

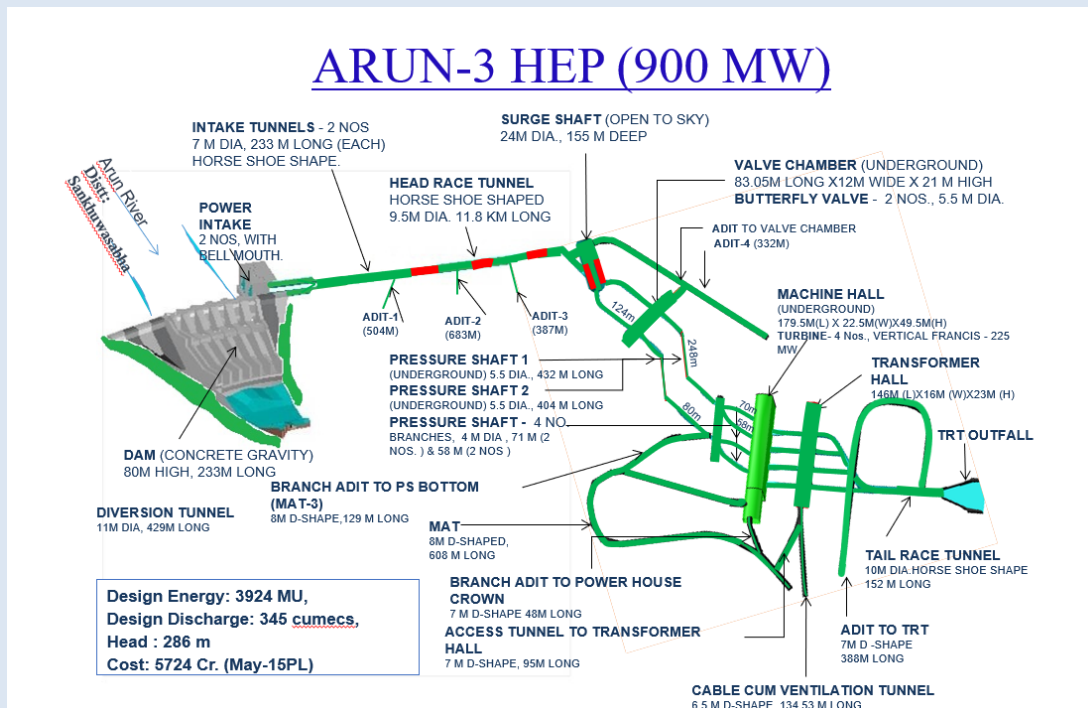
SJVN Arun-3 Power Development Company

(A company promoted by SJVN Limited,
joint venture of Govt. of India and Govt. of H.P)

Regd. No.: 111808/69/070



Monthly Progress Report Upto 28th February 2023



OUR SHARED VISION

[5000MW BY 2023, 25000MW BY 2030, 50000 MW BY 2040]

A. GENERATION COMPONENT

1. MAJOR CIVIL WORKS -PACKAGE-C1

- i) **Manpower** : 1516 Nos.
Covid 19 Positive cases: - 0 no.
- ii) **Machinery** : Major equipment such as 5 boomers, 9 RoC's, 5 shotcrete machine, 2 Batching plant (30 Cum/H), 1 Batching & Mixing Plant (240 cum./ hr.)1 Crusher plant of 300TPH, 1 of 50 TPH & 2 of 10 TPH, 12 DG Sets, 6 concrete pumps, 9 grout pump, 10 compressor, 17 excavator, 3 JCB Excavator, 46 dumpers, 8 dozers, 4-wheel loaders, 10 crane etc. available at site.
- iii) **Progress** :

