

From: mbradbury@nalcenergy.com
To: jamesmeaney@lowerchurchillproject.ca
Cc: stevepellerin@lowerchurchillproject.ca; alisonball@nalcenergy.com; douglaswoodford@nalcenergy.com
Subject: Re: OC Meeting on EY Scope, etc
Date: Wednesday, March 18, 2015 9:57:16 AM
Attachments: [Muskrat Falls Project Review Approach Nalcor meeting.pptx](#)
[MFP - Review Program - Cost and Schedule Management Detailed.docx](#)

Correct Jim. Alison is fielding comments. As you know, I am having a bit of a battle with them with regards to some of the documents they have requested. Basically they have asked for just about every management plan the Project has and yet I see little in their proposed audit program that would suggest that they are going to be looking at them. I have asked them to explain to me their relevance in the context of the audit program. I am awaiting the answer.

To be honest, I have been pushing back on a number of their information requests (and relented on some). I am trying to be careful not to put us in a position where they complain that we are limiting their scope, but I really feel they are over-reaching on some of this stuff. Having said that, I don't see evidence of the "overreach" in their audit program, so I guess if we are all agreed on the audit program, we could give them the documents they are asking for without having to worry that they are going to be spending a lot of time on them. I understand that the OC has all of them anyway. Thoughts?

Mark



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You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

James Meaney---03/18/2015 09:40:24 AM---I wanted to confirm a similar point.....should we be assuming the E&Y presentation Alison circulated

From: James Meaney/NLHydro
To: Steve Pellerin/NLHydro@NLHYDRO
Cc: Mark Bradbury/NLHydro@NLHydro
Date: 03/18/2015 09:40 AM
Subject: Re: OC Meeting on EY Scope, etc

I wanted to confirm a similar point.....should we be assuming the E&Y presentation Alison circulated Sunday evening, attached, is the "official" scope of work and that we should be providing any comments on that basis? My sense was yes, but just wanted to make sure.



Muskrat Falls_Project Review Approach_Nalcor meeting.pptx



MFP - Review Program - Cost and Schedule Management_Detailed.docx

James Meaney

General Manager Finance

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You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

Steve Pellerin---03/18/2015 09:09:00 AM---Gentlemen: As you probably know, EY was here last week working on finalizing the program with Doug W

From: Steve Pellerin/NLHydro

To: James Meaney/NLHydro@NLHYDRO, Mark Bradbury/NLHydro@NLHydro,

Date: 03/18/2015 09:09 AM

Subject: Re: OC Meeting on EY Scope, etc

Gentlemen:

As you probably know, EY was here last week working on finalizing the program with Doug Woodford and Alison Ball - seems the plan is coming together and I am simply following up on a few loose threads, namely:

Did we ever see a revised version of the OC's revised Scope of Work? recall we had that meeting 04-Feb-2015 at Hydro Place and there were a couple actions items related to scope definition that Craig was going to take away (including revised language to address Paul's comment). I know Mark met with OC/EY on 13-Feb-2015 but I am not sure the Scope of Work was on the table at that time.

Emeliano was one of the EY reps here last week - and I believe a Richard Noble the second team member - Craig was going to send CV's - did you get those?

I will be chatting with Doug and Alison later this morning - hoping to get some insight on the collaboration of last week, timing, and whether there was any discussion on the "who" needed to be available [from the Project Delivery Team], "where", and for "how long" [the proposed schedule illustrates a two period for "interviews" and the like - but my sense is this is a pretty high level schedule diagram and it will not necessarily be the full two weeks - but a number of hours/days over that two week period - just want

confirmation]. I also hope to learn if any dates have been suggested for the Kick-Off Meeting.

I'll check back in with you after my meeting with Doug/Alison.

