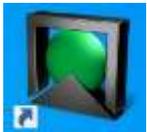




One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering

Bistable Control Solutions

DESIGN ENGINEERING SERVICES

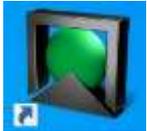




One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering

Bistable Control Solutions

DESIGN ENGINEERING SERVICES



7/24, 3:33 PM Print : Udyam Registration Certificate

भारत सरकार
Government of India
सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
Ministry of Micro, Small and Medium Enterprises

UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER	UDYAM-HR-03-0095786								
NAME OF ENTERPRISE	BISTABLE CONTROL SOLUTIONS LLP								
TYPE OF ENTERPRISE *	<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>S.No.</th><th>Classification Year</th><th>Enterprise Type</th><th>Classification Date</th></tr></thead><tbody><tr><td style="text-align: center;">1</td><td style="text-align: center;">2024-25</td><td style="text-align: center;">Micro</td><td style="text-align: center;">08/07/2024</td></tr></tbody></table>	S.No.	Classification Year	Enterprise Type	Classification Date	1	2024-25	Micro	08/07/2024
S.No.	Classification Year	Enterprise Type	Classification Date						
1	2024-25	Micro	08/07/2024						
MAJOR ACTIVITY	SERVICES								
SOCIAL CATEGORY OF ENTREPRENEUR	GENERAL								
NAME OF UNIT(S)	<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th>S.No.</th><th>Name of Unit(s)</th></tr></thead><tbody><tr><td style="text-align: center;">1</td><td>BISTABLE CONTROL SOLUTIONS LLP</td></tr></tbody></table>	S.No.	Name of Unit(s)	1	BISTABLE CONTROL SOLUTIONS LLP				
S.No.	Name of Unit(s)								
1	BISTABLE CONTROL SOLUTIONS LLP								

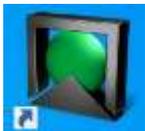


One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering

WHO WE ARE



- Design delivery center including *Plant engineering philosophy* for all secondary technologies related to Power Generation, Transmission & beyond.
- Experience of more than 30 years in the field of Automation, Control, Protection, SCADA systems.





One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering

WHAT WE DO



BASIC ENGINEERING

**DESIGN
AUTOMATION**

CONFIGURATION

Capturing and
Structuring
of
Engineering data

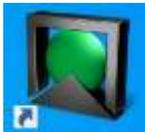
Automatic
Generation
of
Engineering
Documentation

Mechatronic
configuration
of
component
Machine &
systems

STANDARDISATION

MODULARISATION

STRUCTURED





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Technology partner for your added values



Providing market leading engineering solution

Mounting Layout

Schematic Creation

Preparing 3D Model & Running Collision Test

Production Drawing

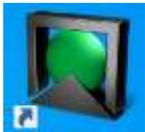


List of Devices & Wire Assembly

BOM & List of Devices & Wiring Data

Complete Documentation & Test Procedure

As-Built Drawings





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UNIQUE VALUE PREPOSITION



1. Intelligent Design & Automation

We don't just draw schematics; we build **AI-embedded automation processes** on professional engineering platforms. This eliminates human error in design with quality deliverables.



2. Seamless Process Integration

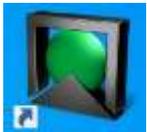
From **Plant Engineering** to **field-instrument mapping**, we integrate the entire process chain. Our design ensures that field instruments, processes, and end-drives work in a single, synchronized design memorandum.

Field Instrument → Sub Systems → Systems → Overall Control System



3. Lifecycle Reliability

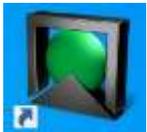
Providing the support in the lifecycle of turnkey **Panel assembly and testing**, **Cable schedules** for site readiness, and **remote predictive maintenance** to eliminate downtime before it happens.





