AMPCO Interrogatory #25

Interrogatory

Reference: Ex D2 T1 S1 Attachment 2 P12

KPMG indicates it selected the 10 projects based on a list provided by P&M representing its whole portfolio of projects as of April 2019.

a) Please confirm the number of projects on the April 2019 project list and the total value of the projects.

b) Please provide the list of projects provided by OPG to KPMG as of April 2019.

c) Please provide the spending forecast for 2019.

d) Did KMPG select the projects independently? Please explain the process followed to select the projects.

e) Please confirm all projects had exposure to the new governance procedures implemented by P&M in January of 2018.

f) Which of the 10 projects were completed at the time of KPMG's review?

g) Which of the 10 projects experienced challenges resulting in cost, schedule or scope variances?

h) Which projects reflect new component work?

i) Which of the 10 projects would OPG classify as complex?

j) Please provide any other details on how and why the 10 projects were selected.

Response

KPMG's methodology and criteria for the selection of a representative sample of projects is provided in Ex. D2-1-1, Attachment 2, pp. 12-13, Section 2.14-2.20.

a) There were 120 projects in the 2019 project list with a total forecast value of $2.9B at the time. Projects were selected to represent a minimum of 25% of the total portfolio dollar value.

b) The list of projects provided by OPG to KPMG as of April 2019 is listed in Table 1.

c) The total 2019 capital expenditures forecast was $248M as noted in Ex. D2-1-2, Table 4a, line 18.

d) KPMG selected the projects independently. See Ex. D2-01-01, Attachment 2, pp. 12-13, Section 2.14-2.20 for KPMG's methodology and selection criteria.

e) Confirmed.

f) Project 49158 - PB Fukushima Phase 1 Beyond Design Basis Event Emergency Mitigation Equipment, was completed at the time of the KPMG audit.

g) See Ex. L-D2-01-AMPCO-26 for the total project cost per First Execution BCS compared to the current total project cost, and the original in service date per the First Execution BCS and current in service date for each of the 10 projects selected by KPMG. All projects have an inherent level of risk when they are planned and eventually executed. As a result, all projects will incur some level of change in terms of scope, cost and schedule. It is therefore important to adhere to effective risk management and change management industry best practices to mitigate the impacts of expected risks within approved budgets inclusive of contingencies and to monitor and document project changes accordingly.

h) OPG assumes that new component work refers to the situation where the asset is replaced or renewed. In this context, all projects included in the KPMG audit sample involve new component work.

i) Ex. D2-1-1, p. 13, lines 22-28 explains OPG's scaled project delivery model as a risk-based approach to match the level of project management rigour and planning commensurate with the value and complexity of the project. Out of the 10 sample projects selected by KPMG, 9 were assessed as Scale A and Scale B, indicating a higher level of complexity and project cost. One project was assessed as Scale C, reflecting a low to moderate level of complexity and project cost. See Ex. L-D2-01-SEC-57, Attachment 1, for the guide to explain this delivery model, including the project level classification evaluation method.

j) See response to part d).

Table 1

#	Project	Project Title
1	82932	SES Darlington Security Lighting Standard Replacement
2	84380	DN Resin Transfer Modification
3	31306	DN Passive Auto-Catalytic Recombiners
4	31403	DN Active Liquid Waste System Upgrade
5	31432	DN Containment Button-up Activity Monitors Replacement
6	31548	DN Feedwater Chemistry Control Improvements
7	31552	DN CCW and LPSW Travelling Screens Replacement
8	31706	DN Vapour Recovery Button-Up Valve Replacements
9	33228	DN Hydrogen Cooling TCV 20 Redesign
10	33621	DN ACU Replacement for Secondary Control Area (SCA)
11	80016	DN Reduced HTS Pressure- Temperature Envelope Modifications
12	82891	DN Post-Accident Water Cooling System Heat Exchanger Replacement
13	83591	DN AHS Security Cameras Installation
14	83918	DN ALW Tank Liner Replacement
15	31535	DN Water Treatment Plant Interconnections
16	84238	Cobalt 60 Production Modifications
17	38323	DN EPG2 Gas Producer Engine Replacement
18	80126	DN Emergency Power Generator 1 and 2 Replacement
19	84378	DN EPS Enhancements
20	31524	DN Station Roofs Replacement
21	80150	DN FRF Pump Improvement
22	31422	DN Pressurizer Heaters & Controllers Replacement Project
23	31508	DN Fukushima Phase 1 Beyond Design Basis Event Emergency Mitigation Equipment
24	31522	DN TRF Deuterium Make-up System (DMS) Electrolyzer Replacement
25	31544	DN Radiation Detection Equipment Obsolescence
26	31554	DN Frazil Ice Gate Replacement
27	31701	DN TRF CRS TOSS/Turbine Replacement
28	31708	DN PA System Upgrade
29	32202	DN Fukushima Phase 2 Beyond Design Basis Event Emergency Mitigation Equipment
30	33631	DN Chiller Replacement to Reduce CFC Emissions
31	80020	DN TRF Cold Box Vacuum System Obsolescence
32	80036	DN R22 Refrigerant ACU Replacement
33	80122	DN Main Power Output Protection System Replacement

