BHP Trion Project
EOI Question and Response Log
as of March 30, 2021

Date	EOI	Question	Response
March 24, 2021	OCTG (Casing and Tubing) Tangibles	Could you give more details about the scope of work of this EOI?	This EOI includes provision of the specified casing and tubing.
March 24, 2021	OCTG (Casing and Tubing) Tangibles	The scope of work is related to casing or tubing joints?	The scope of work includes provision of both tubing and casing, as specified in their respective tables.
March 24, 2021	OCTG (Casing and Tubing) Tangibles	Could you give more details about the meaning of OCTG?	OCTG is an acronym for Oil Country Tubular Goods, which describes tubes that are used in oil and gas production. These include drill pipe (not included in this EOI), casing and tubing.
March 24, 2021	Surface Controlled Subsurface Safety Valves (SCSSSV)	We kindly request your support by changing the submission deadline date of EOI to April 15, 2021	An extension to April 15, 2021 is granted. Note however that further extensions are unlikely to be accepted.
March 25, 2021	Surface Controlled Subsurface Safety Valves (SCSSSV)	Please provide SIWHP expected, Max Delta Pressure expected, Bottom hole pressure / temperature, Temperature at valve depth, Platform Hight above Seawater.	Please review the spreadsheet that was provided with the questionnaire. We believe all the data required to set-up the valve for every design case is included. Please advise if more info is needed.
March 25, 2021	Surface Controlled Subsurface Safety Valves (SCSSSV)	Please confirm maximum hydraulic control pressure at Platform or drillship	The production HPU will be limited to a maximum of 10,000 PSIG. With PSH alarms and pop-offs only 8500 PSIG is "usable". A further limitation comes from API 6A, which limits the 10k subsea trees' hydraulics to 12500 PSIA for normal operations, and no more than 13750 PSIA for any unplanned excursions. At our 8500 ft water depth, **we believe API 6A limits the hold-open pressure to no more than 8100 PSI at the HPU**, and this is with zero safety factor. BHP prefers that a significantly lower hold-open pressure than 8100 PSI at the HPU be used, to provide some safety factor. Exactly how much safety factor is required may vary by design case and can be discussed. BHP are also seeking confirmation of our interpretation of API 6A from our prospective tree vendors and will share any updates when received.
March 25, 2021	Surface Controlled Subsurface Safety Valves (SCSSSV)	Please confirm Maximum Allowable Hydraulic Control Pressure at Safety Valve	As noted above, pressure is limited by the subsea tree, or possibly the SCSSV body. **8100 PSI at the HPU yields 13650 PSIA at the SCSSV if set at 11535 ft TVD**, assuming a 150 ft air gap and fluid density of 1.103 SG when compressed. The lines and fittings will be rated to much higher pressures.

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March 25, 2021	Surface Controlled Subsurface Safety Valves (SCSSSV)	Please confirm Max Delta Pressure expected	With a vacuum at the wellhead and a minimum 9.5 PPG annulus brine, the A annulus could be as low at 1450 PSIA at the SCSSV. If the HPU is operated at 8100 PSI, this will yield a 12200 PSIG burst from hydraulics to A annulus. In minimum pressure case outlined in Producer Case P6, the tubing pressure drops to 860 PSIA at the SCSSV. This yields 12790 PSI burst from hydraulics to tubing. Both of these burst pressures will be less if the hydraulic operating pressure is reduced from 8100 PSI at the HPU. Differential from tubing to annulus, and from annulus to tubing, will always be less than 10K.

March 30, 2021	Upper Completions Equipment & Services and Lower Completions Equipment & Services	It appears that the Response Form for the Upper and Lower Completion are identical. Is this correct?	Yes, the information required for each EOI is the same.
March 30, 2021	Upper Completions Equipment & Services and Lower Completions Equipment & Services	With regard to the Response Form, please provide additional clarity as to what asked by “Anticipated lead time (per well if possible) required to support the proposed scope"	Company seeks total time required for readiness from time of PO placement. Ideally, this would include a) time to manufacture and deliver to the Mexican base of operations (inclusive of shipping, customs clearance, etc) and then; b) time required to assemble, test and load the hardware into baskets. While not required, a breakdown between a) and b) above would be appreciated.