Description	Total Qty.	Unit	Cumm. Progress up to January, 2023	Progress during February, 2023	Cumm. Progress up to February, 2023	Balance Qty.
Adit-1 HRT D/s Heading Exc.	2310	m	Activity completed on 12.01.2022.			
Adit-1 HRT D/s Benching Exc.	2310	m	1250	--	1250	1060
Adit-1 HRT D/s Kerb Concrete	2310	m	1203	--	1203	1107
Adit-1 HRT U/s Benching Exc.	790	m	Activity completed on 02.02.2022.			
Kerb Concrete- Left Side	790	m	744	--	744	46
Kerb Concrete – Right Side	790	m	744	--	744	46
Adit-1 HRT U/s Overt Lining.	790	m	762	--	762	28
Adit-1 HRT U/s Invert Lining.	790	m	680	--	680	110
Adit-1 HRT D/s Overt Lining.	2310	m	540	150	690	1620
Adit 2 U/s heading excavation from Adit 1 D/s side	650	m	523	78	601	49
Power Intake Tunnel-1 Overt lining	231	m	Activity completed on 12.11.2021.			
Power Intake Tunnel-2 Overt lining	231	m	Activity completed on 30.12.2021.			
Power Intake Tunnel-1 Invert lining	231	m	Activity completed on 01.04.2022.			
Power Intake Tunnel-2 Invert lining	231	m	Activity completed.			
Dam Body excavation (Right Bank, Left Bank)						
upto river bed level and dam pit upto Deepest Foundation level i.e., EL 769m	2542000	Cum	2497720	6050	2503770	38230

Dam Concreting						
Block no-2 concrete up to El 795.00	18546	Cum	10276.5	3646	13922.5	4624
Block no- 3 concrete up to El 795.00	49159	Cum	33487	5167	38654	10505
Block no- 4 concrete upto EL795.00	49159	Cum	29641	6837	36478	12681
Block no- 5 Dental concrete	49159	Cum	9537	7645	17182	31977
Block no- 6 Dental concrete		Cum	3576	--	3576	
Miscellaneous						
Plunge Pool, Power Intake structure, Approach Channel & Apron etc.	294000	Cum	152800	5500	158300	135700

Remarks:

- **Coffer Dam:** U/s Coffer Dam (Completed El 818.00m) on 17.05.2022.
- **Dam works:**
Dam Body excavation (RIGHT BANK, LEFT BANK): Excavation work between Ch d/s 60 to d/s 120 El 801.00 to 798.00 & El 812.00 to 809.00 is in progress. Cable Anchor work El 801.00 m is in progress. Filling of cracks below El 950.00 is in progress.
Dam Concreting: Concreting of block -2 is in progress from El 776.50m / 778.00. Block no- 3 concreting El 776.50 to 777.50 is completed. Block no -4 concrete El 775.50 to 776.50 is completed. Consolidation Grouting in Block -5 is in progress. Pocket filling around sump well & sump well concrete Block no-6 is in progress.
Miscellaneous: Plunge Pool, Power Intake structure, Approach Channel & Apron etc.: Excavation work El 812.00 to 809.00 is in progress. Cable Anchor work at El 818.00 is in progress.
Power intake tunnel 1: Consolidation grouting work is in progress.

2. MAJOR CIVIL WORKS -PACKAGE-C2

- i) **Manpower** : **2088 Nos.**
Covid-19 positive cases: - 0 no.
- ii) **Machinery** : Major equipment such as 9 boomers, 7 ROC's, 3 raise climber, 2 Gantry Crane 15T & 25T, 14 concrete pump, 9 shotcrete machine, 10678 kVA DG sets, 10 compressor, 22 excavator, 7 JCB excavator, 7 batching plant (30 cum./ hr.), 3 crusher plant (30-150 TPH), 14 grout pumps, 2 loader, 5 wheel loader, 70 dumpers etc. available at site.
- iii) **Progress** :

Description	Total Qty.	Unit	Cumm. Progress up to January, 2023	Progress during February, 2023	Cumm. Progress up to February, 2023	Balance Qty.
Adit-2 U/s HRT Heading exc.	1419	M	1364	55	1419	Nil
Adit-2 D/s HRT Heading exc.	1558	M	1198	--	1198	360
Adit-2 D/s Benching	1558	M	703	68	771	787