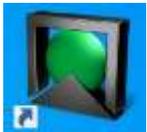
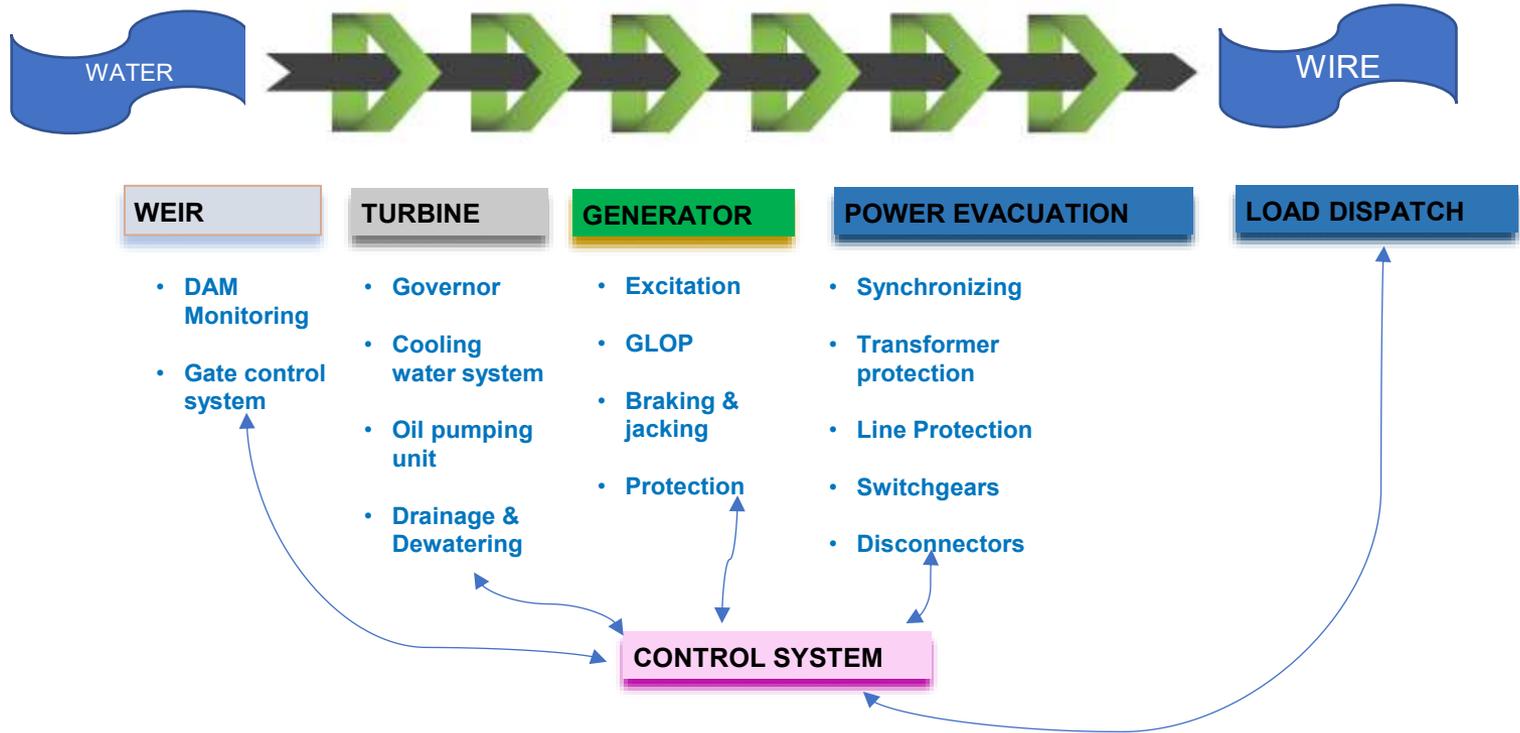
One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering

