





**NASIK TPP**

**BOILER# 1 & 2**



**NASIK TPP**

**BOILER# 3**



**NASIK TPP**

**ESP# 1**



**NASIK TPP**

**ESP# 2**



**NASIK TPP**

**ESP# 3**



**NASIK TPP**

**CHIMNEY# 1 & 2**



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**LP HEATERS# 1,2 & 3 IN TG BLDG# 2**



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**LP HEATERS# 1,2 & 3 IN TG BLDG#1**



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**UNIT#1 - HP, IP & LP TURBINE**



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**UNIT#2 - HP, IP & LP TURBINE**



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**CONTROL STATION 15.5 MTR FLOOR IN MCR# 1**



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**PANELS AT 11 MTR FLOOR AT MCR# 1**



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**PANELS AT 2.5 MTR FLOOR AT MCR#1**



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**MCR# 1**



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**RAW WATER RESERVOIR**



**NASIK TPP**

**ASH HANDLING AREA**



**NASIK TPP**

**BABCN # 2A**



**NASIK TPP**

**BCN# 1A/1B**



**NASIK TPP**

**STACKER CUM RECLAIMER#1**



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**RBFD 1A (CRUSHER HOUSE 15 MTR)**



**NASIK TPP**

**CRUSHER HOUSE**



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**JUNCTION TOWER# 1**



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**SLEEPER WORK FOR TRACK AT EKLAHARA  
RAILWAY SIDING**



**NASIK TPP**

**400 KV TRANSMISSION LINE**



**NASIK TPP**

**220 KV LILO GANTRY**



**NASIK TPP**

**400 KV GIS EQUIPEMNT**



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**DM PLANT AREA**



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**CHANNEL FROM CW PUMP HOUSE TO COOLING TOWER#2**



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**CHANNEL FROM CW PUMP HOUSE TO COOLING TOWER#1**



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**UNIT AUXILLARY TRANSFORMER#1A & B & IPBD DUCTS**



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**GENERATOR TRANSFORMER# 1**



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**STATION TRANSFORMER# 1**

**MAR  
2015**

**RNPL**

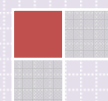
**RATTANINDIA NASIK POWER LIMITED**

5x270 MW (PHASE-I)

RNPL THERMAL POWER PROJECT

DIST. NASHIK, MAHARASHTRA

PROGRESS REPORT UP TO MARCH, 2015



## **PROJECT PROFILE:**

### **LAND:**

- Multi-product SEZ is being developed by Indiabulls Industrial Infrastructure Limited (IIIL); JV of MIDC and Indiabulls Real Estate Limited.
- 1070 Acres of land has been allotted by IIIL for this project and land is in possession of IRL.

### **WATER:**

- Water agreement signed with Irrigation Deptt for 100 MLD (PH-I) on 16.01.2012 for availing water from Eklahare Barrage on Godavari River.

### **ENVIRONMENT CLEARANCE:**

- Environment Clearance dt. 28.7.2010 received from MoEF for 5x270 MW configuration
- Consent to Establish dt. 29.06.2010 received from MPCB for 5x270 MW configuration
- Consent to Operate dt. 18.07.2013 received from MPCB for 2 units (Unit#1&2).

### **COAL LINKAGE:**

- Ministry of Coal, Government of India has approved the Coal Linkage for the projects vide Standing Linkage Committee – Long Term meeting held on November 12, 2008.
- The coal has been allotted from South Eastern Coalfields Limited (1.83 MTPA), Mahanadi Coalfields Ltd (1.83 MTPA) and Western Coalfields Limited (1.56 MTPA). LOA received from SECL, MCL and WCL on 7.9.2009, 11.6.2009 and 13.6.2009 respectively.
- FSA signed with MCL for 1.4648 MTPA on 23.08.2013 and with SECL for 2.716 MTPA on 03.09.2013 (FSA with SECL is inclusive of the coal quantity transferred from WCL to SECL).

