

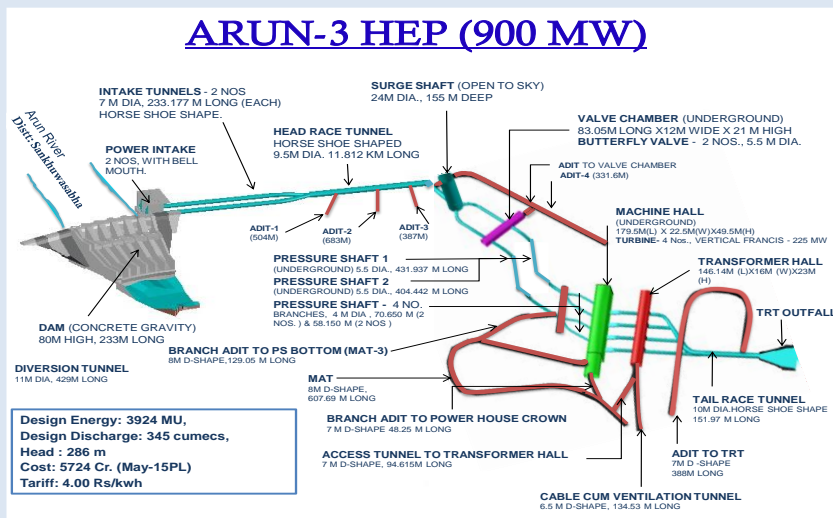
SJVN Arun-3 Power Development Company

(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 31st December 2022



OUR SHARED VISION

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

A. GENERATION COMPONENT

1. MAJOR CIVIL WORKS -PACKAGE-C1

- i) **Manpower** : 1543 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, 16 excavator, 3 JCB Excavator, 46 dumpers, 8 dozers, 4-wheel loaders, 9 crane etc. available at site.
- iii) **Progress** :

Description	Total Qty.	Unit	Cumm. Progress up to November, 2022	Progress during December, 2022	Cumm. Progress up to December, 2022	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	255	150	405	1905
Adit 2 U/s heading excavation from Adit 1 D/s side	650	m	376	69	445	205
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	2483670	6400	2490070	51930

Dam Concreting						
Block no-2 concrete up to El 795.00	18546	Cum	5380.5	1611	6991.5	11555
Block no- 3 concrete up to El 795.00	49159	Cum	14503	6772	21275	27884
Block no- 4 concrete upto EL795.00	49159	Cum	8718	10154	18872	30287
Block no- 5 Dental concrete	49159	Cum	4837	2566	7393	41766
Block no- 6 Dental concrete		Cum	3186	390	3576	
Miscellaneous						
Plunge Pool, Power Intake structure, Approach Channel & Apron etc.	294000	Cum	144100	3100	147200	146800

Remarks:

- **Coffer Dam:** U/s Coffer Dam (Completed El 818.00m) on 17.05.2022.
- **Dam works:**
Dam Body excavation (RIGHT BANK, LEFT BANK): Cable anchor work El 836 d/s 100 to d/s 150 is in progress. Cable Anchor work at El 810.00 is in progress. Excavation work bet El 812.00 to 809. Ch d/s 10 to d/s 75 is Completed. Excavation for drainage & grouting Gallery (R2) at El 812.00 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. Block no. 5 concrete is El 770.00 to 771.00 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 between El 825 to 820 is in progress.
Power intake tunnel 1: Consolidation grouting work is in progress.

2. MAJOR CIVIL WORKS -PACKAGE-C2

- i) **Manpower** : **1684 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 November, 2022	Progress during December, 2022	Cumm. Progress up to December, 2022	Balance Qty.
Adit-2 U/s HRT Heading exc.	1406	M	1270.5	56.5	1327	79
Adit-2 D/s HRT Heading exc.	1558	M	1198	--	1198	360
Adit-2 D/s Benching	1558	M	610	15	625	933