Technology Agnostic - Designs & Solutions





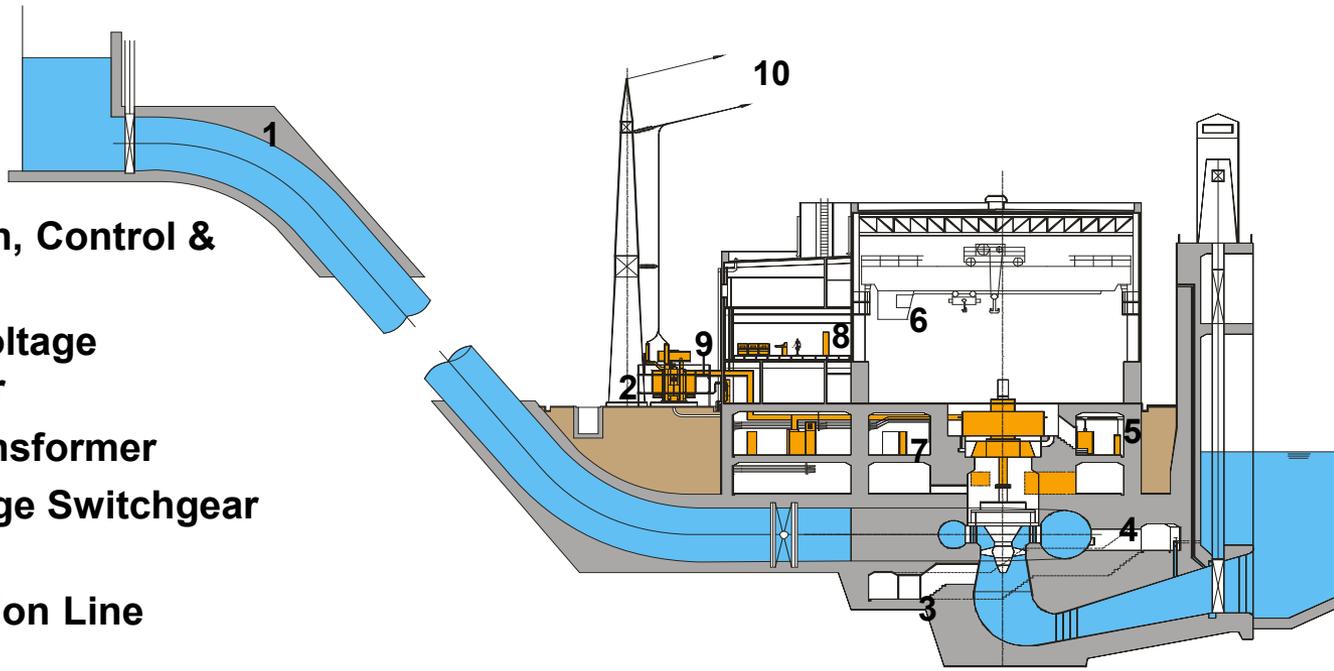
Hydro Power Generation - POWER TRAIN



Extensive know-how of products and systems
“Water to Wire”



- 1 Gates
- 2 Penstocks
- 3 Inlet valve
- 4 Turbine
- 5 Generator
- 6 Automation, Control & Protection
- 7 Medium Voltage Switchgear
- 8 Power Transformer
- 9 High Voltage Switchgear (GIS)
- 10 Transmission Line



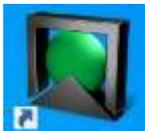


One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering



HVDC PROJECT - BASED ON PRESENT CAPABILITIES

1. Detail SLD and layout based on conceptual design by owner/ designer
2. Protection key diagram (AC switchyard)
3. AC switchyard control & protection
4. Interface with HVDC system
5. Civil & Structure Design for Outdoor Equipment (AC & DC)
6. **AC & DC Relay Buildings**
7. **AUXILIARY Power** – MV/ LV, MCC, DC battery system etc.
8. **PROJECT EXECUTION** – Scope area



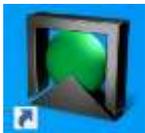


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DESIGN ENGINEERING ASSOCIATES



1. BCS is a Design Partner for Siemens, operating a dedicated Design Centre that supports their Transmission & Distribution (T&D).
2. BCS is associated with BHEL as authorized Design Partner, providing comprehensive design support for Cable Schedule, Terminal Connection.
3. BCS is a Design Partner of BEUMER, supporting Engineering Services preparing EPLAN drawings.
4. BCS is a Design Partner for AVL.
5. BCS has executed complete Renovation & Upgrading of Governor, Generator Protection, Line Protection, Synchronizing 6.6Kv Switchgear, MCC/PCC Panels & complete DC systems for Chenani HYDRO ELECTRIC PROJECT (JKSPDC)
6. BCS has successfully completed the Design / Supply / Commissioning of DAM Gate control SCADA at Nikachhu (Bhutan).



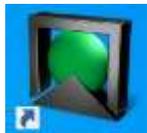


One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering

OUR ESTEEMED DESIGN PARTNERS & ASSOCIATES



SIEMENS



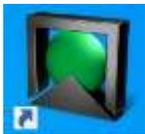
Bharat Electricals



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Sample Schematics Design





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THE TECHNICAL PARAMETERS FOR EACH OF THE DEVICES DESCRIBED ARE:

A. BREAKER OPENING TIME (SEC)	0.05
B. MAX. BREAKING CAPACITY (MVA)	1000
C. SHORT-CIRCUIT WITHSTAND VOLTAGE (KV @ 50%)	1.1
D. SHORT-CIRCUIT WITHSTAND VOLTAGE (KV @ 100%)	1.1
E. 50% IEC POWER FREQUENCY OVERVOLTAGE (KV @ 50%)	1.1
F. 100% IEC POWER FREQUENCY OVERVOLTAGE (KV @ 100%)	1.1
G. GENERAL OPERATING SETTINGS - FOR BREAKER OPENING	0.05
H. BREAKING CAPACITY (MVA)	1000
I. SHORT-CIRCUIT WITHSTAND VOLTAGE (KV @ 50%)	1.1
J. SHORT-CIRCUIT WITHSTAND VOLTAGE (KV @ 100%)	1.1
K. 50% IEC POWER FREQUENCY OVERVOLTAGE (KV @ 50%)	1.1
L. 100% IEC POWER FREQUENCY OVERVOLTAGE (KV @ 100%)	1.1

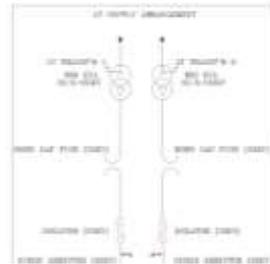


BILL OF MATERIALS

ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1
2
3

BILL OF MATERIALS

ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
4
5
6



BILL OF QTY FOR RELATED EQUIPMENTS

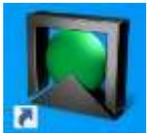
ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
7
8
9

