

15 MLD STP AT UNNAO
CHECKLIST OF BALANCE WORKS

Date of Issue: 01-12-2022

Issued by: STC, Kanpur

| S. No. | Unit /Location | Items / Description of Work | Supply | Installation / Construction | Commissioning / Testing / Inspection | Remarks / Balance Works |
|------------|--|---|-----------|-----------------------------|--------------------------------------|--------------------------------|
| D | 15 MLD STP | | | | | |
| D.1 | Receiving Chamber | | | | | |
| 1 | | Automatic systems for all gates | Completed | Completed | Pending | Cable termination work pending |
| 2 | | Sediment/Silt removal work | NA | Not Started | Pending | |
| D.2 | Mechanical & Manual Coarse screen chamber | | | | | |
| 1 | | Mechanical coarse screen, 1 No. | Completed | Completed | Pending | |
| 2 | | Manual coarse screen,1 No. | Completed | Completed | Pending | |
| 3 | | Conveyor belt & chute Arrangement, 1 No. | Completed | Pending | Pending | |
| 4 | | Wheeled trolley, 1 No. | Pending | Pending | NA | |
| 5 | | Sluice gate, 6 Nos | Completed | Completed | Pending | |
| 6 | | Cable | Completed | Completed | Pending | |
| 7 | | Cable tray | Completed | Completed | Completed | |
| 8 | | Ultra Differential level transmitter -1 Lot | Completed | Pending | Pending | |
| 9 | | Automatic systems for all equipment | Completed | Pending | Pending | Cable termination work pending |
| D.3 | Raw Sewage sump & Main Pump station (MPS) | | | | | |
| 1 | | Raw Sewage pumps, 4 Nos. | Completed | Completed | Pending | |
| 2 | | Sluice gate, 1 Nos. | Completed | Pending | Pending | |
| 3 | | Non return valve (NRV), 4 Nos. | Completed | Completed | Pending | |
| 4 | | Knife gate valves, 4 Nos | Completed | Completed | Pending | |
| 5 | | Isolation valve, 750mm, 2 Nos. | Completed | Completed | Pending | |
| 6 | | Pipe reducers,400X 250, 4 Nos. | Pending | Pending | Pending | |
| 7 | | Blind flange(DI) ,750 mm , 1 Nos. | Pending | Pending | Pending | |
| 8 | | EOT hoist, 1 No. | Completed | Pending | Pending | |
| 9 | | Monorail beam, 1 No. | Completed | Completed | Pending | |
| 10 | | Pressure indicator ,4 Nos | Pending | Pending | Pending | |
| 11 | | Valves for pressure indicator ,8 Nos | Pending | Pending | Pending | |
| 12 | | Ultrasonic level sensor-1 Nos. | Completed | Pending | Pending | |

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| 13 | Inlet flow meter -1 Nos. | Completed | Pending | Pending | |
| 14 | Inlet flow meter Chamber | NA | Pending | Pending | |
| 15 | Water quality Anylzer -1nos. | Completed | Pending | Pending | |
| 16 | LCS Panel-4Nos. | Completed | Completed | Pending | |
| D.4 Primary Treatment Unit (PTU) | | | | | |
| 1 | Mechanical fine screen, 2 Nos. | Completed | Pending | Pending | |
| 2 | Manual fine screen, 1 No. | Completed | Pending | Pending | |
| 3 | Sluice gate, 9 Nos | Completed | Completed | Pending | |
| 4 | Sluice Gate valves, 3 Nos. | Completed | Completed | Pending | |
| 5 | Conveyor belt & chute Arrangement, 1 No. | Completed | Pending | Pending | |
| 6 | Grit Mechanism, (2w+1S) Nos | Completed | Completed | Pending | |
| 7 | Organic Pumps , 2 Nos | Completed | Completed | Pending | |
| 8 | Screw Classifier , 2 Nos | Completed | Completed | Pending | |
| 9 | torque Switch-2Nos. | Pending | Pending | Pending | |
| 10 | Grit washer unit, 2 Nos | Pending | Pending | Pending | |
| 11 | Wheeled trolley, 2 Nos. | Pending | Pending | Pending | |
| 12 | Automatic systems for all gates | Completed | Completed | Pending | Cable termination work pending |
| 13 | Cable | Completed | Completed | Pending | |
| 14 | Cable tray | Completed | Completed | Pending | |
| 15 | Differentail level transmitter -1 lot . | Completed | Pending | Pending | |
| 16 | Automatic systems for all equipment | Completed | Pending | Pending | Cable termination work pending |
| 17 | LPBS-6 Nos. | Completed | Completed | Pending | Cable termination work pending |
| 18 | Open channel flow meter-1 Nos. | Completed | Pending | Pending | |
| D.5 Sequential Batch Reactor (SBR) | | | | | |
| 1 | Mechanical sluice Gate, 2 Nos | Completed | Completed | Pending | |
| 2 | Decanter , 2 Nos. | Completed | Completed | Pending | |
| 3 | Diffuser , 688 Nos. | Completed | Completed | Pending | |
| 4 | Return activated sludge pumps (RAS), (2w+1S)Nos | Completed | Completed | Pending | |
| 5 | Surplus activated sludge pumps (SAS), (2w+1S)Nos | Completed | Completed | Pending | |
| 6 | Selector Zone diffuser | Completed | Completed | Pending | |