Adit-2 D/s Overt Lining	1558	M	464	72	536	1022
Adit-3 U/s HRT Heading exc.	1558	M	1012	45	1057	501
Adit-3 U/s HRT Benching exc.	1558	M	265	--	265	1293
Adit-3 U/s HRT Overt Lining	1558	M	31.5	73.5	105	1453
Adit-3 D/s HRT Heading exc.	1757	M	1434	31	1465	292
Adit-3 D/s HRT Benching exc.	1757	M	190	3	193	1564
Adit-4 U/s HRT Heading	1757	M	1295	46	1341	416
Adit-4 U/s HRT Benching	1757	M	486	--	486	1271
Adit-4 U/s HRT Overt Lining	1757	M	317	47	364	1393
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	26	12	38	212
Vertical Pressure Shaft-2 – Widening	250	M	42	14	56	194
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.			
PH Unit 1 Concreting	1830	Cum	1528	302	1830	Nil
PH Unit 2 Concreting	922	Cum	922	--	922	Nil
PH Unit 3 Concreting	1272	Cum	1272	--	1272	Nil
PH Unit 4 Concreting	540	Cum	380	160	540	Nil
Service Bay	1614	Cum	1614	--	1614	Nil
Control Building	1858	Cum	655	114	769	1089
TRT	399	M	324	35	359	40
GIS/CRP BUILDING – Switch Yard	961	Cum	101	550.5	651.5	309.5
Transformer Hall concreting	3980	Cum	0	771	771	3209
Gate Shaft 1	34	M	8	3	11	23

Gate Shaft 2	34	M	10.5	8	18.5	15.5
Gate Shaft 3	34	M	29	5	34	Nil
Gate Shaft 4	34	M	28.5	5.5	34	Nil
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	46050	2650	48700	36400

Remarks:

- **Adit-2 D/s HRT:** Ribs were erected from Rd 1100 to 1137 to tackle loose encounter (1104 to 1160), Further reinforcement in progress. Backfill concrete at 1157 is in progress.
- **Surge full face Exc.:** Mucking, shuttering for backfill & Rib erection is in progress. Exc. from EL 852.0 to 850.0 in progress. Pilot hole through. Now mucking from bottom in progress. Excavation depth completed = 96.5m
- **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: Stair block side wall concreting in progress. Ist stage concreting upto EL 519.5 has completed & handed over to EM Contractor for erection of DT liner on 24/11/22.. Unit pit -2 handed over to E&M for erection of DT liner on 07.06.22., Unit -3 Ist stage concreting upto EL 519.5 has completed & handed over to EM Contractor for erection of DT liner on 24/11/22. Unit -4 Pit side wall reinforcement placing & binding 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.

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

Description	Total Qty.	Unit	Cumm. Progress up to November, 2022	Progress during December, 2022	Cumm. Progress up to December, 2022	Balance Qty.
Heading Excavation						
Package C-1	3100	m	3100	--	3100	Nil
Face-3 Heading excavation from Face 2 side	650	m	376	69	455	205
Package C-2	8087	m	6264.5	178.5	6443	1644
Total Heading	11837	m	9740.5	247.5	9988	1849
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	1551	18	1569	6518
Total Benching	11837	m	3591	18	3609	8228
HRT Overt Lining						
Package C-1	3100	m	1017	150	1167	1933
Face-3 Heading excavation from Face 2 side	650	m	0	--	0	650
Package C-2	8087	m	812.5	192.5	1005	7082
Total Overt Lining	11837	m	1829.5	342.5	2172	9665
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 PSSL. 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	<p><u>Completed and item reached Ithari, Nepal (intermediate store):</u></p> <p>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> <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</p> <p><u>Under Progress:</u></p> <p>Rope Drum Hoist assembly: Mechanical components for Bulkhead of Main Intake Gate & Draft Tube Gate. Inspection for RDH of DT Gates conducted w.e.f 13th to 15th Dec, 22 and MDCC request received on 23.12.22.</p> <p>Sluice Radial Gate: Change order has been issued on 28/02/2022. Fabrication works of Sluice Radial Gate started and</p>

		is under progress. (28 % fabrication completed) Inspection of some fabricated components of Sluice Radial Gates conducted in August,22 and October, 22 & MDCC issued on 23.09.2022 and 30.10.22 respectively and some fabricated components reached at Itahari, Nepal and balance are under transportation. Further, inspection conducted w.e.f 13th to 15th Dec, 22 at Kota. Order for Hydraulic Cylinder and power pack etc. also placed to M/s Van Halteren Technologies, fabrication under progress.
4	Pressure Shaft Steel Liner	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 WPS/PQR approved for ASTM A 537 Cl.-II & ASTM A 517 Gr.-F material. 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. Erection of EOT Crane in VPS-1 completed. Rail line in PS 1&2 (Horizontal portion) has been laid for erection of ferrules. Transportation of Dummy ferrule is being planned shortly.
5	Embedded parts for Trash Rack and Power Intake:	Work of erection, alignment, and welding of embedded parts of trash rack and intake is in progress.
6	Approval of Manufacturer/vendors	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.
7	Approval of Agency for Movement with Radiographic Exposure Device	Letter sent to IBN for approval of Agency for movement with Radiographic exposure Device for Radiographic testing of Pressure Shaft Steel Liner.

