



Internship Completion Presentation

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Department: Central Maintenance Instrument & Electrical

Location: Bibiyana Gas Field, Chevron Bangladesh

Duration: 01/11/24 – 28/02/25

Overview of Internship

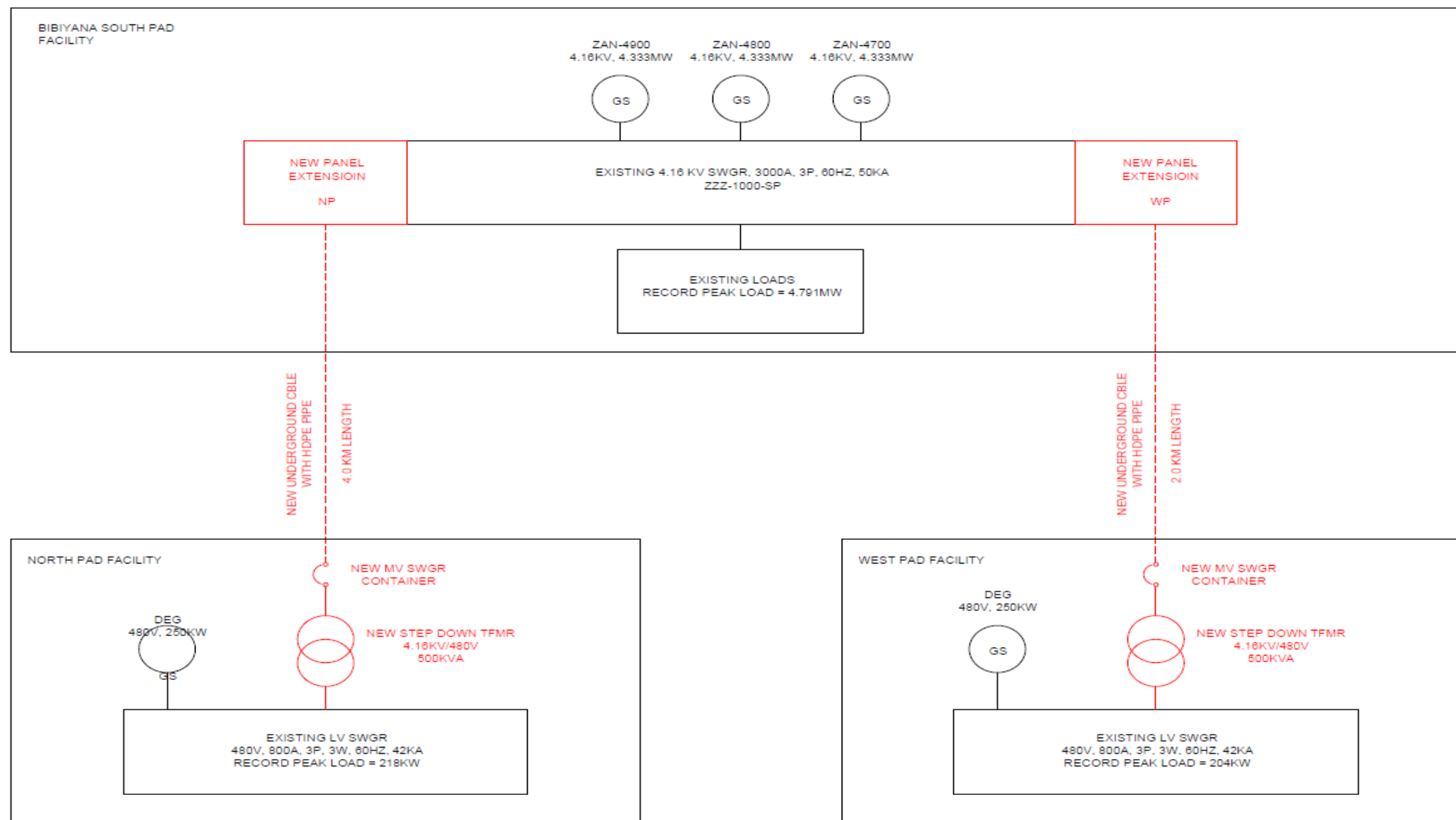
Key Areas:

- Medium & low Voltage Generation, Distribution & Protection System, Plant Instrumentations & MACC Project

Objective:

- Gain comprehensive knowledge and experience in Electrical Maintenance.