S. M. Pellerin, M. Eng., P. Eng.

Special Projects/3rd Party Coordination Manager

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James Meaney---02/04/2015 02:39:56 PM---Gilbert/Paul Mark, Steve and I met with Craig Martin this morning. I can fill you in further in pers

From: James Meaney/NLHydro

To: Gilbert Bennett/NLHydro@NLHydro, Paul Harrington/NLHydro@NLHydro,

Cc: Mark Bradbury/NLHydro@NLHydro, Steve Pellerin/NLHydro@NLHYDRO, Ed Bush/NLHydro@NLHYDRO, Anthony Embury/NLHydro@NLHYDRO

Date: 02/04/2015 02:39 PM

Subject: OC Meeting on EY Scope, etc

Gilbert/Paul

Mark, Steve and I met with Craig Martin this morning. I can fill you in further in person, but here are the highlights:

Scope - We advised Craig the Nalcor team felt the EY scope is not well enough defined. In particular we noted the language Paul had highlighted "against leading practices and standards in project management and control". Takeaway was Mark is getting with Craig and EY next week to provide better definition in the scope along the lines of what he had set out for Internal Audits (IA) proposed project controls review and start fleshing out a work plan with milestones, deliverables, etc.. I will point out that IA's focus was going to be process with a compliance review to be phase 2, while the OC wants EY to focus on both process and compliance in this current review.

EY Resources - Craig advised Emiliano Mancini (who joined us for Nov IE site visit) and another EY rep will be the team. I indicated we want to see their CV's to understand qualifications and Craig will be providing.

Timing - There's a desire on the part of the OC to get this review underway as soon as possible.....seems to be driven by wanting to be able to state in OC report to be issued in March its underway. I reminded Craig the last time you two, Ed and I met with him we talked about March. Craig seemed to be leaning towards the early part of March with possibly some offsite preliminary information gathering assisted by IA in late Feb, if possible. Advised I needed to circle back with Ed and Anthony on that timing. All agreed the kick-off presentation we discussed with him that last time was a must. EY has advised their engagement will take 6 weeks but not all of that would be onsite with LCP team. Not really clear in discussion today how long EY

foresee being onsite....suspect that will get fleshed out better in work plan discussion next week. View seemed to be it would be 12 weeks before they have a report from EY and would want to include findings in the OC report for the period ending Mar 31 which would be issued in June.

Approach - I asked Craig very point blank what is the OC's desired approach. He advised they need to have EY conduct an "independent review" which IA could certainly be part of, but having Nalcor IA lead and EY piggyback off that would not work. I let him know that I needed to circle back with you two on this and ensure this is not offside with discussions held at the Ed/Premier level on this matter back before Xmas.

Other - Craig advised that once EY completes its process & compliance review on Cost/Schedule the next phase will be a review of Change Management and Risk Management given links to the former. Mark advised his IA team has recently completed the process review in these 2 areas and a compliance review is planned for this year. Craig needed to take how that would tie into EY review....could they rely on the compliance review Mark's team performs or would they want to take a similar approach as Cost/Schedule where EY leads and IA part of team.

Mark/Steve - Let me know if I've missed or mis-stated anything.

Regards

Jim

James Meaney

General Manager Finance

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You owe it to yourself, and your family, to make it home safely every day. What have you done today so that nobody gets hurt?