Adit-2 D/s Overt Lining	1558	M	608	60	668	890
Adit-3 U/s HRT Heading exc.	1558	M	1103.5	27	1130.5	427.5
Adit-3 U/s HRT Benching exc.	1558	M	265	24	289	1269
Adit-3 U/s HRT Overt Lining	1558	M	168	22.5	190.5	1367.5
Adit-3 D/s HRT Heading exc.	1757	M	1515	29	1544	213
Adit-3 D/s HRT Benching exc.	1757	M	220	30	250	1507
Adit-4 U/s HRT Heading	1757	M	1403	59	1462	295
Adit-4 U/s HRT Benching	1757	M	531	105	636	1121
Adit-4 U/s HRT Overt Lining	1757	M	408	--	408	1349
Kerb concrete Left Side	1757	M	318	--	318	1439
Kerb concrete Right Side	1757	M	360	--	360	1397
Vertical Pressure Shaft-1 – Pilot Exc.	250	M	Activity completed on 10.06.2022.			
Vertical Pressure Shaft-2 – Pilot Exc.	250	M	Activity completed on 15.06.2022.			
Vertical Pressure Shaft-1 – Widening	250	M	50	27	77	173
Vertical Pressure Shaft-2 – Widening	250	M	59	12.5	71.5	178.5
Bus Duct No-1	50	M	39	--	39	11
Escape Tunnel -2	102	M	Activity completed on 16.08.2022.			
Escape Tunnel -1	50	M	4	--	4	46
Machine Hall Benching	1,45,000	Cum.	Activity completed on 20.03.2022.			
Drainage/ Draft Tube Pit Quantity	13,100	Cum	Activity completed on 31.05.2022.			
1 st stage PH Unit 1 Concreting	1830	Cum	Activity completed on 13.01.2023.			
1 st stage PH Unit 2 Concreting	922	Cum	Activity completed on 29.12.2022			
1 st stage PH Unit 3 Concreting	1272	Cum	Activity completed on 27.01.2023.			
1 st stage PH Unit 4 Concreting	1681.5	Cum	949.5	732	1681.5	Nil
2 nd stage PH Unit 1 Concreting	850	Cum	0	351	351	499
2 nd stage PH Unit 2 Concreting	850	Cum	0	360	360	490
PH MIV Floor Raft	1882	Cum	602.5	229	831.5	1050.5
EOT Frame Work (Column Beams)	2596	Cum	70	157.5	227.5	2368.5
Service Bay	1614	Cum	Activity completed on 20.09.2022.			

Dewatering Sump	1453	Cum	1252	201	1453	Nil
Control Building	1858	Cum	851	136	987	871
TRT Heading	399	M	359	--	359	40
TRT Benching	399	M	228	53	281	118
GIS/CRP BUILDING – Switch Yard	1940	Cum	1323.2	510.5	1833.7	106.3
Transformer Hall concreting	3980	Cum	1625	163	1788	2192
Gate Shaft 1	34	M	21	13	34	Nil
Gate Shaft 2	34	M	13.5	9	22.5	11.5
Gate Shaft 3	34	M	Activity completed on 11.12.2022.			
Gate Shaft 4	34	M	Activity completed on 27.12.2022.			
Draft Tube-1	123	M	Activity completed on 30.01.2022.			
Draft Tube-2	107.754	M	Activity completed on 23.12.2021.			
Draft Tube-3	95	M	Activity completed on 04.04.2022.			
Draft Tube-4	92	M	Activity completed on 22.03.2022.			
Surge Shaft full face Excavation with support system (Depth 155m, EL 946 m)	85100	Cum	51100	890	51990	33110

Remarks:

