

## Subsea & Pipeline HAZID and ENVID

Independent Chairman for the Cause & Effects, Permissives, Interlocks and Alarms Review for Chevron's Wheatstone subsea developments. The review assessed the proposed controls and shutdown systems and their interactions with the process and facilities.

Facilitation of HAZID and ENVID, plus associated risk ranking assessment, for the FEED Stage Subsea and Pipelines Infrastructure scope of Woodside's Browse LNG Development. The scope covered the export pipelines from the Central Processing Facility (CPF) to the shore, the exclusion zone around the CPF, and the interfield flowlines from the CPF to the Dry Tree Units (DTUs), and associated subsea equipment (PLETs, Wye/Tee, SSIV).

Facilitation of HAZID, plus associated risk ranking assessment, for the FEED Stage Shore Crossing scope of Woodside's Browse LNG Development. The scope reviewed the design and installation methods, from the entry pits, through the boreholes/tunnel to the exit box/punch-out locations.

Facilitation of an additional design concept for the FEED Stage Shore Crossing scope of Woodside's Browse LNG Development. The scope was to identify the hazards associated with running two pipelines within a tunnel structure, as compared to the previously assessed concept with tow tunnel each with a single pipeline running through.

Independent HAZID & ENVID Chairman for Hess's Equus project, Subsea Pipelines & Infrastructure. The scope covered the subsea wells and infield subsea flowlines connecting different reservoirs and wells; subsea utility lines and umbilicals; and export subsea pipelines.

Responsible for the Technical Safety and Risk Management aspects of Apache Energy's Julimar project, to supply gas the Wheatstone Platform on the Northwest shelf of Australia, for subsequent export to the onshore Wheatstone LNG plant in Ashburton North.

Independent Chairman for HAZID & ENVID sessions for Woodside's Karratha Gas Plant and Nganhurra FPSO.

Independent Chairman for Constructability Review of modifications to the regeneration gas line on Woodside's Pluto LNG Park.

Contributor to the formal safety assessments for the Central Processing Facility (CPF) of Woodside's Browse LNG development – Platform spacing and Flammable Hazards Analysis for the two bridge linked platforms that will be the CPF.

Independent Chairman for a risk review to identify hydrocarbon release scenarios from Apache's Ningaloo Vision FPSO and associated subsea and surface operations.

Independent Chairman for Revalidation HAZOPs of existing offshore production facilities in the Idd El Shargi field, operated by OPQL in the Arabian Gulf.

Independent chairman of a revalidation HAZID for Vermillion Oil & Gas Australia's Wandoo offshore facilities to support the 5 yearly safety case resubmission to NOPSEMA.