Muskrat Falls Project Review Pre-KOM with Nalcor

March 2015

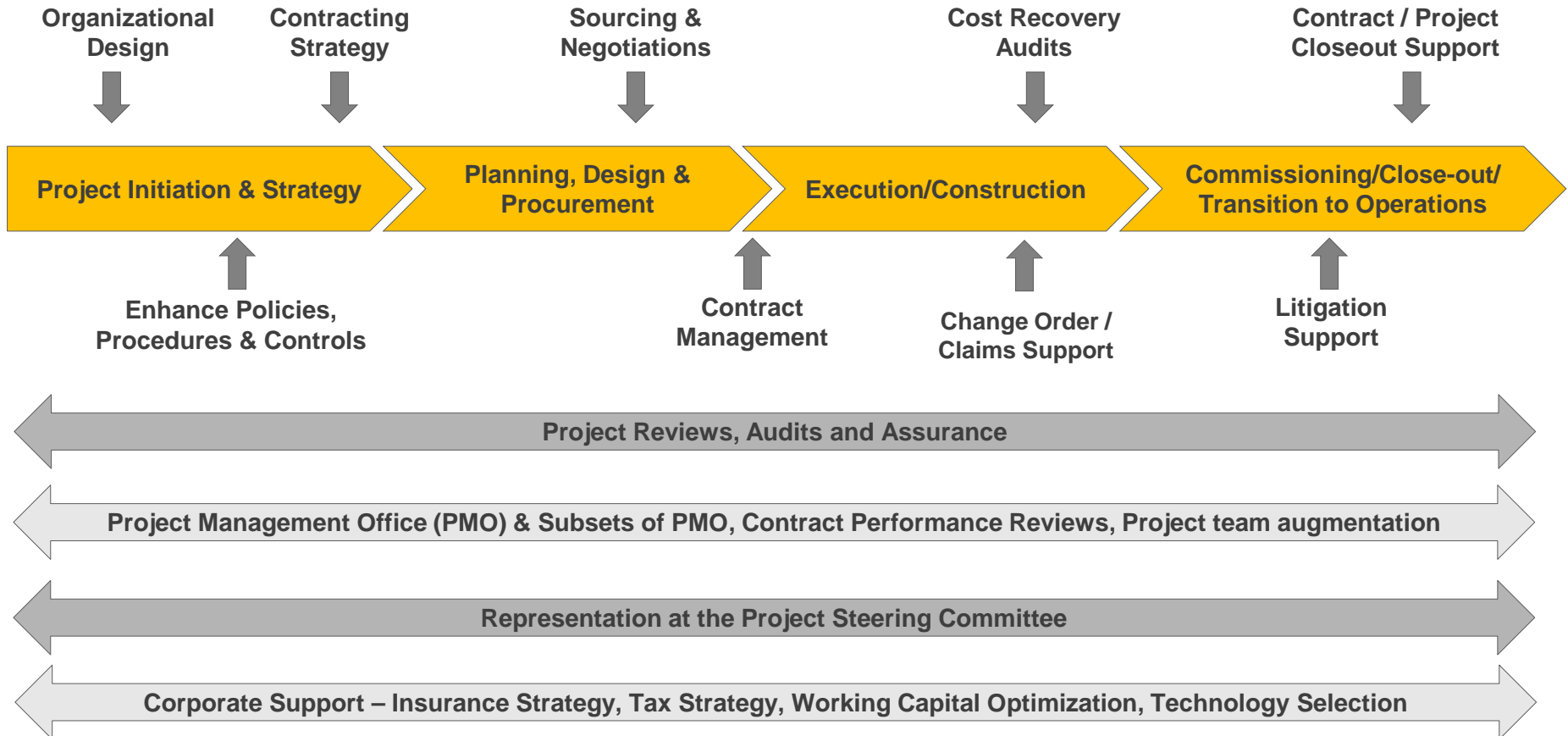


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For Discussions Only

Overview of EY Major Capital Project Practice

CIMFP Exhibit P-03647

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Objective

The objective of this review is to assess the management processes and controls at the Lower Churchill Project to give the Oversight Committee insight on the appropriateness of such processes and provide the Oversight Committee assurance as to the completeness and quality of information being provided.

Scope

The scope of the review includes assessing the appropriateness of the Lower Churchill project management processes related to:

- ▶ Schedule management, reporting and control
- ▶ Cost management, reporting and control

The management processes and controls will be assessed against leading practices and standards (PMBOK) commensurate with projects of the scale and complexity of Lower Churchill project.

We will work with Nalcor Internal Audit during the planning and execution phases of this engagement to leverage work performed by Internal Audit and avoid duplication.