Concept of MACC Project



Purpose of the MACC Project

Key Benefits

- Fuel Gas Savings – Eliminates gas engine usage.
- GHG Reduction – Supports Chevron's sustainability goals.
- Reliable Power Supply – Uses GTG power with diesel backup for reliability.
- Optimized Resource Use – Frees up fuel gas for export.
- Cost Efficiency – Achieves savings through innovative design.

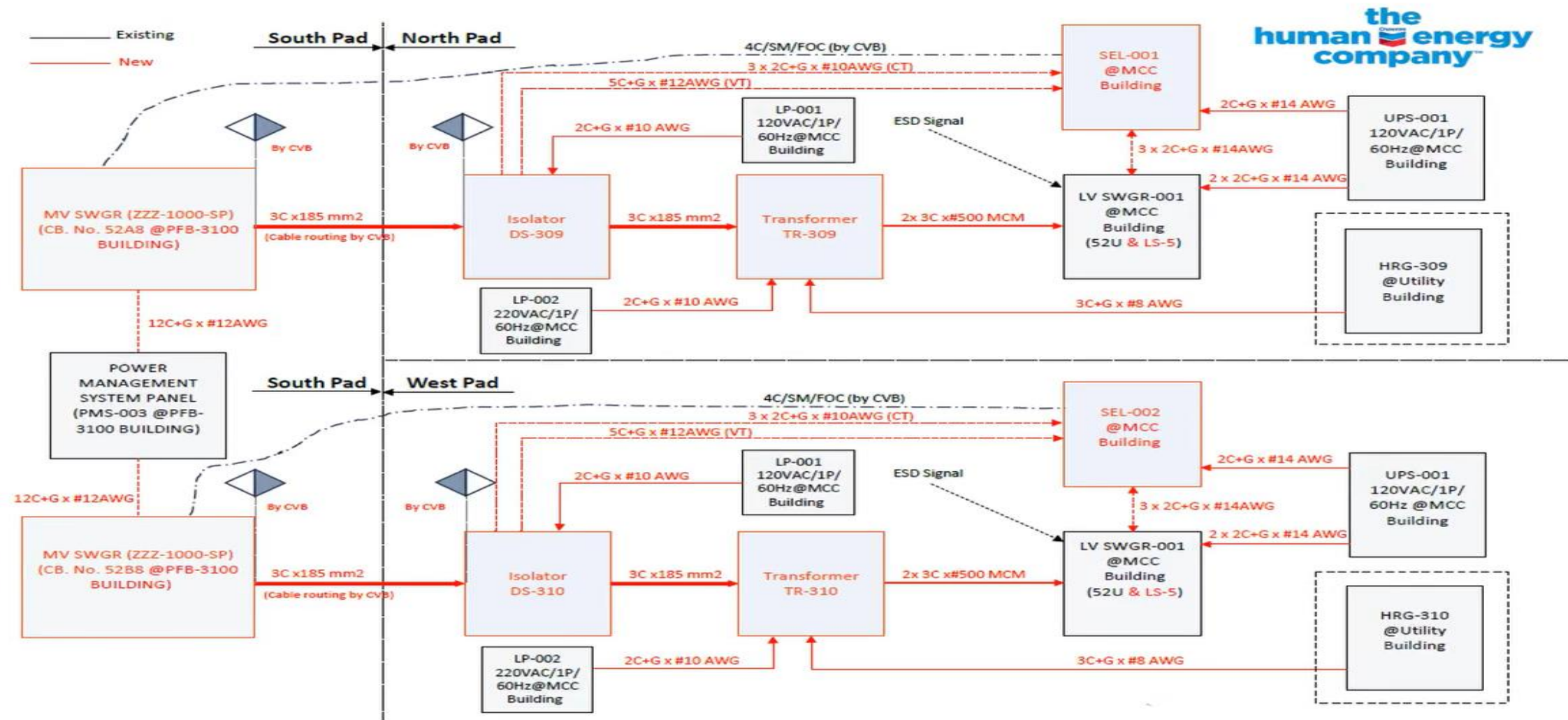
Existing Electrical Power System Overview