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| 7 | Ball valves , 14 Nos | Completed | Completed | Pending | |
| 8 | Butterfly valves (BFV), 4 Nos | Completed | Completed | Pending | |
| 9 | Non return valve (NRV), 4 Nos. | Completed | Completed | Completed | |
| 10 | Manaul chain pully block ,2 Nos | Completed | Completed | Pending | |
| 11 | Solenoid (SOV), 2 Nos | Completed | Pending | Completed | |
| 12 | Automatic systems for all gates | Completed | Completed | Pending | |
| 13 | LPBS-2Nos. | Completed | Completed | Pending | Cable termination work pending |
| 14 | Hydrostatic level transmeter- 2Nos. | Completed | Work in Progress | Pending | |
| 15 | DO -16 Nos. | Pending | Pending | Pending | To be installed as per CA |
| 16 | LCS Panel-4Nos. | Completed | Completed | Pending | |
| D.6 Air Blower Unit (For SBR) | | | | | |
| 1 | Air Blowers,3 Nos | Completed | Completed | Pending | |
| 2 | Butterfly Valves, 3 Nos | Completed | Completed | Pending | |
| 3 | Non return Valves,3 Nos | Completed | Completed | Pending | |
| 4 | Ball Valves, 3 Nos | Completed | Completed | Pending | |
| 5 | EOT hoist, 1 No. | Completed | Completed | Pending | |
| 6 | Pressure indicator, 3 Nos | Completed | Pending | Pending | |
| 7 | Acoustic hood ,3 Nos | Completed | Completed | Pending | |
| 8 | LPBS-3 nos. | Completed | Completed | Pending | |
| 9 | Exhaust fan, ceiling fan, internal electrification, earthing, AC for panel room | Completed | Pending | Pending | |
| D.7 Sludge Thickener Unit | | | | | |
| 1 | Sludge Thickener , 1 No. | Completed | Completed | Pending | |
| 2 | Knife gate Valve (KGV), 2 Nos | Completed | Completed | Pending | |
| 3 | Butterfly Valve (BFV),1 No. | Completed | Completed | Pending | |
| 4 | Ball Valves, 1 No. | Pending | Pending | Pending | |

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| 5 | Torque switch , 1 Nos | Pending | Pending | Pending | |
| 6 | LPBS-1 Nos. | Completed | Completed | Pending | Cable termination work pending |
| 7 | Automation work of all equipments | Completed | Completed | Pending | |
| D.8 | Supernatant Sump | | | | |
| 1 | Supernatant pumps, 4 Nos | Completed | Completed | Pending | |
| 2 | Agitator, 1 Nos | Completed | Completed | Pending | |
| 3 | Non return Valves, 4Nos | Completed | Completed | Pending | |
| 4 | Butterfly Valves, 2 Nos | Completed | Completed | Pending | |
| 5 | Ultrasonic Level transmitter -1 Nos. | Completed | Pending | Pending | |
| 6 | LPBS-5 Nos. | Completed | Pending | Pending | |
| 7 | Automation work of all equipments | Completed | Pending | Pending | Cable termination work pending |
| D.9 | Sludge Sump | | | | |
| 1 | Sludge sump agitator , 1 No. | Completed | Pending | Pending | |
| 2 | Overflow line | Completed | Pending | Pending | |
| 3 | Level transmitter | Completed | Pending | Pending | |
| D.10 | Centrifuge Feed pump Unit | | | | |
| 1 | Centrifuge Feed pumps, 2 Nos | Completed | Pending | Pending | |
| 2 | Knife Gate Valve (KGV), 5 Nos | Completed | Completed | Pending | |
| 3 | Non Return Valves, 2 Nos | Completed | Completed | Pending | |
| 4 | Ball Valves, 8 Nos. | Completed | Pending | Pending | |
| 5 | pressure indicator ,2 Nos | Pending | Pending | Pending | |
| D.11 | Centrifuge Building | | | | |
| 1 | Centrifuge, 2 Nos | Completed | Completed | Pending | |
| 2 | Knife gate Valve (KGV), 2 Nos | Completed | Completed | Pending | |
| 3 | Ball Valves, 3 Nos. | Completed | Completed | Pending | |
| 4 | Centrifuge chute Arrangement, 2 Nos | Completed | Work in Progress | Pending | |
| 5 | EOT hoist, 1 No. | Completed | Completed | Pending | |
| 6 | Monorail beam, 1 No. | Completed | Completed | Pending | |

