461 dated 14.02.2026 for non involvement of forest land. • NOC received from DFO, Bhagalpur vide Letter No. 449 dated for No Protected Area within 10 Km study area in study area. • Authenticated list of flora & fauna in study area received from DFO, Bhagalpur vide Letter No. 402 dated 11.02.2026.

4. [D) Miscellaneous

ToR 4.14: Necessary coordination shall be made with concerned SPCB (who is responsible for Compliance of OM dated 14.01.2025) regarding streamlining the implementation of GSR 702 and GSR 703 dated 12.11.2024 through which projects requiring prior EC were exempted from requirement of CTE.

To comply the ToR condition, below comments from SPCB along its compliance is given below:

Sl. No.	Comments	Compliance
1	The industry should have a minimum distance of 500 meter from the boundary of the surface water body, settlements, educational institutes, worship place, archeological monuments, natural parks, reserve forests, heritage site.	The land has already been allotted by BSPGCL. Government of Bihar and boundary wall has already been constructed by the BSPGCL of entire 479 Ha land. The MoEFCC G.S.R 62(E) dated 23.01.2026 notification / direction shall be followed by APL. We will request BSPCB for updated comments regarding sitting criteria as per MoEFCC Notification dated 23.01.2026, before EAC meeting.
2	The unit should be directed to install appropriate air pollution devices (ESP) and Liquid Waste Management System (ETP), Silos for collection and storage of dry flyash in compliance with MoEFCC , Govt. of India Notification dt. 31.12.2021 on fly ash utilization and further as per the OM No. IA-J-11013/20/2025-IA-P of MoEFCC dated 25.11.2025 for further necessary action	• High efficiency ESP (99.9%) shall be installed. • For Liquid waste management STP 30 KLD and ETP 2160 KLD shall be installed. • Silo (04 nos) shall be provided for the collection of fly ash. • Fly ash utilization shall be done as per Notification dt. 31.12.2021 and its amendments.

STANDARD TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

1. Statutory Compliances

ToR 1.1: The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.	Contents of para 1.1 are duly noted. The project name is as under: "Proposed 2400 (3x800) MW Coal Based Ultra Super Critical Thermal Power Project at Sirmatpur & Adjacent Villages, Tehsil/Block Pirpainti, District Bhagalpur, Bihar."
ToR 1.2: Vision document specifying prospective long term plan of the project shall be formulated and submitted.	Vision document specifying prospective long-term plan is enclosed in final EIA-EMP report.
ToR 1.3: Latest compliance report duly certified by the Regional Office of MoEF&CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.	Contents of para 1.3 are not applicable as it is a proposed project. • CRZ clearance is not applicable as the project is located in Bhagalpur District of Bihar which is a land locked state.

2. Details of the Project and Site

ToR 2.1: The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.	The land for the proposed project has been identified & provided by Bihar State Power Generation Company Limited (BSPGCL) and no alternative site is envisaged by Bihar Government.
ToR 2.2: Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.	• The executive summary of the project is given at S. No. B as per index of the Final EIA-EMP report and also enclosed separately for the purpose of Public Hearing in English as well as vernacular language (Hindi). • Recent project site photographs are provided in Chapter I of the Final EIA-EMP report. Time bound Action Plan to address issues raised during the Public Hearing and written representations with budgetary allocation will be submitted with Final EIA Report. Details are given in slide 23-24

2. Details of the Project and Site

ToR 2.3: Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted..	A roof top solar PV plant of 1.0 MW is proposed within plant premises for harnessing solar power. Additionally, it is proposed to install solar streetlights in the plant premises.
ToR 2.4 The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them	The Google Earth Imagery depicting the project site (plant boundary) with geographical coordinates is given in Chapter II. The SOI Topomap of 10 km radius showing plant boundary & environmental settings is given in Chapter I & the IRS satellite map of the area is given in Chapter III of Final EIA-EMP Report. Average site elevation- 72 m. The nearest water body is Mar Ganga at 1.5 km towards NNE of project site and Singhia Seasonal Nadi is passing through west portion of project site. Certificate obtained from Executive Engineer, Flood Control Division, Bhagalpur vide letter no. 167/Bhagalpur dated 06.02.2026. The Certificate is enclosed in Slide No. 59.
ToR 2.5: Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.	Plant layout specifying the land use break up is given in Chapter II of Final EIA-EMP Report

2. Details of the Project and Site

ToR 2.6: Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.	The land is allotted by Bihar State Power Generation Company Limited (BSPGCL). Ash Dyke will be in 46 Hectare area which is 0.019 Ha./MW against the requirement of 0.1 Ha./MW as per MoEF&CC Notification S.O. 5481 (E) dated 31.12.2021.		
	The land utilization breakup is as under:		
	SN	Details	Area (Ha)
	1	Plant Area (Including BTG, Water Facility, AHP Facility, Switchyard & Misc Facility)	67
	2	Reservoir	75
	3	Coal Stock Yard (Including Rail Yard)	57
	4	Ash Dyke	46
	5	Township	5
	6	Green Belt	124
	7	Land for Future Expansion	105
	Total Area	479	
ToR 2.7: Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.	The total plot area for the proposed project is 479 Ha out of this: Private Land: 400 Ha and Government Land: 79 Ha which is in possession of company. The land is allotted to the proponent by Bihar State Power Generation Company Limited (BSPGCL).		
	Details of the proposed project is given in Chapter II of Final EIA-EMP Report.		