BILL OF QTY FOR LT AUX SUPPLY

ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
10
11
12

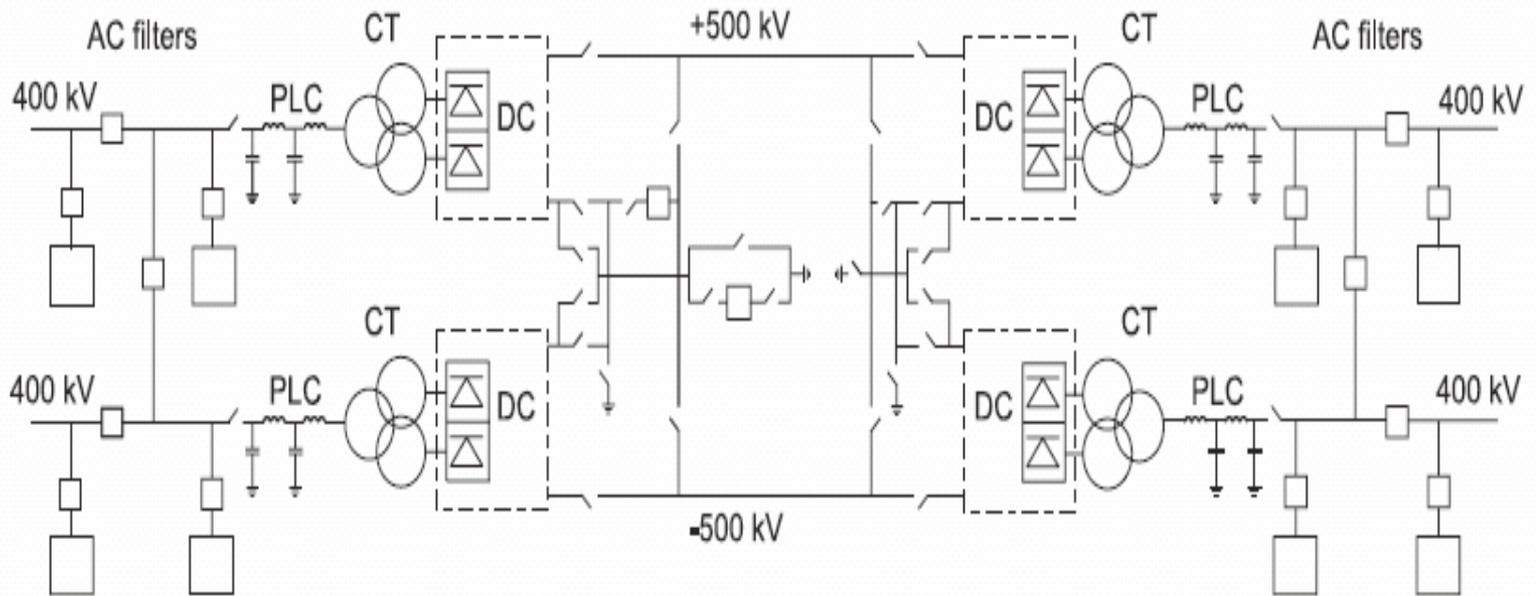
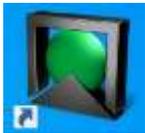
BILL OF QTY FOR MAIN EQUIPMENTS

ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
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14
15
16
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18
19
20
21
22
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27
28
29
30

