

The system is comprised of a free-standing 15K-rated Triple-Ram stack connected through a transition spool to the 5K-rated G-Series flange at the top of the flexjoint, which in turn is connected to the Horizon BOP attached to the wellhead casing. The existing 5K-rated system was not designed for the estimated shut-in pressure of 8,900 psia. The requirement to interface with the existing system at the shut-in pressure presents a significant challenge with respect to the applied bending moments at the transition spool due to inclination of the BOP.

Particular attention has been paid to the structural stability, pressure containment and leak tightness of the pressure parts and bolted joints. Detailed inspection of the existing components on the seabed is not possible and, where necessary, reasonable engineering judgment has been employed to assess the impact of the most likely condition. Individual component analyses have been carried out by a number of different companies, with integration and oversight by BP Technical Authorities.

Component	Description	Designed By	Report Section
1	Triple Ram Stack	Transocean	Triple Ram
2	Transition Spool	IntecSEA/Frazer-Nash Consultancy	Transition Spool

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1	Triple Ram Stack	Transocean	Triple Ram
2	Transition Spool	IntecSEA/Frazer-Nash Consultancy	Transition Spool
3	Flexjoint	Oil States Industries	Flexjoint Assembly
4	Horizon LMRP, BOP and Wellhead casing	Stress Engineering Services (SES)	Design Criteria

**Table 1 - Component Analysis Responsibilities**