

BP Bright Lights Chicago, IL

Client

BP Products North America, Inc.

Value

US\$73,000,000

Completion

2010

Assignment

Construction Management



Bovis Lend Lease is managing the 250,000 square foot office and trading floor renovation in the Chicago Mercantile Exchange building. The project scope involves over 200,000 square feet of demolition and the reconstruction of office space to meet BP's specific needs including a 30,000 square foot trading floor, accommodating 510 traders, a full-service kitchen, as well as a 'grab-and-go' café.

The trade floor will feature a multi-level mezzanine along with bridges and communicating stairs, as well as a fully redundant mechanical and electrical system; the electrical system is a 2N+1 system utilizing an onsite energy source with six uninterrupted power supplies, providing 30-minute battery backup to all trade floor operations.

Incoming telecommunications consist of redundant high-speed Metropolitan Area Network (MAN) connections back to a primary center; the two primary data communication spaces are core satellite equipment rooms (SER-C) and satellite equipment rooms (SER). The audio visual systems will be consistent for meeting, collaboration and common use spaces.

The project team utilized an integrated project delivery (IPD) method for this multi-phased project, which spans five levels in three adjacent buildings, providing identical incentives to all primary stakeholders — owner, construction manager, architect/engineer, fostering a teamwork approach to address/resolve project challenges.

Bovis Lend Lease involvement began long before site selection, lease signing and design work began, enabling the project team to provide input during preconstruction regarding constructability, budget, schedule and logistics during the conceptual, schematic, design development and construction document phases of design. This early involvement led to numerous 'success' stories; for example, the original design for the trading floor ceiling was a single-sourced, foreign, metal ceiling at a price of approximately \$45 per square foot. Bovis Lend Lease tagged this as an item of concern. After 'capturing' the design intent, Bovis Lend Lease involved multiple, potential ceiling installers during the conceptual design stage, allowing the introduction of alternate systems and fine tuning details, which could potentially reduce budget costs; among the options were ceiling panel size

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and orientation efficiency, details at vertical terminations, maximizing off-site fabrication and minimizing above-ceiling uni-strut support.

As a result of this conceptual stage exercise, multiple ceiling systems were formulated and introduced in the schematic stage for design-assist procurement; the refinement of installation details and the participation of multiple manufacturers resulted in a significant cost saving. The original ceiling was procured at a final cost of \$18 per square foot, rather than the original \$45/square foot price provided by the supplier.

Additionally, despite the manufacturer's location in Germany, Bovis Lend Lease used a phased-release of materials and a guaranteed six-week material delivery, opposed to the original 12 to 16 week lead time. The trading floor ceiling story, just one way the project team has worked together, providing successful results for all project stakeholders, highlights the importance of understanding critical path activities, acting on independent cost estimates (not in line with the budget goals) and obtaining competitive subcontractor interest in all aspects of the project scope.

The BP Bright Lights project team was also faced with the simultaneous ongoing construction on two other major projects in the same building, and occupied floors immediately above and below the BP space. Bovis Lend Lease, working closely with BP, established rules (in the lease) with the landlord regarding dock access,

vertical access, noise, dirt, odor and other construction activity factors. Additionally, the project team defined the building requirements for each subcontractor in the site logistics. To continue communicating construction issues, the project team meets regularly with other building construction project teams, landlord and the tenants occupying the immediate floors above and below the BP space sharing detailed logistic plans, schedules and phasing plans.

The project team also addressed the issue of providing BP with key data room locations, maximizing potential overlap between construction and data/communication work, and providing redundant, commissioned mechanical and electrical infrastructure to the data/communication trades at the earliest possible time. Bovis Lend Lease pre-purchased all major, long-lead MEP materials directly before drawing completion; the project team scheduled key area completion milestones, managed the trades to meet the milestones and defined key dates for data/communication and infrastructure turnovers.

In line with the corporate responsibilities shared by Bovis Lend Lease and BP, the BP Bright Lights project is targeting LEED-CI Gold rating. In addition to its proximity to multiple, public transportation options, and hotels and restaurants, the BP Bright Lights project is being constructed with numerous sustainable components including use of an existing structure, diversion (85% by weight) of construction

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and demolition waste from the landfill, an access floor will provide space for cable, telephone and electrical systems, as well as an under floor air delivery system, providing individual control of ventilation and no wood products manufactured with urea formaldehyde-based resins. Bovis Lend Lease also developed and implemented a Construction Interior Air Quality Management Plan.

The BP Bright Lights project is scheduled for completion in the third quarter of 2010.