STANDARD TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

2. Details of the Project and Site

ToR 2.8: If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.	Contents of para 2.8 is not applicable since the project does not involve any forest land.
ToR 2.9: The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.	No R&R is involved as the land for the proposed project is already in the possession of company. The land is allotted by Bihar State Power Generation Company Limited (BSPGCL)
ToR 2.10: Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.	Satellite imagery of the project site and study area is given in Chapter III of Final EIA-EMP report and SOI toposheet of 10 km radius showing project site & environmental settings is given in Chapter I.
ToR 2.11: Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.	As per Survey of India project site falls under (OSM) No G45P7, G45P8, G45P11 & G45P12. SOI toposheet of 10 km radius showing project site & environmental settings is given in Chapter 1. The levelling & grading works will result in excavated earth which will be utilized for filling & grading within plant premises other than top soil, which will be stored & used for greenbelt & plantation.

3. Ecology Biodiversity and Environment

ToR 3.1: A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.	The project does not involve acquisition of any grazing land. Detailed description of land use pattern with land use classification of the study area & project site is given Chapter III of Final EIA-EMP report.
ToR 3.2: Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.	There is no notified National Park, Wildlife Sanctuary, Elephant/Tiger Reserve, Biosphere reserve within 10 km of the study area. As per SOI toposheet, google map and DSS, there are no protected area within 10 km radius of project site. NOC received from DFO, Bhagalpur vide letter no. 656 dated 02.03.2026 for no National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor within 10 km of project site. The Biodiversity Assessment Study and Wildlife Conservation Plan is prepared by Govt. reputed Institute (IISWBM, Kolkata University). The report indicate that there are no presence of National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor in the study area.
ToR 3.3: A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.	The project site is not located on potentially mineable mineral deposit. A geomorphological map of study area is given in Chapter III of Final EIA-EMP and summary of soil quality in study area is provided in Chapter III of Final EIA-EMP report.

3. Ecology Biodiversity and Environment

ToR 3.4: The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re- circulation of effluents.	• The Water requirement for the proposed project is optimized as 1,15,200 KLD (42 MCM/Year) sourced from Ganga River to plant site through dedicated pipeline of about 14.7 km in length. • NOC from WRD Bihar received vide letter no. पत्रांक- बाढ़ (मो0) सिं0वि0-10 / 2021-99 dated 08.01.2026 for utilizing 42 MCM / annum • The Plant is based on Zero Liquid Discharge (ZLD) concept. • With a focus on continuous operation, the project employs advanced thermal power station technologies, including Ultra-Supercritical Steam Parameters for enhanced efficiency and reduced environmental impact. Boilers designed for uniform heat distribution result in a 3-5% efficiency gain. The strategy also addresses environmental concerns, lowering PM, SO₂, and NO_x emissions. The proposed project is designed for Zero Liquid Discharge (ZLD) concept with Cycle of Concentration (COC) 5. Details of water requirement and utilization with water balance are given in Chapter II of the Final EIA-EMP report.
ToR 3.5: Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.	The seasonal nala/stream is passing through the project premises, as per WRD office, there is no such type of Nala in their record. However, we have requested to WRD office to provide NOC for re-routing of seasonal stream/nala. The approval for diversion of the nala is recommended by Superintending Engineer, WRD, Bhagalpur.

STANDARD TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

3. Ecology Biodiversity and Environment

ToR 3.6: It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.	Mar Ganga River is at a distance of about 1.5 Km. Certificate obtained from Executive Engineer, Flood Control Division, Bhagalpur vide letter no. 167/Bhagalpur dated 06.02.2026. The Certificate is enclosed in Slide No. 63.
ToR 3.7: Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted	Hydrogeological study along with mitigation measures and Action Plan for implementation is given in Chapter VII of Final EIA-EMP report.
ToR 3.8: Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.	• Ecological Impact assessment including fisheries is detailed in "Source Sustainability Study" for withdrawal of water from River Sone for proposed project and the same has been carried out by reputed Govt. Institute IISWBM, Kolkata. • The project is based on Zero Liquid Discharge (ZLD). Wastewater will be treated in ETP & STP and treated water will be recycled for In Plant Use and greenbelt development. • Suitable screens shall be provided at the intake point location. • The Marine impact assessment study is not applicable.
ToR 3.9: Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.	• The total water requirement for the proposed project is 1,15,200 KLD (42 MCM) i.e. <2.5 m³/MWh, which is well within stipulated norms. The water requirement will be met from Ganga River ▪ NOC from WRD Bihar received vide letter no. पत्रांक- बाढ़ (मो0) सिं0वि0-10 / 2021-99 dated 08.01.2026. • Source of water and its sustainability even in lean season is given in Chapter VII of Final EIA-EMP Report. • Hydrogeological study with impact study on ecology of the river due to proposed withdrawal of water is prepared and given in Chapter VII of Final EIA report.

