

Case Study

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East West Gas Pipe Line Project Wins PEB PROJECT OF THE YEAR AWARD

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| Location: | 38 different locations covering states of Andhra Pradesh, Karnataka, Maharashtra and Gujarat |
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| Country: | India |
| Project Size: | 48269 m ² |
| Client: | Reliance Gas Transportation Infrastructure Limited |
| Architect: | |
| Products Used: | BUTLER™ BUILDING SYSTEMS |
| Award: | Pre-Engineered Building project Award 09', Infrastructure Excellence Awards, organised by CNBC-TV18 and Essar Steel |
| Duration: | 280 Days |
| Year of Completion: | 2008 |

The magnanimous East West Gas Pipeline project won the Pre-Engineered Building project Award 2009 at the Infrastructure Excellence Awards, organised by CNBC-TV18 and Essar Steel. The awe-inspiring project that trails through the 4 Indian states has won recognition that it deserved for its quality and diversity.

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TATA BLUESCOPE BUILDING SOLUTIONS (A Division of Tata BlueScope Steel Limited)

Case Study The Best PEB Project of the Year 2009



Background: First-of-its-kind project for any private company in India

Reliance Industries Limited, a Mukesh Ambani Group and one of India's leading industrial conglomerates, formed the new company for their new gas pipeline project, which is the first-of-itskind for any private company in India. Tata BlueScope Building Solutions was honoured to be awarded this prestigious 'East West Gas Pipe Line Project' project involving supply of 16 types of BUTLER[™] buildings.

The 'East West Gas Pipe Line Project' is an aspirational project undertaken by Reliance Group and would have a significant impact on the energy needs of the country. This project will enable RGTIL

to transfer the Gas from Kakinada (Andhra Pradesh, KG-5 basin) to Bharuch (Gujarat). This line was spanned across the East and West borders of India covering 4 states Andhra Pradesh, Karnataka, Maharashtra and Gujarat.

Total length of this gas pipe line is 1,350 KM which speaks of the enormosity of the project. There are 11 different Compressor stations across the line housing very costly compressors, the reason why 100% leak-proof MR-24[®] roof. The total size of the project is 48269 m² (7400 MT). This project will enable RGTIL to transfer the Gas from Kakinada (Andhra Pradesh, KG-5 basin) to Bharuch (Gujarat).

The Promise: Single Source Responsibility From Reliable Proven Building Solution

The Project was awarded to Tata BlueScope Building Solutions after immense pre sales activity carried out by BUTLER[™] Team before signing the contract with customer. The team anticipated the needs of Reliance in advance and was involved in the project right from the conceptualization stage. After many meetings and discussions, Reliance agreed to give us the project which we started in April '07.

Tata BlueScope Building Solutions was given single source responsibility for Engineering Design, Manufacture, Supply and Erection of this project. The BUTLER[™] team adopted a dedicated approach to meet the client deadlines and offered flexibility in work, speedy delivery, adaptability and dependability, which was greatly appreciated by the Reliance team. Crucial Project Information from Reliance was flowing in all the time and was adapted by the BUTLER[™] team without compromising on quality. Initially the scope included 10 buildings each at 10 sites (Tonnage 5300 MT). "The Complete Safety" Promise by Tata BlueScope Building Solutions was in reality in this critical project. LTI (Loss Time Injury) achieved is "Zero".



Unique Geometry: Curved MR-24® Standing Seam Floating Benchmark for Future Projects

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The project has modern architectural design which emphasises the intricacy and detail featured in few industrial buildings in India. The unique geometry of the buildings with tapered walls, curved eaves and curved bottom, sets it as a benchmark for future projects in the emerging Oil and Gas industry in India.

The MR-24[®] Standing Seam Floating Roof System, a 100% Leak proof Roof System with 10 Years leak prook warranty was used with WMPVR insulation and is curved for most buildings (Radius of curvature R = 100 M). TRIMDEK[®] 1015 profile has been used for the walls, which are tapered. The veneer panels inside the structure are well-defined.

Consistent Quality: Vetted by the Experts and supplied by the Industry Leaders





Complex detailing and special formats for column reactions submission were prepared for the project. The design was vetted by the Indian Institute of Technology (IIT). The entire project followed stringent quality requirements like 100% UT and Third Party Inspection of quality of fabrication.

The project was approved after 167 GA approval drawings, 327 erection drawings, 26734 shop sketches and 36 review meetings at various levels, which defines the magnitude of the 48269 sq.m. project.

| • Design Codes: | AISC Manual 9th Edition, Allowable Stress Design |
|---|---|
| Structural Steel: | ASTM A 572 Grade 50 |
| Cold Rolled Sections: | As per ASTM A 568 |
| Fabrication Code: | MBMA 1996 / AISC |
| • Erection carried out in accordance with | MBMA 1996 |
| • Welding of structural steel as per: | AWS D 1.1 2006 |

The BUTLER[™] team also worked closely with architectural, electrical, HVAC and Mechanical teams of Reliance for all the buildings.

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Case Study The Best PEB Project of the Year 2009

On-Time Delivery: Fast Track Schedule, Average One Building delivered in Two Days

The entire project consisting of design, manufacture and supply of 122 buildings across 38 different locations in four different states was completed in 280 days as per mutually agreed fast track schedule. BUTLER™ Building Systems backed up with advanced technology to ensure timely and systematic completion of projects. Automated Computerised Integrated Manufacturing Systems allows for automation in our detailing and manufacturing processes. We are one of the first companies in the PEB industry to have integrated Engineering, ERP, Production, Planning and Manufacturing across the Buildings business

An Awarding Experience Knowledge in Emerging Oil and Gas industry Awarded PEB project of 2009

The BUTLER[™] team who worked on this project had an opportunity to learn about the particulars of the emerging Oil and Gas industry. The team was elated when the project received the award for PEB project of the year – an honour it truly deserved. The East West Pipe Line Project was of great importance for Tata BlueScope Building Solutions because of its application, magnitude and diversity. Since Oil & Gas industry is an emerging sector and many gas pipeline projects are expected in India in the near future, engineering efforts and research that has gone into this project will serve as a ready database for all our future projects in this emerging sector.



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