SUNBEAM GENERATORS PVT. LTD.

PROJECT CASE STUDY REPORT

Reliable Power & Project and Technical Solutions | Authorized GOEM of Kirloskar Diesel Generator Sets

1. PROJECT OVERVIEW

Project	NHAI – OD8
Customer	M/s Bekem Infra Projects
Location	Odisha
Application	Emergency Backup Power for Tunnel for auxiliaries
Generator Capacity	1010 kVA
Quantity	4 No's
DG Set Model	DV 16 ETA G3
Scope	Supply / Installation / Commissioning / Testing of 4 No's of 1010 kVA DG Set with Synchronization & Isolator Panels.
Project Completion	2026

2. CUSTOMER REQUIREMENT / PROJECT CHALLENGE

The customer required a reliable and continuous power backup solution along with comprehensive project execution support for their critical infrastructure project involving a 3 Kilo metre tunnel at Koraput, Odisha.

Major Customer & Project Challenges:

- **Strong Competitor Presence:** The customer was predominantly a CAT and Cummins customer, with extensive usage of their DG sets, earthmoving equipment, and other associated machinery across various projects. Establishing confidence in the Kirloskar brand and creating an opportunity for Sunbeam in this established customer base was a significant challenge.
- **Non-Approved OEM Challenge:** Kirloskar DG Sets were initially not included in the customer's approved make list for this particular requirement. This created an additional challenge in establishing our credentials, demonstrating technical capabilities, and gaining customer acceptance against their existing preferred brands.
- **Critical Tunnel Application:** The project was located in the Koraput region of Odisha and involved a 3-metre tunnel development. The DG sets were required to supply power to essential tunnel auxiliary loads, including fresh air ventilation systems, lighting, and other critical electrical equipment necessary for safe and uninterrupted tunnel operations.
- **Remote Project Location:** The project's location in the Koraput region presented logistical and operational challenges in terms of equipment transportation, manpower mobilisation, material availability, and coordination of project execution activities.
- **Reliability & Operational Continuity:** Since the DG sets were intended to power critical tunnel auxiliary systems, uninterrupted and dependable power availability was essential. Any interruption could potentially affect ventilation, lighting, and overall tunnel execution activities.
- **Customer Confidence & Brand Acceptance:** Convincing a customer with an established CAT/Cummins ecosystem to consider Kirloskar DG Sets required strong technical justification, competitive commercial positioning, and confidence in Sunbeam's project execution and after-sales support capabilities.

3. PROPOSED SOLUTION

To address the customer's critical power requirements and overcome the challenges associated with an established CAT/Cummins customer base, Sunbeam Generators Pvt. Ltd., as the OEM of Kirloskar DG Sets, developed a comprehensive techno-commercial solution tailored to the specific requirements of the 3 Kilo metre tunnel project at Koraput, Odisha.

The proposed solution focused on technical compliance, operational reliability, synchronisation performance, cost optimisation, and dependable after-sales service support.

The key elements of the proposed solution included:

- **Comprehensive Technical Documentation:** Prepared and submitted detailed technical documents, datasheets, compliance statements, and engineering specifications in line with the customer's project requirements and applicable technical standards to establish the suitability of Kirloskar DG Sets.
- **Customised Synchronisation Panel Design:** Designed and developed a customised synchronisation panel based on the customer's Single Line Diagram (SLD), ensuring proper load-sharing arrangements, operational flexibility, and reliable synchronisation of DG sets.
- **Isolator Panel Engineering:** Designed and developed the isolator panel as per the approved electrical scheme and project requirements, ensuring safe isolation, operational flexibility, and ease of maintenance.
- **Deration Factor Consideration:** Evaluated the site-specific operating conditions and incorporated the necessary deration factors into the DG set selection and sizing to ensure the required power availability and reliable performance under actual site conditions.
- **Advanced Synchronisation Technology:** Proposed an in-built microprocessor-based synchronisation relay to facilitate faster, accurate, and reliable synchronisation, along with efficient load sharing and improved operational flexibility.
- **Technical Competitor Evaluation:** Presented a detailed technical comparison against competing CAT and Cummins offerings, highlighting Kirloskar's technical capabilities, product reliability, application suitability, and operational advantages.
- **Operating & Life-Cycle Cost Analysis:** Prepared comparative fuel consumption and operating cost estimations to demonstrate the long-term economic benefits of the proposed solution, enabling the customer to evaluate the overall cost of ownership rather than considering only the initial equipment investment.
- **Strong Service Network Assurance:** Explained Sunbeam and Kirloskar's service infrastructure, technical support capabilities, service personnel availability, and geographical service coverage to assure the customer of prompt after-sales support, particularly considering the remote project location at Koraput.
- **End-to-End Project Support:** Assured comprehensive support covering engineering, manufacturing coordination, panel development, equipment supply, installation, commissioning, and post-installation assistance to ensure seamless project execution.