### **SALE OF POWER:**

- Long term PPA for 650 MW signed with MSEDCL on 24.04. 2012. Another PPA for 300 MW has been finalized with BEST, Mumbai and is expected to be signed shortly.

### **CONSTRUCTION POWER:**

- Construction Power of 4.5 MVA at 33 KV is available from MSEDCL and back-up power of 1.5 MVA is available through DG sets.

### **CONSTRUCTION WATER:**

- Construction water of 500m<sup>3</sup>/day is available at site from Sinnar Taluka Industrial Cooperative Estate (STICE).

### **OWNER'S CONSULTANT:**

- Tata Consulting Engineers (TCE), Bangalore are the Owner's Consultants for Design Engineering, preparation of technical specifications for various packages, evaluation of bid documents and award recommendations, review of detailed engineering documents, interfacing with various disciplines to ensure complete wrap / integration.

### **RAILWAY SIDING:**

- Land acquisition notification has been released by Govt. of Maharashtra.
- Demarcation & Joint Measurement of land completed for all 10 villages.
- Payment is being made in tranches to MIDC and land is expected to be made available shortly.

## SITE PROGRESS:

### MAIN PLANT EQUIPMENT (BOILER-TURBINE-GENERATOR):

M/S BHEL (24.11.2009)

#### UNIT#1

ACTIVITY	DATE
Boiler erection commencement	03.11.2010
Boiler Drum Lifting	31.03.2011
Boiler Hydro Test	28.03.2012
Boiler Light-Up (BLU)	22.10.2012
Boiler Chemical cleaning (EDTA)	17.01.2013
Steam Blowing completion	21.04.2013
TG Condenser erection commencement	25.08.2011
TG Box up completion	28.01.2013
Oil flushing completion	15.04.2013
TG on Barring Gear	31.05.2013
Synchronization on Oil	05.02.2014
Synchronization on Coal	24.02.2014
<b>Commercial Operation Date (COD)</b>	<b>29.03.2014</b>

#### UNIT#2

#### BOILER:

ACTIVITY	DATE
Boiler erection commencement	08.12.2010
Boiler Drum Lifting	27.07.2011
Boiler Hydro Test	03.07.2012
Boiler Light Up	27.11.2013
Boiler Chemical cleaning (EDTA)	06.01.2014
Steam blowing completion	14.03.2014

Boiler and ESP erection work carried out. ESP air leak test conducted and ESP has been charged. System trial run conducted for APH-2A & 2B.

The progress of other major Boiler auxiliary equipments is as under:

- ID-2A/2B: Commissioned.
- FD-2A/2B: Commissioned.
- PA-2A/2B: Commissioned.
- Mill & Bunker Bay: All 6 nos. Mills & Feeders erected; oil flushing, no load trial, roller setting & clean air flow test completed and Mills are ready for operation.

### **TURBINE-GENERATOR (TG):**

Condenser: The activities for tube insertion, water fill test, flood test, water side hydro test, condenser floating & RE joints have been carried out.

ACTIVITY	DATE
TG & Condenser erection commencement	25.09.2011
TG Box-up	16.08.2013
TG Oil flushing completion	31.12.2013
TG on Barring Gear	10.03.2014

Generator: Generator Stator lifting, Rotor insertion & Excitation system work has been carried out.

The progress of other major TG auxiliary equipments is as under:

- BFP (3 nos): Commissioned.
- CEP (2 nos): Commissioned.
- Erection of LP heaters-1 to 3, Deaerator and HP heater-5 & 6 completed.
- Motor trial run completed for ACW pumps, DMCW pumps, Vacuum pumps & Hotwell make-up pumps.

### **UNIT#3**

#### **BOILER:**

ACTIVITY	DATE
Boiler erection commencement	12.01.2011
Boiler Drum Lifting	12.12.2011
Boiler Hydro Test	30.10.2013

Total Boiler erection: 5255 MT.