STANDARD TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

3. Ecology Biodiversity and Environment

ToR 3.10: Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished. In addition, wherever ground water is drawn, PP shall submit detailed plan of Water charging activity to be undertaken.	No groundwater source will be tapped for the proposed thermal power plant. Detailed plan for rainwater harvesting is given in Chapter IV of Final EIA-EMP report.
ToR 3.11: Feasibility of near zero discharge concept shall be critically examined and its details submitted	The proposed project is based on ZLD. Details are given in Chapter II & IV of the Final EIA-EMP report.
ToR 3.12: Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.	The estimated total raw water requirement stands at 1,15,200 KLD (42 mcm), factoring in 1.0% for heat cycle makeup, approximately 1.7% for cooling towers with a COC of 5, and other consumptive needs such as potable water, process water, and service water. To minimize raw water consumption, blowdown water from the cooling tower will be repurposed in the Ash Handling System. Details are given in Chapter II of the Final EIA-EMP report.
ToR: 3.13: Plan for recirculation of ash pond water and its implementation shall be submitted.	Ash Water Recovery System (AWRS) will be provided for recirculation of ash pond water. Details are given in Chapter II of Final EIA-EMP report.
ToR 3.14: Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.	The plan for post EC water quality monitoring has been formulated and given in Chapter VI of Final EIA-EMP report.

3. Ecology Biodiversity and Environment

ToR 3.15: Hazards Characterization: Past incidents of hazard events within 10km radius of project area with detailed analysis of causes and probability of reoccurrence.	Contents of para 3.15 are duly noted. No major hazard has been reported in study area in the past year.
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4. Environmental Baseline Study and Mitigation Measures

ToR 4.1: One complete season (critical season) site specific meteorological and AAQ data (except monsoon season) as per latest MoEF&CC Notification shall be collected along with past three year's meteorological data for that particular season for wins speed analysis and the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall be as per NAAQS, 2009. The location of the monitoring stations should be so decided so as to take into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre- dominant downwind direction at a location where maximum ground level concentration is likely to occur.	• The Baseline data collection has been done during pre-monsoon season (March 2025 to May 2025). Environmental monitoring for primary data was carried out by NABL and MoEF&CC approved laboratory M/s Vibrant Techno Lab Pvt. Ltd., Jaipur. • The AAQ monitoring had been carried out at 12 stations including the project site. The parameters monitored include PM10, PM2.5, SO2, NO2, CO. The monitoring stations were finalized taking into consideration the upwind direction, pre-dominant downwind direction, other dominant directions, habitation and sensitive receptors. • The results of the monitored data are given in Chapter III of Final EIA-EMP report.
ToR 4.2: In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hrs).	Contents of para 4.2 are not Applicable, as this is not an expansion project.
ToR 4.3: A list of industries existing and proposed in the study area shall be furnished.	There are no major industries present within 10 km radius of study area.

4. Environmental Baseline Study and Mitigation Measures

ToR 4.4: Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modelling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socioeconomics.	For the purpose of present study, air quality modelling has been done using AERMOD dispersion model for different stability state Gaussian plume dispersion, designed for multiple point sources for short term and developed by United States Environmental Protection Agency [USEPA] has been used for simulations. The input data and isopleths depicting the GLC levels are provided in Chapter IV of the Final EIA-EMP report. The project does not involve any ground water abstraction and/or wastewater discharge, hence water quality modelling has not been carried out.
ToR 4.5: Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.	Details regarding proximate and ultimate analysis of coal are given in Chapter II of the Final EIA report. Radioactivity studies is conducted by "Department of Atomic Energy, Board of Radiation and Isotope Technology (BRIT)" Government of India. The same is given Slide No. 64.
ToR 4.6: Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.	• For the proposed project of 3x800MW, the annual fuel (coal) requirement is estimated at 9.67 million MTPA at 85% PLF with Design Coal GCV of GCV 3200-4300 Kcal /Kg . The Coal will be sourced from ECL/SECL/ MCL/ Nearby Commercial Coal Mines & e-auction.
ToR 4.7: Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted.	• The annual requirement of secondary fuel (LDO / HSD) for cold start up for load stabilization is estimated to be around 25,000 KL/Annum. • The auxiliary fuel for the envisioned Power Project, specifically LDO/HSD, is scheduled to be conveyed to the power plant using road in tankers and stored in vertical cylindrical steel tanks. The transfer of HSD/LDO to the boilers is intended to be facilitated directly from the storage tanks through unloading pumps. Each tank will be equipped with a radar-type level transmitter to provide indications in the Central Control Room. Details are given in Chapter II of Final EIA-EMP report.