- **Adit-2 D/s HRT:** Rib erection is in progress from Rd-1160.0m to 1162.0 m.
- **Surge full face Exc.:** work stopped due to EOT Crane breakdown. Exc. from EL 844.0m to 842.0 m is in progress. Mucking from top is in progress. Excavation depth completed = 102 m.
- **Butterfly Valve House:** Ladder to access EOT crane beam in BVC is completed & handed over on 29.06.22 to EM contractor for erection of rail line & further other activities.
- **1st stage concreting at Units (I/C Drainage Gallery):** Unit-1, Unit-2, unit-3 & Unit-4 1st stage concreting completed and DT Liner erection for Unit-1, Unit-2 & Unit-3 completed.
- **Units 2nd stage concreting (I/C Drainage Gallery):** Unit-1 Concreting is in progress. Unit-2 Shuttering work for the next lift is in progress.
- **Service Bay:** Service Bay crane beam handed over to EM Contractor on 20.09.22.
- **Control Building:** Column reinforcement placing & binding is in progress.
- **EOT Frame Work (Column Beams):** Column ties binding along with shuttering, column concreting is in progress.
- **GIS/CRP BUILDING – Switch Yard:** Ties Binding of column & beam of GIS building is in progress.
- **Transformer hall Concreting:** Column reinforcement placing & binding is in progress.
- **TRT Outfall Works:** TRT Outfall is under tendering process.

Cumulative HRT Heading Excavation (PKG C-1 & PKG C-2)

Description	Total Qty.	Unit	Cumm. Progress up to January, 2023	Progress during February, 2023	Cumm. Progress up to February, 2023	Balance Qty.
Heading Excavation						
Package C-1	3100	m	3100	--	3100	Nil
Face-3 Heading excavation from Face 2 side	650	m	523	78	601	49
Package C-2	8087	m	6638.5	170	6808.5	1278.5
Total Heading	11837	m	10261.5	248	10509.5	1327.5
Benching Excavation						
Package C-1	3100	m	2040	--	2040	1060
Face-3 Heading excavation from Face 2 side	650	m	0	--	0	650
Package C-2	8087	m	1719	227	1946	6141
Total Benching	11837	m	3759	227	3986	7851
HRT Overt Lining						
Package C-1	3100	m	1302	150	1452	1648
Face-3 Heading excavation from Face 2 side	650	m	0	--	0	650
Package C-2	8087	m	1184	82.5	1266.5	6820.5
Total Overt Lining	11837	m	2486	232.5	2718.5	9118.5
HRT Invert Lining						
Package C-1	3100	m	680	--	680	2420
Face-3 Heading excavation from Face 2 side	650	m	0	--	0	650
Package C-2	8087	m	0	--	0	8087
Total Invert Lining	11837	m	680	0	680	11157

3. HYDRO-MECHANICAL WORKS:

S.No.	Description of Work	Progress Till date
1	Design and Drawings Approved	Stoplogs for Spillway Flap Gate, Spill way Flap Gate, Bulkhead for Main Intake Gate, Main Intake Gate, Trash Rack Panel, Draft tube gate, Adit gate for HRT, Pressure Shaft Steel liner, TRT outfall Gate, Surge Shaft Gate. Sluice Radial Gate, Stoplog for Sluice Radial Gate, Thrust collar of PSSS. Mechanical Component for RDH of Draft tube Gate, RDH of Main Intake Gate, Gantry crane for Bulkhead for Main Intake Gate. Hydraulic Hoist Cylinder of Spillway Flap Gate and Sluice Radial Gate.
2	Design and Drawings under Approval	RDH of Surge Shaft Gate, Balanced drawings for Spillway Flap Gate, Stoplog for Sluice Radial Gate.
3	Fabrication	<u>Completed and item reached Ithari, Nepal (intermediate store):</u> 1. 1st stage Embedded parts: Draft tube Gate, Stoplog for Spillway Flap Gate, Intake Bulkhead gate, Main Intake Gate, Adit Gate & Trash rack panels, Surge Shaft gate, Spill way Flap Gate, Tail race Outfall gate.