Final super heater coil erection completed, Air leak test of pressure parts has been done. 2900 MT ESP material erected; erection of Collecting Electrodes and Air leak test for ESP has been completed.

The foundation of ID, FD & PA (2 nos each) have been completed and Mill foundations are in hand.

### **TURBINE-GENERATOR (TG):**

TG deck foundation completed and handed over to BHEL on 22 Nov, 2011 and TG Condenser erection started w.e.f. 19 Jan, 2012.

Condenser: The welding of rear and bottom plate, erection of tube support plate, alignment of water chamber assembly and tube insertion has been completed.

Turbine: HP Module placement completed and balancing work is pending.

The status of other major TG auxiliary equipments is as under:

- Erection & alignment of LP heater#1, 2, 3, Deaerator and HP heater # 5 & 6 completed.
- Erection, alignment & bolt grouting completed for BFP Main Pump (3 nos), Motor, Booster pump and Hydraulic coupling.

#### **UNIT#4**

##### **BOILER:**

Boiler erection commenced on 16.05.2011.  
Boiler drum lifted on 23.12.2011.  
Erection of pressure parts started on 09.04.12.  
Total Boiler erection: 3495 MT

450 MT material erected in ESP. On TG side, TG Deck foundation completed and TG Condenser erection taken up with fitting & welding of Hotwell with bottom plate completed.

The foundation of PA-4A/4B & FD-4A&4B completed and Duct support foundation work is in progress. The work for ID-4A&4B is also in progress.

#### **UNIT#5**

##### **BOILER:**

Boiler erection commenced on 16.06.2011.  
Boiler Drum lifted on 06.03.2012.

Approx. 2590 MT Boiler material and 300 MT ESP material erected. Erection of column for Pass B also commenced.

#### **BTG CIVIL & STRUCTURAL WORKS:**

M/S SHAPOORJI PALLONJI (06.02.2010)

- i) Boiler & ESP Foundations: Work completed.
- ii) Mill & Bunker Bay: The work completed for Feeder floor (19 mtr), Tripper floor (47 mtr), Bunker floor (58 mtr), Mill foundations & Bunker structures in Unit # 1 & 2. Fabrication for bunker structures has been carried out in U-3 & 4 and is in progress in U-5. Erection taken in hand in U-3 & 4 and bunker column erection is in progress in U-3.
- iii) TG Deck: TG Deck for Unit # 1 to 4 has been completed. TG deck#5 casting completed.
- iv) TG Building & UCR: The RCC work for Floors/Slabs and structural works have been completed in Unit#1 to 3 and is in progress for Unit # 4 & 5. UCR#4 footings work completed and column erection (6/9 nos) work is in progress. TG-4 15.5 mtr floor slab casted and work taken in hand for slabs at 9 mtr & 21 mtr. UCR#5 excavation and PCC work completed. Foundations works are in progress for different auxiliaries in U-3 TG building.
- v) Main Control Building: Work completed.
- vi) ESP Control Building: Work completed in ESP Control Building for Unit-1/2. For Control Building of Unit-3/4/5, the foundations, cable trench raft and Slab casting has been completed.

- vii) Transformer Yard: The foundation works completed for GT-1/2, ST-1/2/3, UAT-1A/B & 2A/B and work is in hand for GTs / UATs of Units-3 to 5.
- viii) Compressor House: Work completed.