Key Challenges

- High Fuel Gas Consumption – Gas engine generators consume significant fuel.
- GHG Emissions – Contributes to carbon footprint.
- Operational Reliability Risks – Dependency on distributed generators.
- Limited Power Optimization – Lack of a centralized power distribution strategy.

Project Design & Methodology

Bibiyana Remote NP and WP Eliminate Gas Engines Project- Overall System Block Diagram



Project Execution & Key Milestones

Significant Milestones

- Offline Isolator at NP/WP
- 500 KVA Stepdown Transformer at NP/WP
- Install Medium Voltage Switchgear Extension at South pad
- Install Relay protection wall-mount panel SEL-311L at NP/WP
- MV Cable Routing & Splicing for NP/WP
- Install Woodward Control LS5 and Generator Synchronization
- Interconnection, function test, & commissioning

Offline Isolator Installation

📌 Installed at North Pad (NP) & West Pad (WP) for electrical isolation



500 KVA Transformer Installation

📌 Deployed at NP/WP to ensure stable voltage supply



Medium Voltage Switchgear Extension

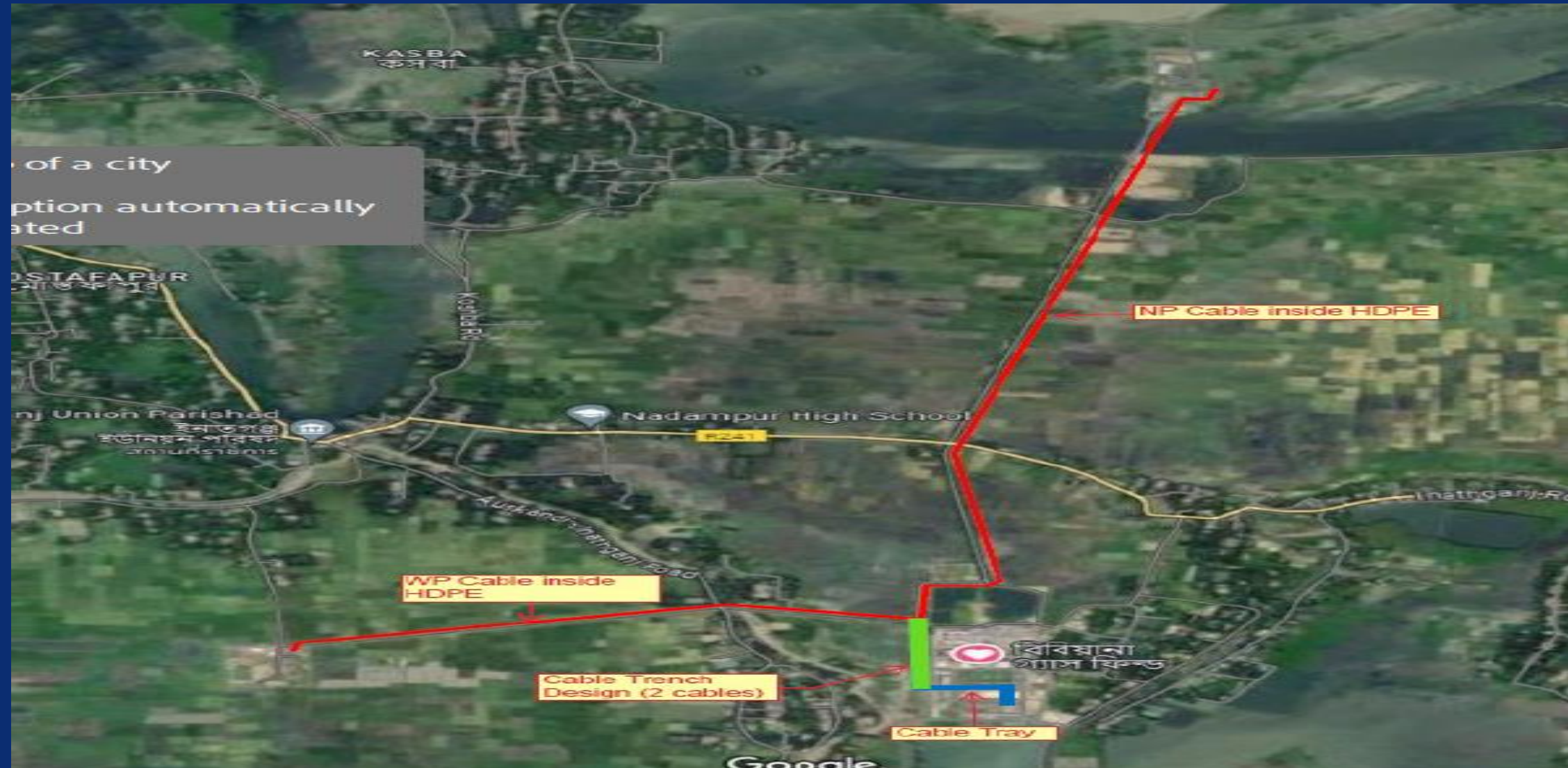
📌 Installed at South Pad (SP) for enhanced power distribution