4. ELECTRO-MECHANICAL WORKS:

Material received:

A. Units

- Unit#1:
Draft Tube: - Complete DT material upto MIV floor (EL 520.5)
Generator: - Complete stator material
- Unit#2:
Draft Tube: - Complete Material up to Turbine floor (EL529m)
Generator: - Complete stator material.
- Unit#3: Draft Tube: - Complete DT material upto MIV floor.
- Unit#4: Draft Tube: - Complete DT material upto MIV floor.

B. Common Items:

- a) EOT crane of PH and T-hall received in full.
- b) Sole plates for BFV EOT received.

C. Expected Dispatches:

- Spiral Casing and stay ring: - For 2nd Unit is in Jan, 23. For 3rd and 4th unit delivery expected in Mar., 23.
- MIV: - Expected dispatch in Mar., 23.
- GT: - 1st GT manufacturing completed, Type test is in progress and scheduled to be dispatched in Feb'23.

- GIS: - Order placed on 10.09.2021. Type Testing has been started and delivery is expected to start from Mar., 23.

D. Main erection agency

- M/s BHEL deputed M/s Fitwell as erection agency and 17 no. persons of M/s Fitwell has reported at site.
- DT#2 - Levelling, Alignment of all DT Liner Segments completed.
- DT#1 - Welding of DT Liner Segments completed and 1st Stage Pipe & other embedment with DT Liner is in progress.
- DT#3 - Lowering & levelling of DT Liner Segments in Pit is in progress.

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.

➤ **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(95.36 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 46 locations. (7 locations during month)
f)	Tower Erection work	Completed 17 locations. (3 locations during month)
TW02(124 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	210 locations
e)	Tower Foundation work	Completed 203 locations (5 locations during month)
f)	Tower Erection work	Completed 180 locations. (6 locations during month).
g)	Tower Stringing work	Completed 7.657 Km (4.28 Km during month)

2) Transmission Line Packages

- i) Sub-station Package SS01 - Road work: 75%
Retaining wall & Boundary wall: 99%
Equipment foundation: 90%
Equipment structures: 75%
Equipment Installation: 60%
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. Bid Document preparation for fresh case of balance Conductor Package is under progress by M/s PGCIL.

3) Land acquisition

- i) Pvt Land - CDC held for 107 towers out of 274 Towers (39.05%) in TW01 Pkg.
CDC held for 221 towers out of 323 Towers (68.42 %) in TW02 Pkg.
Verification of land parcel work by KEC in progress in both pkg.
- ii) IEE updation - IEE data report submitted to IBN 22.07.2022. Further, presentation was also made by SAPDC before review panel committee of GoN instrumentalities on 18.10.2022 and comments has been received from GoN on dated 23.10.2022. Observations of GoN are being addressed.
- iii) Resettlement Action Plan (RAP) - RAP disclosure: Disclosure preparation is going on.

RoW Constrains: -

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

Image Gallery



Dam Site overview



Dam Pit concreting



Intake Structure



Right Bank Dam Stripping



Left Bank Dam Stripping



HRT Face 2 Overt Lining



HRT Face-3 heading form face 2 side



HRT Face-3 Heading



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



Service Bay



PH machine hall Reinforcement work in progress



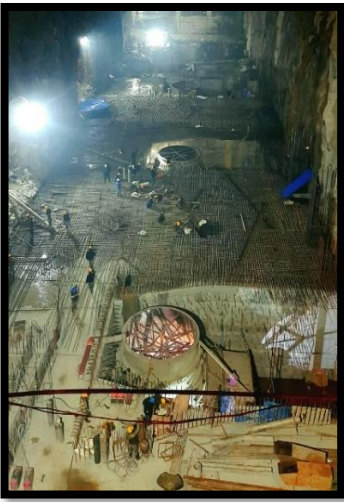
Control Building



Gate Shaft 3 Breakthrough



Gate Shaft 4 Breakthrough



Powerhouse Machine Hall



Transformer Hall Raft concrete work in progress



TRT Benching



GIS Building 400 KV cable trench Raft concrete



Radial Gate Inspection at Kota



HM works at workshop



HM works at workshop



HM works at workshop



Tower Erection Work



Tower Erection Work



Tower Erection Work



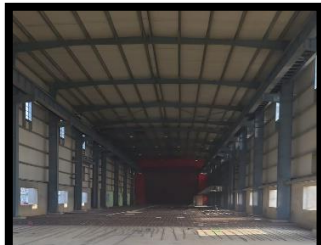
Tower Stringing Work



Substation work at Dhalkebar



Substation work at Dhalkebar



Substation work at Dhalkebar



Substation work at Dhalkebar