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| 7 | LPBS-9 nos | Completed | Work in Progress | Pending | Cable termination work pending |
| 8 | level transmitter in agitator-2nos. | Completed | Pending | Pending | |
| 9 | Cable | Completed | Work in Progress | Pending | |
| 10 | Cable tray | Completed | Work in Progress | Pending | Cable termination work pending |
| 11 | LCS Panel-2 nos. | Completed | Completed | Pending | |
| 12 | Exhaust fan, ceiling fan, internal electrification, | Completed | Work in Progress | Pending | |
| 13 | Automation work of all equipments | Completed | Work in Progress | Pending | |
| 14 | Ultrasonic level sensor-1 Nos. | Completed | Pending | Pending | |
| D.12 Poly Dosing System | | | | | |
| 1 | Dewatering polymer agitator , 2 Nos | Completed | Completed | Pending | |
| 2 | Polymer dosing pumps, 2 Nos | Completed | Completed | Pending | |
| 3 | Ball Valves, 06 Nos. | Completed | Pending | Pending | |
| 4 | Solenoid Valve (SOV), 2 Nos. | Pending | Pending | Pending | |
| 5 | Overflow & drain line work | Completed | Pending | Pending | |
| 6 | Non return Valves, 4 Nos | Completed | Pending | Pending | |
| 7 | Pressure indicator, 2 Nos | Completed | Pending | Pending | |
| 8 | Level switch, 2 Nos | Completed | Pending | Pending | |
| 9 | Polymer material stock | Pending | Pending | Pending | |
| D.13 Chlorination Building | | | | | |
| 1 | EOT hoist, 1 No. | Completed | Completed | Pending | |
| 2 | Monorail beam, 1 No. | Completed | Completed | Pending | |
| 3 | Chlorinators, 2 Nos | Completed | Completed | Pending | |
| 4 | Chlorine Booster Pumps, 2 Nos | Completed | Completed | Pending | |
| 5 | Recirculation pumps ,1 No. | Completed | Completed | Pending | |
| 6 | Leak absorbaton system,1 Nos | Completed | Completed | Pending | |
| 7 | Air Blowers, 2 Nos | Completed | Pending | Pending | |
| 8 | Valves, 1 lot | Completed | Pending | Pending | |
| 9 | Pressure gauges, 7 Nos | Completed | Pending | Pending | |

D.14 Chlorine contact Tank (CCT)

| | | | | |
|----|---|-----------|-----------|---------|
| 1 | Level switch, 1 Nos | Completed | Pending | Pending |
| 2 | Utility water pumps, 2 Nos | Pending | Pending | Pending |
| 3 | Butterfly Valve (BFV), 4 Nos. | Pending | Pending | Pending |
| 4 | Non return Valves, 2 Nos | Pending | Pending | Pending |
| 5 | Pressure gauges, 2 Nos | Pending | Pending | Pending |
| 6 | Panel, 1 Lot | Completed | Completed | Pending |
| 7 | LPBS, 2 nos. | Completed | Pending | Pending |
| 8 | Level transmitter, 1 nos. | Completed | Pending | Pending |
| 9 | Exhaust fan, ceiling fan, internal electrification, earthing, AC for panel room | Completed | Pending | Pending |
| 10 | Water quality Anylzer, 1nos. | Completed | Pending | Pending |
| 11 | Open channel flow meter, 1 Nos. | Completed | Pending | Pending |
| 12 | Conductivity level switch, 1 Nos | Completed | Pending | Pending |
| 13 | Chlorine leak detector, 1 Nos. | Completed | Pending | Pending |

D.15 PLC / SCADA

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|---|---|-----------|------------------|---------|--------------------------------|
| 1 | SBR PANEL | Completed | Completed | Pending | |
| 2 | BOP Panel | Completed | Completed | Pending | |
| 3 | Cable | Completed | Work in Progress | Pending | Cable termination work pending |
| 4 | Exhaust fan, ceiling fan, internal electrification, earthing, AC for panel room | Completed | Work in Progress | Pending | |

D.16 VFD Panel room

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|---|---|-----------|------------------|---------|
| 1 | VFD PANEL-3 nos. | Completed | Work in Progress | Pending |
| 2 | Exhaust fan, ceiling fan, internal electrification, earthing, AC for panel room | Completed | Work in Progress | Pending |

D.17 Electrical & Related Works

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|---|-------------------|-----------|-----------|---------|
| 1 | Transformer-2 nos | Completed | Completed | Pending |
| 2 | DG set-1 nos. | Completed | Completed | Pending |