4. Environmental Baseline Study and Mitigation Measures

ToR 4.8: Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.	The Coal will be sourced from ECL/SECL/ MCL/ Nearby Commercial Coal Mines & e-auction and will be transported by rail to the plant. The secondary fuel for the proposed power project, i.e., Light Diesel Oil (LDO), will be sourced from a local vendor near the project site and transported by road through tankers.
ToR 4.9: For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.	No Imported Coal is envisaged/proposed for the project. The Coal will be sourced from ECL/SECL/ MCL/ Nearby Commercial Coal Mines & e-auction
ToR 4.10: Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.	Facilities such as infrastructure, sanitation, fuel, restrooms, medical facilities, and safety measures, will be provided for the construction workforce and casual workers, including truck drivers, during both the construction and operation phases.

5. Environmental Management Plan

ToR 5.1: EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.	EMP to mitigate the impacts due to the project is given in Chapter IV and the estimated budget for implementation of Environmental Management Plan (EMP) is detailed in Chapter X of Final EIA-EMP Report. Budgetary breakup is as below: • Capital: 1908 Crore • Recurring: 19 Crore per annum
ToR 5.2: A disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be prepared. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Provision for mock drills shall be suitably incorporated to check the efficiency of the plans drawn.	A comprehensive Disaster Management Plan (DMP) has been developed, incorporating a thorough risk assessment study that specifically addresses potential fire and explosion risks associated with fuel storage and utilization. The plan meticulously accounts for the maximum inventory of storage on-site at any given time, with risk contours clearly illustrated on the plant layout map, outlining potential impacts on proposed activities in the event of an accident. Furthermore, the plan outlines proposed safeguard measures, including preventive measures against fire hazards. The integration of mock drills will be conducted to assess and enhance the effectiveness of the formulated emergency response plans. Details given in Chapter VII of the Final EIA-EMP report.
ToR 5.3: The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/ Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.	The Disaster Management Plan (DMP) comprehensively covers measures addressing potential incidents such as Fires, Earthquakes, among others, as applicable to the project site. The DMP encompasses both On-site and Off-site plans, providing detailed strategies for managing likely disasters.

STANDARD TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

5. Environmental Management Plan

ToR 5.4: Details of fly ash utilization plan as per the latest ash Utilization Notification of GOI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash along with monitoring mechanism.	Ash will be utilized for Cement Industries, Road Construction, manufacturing of Bricks, aggregate replacement in concrete, etc. as per Fly Ash Notification, 31.12.2021 and amendments. MoU has been signed with ACC Limited & Ambuja Cement Limited for 100% utilization of Fly Ash enclosed in Final EIA-EMP report.
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6. Greenbelt Development

ToR 6.1: Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary not less than 2000 tree per ha with survival rate of more than 85% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO ₂ and other gaseous pollutants and hence a stratified green belt should be developed.	• Greenbelt on plant periphery and plantation within plant premises is proposed in 124 Hectare. It is proposed to plant 3,10,000 nos. of native trees species • Brief of greenbelt development are as below: ✓ Total Plot area: 479 Ha (including future expansion of 105 Ha). ✓ Total Plantation Area: 124 Ha (33 % of 374 Ha, excluding future expansion area) ✓ Trees required (@2500 per Ha. ✓ Total tree will be provided: $2500 \times 124 = 3,10,000$ nos. The details of greenbelt development is given in Chapter IV of Final EIA-EMP report along with action plan for year-wise and location wise greenbelt development & plantation.
ToR 6.2: Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months.	Greenbelt plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. A time bound Action Plan along with financial allocation will be formulated and its status of implementation will be submitted to the Ministry every six months.

STANDARD TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

7. Socio-Economic Activities

ToR 7.1: Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.	Socio-economic study and need based assessment study of the study area comprising of 10 km from the plant site has been conducted by Gov. Reputed Institute (IISWBM, Kolkata). Details are given in the
ToR 7.2: Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.	Final EIA-EMP report. APL will prioritize locals for employment based on qualification & eligibility and the details for identification of employable youth and employment-oriented technical/vocational/training program will be included in the detailed action plan under Social EMP is included in Final EIA-EMP report based on recommendations/suggestions of stakeholders during public consultation.
ToR 7.3: If the area has tribal population, it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.	
ToR 7.4: A detailed CER plan along with activities wise break up of financial commitment shall be prepared in terms of the provisions OM No. 22-65/2017-IA.III dated 30.09.2020. CER component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified.	A budget of Rs. 42 crore (as per Ministry's OM dated 01.05.2018) is allocated for CER activities, and efforts is made to address concerns raised in the public consultation in the final EIA-EMP report ensuring responsible corporate practices. The budgetary allocation based on socio-economic survey of the study area given is given in Chapter VII of final EIA-EMP report incorporating recommendations/suggestions received from stakeholders in public consultation and recommendations/directions of the Hon'ble EAC during appraisal of environmental clearance.
ToR 7.5: While formulating CER schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CER details done in the past should be clearly spelt out in case of expansion projects.	The final budgetary allocation is submitted in Final EIA-EMP report. CER Activity aims at bettering the Environment around the operated area as well as socio economic and cultural status of local people. The key Highlight of some initiatives & activities is going to undertake in nearby villages are as follow: • Sustainable Livelihood options & Woman Empowerment • Educational Initiatives • Community Health Initiatives • Community Rural Infrastructure development • Sports & Culture Development • General Management & Administration