4. PROJECT EXECUTION

The project was executed through systematic planning, detailed engineering, effective coordination, and continuous monitoring by the Sunbeam Generators project team to ensure successful implementation within the customer's committed schedule.

The major project execution activities included:

- **Technical & Engineering Coordination:** Worked closely with the customer's engineering team to finalise the technical specifications, electrical scheme, Single Line Diagram (SLD), synchronisation philosophy, and other project-specific requirements.
- **Synchronisation & Isolator Panel Development:** Successfully coordinated the design, development, fabrication, and integration of customised synchronisation and isolator panels as per the approved SLD, ensuring proper electrical protection, synchronisation, and load-sharing arrangements.
- **Manufacturing & Supply Coordination:** Coordinated with the manufacturing and production teams to ensure equipment readiness, adherence to approved technical specifications, and timely dispatch of DG sets and associated electrical panels.
- **Logistics & Remote Site Coordination:** Managed equipment transportation, material movement, manpower mobilisation, and site-level coordination considering the remote project location at Koraput, Odisha.
- **Installation & Commissioning Support:** Coordinated the installation, electrical integration, testing, and commissioning activities to ensure proper synchronisation and reliable operation of the DG sets catering to critical tunnel auxiliary loads, including fresh air ventilation systems and lighting.
- **Customer & Stakeholder Coordination:** Maintained continuous interaction with the customer's project, electrical, and execution teams to resolve technical queries, address site-level challenges, and ensure smooth progress at every stage.
- **Service & Technical Support:** Extended the necessary technical and service support to establish customer confidence in Kirloskar DG Sets, particularly considering the customer's previous preference for CAT and Cummins equipment.
- **Operational Readiness:** Focused on ensuring the DG sets and associated synchronisation systems were properly integrated and ready to support the project's essential power requirements.

Despite the challenges of entering an established CAT/Cummins customer base, overcoming the initial non-approved make status, managing the remote project location, and meeting critical execution requirements, the Sunbeam team demonstrated strong engineering capabilities, cross-functional coordination, and customer-focused execution.

Through dedicated teamwork and end-to-end project involvement, Sunbeam successfully established Kirloskar DG Sets as a reliable power solution for this critical tunnel infrastructure application.

5. PROJECT RESULTS & BENEFITS

The successful implementation of the project delivered the following key results and benefits:

Successful Commissioning: Completed commissioning and load testing of all 4 Nos. of 1010 kVA Kirloskar DG Sets successfully.

Proven Performance: All four DG Sets clocked approximately 250 running hours each within the first three months, with satisfactory performance.

Reliable Power Supply: Ensured dependable power support for critical tunnel auxiliary loads, including fresh air ventilation, lighting, and other essential electrical systems.

Successful Customer Conversion: Established Kirloskar DG Sets as a reliable alternative to CAT and Cummins, overcoming the initial non-approved make challenge.

Customer Satisfaction: Delivered a customised power solution through effective engineering, project execution, and after-sales support, strengthening customer confidence in Sunbeam and Kirloskar.