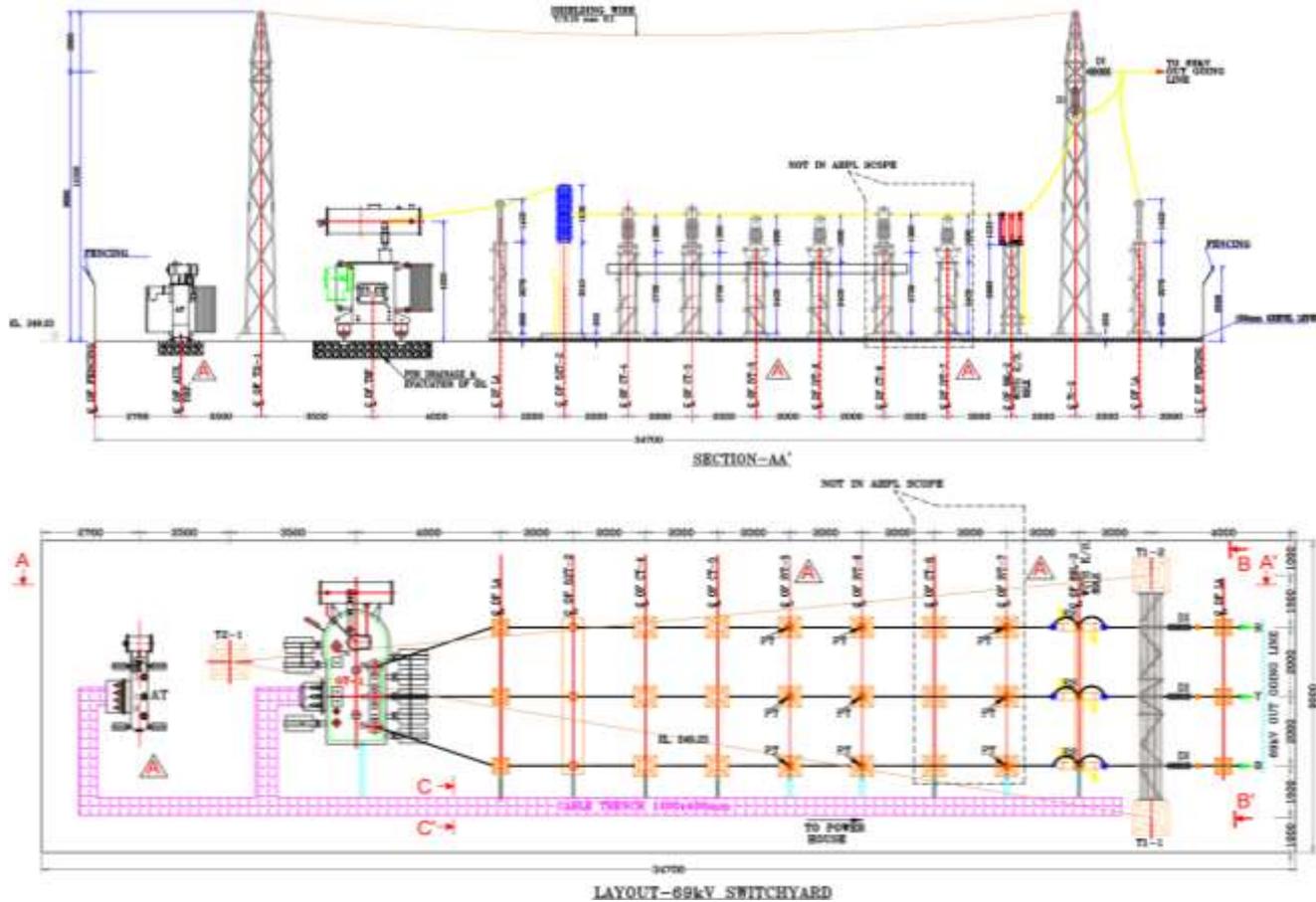
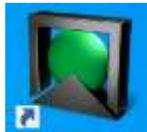


Typical SLD
For

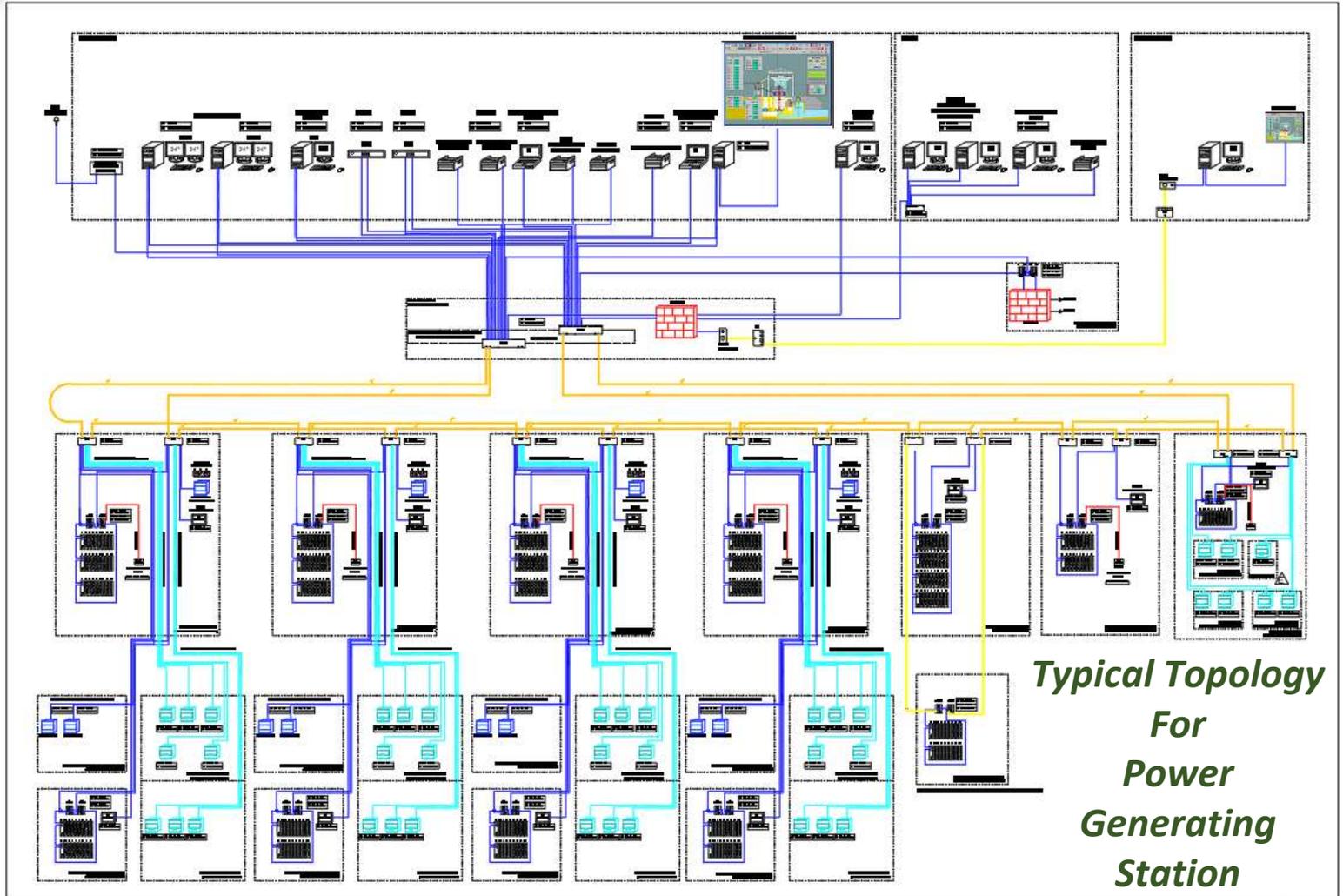
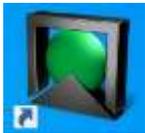
Transmission and Distribution