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|-------------|---|---|-----------|------------------|-----------|---|
| | 3 | LPBS-lots | Completed | Pending | Pending | |
| | 4 | Exhaust fan, ceiling fan, internal electrification, earthing, AC for panel room | Pending | Pending | Pending | |
| | 5 | Indoor & Outdoor Lighting | Completed | Pending | Pending | |
| | 6 | LT Panel-1Lot | Completed | Work in Progress | Pending | |
| | 7 | Metering Room | Completed | Completed | Completed | |
| D.18 | Civil work | | | | | |
| | 1 | I&D, Structure, 3.2 km | NA | Completed | Pending | Finishing and painting works are pending |
| | 2 | Sewer System | NA | Completed | Pending | All 3.2 km Cleaning and hydro testing works are due. |
| | 3 | Manholes, 42 Nos | NA | Completed | Pending | 42 of 42 Cleaning and leakage repair pending |
| | 4 | MPS | NA | Completed | Pending | Walkway platform from receiving chamber to pump house pending |
| | 5 | PTU | NA | Completed | Pending | Finishing, painting work pending |
| | 6 | Admin Building | NA | Pending | NA | Plumbing, finishing works pending |
| | 7 | SBR Basins | NA | Completed | Pending | Leakage correction, Finishing, painting, railing Pending. |
| | 8 | CCT,Chlorination room | NA | Completed | Pending | Stair, hand rail and paint, door window pending |
| | 9 | Air Blower Building | NA | Completed | Pending | Stair railing and internal paint works pending |
| | 10 | Sludge Thickener | NA | Completed | Pending | Floor leveling, finishing and Railing work pending |
| | 11 | Supernatant Sump | NA | Pending | Pending | Stair railing and finishing works pending |
| | 12 | Centrifuge Building | NA | | Pending | Final coat paint work, flooring and Stair railing pending |
| | 13 | Transformer Yard | NA | Completed | Pending | Gravel work pending |
| | 14 | DG Area | NA | Completed | Pending | DG platform was to be increased 1m for O&M Pending |
| | 15 | Parshall Flumes | NA | Pending | Pending | Level of Parshall flume wrt to SBR need to be corrected |
| | 16 | VFD Panel Room | NA | Completed | Pending | DG chimney work pending |
| | 17 | Staff Quarter | NA | Completed | Pending | Final coat painting work pending |
| | 18 | Guard Room | NA | Completed | Pending | Plumbing, flooring works pending |
| | 19 | Effluent Chamber | NA | Completed | Pending | Finishing, leakage work pending |
| D.19 | Civil & Site Improvement Works | | | | | |

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| 1 | Service water pumps & plumbing all units | Pending | Pending | Pending |
| 2 | Tiling / Flooring at all Buildings | NA | Pending | Pending |
| 3 | All Buildings Roof rainwater drains, Roof treatment, Plinth protection | NA | Pending | Pending |
| 4 | Indoor & Outdoor Painting | NA | Pending | Pending |
| 5 | Doors, Windows, Shutters, etc. | Pending | Pending | Pending |
| 6 | Stormwater drains | NA | Pending | Pending |
| 7 | Backfilling, Grading | NA | Pending | Pending |
| 8 | Landscaping | NA | Pending | Pending |
| 9 | Entry Road | NA | Pending | Pending |
| 10 | Internal Pathways / Access Roads | NA | Pending | Pending |
| D.20 Site Safety & Security | | | | |
| 1 | Guard Room | NA | Completed | Work in Progress |
| 2 | Entrance Gate | NA | Work in Progress | Pending |
| 3 | Boundary Wall | NA | Work in Progress | Pending |
| 4 | Handrailing | NA | Work in Progress | Pending |
| 5 | Fire fighting extinguishers | Completed | Work in Progress | Pending |
| 6 | Nomenclature on Units / Buildings, Signboards, Site Plan, Project Banner, Site Name Banner, etc. | Completed | Pending | Pending |
| 7 | Site Surveyance / CCTV | Pending | Pending | Pending |
| 8 | Safety shower at Chlorination unit | Completed | Pending | Pending |
| 9 | Logbooks - Attendance Register, Visitor logs, RSPS logs, DG logs, Maintenance logs, etc. | Pending | Pending | Pending |
| D.21 Miscellaneous | | | | |
| 1 | Lab Setup | Pending | Pending | Pending |
| 2 | Permanent Gasket | Pending | Pending | Pending |
| 3 | Hydrotest for all pumps, air blower, centrifuge , chlorinations etc. discharge lines | Pending | Pending | Pending |
| 4 | Hydrotest for all water retaining units | NA | NA | Pending |
| 5 | Pipe support for all units | Pending | Pending | Pending |
| 6 | Stud bolt & Nuts at all units | Pending | Pending | NA |