STANDARD TERMS OF REFERENCE FOR (THERMAL POWER PLANTS)

7. Socio-Economic Activities

ToR 7.6: R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependent on land falling in the project, as well as, population who were dependent on land not owned by them.	R&R is not applicable as the land has been allotted by Bihar State Power Generation Company Limited (BSPGCL), Govt. of Bihar.
ToR 7.7: Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.	Occupational health monitoring includes pre-employment checks, routine examinations, and training. The plant will focus on improving hygiene and sanitation, drinking water and conducting medical camps etc. Additional measures include enhancing waste management, building infrastructure, and educating the community to improve overall health and safety. Details given in Chapter VII of final EIA-EMP report.
ToR 7.8: Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conductive environment shall be carried out and precautionary measures like use of personal equipment etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.	Occupational health monitoring includes pre-employment checks, routine examinations, and training. The plant will focus on improving hygiene and sanitation, drinking water and conducting medical camps etc. Additional measures include enhancing waste management, building infrastructure, and educating the community to improve overall health and safety. Details given in Chapter VII of final EIA-EMP report. Awareness programme for workers and surrounding areas shall be undertaken under the CER activities.

8. Corporate Environment Policy

ToR 8.1: Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.	Yes.
ToR 8.2: Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.	The company has a well laid Environment Policy approved by Company's Chairman. Copy of the same is enclosed in Final EIA-EMP report.
ToR 8.3: What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.	APL has a well-defined hierarchical system in place. Details of Environmental Management Cell (EMC) is given in Chapter X of the Final EIA-EMP report.
ToR 8.4: Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.	The EMD is proposed to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions & for compliance management system. The EMD will be staffed with a proficient team encompassing environmental engineers, chemists, horticulturists, and well-trained personnel responsible for the operation and maintenance of pollution control equipment

9. Miscellaneous

ToR 9.1: All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.	Contents of para 9.1 are noted.
ToR 9.2: Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.	Contents of para 9.2 are noted. There are no court cases pertaining to Environment and Forest.
ToR 9.3: In case any dismantling of old plants are envisaged, the planned land use & land reclamation of dismantled area to be furnished.	Contents of para 9.3 are not applicable since this is a proposed project.



Growth
with
Goodness

We humbly request the Hon'ble EAC Committee Members to kindly grant
Environmental Clearance (EC).

Thank You



WRD Certificate

पत्रांक- बाढ़(मो0)सि0वि0-10/2021- 99

बिहार सरकार
जल संसाधन विभाग

प्रेषक

ब्रजेश मोहन,
अभियंता प्रमुख, मुख्यालय
जल संसाधन विभाग, पटना।

सेवा में,

S.K. Bhardwaj,
Adani Power Pvt. Ltd.,
Shanti Gram, Near-Vaishno Devi Circle,
SG Highway, Khodiyar, Ahmadabad, Pin-382421

अतिरिक्त प्रमुख /
उप-प्रमुख

पटना, दिनांक - 08-01-2026

विषय - Adani Power Limited को पीरपैती, भागलपुर में 2400 MW Ultra Supercritical Thermal Power Project के establishment निमित्त गंगा नदी से 47 क्यूसेक (42 MCM/annum) जल उपलब्ध कराने हेतु अनापत्ति/सहमति निर्गत करने के संबंध में।

प्रसंग - उर्जा विभाग का पत्रांक प्र0/BSPGCL-06/2024-5741 दिनांक 09.12.2025 एवं आपका पत्रांक APL/PIR/WRD/15122025 दिनांक 15.12.2025

महाराज,

उपर्युक्त प्रासंगिक पत्रों के सन्दर्भ में निदेशानुसार कहना है कि पूर्व में विभागीय पत्रांक 2200 दिनांक 24.04.2025 से निर्गत अनापत्ति प्रमाण-पत्र को निरस्त करते हुए Adani Power Limited को पीरपैती, भागलपुर में 2400 MW Ultra Supercritical Thermal Power Project के establishment निमित्त गंगा नदी से 47 क्यूसेक (42 MCM/annum) जल उपलब्ध कराने हेतु निम्न शर्तों के साथ अनापत्ति प्रमाण-पत्र निर्गत किया जाता है :-