#### **BOP CIVIL & STRUCTURAL WORKS (GCW 1):**

M/S GANNON DUNKERLEY (15.07.2010)

- i) Coal Handling Area: RCC work completed for Wagon Tippler (WT)-3, Power pack room, Crusher House & CHP Switchgear cum Control room; work is in hand for WT-1 & 2 (2350/3000 cum) and Stacker cum Reclaimer-2. Structures fabricated for WT-1/2/3; erection has been taken in hand in WT-3.  
Structures also completed for Junction Tower (JNT)-1/2/3/5, Crusher house and Conveyer gallery (BCN) 1A/B, 2A/B, 4A, 5A/B, 6A/B; civil work for JNT-4, BCN-3A/B & BCN-4B is in progress.
- ii) Ash Handling Plant: Structural work completed in Bottom ash silo (BAS-2 nos), Intermediate Surge hopper (ISH-4 nos), Agitator retention tank (ART-3 nos), HCSD pump house, Ash compressor house, BA junction towers & belt conveyers (BAJNT & BABCN for Unit-1); structural work for extension of BAJNT/ BABCN for Unit-2 has also been carried out. For Terminal Fly ash silos (TFAS), civil works viz shell casting & roof slab completed for 1st silo; pipe rack support structure in progress. Shell casting completed for 2nd silo & 3rd silo and roof structure work done for 4<sup>th</sup> Silo; Pipe support structure of TFAS#5 erection completed. Fly Ash MCC bldg & Utility Building have been made ready and finishing works are in progress.
- iii) Water Treatment Plant: Work completed in Filter Water storage Tank (FWST) & Pump house (FWPH), Clarified water storage Tank, Condensate Storage Tank (CST)-1/2/3, DM water storage tank-1/2, DM Building, MCC Room, Actiflo dosing system, Sludge/Neutralization Pit, Chemical House, RO feed tank, Pressurized Sand Filter (PSF) and BAST/BCST.
- iv) CW Pump House: The civil works completed in CW Pump House & CW Forebay and work is in hand for CW Channel.
- v) Fuel oil handling area: Work completed.
- vi) Effluent Treatment Plant: The RCC works completed for Equalization Tank, BAST, BCST, Clarified feed Tank, ETP MCC room, Centrifuge building, ETP Pump's foundations, Grade slab. Chlorination bldg (886 cum) has been made ready and work is in progress in Central Monitoring Basin.

#### **BALANCE OF PLANT (BoP) PACKAGES:**

##### **CHIMNEY (2 nos of 275 mtr each):**

M/S GAMMON INDIA LTD. (17.05.2010)

Chimney#1 (Twin flue for Unit#1&2): Work completed for operation.  
Chimney#2 (Triple flue for Unit#3, 4&5): Windshield completed and Flue Cans fabrication / erection is in progress.

### **RIVER WATER INTAKE PUMP HOUSE (RWIPH):**

M/S ITD CEMENTATION & M/S JYOTI LTD

Eklehara pump house: Work completed for pump house (civil & structures), forebay, channels, guides for gates / screens and MCC room. On mechanical front, the erection carried out for all 3 nos pumps & motors. In electrical island, work has been carried out for LT board, 33 & 6.6 KV switchgear, 8MVA Transformers (2 nos 33/6.6 KV), 250 KVA DG set, Aux. transformer, 25 KVA Lighting Transformer, UPS, 220 KV Battery/charger and HT&LT cabling; DG set has been commissioned. Testing completed for LT board and 33 & 6.6 KV board and the boards are ready for charging. Transformers have been charged and River Water Pump House commissioned.

33 KV Transmission line (from Plant site to Eklehara PH): Pole erection (526 nos), Conductor stringing (30.85 km) completed and line has been charged.

### **CROSS COUNTRY PIPELINE:**

M/S DOSHION VEOLIA (25.10.2010)

The work for 29.47 km Cross-country GRP pipeline (1200 mm) from Eklahare Pump House upto Plant has been completed; 33 KV line charged; CCPL commissioning and stabilization is under progress.

Meanwhile, Raw water reservoir is also being filled through 10 MLD water Pipeline (17.15 km) from MIDC Jackwell at Malegaon.

### **RAW WATER RESERVOIR & INPLANT PUMP HOUSE:**

M/S METCON (15.03.2011)

Reservoir: Raw Water Reservoir is completed and is being filled through 10 MLD line.