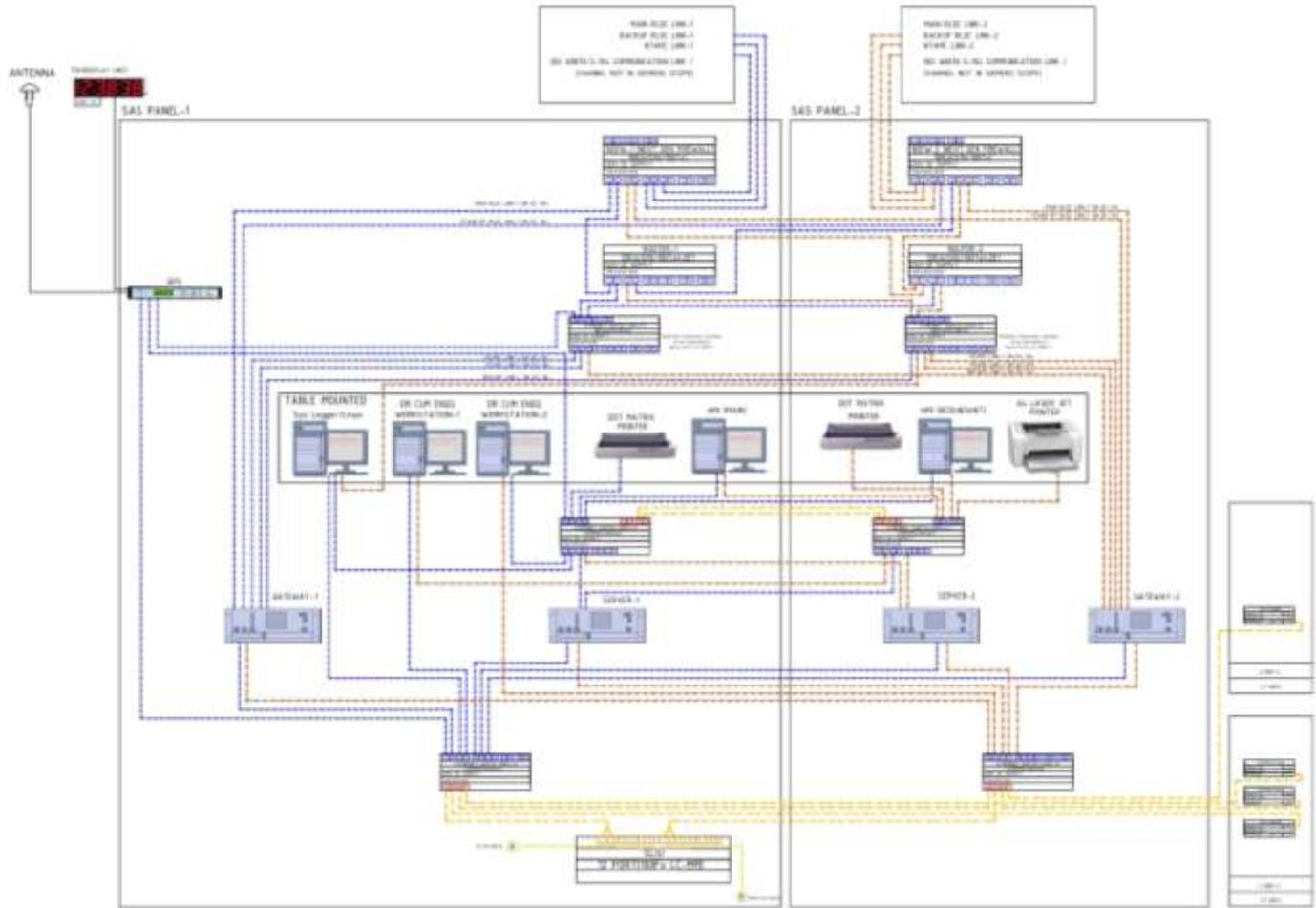
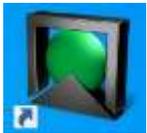
Typical HVDC Transmission SLD