- नैर-मानसून अवधि जनवरी से मई तक गंगा नदी से पानी लेने की अनुमति नहीं होगी। इस अवधि (जनवरी से मई) में जल की आवश्यकता को पूरी करने के लिए Adani Power Limited को अपने व्यय पर मानसून अवधि में पर्याप्त जल संचयन करने की उचित व्यवस्था करनी होगी जिस पर जल संसाधन विभाग का अनुमोदन प्राप्त करना अनिवार्य होगा।
- जलापूर्ति प्राप्त करने हेतु सभी आवश्यक व्यवस्था एवं इससे संबंधित संरचना का निर्माण, सम्पोषण एवं रख-रखाव आदि की व्यवस्था Adani Power Limited द्वारा किया जाएगा।
- निर्माण कार्य के दौरान सभी निर्धारित मानकों का पूर्णतः पालन किया जाएगा।
- उक्त निर्माण कार्य से विभागीय स्वामित्व प्रभावित नहीं होगा।
- उक्त निर्माण कार्य के कारण बाढ़ के पूर्व या बाढ़ के दौरान तटबंध/नदी किनारा को किसी प्रकार की क्षति होती है तो क्षतिग्रस्त तटबंध/नदी किनारा की मरम्मत Adani Power Limited द्वारा उनके व्यय पर क़रायी जाएगी एवं इसका अनुक्षण जल संसाधन विभाग के क्षेत्रीय पदाधिकारियों द्वारा किया जाएगा।
- क्रियान्वयन के क्रम में तथा भविष्य में किसी प्रकार की कठिनाई आने पर जल संसाधन विभाग के अभियंताओं द्वारा दिए गए अनुदेशों का पूर्णतः अनुपालन किया जाएगा।
- निर्माण कार्य से जलमार्ग प्रभावित न हो इसके लिए भारतीय जलमार्ग प्राधिकरण (IWA) से सहमति प्राप्त कर ली जाय।
- नदी में जल की उपलब्धता में कमी होने की स्थिति में पर्याप्त जलापूर्ति के लिए जल संसाधन विभाग जिम्मेदार नहीं होगा।
- जलापूर्ति प्राप्त करने हेतु सभी आवश्यक व्यवस्था एवं इससे सम्बन्धित संरचना का निर्माण, सम्पोषण एवं रख-रखाव आदि की व्यवस्था Adani Power Limited को अपने खर्च पर स्वयं करना होगा।
- राष्ट्रीय हरित ट्रिब्यूनल (NGT) एवं राज्य प्रदूषण नियंत्रण परिषद द्वारा निर्धारित मापदण्डों के अनुसार प्रदूषित जल को आवश्यक उपचार कर ही नदी में प्रवाहित करना होगा।

- नदी में औद्योगिक आवश्यकता हेतु जल की आपूर्ति के लिए बिहार सरकार द्वारा समय-समय पर निर्धारित जल कर/शुल्क अनुमान्य होगा।
- Adani Power Limited / सम्बन्धित संस्था (Company) के सक्षम प्राधिकार को प्रस्ताव की स्वीकृति के पश्चात् जल संसाधन विभाग से उपर्युक्त सभी शर्तों सहित अन्य आवश्यक शर्तों के साथ एकरारनामा करना होगा।
- उपर्युक्त शर्तों का अनुपालन नहीं करने पर निर्गत अनापत्ति प्रमाण-पत्र को रद्द कर दिया जायेगा।
- Adani Power Limited द्वारा जल उपयोग के क्रम में संरचना निर्माण करने की स्थिति उत्पन्न होने पर विभागीय परिपत्र PMC-5/विविध/9-28/2004-पार्ट-1-485 दिनांक-29.08.2024 के आलोक में जल संसाधन विभाग से संरचना निर्माण हेतु अनापत्ति प्रमाण पत्र प्राप्त करना होगा।

विश्वासभाजन

ह0/-
(ब्रजेश मोहन)
अभियंता प्रमुख, मुख्यालय

ज्ञापक : बाढ़(मो0)सि0वि0-10/2021 -

पटना, दिनांक:-

प्रतिलिपि :- सचिव, उर्जा विभाग, बिहार सरकार को सूचनार्थ एवं आवश्यक कार्रवाई हेतु समर्पित।

ह0/-
(ब्रजेश मोहन)
अभियंता प्रमुख, मुख्यालय

ज्ञापक : बाढ़(मो0)सि0वि0-10/2021 -

पटना, दिनांक:-

प्रतिलिपि :- मुख्य अभियंता, लोवर गंगा बेसिन संगठन, केन्द्रीय जल आयोग, अदालतगंज, पटना को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-
(ब्रजेश मोहन)
अभियंता प्रमुख, मुख्यालय