		<p>2. 2nd stage Embedded Parts: Main Intake Gate & Stoplog for spillway flap gate, Bulkhead for Main Intake Gate, Draft tube gate, Surge Shaft Gate, TRT Gate, Spill way Flap Gate, Adit Gate,</p> <p>3. Gate Assembly: Trash Rack Panels-64 no's, Main Intake Gate, Bulkhead for Main Intake, Stoplog for spill way Flap Gate, Surge Shaft gate & Tail race Outfall gate, Spill way Flap Gate, Adit Gate, Draft Tube Gate,</p> <p>4. Steel Liner: Surge Shaft gate & Main Intake gate</p> <p>5. Air vent pipe for Draft tube Gate</p> <p>6. Instrumentation pipe for Draft Tube gate.</p> <p>7. Rope Drum Hoist: Main Intake Gate, Draft Tube Gates.</p> <p>Under Progress: Rope Drum Hoist assembly: Mechanical components for Bulkhead of Main Intake Gate and 1st stage embedded parts of stoplog for sluice radial gate.</p> <p>Sluice Radial Gate: Change order has been issued on 28/02/2022. Fabrication works of Sluice Radial Gate started and is under progress. (32 % fabrication completed) Inspection of some fabricated components of Sluice Radial Gates conducted in August,22, October, 22 and December, 22 & MDCC issued on 23.09.2022, 30.10.22 & 23.01.23 respectively and fabricated components reached at Itahari, Nepal. Order for Hydraulic Cylinder and power pack etc. also placed to M/s Van Halteren Technologies, material procurement under progress. Order for material for balance gates placed on 14.01.2023. Fabrication of 3rd Gate is in progress.</p>
4	Pressure Shaft Steel Liner	<p>Rolling completed by M/s OM INFRA LIMITED at M/s Utkal Engineers Pvt Ltd, Rourkela for 400 MT (ASTM A 537 Cl-II & ASTM A 517-Gr-F), ferrule segments transported and reached Itahari, Nepal</p> <p>WPS/PQR approved for ASTM A 537 Cl.-II & ASTM A 517 Gr.-F material.</p> <p>Welding works under progress at Itahari workshop. Ultrasonic testing has been done for fabricated ferrule (ASTM A 537 Cl-II). Hydro static testing under progress for fabricated ferrules.</p> <p>Erection of EOT Crane in VPS-1 completed. Rail line in PS 1&2 (Horizontal portion) has been laid for erection of ferrules.</p> <p>Transportation of Dummy ferrule is being planned shortly.</p> <p>NIT for PSSL Works published on 10.02.2023. Technical bid opening scheduled on 03.03.2023.</p> <p>Tender document for Outfall Gates of Arun-3 and Intake Gates of Lower Arun HEP published on 13.02.23. Opening of bids scheduled on 09.03.2023.</p>
5	Embedded parts for Trash Rack and Power Intake:	<p>Work of erection, alignment, and welding of embedded parts of trash rack and intake is in progress.</p>
6	Approval of Manufacturer/vendors	<p>Steel plates (MS & SS), Angle, Channels & Beams (Joist) & H-Beam, Electrodes, Casting, Fasteners, ASTM A 537 class 2 & ASTM A517 Gr. F Steel Plates, Aluminum Bronze Bush, Rubber seal, Rubber Item and Paints.</p>
7	Approval of Agency for Movement with Radiographic Exposure Device	<p>Letter sent to IBN for approval of Agency for movement with Radiographic exposure Device for Radiographic testing of Pressure Shaft Steel Liner</p>

4. ELECTRO-MECHANICAL WORKS:

1	Supply Status:	
	Material Received	Spiral casing for two (02) units and stay ring for two (02) units, EOT cranes PH and T Hall, Sole plates for BVH EOT, Complete stator material, 2nd stage pipe embedment, stator punching, Rotor material for two (02) units and rotor except spider assembly for one (01) unit.
	Under transit	HMCs, PP set for BFV, EHGC, 08 nos. submersible pumps along with accessories.
2	Erection Status:	
	Completed Works	DT unit #3, #2 & #1 handed over for concreting on 27.01.2023,29.12.2022 and 13.01.2023 respectively.
	Unit#1	Handed over to Civil group on 13.01.2023. Extension of downstream field efficiency pipes u/p.
	Unit#2	Handed over to Civil group on 29.12.2022
	Unit#3	Handover to Civil group on 27.01.2023.
	Unit#4	Unit handed over to EM on 19.2.23 Levelling and alignment of DT segments completed, cleared for welding and welding of segments u/p.
3	D&D	Nil
4	PH EOT	PH EOT Crane-2, Accessories installation on crab assembly is in progress PH EOT Crane-1, Girder No.-I, Assembly is in progress.
5	GIS Building	Front handed over to civil group for concreting on 23.01.23.
6	CRP Building	Raft concreting clearance and marking of trenches done up to El 556.50
7	Transformer Hall	Installation of oil drain pipe up to GT-3 area and oil sump pit completed. Oil Darin pipe laying from GT#3 to oil sump will be started after handing over of front by Civil grp.
8	Hindrance	Approval of T&P Master List from IBN.

