



## Lundin Broom: Subsea Tieback to a Fixed Platform

Lundin's 45 million barrel Broom field is a significant redevelopment project in the North Sea. The two-stage development is a subsea tie-back to the Heather platform and initially involved three existing wells being completed as producers, closely followed by two water injection wells to sustain production.

The development required considerable upgrading and modernisation to the Heather platform. MCS Kenny provided advice to Lundin relating to the flexible riser system used and also verified the design performed by Wellstream International. The project involved tying back four free hanging flexible risers and a dynamic umbilical to a fixed platform, as well as a 15" flexible pipe export line to replace a section of corroded rigid pipeline/riser at the platform base. MCS Kenny carried out extensive design verification of the riser system, including detailed review of the flexible pipe structure, riser configuration parameters and all ancillary components.

The redevelopment achieved first oil in August 2004 and has significantly extended Heather's field life and reserves.

### Scope of Delivery

- Competent verification of global extreme response, local cross-section design and fatigue response for the flexible pipes and the umbilical
- Competent verification of the ancillary component design including the riser base and bend stiffeners
- Review of Installation Analysis prior to riser installation.

### Benefits

- Independently verified design of Broom riser system, including review of the flexible pipe and riser configuration parameters
- Performing independent flexible pipe fatigue analyses helped highlight issues that may not have otherwise been brought to the fore in the project
- Detailed Technical support on polymer suitability for oil export applications