Inplant pump house: The work completed for Raw water pump house (RWPH) & RWPH MCC Building; all 3 nos Raw water pumps commissioned. Erection completed for APH/ESP wash pumps (2 nos). On electrical front, the erection of 2.5 MVA transformers (2 nos) completed and the HT/LT panels have been successfully charged.

### **INDUCED DRAFT COOLING TOWERS (IDCT - 5 nos):**

M/S PAHARPUR LTD. ON 12.08.2010

The civil works for Cooling Towers has been completed in Unit # 1-5.

- CT#1: Operational. CT MCC-1 has been energized.
- CT#2: Erection of equipments completed.
- CT#3/4/5: Civil works of decks and cylinders have been completed.

### **CW PUMPS:**

M/S KIRLOSKAR BROTHERS LTD

5 nos CW Pumps & 11 nos Motors have been received at site.

- CW # 1A/B: Operational
- CW # 2A/B: Commissioned.
- CW # Common Stand-by: Erection of pumps/motors completed.

**CW PIPING:**

M/S TECHNOFAB ENGINEERING LTD (23.12.2010)

Approx 6348 mtr pipe line (2600 mm & 1800 mm size) out of 7649 mtr has been laid in Unit # 1 to 5 as per the details below:

UNIT	TOTAL QTY. (Mtr)	QTY. ERECTED (Mtr.)	Status
I	1659	1659	Completed
II	1690	1690	Completed
III	1760	1590	In progress
IV	1210	700	In progress
V	1330	824	In progress

**COAL HANDLING PLANT (CHP - 2 x 1600 TPH):**

M/S L&amp;T (11.06.2010)

All 3 nos Apron Feeders have been erected and Wagon Tippler-3 hopper casted. Crushers' # 1A, 2A, 1B & 2B along with Fluid coupling & motor erected and Crushers 1B & 2B have been made operational. Erection of compressors for coal handling system has been completed.

Structural work for Junction Tower (JNT)-1/2/3/5, Crusher house and Conveyer gallery (BCN) 1A/B, 2A/B, 4A, 5A/B, 6A/B has been completed. Mechanical & belting works (1 stream) completed for conveyors 1A/2AB/4A/5AB & 6A for U-1 & 2 operations. Belting for BCN-1B and erection work for JNT-4, BCN-3A/B & BCN-4B is in progress.

Extension of technological structures at Tripper floor with interconnection between U-1 & 2 has been carried out for both streams; 2 no Trippers have been assembled.

Stacker Reclaimer (SCR)-1 has been charged; SCR-2 assembly work, fixing of base plate, placement of rails & grouting has been completed; welding work is in progress. Installation of HT/LT panels, CHP MCC, UPS & VFD has been completed.

**ASH HANDLING SYSTEM:**

M/S BSBK ENGINEERS (08.04.2011)

BA hopper (BAH): Erected for Unit-1/2 and fabrication completed for Unit-3/4/5; erection of BAH for Unit-3 taken in hand.

BAJNT & BABCN: Work for BA junction tower & belt conveyors of Unit#1 completed. In Unit#2, the extension of BAJNT & BABCN upto common conveyor of Unit#1 and belt laying completed.

BA Silo: Structural erection for BAS-1&2 has been carried out; equipment erection work under BAS-1&2 completed. The further mechanical work (between BAS & ART) w.r.t. Ash Retention Tank (ART)-2&3 completed and is in progress for ART-1.

Fly ash system: Erection of PD pumps/Ash vessels completed for ESP of Unit-1&2 and fly ash pipes have been laid from ESP (Unit-1&2) to ISH. Piping work from ISH to Fly ash silo has also been taken in hand; approx 90% piping has been laid.

ISH & ART system: Erection of ISH (4/4 nos) completed; equipment erection viz Surge hopper, Screw conveyor & Ash mixer along with piping has been completed under ISH-2&3 and is nearing completion under ISH-1&4. 3 nos ART erected; installation of Motor/Gearbox/Agitator completed

for ART-1/2/3. The work for Ash handling pumps/compressors/blowers has been carried out. In Ash Pond area, the work for 2 nos compartments has been completed.