5. PROGRESS RELATED TO BRIDGES, INFRA & OTHER MISC. WORKS

➤ **Status of bridges:**

- i. At Diding on Arun River: Vetted Drawing for construction purpose issued to M/s PEL. Fabrication yard for bridge sections has been constructed at site, all 665 MT bridge sections have been fabricated. Excavation of both abutment of right bank and left bank has been completed. Left abutment has been completed. Preparation for raft in Right abutment is under progress, now rope had been fixed & transportation of sections at right bank is in progress. further, due to heavy rainfall and water submergence at right abutment pit work suffered at site.

➤ **Infrastructure Development:**

- i. At Powerhouse site:
Type-A Accommodation (4 blocks, 24 sets):
All major work in all 04-block completed on 30.11.22 as whole work.

➤ **Construction power (33kV line):**

Line is commissioned for providing construction power at sites.

B. TRANSMISSION COMPONENT (400 kV TL)

1. Tower Packages TW01 & TW02

TW01(95.364 Km)		
a)	Detailed survey	95.36 Km done (completed)
b)	Check Survey	95.36 Km done (completed)
c)	Soil Investigation	45 locations (completed)
d)	Handed over to contractor	107 locations
e)	Tower Foundation work	Completed 57 locations. (3 locations during month)
f)	Tower Erection work	Completed 33 locations. (9 locations during month)
TW02(122.1 Km)		
a)	Detailed survey	118.6 Km done
b)	Check Survey	81 Km done
c)	Normal Soil Investigation	46 locations done
d)	Handed over to contractor	219 locations
e)	Tower Foundation work	Completed 211 locations (3 locations during month)
f)	Tower Erection work	Completed 188 locations. (4 locations during month).
g)	Tower Stringing work	Completed 21.223 Km (7.185 Km during month)

2) Transmission Line Packages

- i) Sub-station Package SS01 - Road work: 85%
Retaining wall & Boundary wall: 99%
Equipment foundation: 90%
Equipment structures: 85%
Equipment Installation: 80%
Equipment Commissioning: 2%
Panel room: 95%
- ii) Conductor Package CD01 & CD02 - 2255 Km out of 2255 Km conductor has been supplied by M/s Apar against CD01 Pkg & 207 Km out of 3006 Km conductor supplied by M/s Neecon against CD02 Pkg. However, Termination letter issued to M/s NECCON on 14.12.2022. Balance Conductor Package is under tendering process.

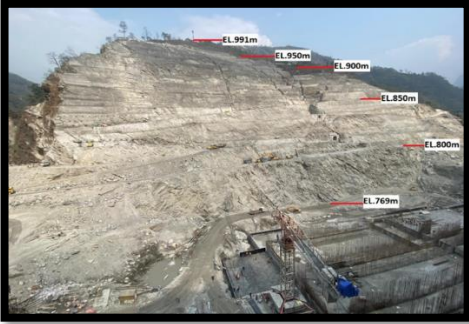
3) Land acquisition

- i) Pvt Land - CDC held for 107 towers out of 274 Towers (39.05%) in TW01 Pkg.
CDC held for 231 towers out of 323 Towers (71.51 %) in TW02 Pkg.
Verification of land parcel work by KEC in progress in both pkg.
- ii) IEE updation - Final Revised IEE report approved on 15.02. 2023.
- iii) Resettlement Action Plan (RAP) - RAP disclosure: Disclosure preparation is going on.