ज्ञापक : बाढ़(मो0)सि0वि0-10/2021 -

पटना, दिनांक:-

प्रतिलिपि :- मुख्य अभियंता, बाढ़ नियंत्रण एवं जल निस्सरण, कटिहार/ अधीक्षण अभियंता, योजना एवं मोनिटरिंग अंचल-4, पटना/ अधीक्षण अभियंता, बाढ़ नियंत्रण अंचल, भागलपुर/ कार्यपालक अभियंता, बाढ़ नियंत्रण प्रमंडल, भागलपुर को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

ह0/-
(ब्रजेश मोहन)
अभियंता प्रमुख, मुख्यालय

ज्ञापक : बाढ़(मो0)सि0वि0-10/2021 - 99

पटना, दिनांक:-

प्रतिलिपि :- कार्यपालक अभियंता, आई0टी0, जल संसाधन विभाग को विभागीय वेबसाइट पर अपलोड करने हेतु प्रेषित।

ह0/-
(ब्रजेश मोहन)
अभियंता प्रमुख, मुख्यालय



Preliminary Coal Analysis



भारत सरकार
परमाणु ऊर्जा विभाग
विकिरण एवं आइसोटोप प्रौद्योगिकी बोर्ड

Government of India
Department of Atomic Energy
Board of Radiation & Isotope Technology

प्रमाणपत्र ट्रैकिंग आईडी/Certificate Tracking ID : 2600558
जारी करने की तिथि/Date of Issue : 05-Feb-2026
प्रमाणपत्र क्रमांक/Certificate Sr.No.: ULR-TC1170326000000305F




TC-16423

Radioanalytical Laboratory
RADIOACTIVITY TEST CERTIFICATE

Ref : BRIT/RAL/DOM/1583-1586/MISC/1122-1125/25-26

To :
M/S. ADANI POWER LIMITED
VILLAGE SIRMATPUR, TEHSIL/BLOCK PIRPAINTI,
DISTRICT BHAGALPUR, BIHAR

This is regarding the sample of "COAL SAMPLE" sent for radioactivity analysis vide your letter ref. no. APL/PIRPAINTI/245 dt. 01.01.2026 which as per above letter is drawn from consignment with the following markings, as shown in italics:

NAME & ADDRESS OF THE CUSTOMER : *M/S. ADANI POWER LIMITED
VILLAGE SIRMATPUR, TEHSIL/BLOCK PIRPAINTI,
DISTRICT BHAGALPUR, BIHAR*

SAMPLE DESCRIPTION : *SAMPLE NAME : COAL SAMPLE*

DATE OF RECEIPT OF SAMPLE: 13.01.2026 **DATE OF COMPLETION OF TEST:** 03.02.2026

The sample were analysed for U-238, Th-232, Ra-226 and K-40 radioactivity content by HPGe gamma spectrometry and the values obtained are as follows:

Sr. No	SAMPLE DESCRIPTION	U-238 (Bq/Kg)	Th-232 (Bq/Kg)	Ra-226 (Bq/Kg)	K-40(Bq/Kg)
1	COAL SAMPLE	37.5 ± 2.6	66.6 ± 4.8	MDL 1.23	208.5 ± 15.7

TEST METHOD : IAEA Tech Doc-295-1989. Permissible Limit (As per AERB Directive 01/2010 Table : 3) U-238, Ra-226, Th-232 : 1000 Bq/Kg & K-40 : 10000 Bq/Kg

Opinion: The measurement values are below the clearance level for radionuclides of natural origin in bulk solid materials, as per AERB directive 01/2010 (table-3) dated 26/11/2010.

Note: (i) The report pertains to the given sample only. (ii) The sample will be retained in this laboratory for a period of 1 month from certificate date and thereafter it will be disposed off. (iii) This report shall not be reproduced except in full, without written approval of the laboratory. (iv) The sampling is not done by this laboratory.

Checked by:
GANPAT B NAKTI
Assistant

Authorized Signatory:
AJAY NANA THAMKE
OIC, RAL

***** End of Report *****

The authenticity of this certificate is verifiable. Please scan the QR code using a QR scanning application on any mobile devices. Upon redirection you must enter the necessary information in landing page <https://portal.britatom.gov.in>. We will then revert you back with a digital copy of the certificate in your verified e-mail ID. In accordance to IT Act 2000 (21 of 2000), this document is generated electronically through a validated s/w and need no physical/ digital signature(s).