HCSO system: Work completed for HCSO pump house & pumps (3 nos); no load and water trial run for all 3 pumps conducted. 2 streams of ash slurry pipeline (2.5 km length each) have been laid upto Ash pond and hydro test conducted; HCSO system is ready for commissioning. Pipeline for 3<sup>rd</sup> stream is in progress (550 mtr laid).

#### **COAL TRANSPORTATION ARRANGEMENT:**

The coal for Nashik TPP is to be transported from the coal mines through Railway rakes up to Odha Railway Station near Nashik on Mumbai- Howrah section (CR) and thereafter to the Project site by 29 km long dedicated Railway Siding. The land for Railway Siding is being acquired by MIDC. Order for land acquisition has been done. Land acquisition is in progress. 240 Acres (55%) land has been acquired so far.

Further to ensure coal availability till the Railway siding is available, dedicated coal unloading facility has been developed alongside MAHAGENCO Railway tracks & adjacent to the unused siding of Eklehara Plant. The coal will be unloaded at the Unloading Platform from the Railway wagons for further transportation to the project site by fleet of trucks. The work of Unloading platform and connecting Rail track has been completed and approval of final connectivity with the running track is awaited from Railway.

In the meantime, to facilitate commissioning of initial units, the nearby Rahuri Railway Siding has been got notified for unloading of coal for further transportation to the Project site by trucks. The coal for commissioning of Nashik Unit-1 was transported from SECL by Railway rakes upto Rahuri and thereafter shifted to Project site by trucks. Similar unloading and road transportation arrangements are also proposed at Igatpuri, Kherwadi and Rahuri Railway sidings.

#### **220 /400 KV GIS (SWITCHYARD):**

M/S SIEMENS LTD. (28.01.2011)

**220 KV GIS:** Work for 220 kV GIS skids erection, Bays erection, Bus coupling, EHV cable termination, Gas filling of GIS, Testing of metering system and HV test carried out; 220 KV LILO charged on 26.02.13 for providing start-up power.

**400 KV GIS:** 400 KV GIS Bus (I&II) along with ST-1 have been charged on 6.12.2013 and 7.12.2013, respectively. GT-1 and UAT-1A/B along with associated bus duct has been charged with commissioning of U-1; GT-2 & UAT-2A/B are ready for charging.

#### **POWER TRANSFORMERS:**

M/S AREVA T&D INDIA LTD.

Erection of Generator Transformer (330 MVA GT)-1 & 2, Station Transformers (63 MVA ST)-1 to 3, Unit Auxiliary Transformer (20 MVA UAT) - 1A/B & 2A/B has been completed.

- GT-1 & UAT-1A/B (with IPBD for Unit-1): Charged.
- ST-1: Charged.
- 315 MVA ICT: Charged.
- GT-2: Testing completed & ready for charging; back charging done on 19.07.2014.
- UAT-2A/B: Testing completed & ready for charging.

- SPBD: Completed for U1A/1B, C1A/1B & U2A/2B; SPBD tie feeder between Station Board (C1A) & Unit Board (U1A) charged.
- IPBD: Erection of IPBD for GT-2 & UAT-2A/B has been completed.

#### **400 KV TRANSMISSION LINE (TL) & SUB-STATION BAYS:**

M/S JYOTI (18.02.2011)

All 152 nos towers erected & stringing of D/C Quad Moose conductor for entire 56.75 Km long Transmission line from Nashik TPP to Bhabhaleshwar sub-station has been completed; equipments for sub-station bays erected and the system has been commissioned. The Line-2 of 400 KV transmission system has been charged w.e.f. 25.12.2013 for start-up power & subsequent Unit synchronization / commissioning. Line – 1 is yet to be charged, Right of way issues.

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