RoW Constrains: -

- a) Temkemayum in Bhojpur district.
 - b) Diprung in Khotang district.
- Meeting with concerns local and CDOs is being done regularly.

Image Gallery



Dam Body excavation



Dam Concreting



Dam Cable Anchors



Intake Structure



Right Bank Dam Stripping



Left Bank Dam Stripping



HRT Face-3 heading form face 2 side



HRT Face-4 Heading



HRT Face-4 Benching



HRT Face-4 Overt Lining



HRT Face-5 Heading



HRT Face-6 Heading



HRT Face-6 Benching



HRT Face-7 Heading



Face-7 Overt lining



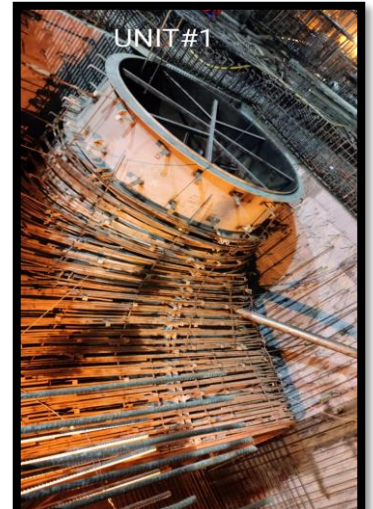
SS Exc. From Top



Vertical PS 1



Vertical PS - 2



Unit#1 DT Cone



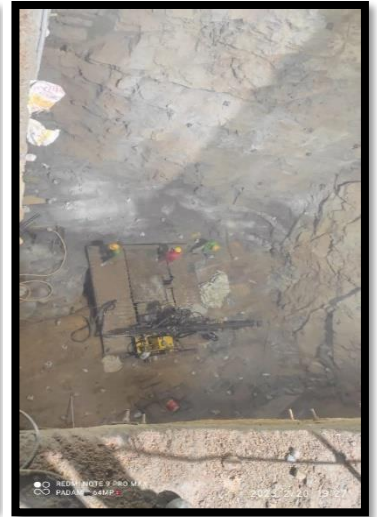
Unit#2 DT Cone



Unit#4 DT Cone welding in progress



Earth Mat Laying between unit#3 & unit#4



Gate Shaft 2



Unit#3 DT Cone



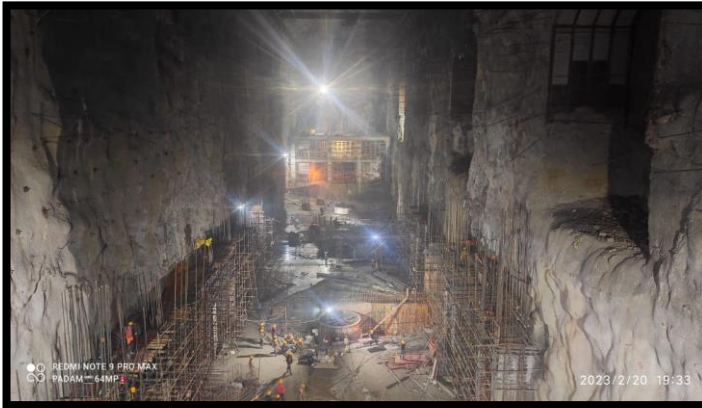
Control Building



Gate Shaft 1



Transformer Hall Raft concrete work in progress



Powerhouse Machine Hall



Crab assembly lifted



TRT Benching



Drainage Gallery



GIS Raft A Portion



HM works Installation of Trash Rack Liner -Intake 1



HM works Installation of Trash Rack Liner -Intake 2



HM work Site clearance and cleaning at MIG and BMIG of Intake -1



HM Work Site clearance and cleaning at MIG and BMIG of Intake -2



Tower Foundation Work



Tower Erection Work



Tower Stringing Work



Substation work at Dhalkebar



Substation work at Dhalkebar



Substation work at Dhalkebar



Substation work at Dhalkebar