AMPCO Interrogatory #86

Interrogatory

Reference: Ex D2 T2 S10 P5

OPG provides the chronology of Business Case Summaries (BCS) from 2006 to 2018 as follows:

Attachment 2k - 2006 Developmental Release BCS
Attachment 2l - 2011 Draft Developmental BCS
Attachment 2m - 2012 Full Release Definition BCS
Attachment 2n - 2012 Partial Release Execution BCS
Attachment 2o - 2013 Full Release Execution BCS
Attachment 2p - 2015 Superseding Release Execution BCS
Attachment 2q - 2018 Superseding Release Execution BCS

a) Please provide the contingency amounts provided in each BCS and the rationale.

b) Please provide a breakdown and description of all contingency amounts used for the D2O Storage Project.

c) Please provide the original risk register related to the D2O Storage Project and any subsequent updates to the risk register.

Response

a) Please see Chart 1 below:

Chart 1: Contingency Amounts

BCS	Contingency Amount	Reference for Yearly Contingency Allocation	Reference for Risk Analysis
2006 Developmental Release BCS	$8,183K	Ex. D2-2-10, Attachment 2k, p. 17	Ex. D2-2-10, Attachment 2k, pp. 10-12
2012 Full Release Definition BCS	$23,923k	Ex. D2-2-10, Attachment 2m, p. 13	Ex. D2-2-10, Attachment 2m, pp. 8-9
2012 Partial Release Execution BCS	$23,923k	Ex. D2-2-10, Attachment 2n, p. 14	Ex. D2-2-10, Attachment 2n, pp. 9-10
2013 Full Release Execution BCS	$15,191k	Ex. D2-2-10, Attachment 2o, p. 16	Ex. D2-2-10, Attachment 2o, pp. 11-12
2015 Superseding Release Execution BCS	$33.9M	Ex. D2-2-10, Attachment 2p, p. 16	Ex. D2-2-10, Attachment 2p, p. 12
2018 Superseding Release Execution BCS	$0	Ex. D2-2-10, Attachment 2p, p. 15	Ex. D2-2-10, Attachment 2p, pp. 10-11

The process for developing the total contingency amounts in each of the above BCSs aligns with OPG's standard project contingency development methodology (see Ex. D2-2-6, section 2 for a full discussion of OPG's contingency development process). Specifically, the process for developing theses contingency amounts was as follows:

1. Evaluation of cost risks;
2. Evaluation of schedule risks;
3. Evaluation of discrete risks;
4. Profiling of identified risks to estimate probability of occurrence and cost impact;
5. Application of management judgment to assess the reasonableness of the contingency amount.

b) Please see Chart 2 below for a breakdown and description of contingency amounts used on the D2O Storage Project. Note that details of project contingency amounts listed in Chart 1 from the BCS that preceded the 2015 Superseding Release Execution BCS was allocated to project scope with cost greater than plan.

Chart 2: Breakdown and Description of Contingency Amount from the 2015 Superseding Release Execution BCS

Event	Contingency Draw
No access to temporary construction power	$768,265.00
Delay in unloading D2O Storage Tanks	$44,880.00
Revision to the stack monitor technical specification	$9,252.00
Delays: Turnover of site from previous contractor, RP resources not available to support and back-out due to field conditions	$113,499.00
Dewatering activities	$64,330.00
Revision to EC 121319	$47,702.00
Delays: Radiation Protection resource not available to support and back-out due to field conditions	$14,411.00
Revision to EC 120492	$15,996.00
Revision to technical specification NK38-SPEC-79710-10001	$3,946.00
Revision to EC 120493	$20,122.00
Revision to EC 121323	$104,276.00
Revision to the switchgear technical specification	$7,669.00
Revision to the transformer technical specification	$11,236.00
Offset to Approved Claim Values	$(255,134.00)
Delay in unloading D2O Storage Tanks	$22,440.00
Installation of 600V receptacles & cables to	$39,119.00

supplement their off site pre-fabrication shop	
Revision to EC 121326	$20,362.00
Update to the 3D model in order to complete clash reports	$95,153.00
Revision to EC 127532	$39,693.00
ES FOX T&M Contract - Procurement, Quality and Field issues resulting in delays	$1,364,921.00
Ellis Don T&M Contract - Field issues and fuel costs higher than anticipated	$758,378.00
Multiple legacy work packages has an overall overspending in design, procurement and project controls	$3,831,383.00
Return to contingency - OPG oversight activities underspent	$(3,114,416.00)
Return to contingency - Other vendor work underspent in PMT, Engineering, and Procurement	$(1,711,987.00)
Administrative correction. Project contingency marked as OPG-owned is actually owned by the contractor	$5,076,184.00
Project interest is understated. Additional interest forecast due to project delays	$4,111,863.00
Project interest cost to support scope planning and progress on critical path work	$325,818.00
Contractor reduced PMT to support scope planning and progress on critical path work	$3,017,800.00
Procurement of already committed engineered material	$1,862,000.00
Already committed bulk material	$1,568,000.00
Construction equipment rental to support critical path work	$120,000.00
Subcontractors to support critical path work	$871,000.00
Field labour, including supervision and safety professionals, to support critical path work	$3,451,200.00
Craft and staff living allowance estimate	$210,000.00
Allocated to various work packages to cover variances	$2,017,586

Note: The above contingency draws total to $24.9M.

c) Please see Attachment 1 for a copy of the 2012 risk register for the D2O Storage Project. Per the description of contingency development in OPG's response to part a), the D2O Storage Project risk register is a "living document" that reflects continuous risks management by the project team. As a result, all subsequent revisions of the risk register cannot be provided.