#	Project	Project Title
34	82890	DN Main Power Output and Class IV Transformer Control Cabinet Wiring Replacement
35	82893	DN TRF Analyzer and Cryogenic Temperature Equipment Replacement
36	82929	DN Security Management System Replacement
37	83560	DN Tritium Removal Facility Water Air Conditioning Units Replacement
38	83669	DN TRF/HWM Interim LCP Implementation (Capital)
39	31412	DN Class II UPS Replacement
40	31506	DN Boiler Blowdown Piping Refurbishment
41	31514	DN GFP Sample Delay and Alternative PHT Sampling Point
42	31520	DN Replacement of Obsolete Online Chemistry Analysers
43	31526	DN Feeder Scanner Replacement (Capital)
44	31532	DN Powerhouse Water ACUs Replacement
45	31542	DN Transformer Multi-Gas Analyzer Installation
46	31710	DN Shutdown Cooling Heat Exchanger Replacement
47	33819	DN Major Pump-sets Vibration Monitoring System Upgrades
48	80067	DN IFB Stacking Frame Replacement (Long Bundle)
49	80070	DN Feeder Scanner Replacement (CMFA)
50	80113	DN Liquid Zone Control Valve Positioner Replacement
51	80123	DN Group II Pressure Transmitter Replacement
52	80152	DN Glycol Chiller TCV Replacement
53	82883	DN Class 1 Rectifier Replacement
54	83479	DN Civil Building Structure Repairs
55	84006	DN FM Duct & CSA ACU Replacement
56	31426	DN F/H Inverter Replacement
57	31536	DN T/G Lube Oil Purifier Replacement
58	31716	DN NOP & IC Amplifier Replacement (RRS, SDS1 & SDS2)
59	33258	DN Replacement of EPS Uninterruptible Power Supply
60	33973	DN SG Controls Replacement
61	38948	DN Zebra Mussel Mitigation Improvements
62	80063	DN Standby Generators Protective Relay Replacement
63	80151	DN FHA and FSSA Modifications
64	82881	DN Buried Piping Sacrificial Anode Replacement
65	82887	DN LISS Ball Position Detection System Replacement
66	83076	DN Phase 2 Station Battery Replacement
67	38466	DN CSA Sewage Line and Sump Emergency Connections
68	80023	DN Steam Generator Large Level Control Valve Replacement

#	Project	Project Title
69	83297	DN Large Moderator Temperature Control Valve Replacement
70	83298	DN Secondary System Obsolete Control Valve Replacement
71	83299	DN Condenser Steam Discharge Valve Control System Replacement
72	83664	DN Unit 2 Turbine Control & Aux Systems Upgrade
73	84009	DN Power Operated Valve Mods
74	31518	DN Restore ESW and Firewater Margins
75	34000	DN Auxiliary Heating System - Phases 1 & 2 Alternative Heating
76	83053	DNR2S Powerhouse Upper Level Service Water Piping Replacement
77	83136	DNR2S PHT LRV Modifications (Waterhammer)
78	84235	DNR0 PHT LRV Modifications (Waterhammer)
79	31702	DN FH PT Platform & Maintenance Cut Out
80	73566	DN RS PHT Pump Motor Replacement
81	80022	DN OH180 Aging Management Hardware Installation
82	80043	DN FH Window Annunciation Replacement
83	80124	DN Obsolete Controller Replacement
84	80144	DN PHT Pump Motor Overhaul
85	82892	DN Revenue Metering Upgrades
86	82947	DN Fuel Handling Head Major Component Replacement
87	83052	DN Fuel Handling Power and Signal Cable Catenary Replacement
88	83296	DN Main Output Transformer & Unit Service Transformer Replacement
89	83480	DN 4kV Motor Refurbishment and Replacement
90	83484	DN Isolated Phase Bus Refurbishment
91	83558	DN FH Service Area Bridge F5 Ball Screw Assembly Replacement
92	83559	DN East Irradiated Fuel Bay Permanent Fuel Inspection Equipment
93	80027	SES Station Personnel Emergency Accounting
94	46634	PA Fuel Handling SPV Equipment Reliability Improvement Project - Capital
95	40974	PN Crane Refurbishment Project
96	40976	PB Fuel Handling Reliability Modifications
97	40985	PN Replacement of Obsolete Online Chemistry Analysers
98	40987	PA Replacement of AIFB Supertool
99	40990	PN Bay Module Loader PLC Replacement
100	49158	PB Fukushima Phase 1 Beyond Design Basis Event Emergency Mitigation Equipment
101	83072	PN P58 Buried Blowdown Piping Replacement
102	83075	PN Flow-Assisted Corrosion Mitigation Strategy

#	Project	Project Title
103	83489	PN Air Compressor Replacement
104	40703	PB Irradiated Fuel Bay Leakage Mitigation
105	49146	PN Fire Code Compliance for Relocatable Structures in Un-Zoned Area for Pickering Station
106	49298	PA Replacement of U1, U4 and IFB-A Stack Monitors
107	49302	PB Fire Code Compliance for Relocatable Structures in Powerhouse
108	80069	PA Firewater Buried Ring Header Replacement (North Loop)
109	82930	PN Security Management System Replacement
110	83061	PN Stator Cooling Water Alkalization and Make-up Deoxygenation
111	83412	SES Pickering Sally Port Equipment Upgrade
112	83590	PA Firewater Buried Ring Header Replacement (South Loop)
113	83491	PN Emergency Power Generator 3 Permanent Installation
114	40983	PB Machine Guarding Improvement on Low Risk Equipment (Capital)
115	40691	PB EPG Protective Relays
116	40972	PA SG Reliability Upgrades
117	41024	PN Instrumentation & Control Obsolescence
118	41044	PA SG Protective Relay Upgrade
119	49161	PB Fukushima Emergency Telecommunications Enhancement (Capital)
120	84008	PN Power Operated Valve Mods