Installation of MV switchgear cubicles

MV Cable Routing

📌 Medium Voltage (MV) cables routing



MV Cable Splicing

📌 Cables splicing to integrate NP/WP into the centralized power network



Woodward LS5 Control

📌 Installed to ensure seamless generator synchronization & load sharing



Interconnection, Function Testing & Commissioning

🔧 Final integration of components, testing, and commissioning for full operational readiness

**The MACC
commissioning
team is lead
the installation,
commissioning,
and function
testing of critical
systems,
ensuring seamless
integration and
operational
excellence.**



Successful Completion of MACC Project



Results & Impacts

- Elimination of Gas Engines
- Sustainability and Green Energy
- Cost Optimization
- Environmental Impact

My Growth & Achievements

- Electrical Systems
- Testing Equipment
- Plant Instrumentations
- Safety & Protection Systems

Electrical Systems

- Medium Voltage Power Generation, Distribution & Protection
- MV Switchgear Construction, Installation, Testing & Commissioning
- Low Voltage Power Generation & Distribution
- Gas Generator
- Diesel Generator

Testing Equipment

- Megger Tester
- IR Tester
- Low Resistance Tester
- Relay Tester (Secondary Injection)

Plant Instrumentations

- PIT (Pressure Indicator Transmitter)
- TIT (Temperature Indicator Transmitter)
- FIT (Flow Indicator Transmitter)
- LIT (Level Indicator Transmitter)
- RTD (PT-100), Thermocouple
- Orifice Plate, Venturi Tube, Coriolis Mass Flow Meter
- Actuator

Safety & Protection Systems

- Smoke Detector
- Heat Detector
- Flame Detector
- Gas Detector
- Hydrogen Detector
- Cathodic Protection

Conclusion: "Learning, Growing, and Thriving"

- **Valuable Learning:** Gained hands-on experience in electrical power systems, plant instrumentation, safety and protection systems.
- **Commitment to Safety:** Chevron's emphasis on safety reshaped my understanding of industry standards, ensuring that safety was a priority in every task.
- **Growth in Skills:** Developed technical, teamwork, leadership, and problem-solving skills, bridging the gap between academic learning and real-world application.
- **Gratitude and Reflection:** Grateful for the mentorship and support from colleagues, which contributed to my personal and professional growth during the internship.
- **Ready for the Future:** Equipped with invaluable lessons, confidence, and skills, I'm excited to apply them as I move forward in my career.



**ANY
QUESTIONS?**