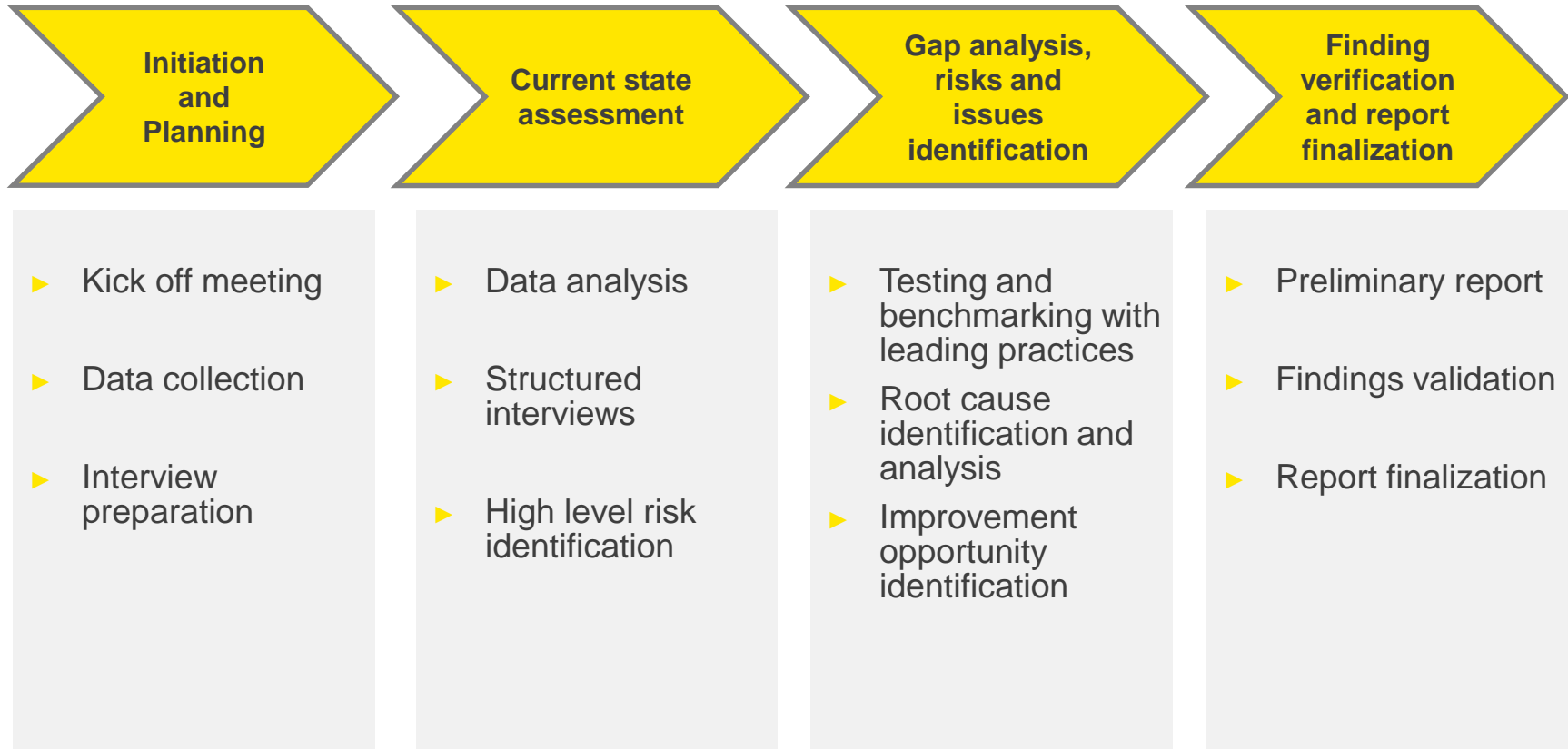
Scope limitations

- ▶ The scope of the review will not assess how the cost and schedule baselines were developed and estimated
- ▶ This scope will not include a review of the scope/change management and risk management processes

Project Review Methodology

CIMFP Exhibit P-03647

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Phase I - Initiation and Planning