Typical Switchyard Layout



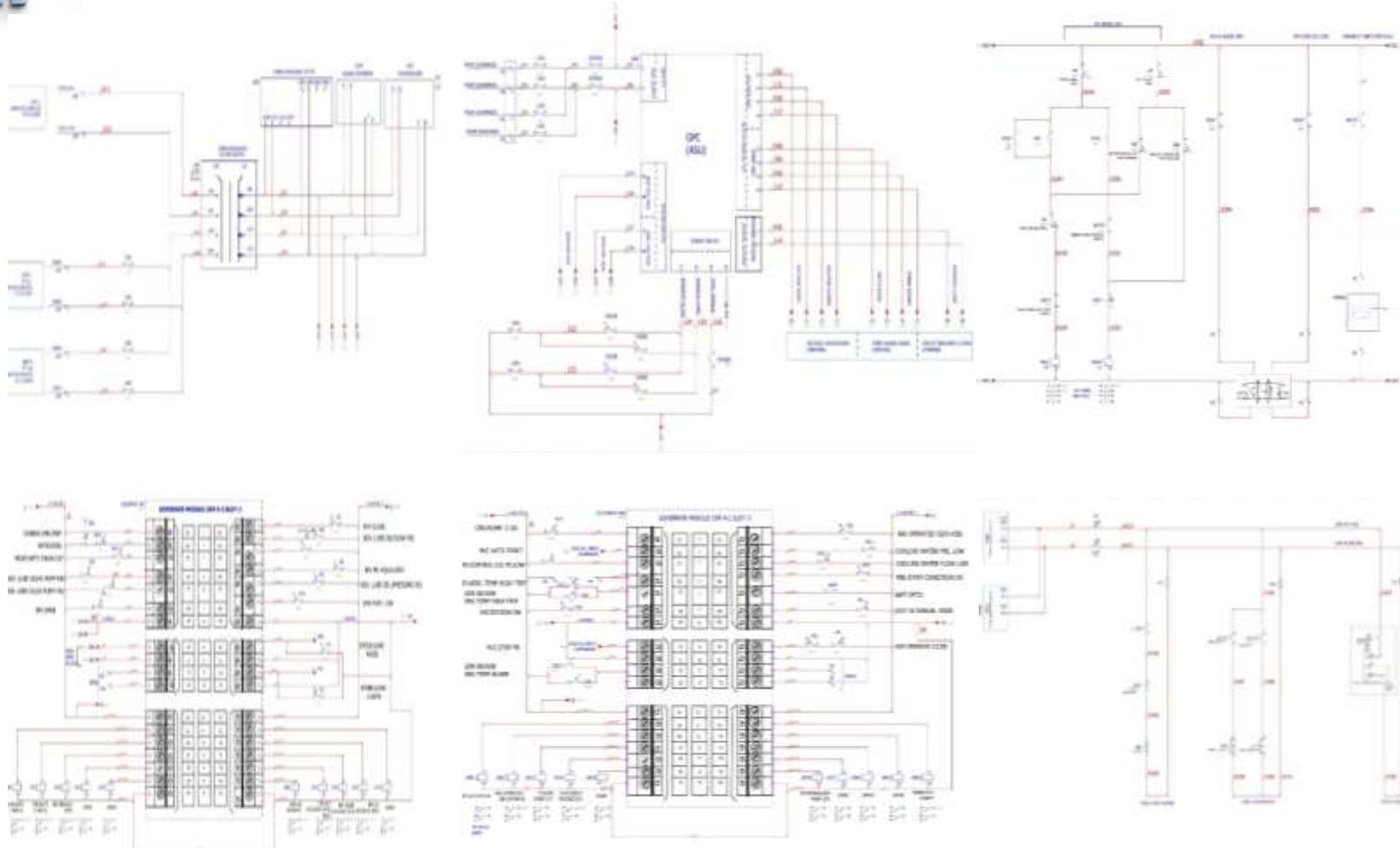
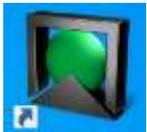
*Typical Topology
For
Power
Generating
Station*