6. PROJECT HIGHLIGHTS

Installed Capacity	4x1010 kVA
Total Power Capacity	4040 kVA
Application	Emergency Backup Power for Tunnel
Solution Provider	Sunbeam Generators Pvt. Ltd.
DG Set OEM	Sunbeam Generators Pvt. Ltd.
Project Scope	Supply & Testing and Commissioning of 4x1010 kVA along with Synchronization and Isolator panel.
Project Status	Completed

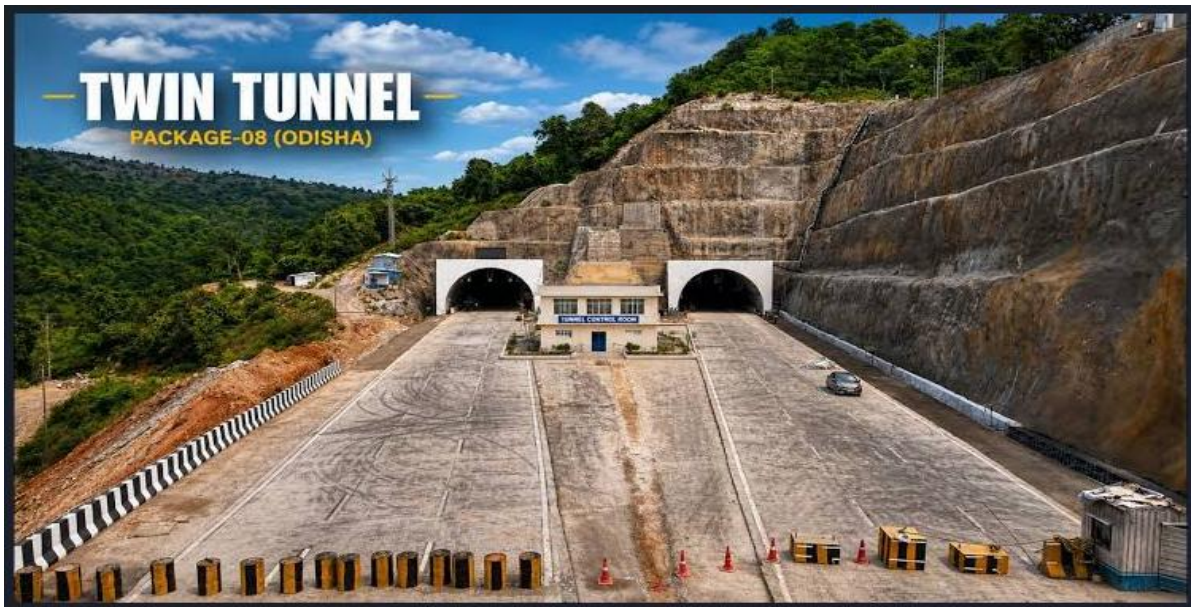
7. CONCLUSION

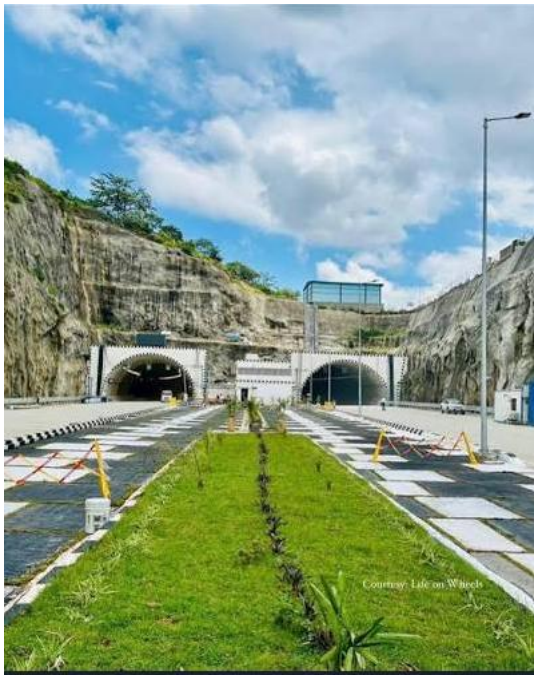
This project demonstrates Sunbeam Generators Pvt. Ltd.'s capability to deliver reliable and application-specific power solutions using Kirloskar Diesel Generator Sets.

Through technical expertise, coordinated project execution, and customer-focused service, Sunbeam continues to support customers with dependable power backup solutions across industrial, commercial, healthcare, and infrastructure sectors.

POWERING PROGRESS. ENSURING RELIABILITY.

Site Photos:-








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17 May 2026 at 4:06 pm


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