

Honeywell PNG LNG MTCS & Local Equipment Rooms

Client: Honeywell Pty Ltd

Overview

AEC was engaged by Honeywell to complete the structural design and provide full time fabrication support for multiple Local Equipment Rooms (LERs) and a Marine Terminal Control Station (MTCS). The units were fabricated in Maddington and Hazelmere. They were then transported to PNG for the Exxon Mobil PNG LNG Project, some by sea and others by Antonov cargo planes.

The Challenges

The MTCS was a two storey complex that was 20m x 8m in plan and 8m high. Temporary bracing was required in the base of the lower storey for the lifting and transport load cases.

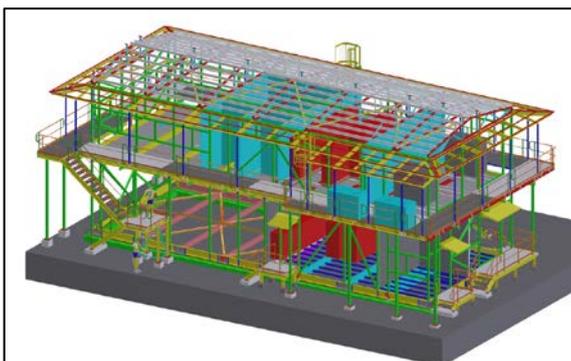
The units were designed to American Standards for PNG seismic conditions. AEC had to ensure that the ground accelerations obtained from the PNG seismic data were compatible with the American Standards. The seismic response of the supporting jetty structure also had to be accounted for in the design of the MTCS.

Prior to AEC becoming involved, significant delays to the existing design and fabrication had been experienced and the schedule had become critical for Honeywell. In addition to the critical schedule, the selected fabricator, HVLV, had not previously fabricated a two storey building of this size.

The LERs and MTCS house safety and production critical equipment, therefore AEC's calculations were required to be presented for detailed checks by Honeywell's clients (Spiecapag, Chiyoda-JGC Joint Venture and CBI Clough JV), who were engaged by Exxon Mobil.

The Solution

AEC applied a rigorous engineering and design approach to simplify the structure of the LERs and MTCS. A 3D model of the MTCS was developed and was an invaluable tool for co-ordination of fabrication and interfacing with HVAC, control systems and fire control requirements.



AEC assigned an experienced fabrication support engineer who was based in Maddington/Hazelmere in order to provide technical support. Fabrication of some of the LERs had already commenced before AEC was engaged.

Outcome

The AEC design calculation reports were issued to Honeywell's client per the agreed schedule and no changes to the structure were required during fabrication.

Honeywell found AEC to be reliable for high quality structural engineering solutions that met the requirements of Spiecapag, Chiyoda-JGC and the CBI Clough JV.