Typical Topology
 For



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Typical Schematic Drawings



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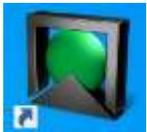
Civil in Hydro – Professional Credentials



*Our Team is headed by **highly skilled professionals** from NHPC **possessing extensive, diverse and rich experience** in Hydro and Dam construction. We are dedicated to delivering specialized infrastructure solutions, integrating geological and hydrological analyses into planning, design, and execution. With involvement in all project phases—feasibility assessments, detailed engineering, construction, and commissioning—we ensure technically sound and sustainable outcomes.*

Key Responsibilities & Achievements:

- **All Major Infrastructure works:** All infrastructure works, clearances, land acquisition for Hydro project. Development of infrastructural facilities like building, road, water supply, stores, workshops etc. in the remote sites.
- **Civil Design:** Preparation of laying and design of various major Hydroelectric structures especially **Tunnels and Dams**. All civil works pertaining to Major project and Dams.
- **Operation and Maintenance:** Undertook many operation and maintenance activities. Major repairs of Head Race Tunnel to check leakage, repair of HM works of Dam by replacing the stop log sill beams of Dam gates by which overall generation was increased.
- **Procurement :** In charge of procurement of all civil material, steel and E&M equipment's etc. at project sites
- **Policy making:** Framed policies for procedures and practices to achieve transparency in the system of working. Framing of corporate manuals and standards of procurement to be followed by corporation.





One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering

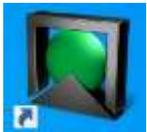
Founder Professional Credentials



Andritz Hydro (from 97 up to June 2022)
Function Leader AT & Electric Power Systems (EPS)

Key Responsibilities & Achievements:

- **Sales & Marketing Support:** Provided technical assistance to the Sales and Marketing teams across all segments, including Channel (CH), Service & Repair (SR), Large Hydro (LH), and Gas Turbine (GT). Engaged with clients on technical matters related to AT and EPS systems.
- **Automation Department Leadership:** Led the delivery of automation solutions, including the design and execution of systems for Governor, Excitation, Protection, SCADA, and more.
- **Panel Assembly & Testing:** Oversaw the shop assembly of Governor, Excitation, Protection, and Control panels. Managed customer interactions during execution phases and FAT (Factory Acceptance Testing).
- **Power Plant Instrumentation Design:** Developed detailed design memorandums for complete power plant instrumentation, ensuring compliance with project specifications.
- **Site Commissioning & Post-Warranty Support:** Managed site commissioning activities for various segments. Provided post-warranty services and supported ongoing site installation for the LH and SR business segments.





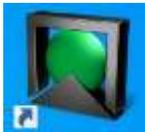
One Stop Shop for all Design needs: Automation, Control , Protection, SCADA, Cable Management & Plant Engineering



- **Technical Leadership:** Part of the core team involved in establishing Bhutan Automation, a Joint Venture company in Bhutan. Contributed technical expertise and strategic guidance for this collaboration.
- **Industry Standards & Guidelines Contribution:** Active member of the "Consultation Group" for the development of Standards, Manuals, and Guidelines for Small Hydro Development, sponsored by the Ministry of New and Renewable Energy (MNRE), Government of India.

Skills and Expertise:

- **Water-to-Wire Concept:** Expertise in the complete hydropower project lifecycle, from water intake to electricity generation.
- **Powerhouse Layout Design (3D Modelling):** Proficient in the design and layout of hydropower plants using 3D modelling tools.
- **Plant Engineering & Integration:** Specialized in integrating various systems including Governor, Excitation, Protection, and SCADA.
- **Reverse Engineering & Control Systems:** Experience in reverse engineering and optimizing control systems, with a focus on Protection and Control Panels (MCC, PCC).
- **Hydropower Project Commissioning:** Comprehensive experience in commissioning and post-commissioning support for hydro power plants.





**One Stop Shop for all Design needs: Automation, Control ,
Protection, SCADA, Cable Management & Plant Engineering**

Quality Policy

BISTABLE CONTROL SOLUTION LLP

To ensure customer

Satisfaction by meeting the

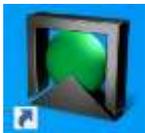
Agreed Requirements

BCS &

Further improving through

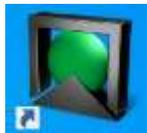
**Risk Based Analysis & Preserved all
related Organizational Knowledge with
Continual Improvement of**

Quality Management System.





One Stop Shop for all Design needs: Automation, Control ,
Protection, SCADA, Cable Management & Plant Engineering



THANK YOU

BISTABLE CONTROL SOLUTIONS