1/1

विज्ञापन/ कीपजारी परिसर, सेक्टर २०, नवी मुंबई - ४०० ७०३ (महाराष्ट्र)
BRIT/ BARC Vashi Complex, Sector 20, Navi Mumbai - 400 703 (Maharashtra)
वेबसाइट/ Website: www.britatom.gov.in; फ़ोन/ 022 2788 7002/ 7006



Preliminary Coal Analysis		3x800 MW TPP	
Coal Specifications	Design	Best	Worst
TM	15	12	17
ASH	34.0	29.0	40.0
VM	22.86	24.04	19.0
FC	28.14	34.69	22.0
GCV	3700	4300	3200
Sulphur	0.45	0.40	0.50
FC/VM Ratio	1.23	1.45	1.16

Details of Auxiliary fuel

Auxiliary Fuel	LDO/ HSD
Quantity	25,000 KL per Annum
Quality	Low Sulphur
Storage	Above ground vertical cylindrical steel tanks (1500 KL X 2)
Consumption	@1 ml per unit (kWh): 25000 KL per annum considering 85% PLF



कार्यपालक अभियंता का कार्यालय

बाढ़ नियंत्रण प्रमंडल, भागलपुर।

पत्रांक:- 167 /भागलपुर

दिनांक- 06.02.2026

सेवा में,

Adani Power Plant

Pirpainti, Bhagalpur.

प्रसंग:- आपका पत्रांक:- APL/Pirpainti/EC/WRD/1306/2026, दिनांक- 03.02.2026

महाशय,

उपरोक्त विषयक प्रासंगिक पत्र के आलोक में सूचित करना है कि भागलपुर जिला अंतर्गत पीरपैंती प्रखंड में निर्माणाधीन Adani Power Plant प्रोजेक्ट कि गंगा नदी से दूरी लगभग 7.5 किलोमीटर है। प्रोजेक्ट स्थल के निकटतम नदी मरगंगा हैं, जो गंगा नदी की एक सहायक नदी है। मरगंगा से प्रोजेक्ट स्थल की दूरी लगभग 1.5 किलोमीटर है। मरगंगा नदी के लिए HFL का आकड़ा उपलब्ध नहीं है क्योंकि इस नदी पर इस प्रमंडल के अधीन कोई गेज स्थापित नहीं हैं।

सूचनार्थ समर्पित।

विश्वासभाजन

 06/02/26

कार्यपालक अभियंता

बाढ़ नियंत्रण प्रमंडल, भागलपुर।

आर्यु डी - 8113

SUMMARY OF ANALYSIS RESULTS OF GROUND WATER, SURFACE WATER AND SOIL SAMPLES

Ground Water:

- Ground water quality were monitored at 15 locations.

Parameters	:	Results
PH	:	7.05 to 7.45
Sulphate	:	12.78 mg/l – 30.72 mg/l
Total Hardness	:	(98 mg/l –188 mg/l)
Total Alkalinity	:	(35–84 mg/ l)

Soil:

- Soil quality were monitored at 13 locations.
- Soil is sandy in texture.

pH	7.35 to 8.37
EC	0.438 to 0.691 μ S/cm
Total Kjehdahl Nitrogen	296 to 378 mg/kg
Available Phosphorus	22.06 to 55.28 mg/kg
Potassium (as K)	128 to 297 mg/kg

Surface Water:

- Surface water quality were monitored at 06 locations.
- The surface water analysis indicates generally acceptable pH. However, BOD and COD values suggest the presence of organic pollutants. The presence of Total Coliform and Fecal Coliform underscores potential contamination.

Surface water Quality

pH	7.17 to 7.43
BOD	3.1 mg/l -4.9 mg/l
COD	10.6 mg/l – 24 mg/l
DO	5.1 mg/l – 6.9 mg/l

Traffic Survey

S. No.	Road name	Lane	Width	Capacity in PCU/Day (C) as per IRC 64: 1990
1.	NH – 33	Four Lane	20 m	15000

Existing traffic volume on NH 33

S. No	Type of Vehicle	Current Volume of Vehicles / day	PCU Factor	PCU/day (V)
1.	Two-Wheeler/Cycle	152	0.5	76
2.	Passenger Car, Pickup Van	385	1	385
3.	Three Wheelers	203	1	203
4.	2 axle & 3 axle, bulker, / trailer	370	4.5	1665
Total		1110		2329

CALCULATION OF CURRENT LOS

Road	Volume (in PCU/Day)	Capacity (in PCU/Day)	Existing V/C Ratio	LOS	Performance
NH 33	V: 2329	C: 15000	0.15	A	Excellent

Impact Assessment due to proposed Project

S. No	Material to be transported	Quantity (TPD)	No. of vehicles per day	No. of trips	Total vehicles/ day	PCU factor	PCU/day
1	Fly ash	9377	268	2	536	4.5	2412
2	Bottom ash	2344	67	2	134	4.5	603
Total			335		670		3015

Considering 80% of the ash is transported through railway, incremental load will be 134 vehicles/ day i.e. 603 PCU/day.

Modified LoS is calculated as under:

Road	Existing LOS	Increased V	C	V/C	Modified LOS
NH 33	A 'Excellent'	2329 + 603 = 2932	15,000	0.19	A 'Excellent'