Kick off meeting

- ▶ Identify core project team and stakeholders
- ▶ Establish communication protocols
- ▶ Review engagement scope, objectives, approach, timeline and logistics

Data collection and interview preparation

- ▶ Review data request list
- ▶ Identify key stakeholders to interview
- ▶ Set up interview schedule

Phase IV - Findings Verification and Reporting

Preliminary Report

- ▶ A preliminary report is drafted containing the full list of risks and issues as well as their prioritization and recommended actions

Finding validation and Report Finalization

- ▶ Based on feedback on preliminary report, assess need to conduct further interviews and finalize the report

Phase II - Current State Assessment

Initial data review

- ▶ Review data provided
- ▶ Request additional data (if needed) and seek clarification related to data received

Structured interviews

- ▶ Conduct interview
- ▶ Assess interviewees understanding on processes and procedures
- ▶ Get clarification / review data provided

Phase III - Gap Analysis, Risks and Issues Identification

Testing / benchmarking with leading practices (PMBOK, AACE) and root cause analysis

- ▶ Assess cost/schedule management processes and controls against leading practices
- ▶ Identify gaps in complying with corporate/functional policies and procedures
- ▶ Root cause analysis and improvement opportunities identification

Approach of the review

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The review will assess:

- ▶ The processes and procedures for managing, controlling and reporting on cost and schedule against leading practices and standards (PMBOK).
- ▶ Implementation and compliance of these processes and procedures on selected contracts/work packages.

The review will be conducted through a series of interviews and data review which will include:

- ▶ Interviewing staff within the Project Controls Team.
- ▶ Data review of material contracts/work packages (tentatively Astaldi, Vallard, Andritz Hydro) with regard to cost and schedule. A sample of cost and schedule data/reporting will be reviewed.
- ▶ Interview of identified interfaces of Project Controls Team, including Project Managers of selected contracts/work packages.

Proposed Timeline

Activities	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5	Wk 6
Planning and review initiation	■	■				
Conducting Kick Off Meeting		■				
Perform fieldwork including interviews and analysis			■	■		
Validate results with Nalcor and Oversight Committee				■	■	
Perform additional review as required				■	■	
Write and present draft report					■	■
Finalize and issue the final report						■

Timely access to data and respective stakeholders determines the amount of time required to conduct the review. The timeline is based on timely access to data and Nalcor personnel as well as timely feedback during the reporting phase.

- ▶ Finalize workplan and data request listing with Nalcor IA and Oversight Committee
- ▶ Conduct audit kick off meeting with key stakeholders
- ▶ Set up interview schedule
- ▶ Continue collection and reviewing data

OVERSIGHT COMMITTEE

WORKPLAN FOCUS AREA - SCHEDULE AND COST MANAGEMENT

1.0	Plan & Schedule Management and Maintenance
1.1	How the schedules of Nalcor major packages and major contractors are monitored and controlled
	<p>Review:</p> <ul style="list-style-type: none"> - Monitoring and controlling processes in place - How work performance data are provided from the various sub projects / outside vendors to update the schedule. This refers to information on project progress such as which activities have started, their progress (e.g. actual duration, remaining duration, physical percent complete) and which have finished - Process to ensure schedule is accurate and realistic - How the integrity of project schedule is performed / what the criteria are (project set-up, activity details, schedule logic and constraints, scheduling method, critical path/float, resource management, progress, P6 compliance) - Resources/interfaces involved in schedule monitoring process
1.2	How schedule performance is reviewed for major contractors and work packages
	<p>Review:</p> <ul style="list-style-type: none"> - What metrics are used to measure schedule performance (SPI...) - How performance data are collected and reviewed - How often schedule performance is reviewed - If a process for documenting lessons learned from inaccurate scheduling is in place
1.3	How schedule variance analysis is conducted for major contractors and work packages
	<p>Review:</p> <ul style="list-style-type: none"> - How current project status / data to conduct variance analysis are gathered and assessed - How often schedule variance analysis is conducted - How float and critical path are assessed and how often
1.4	How project schedule is forecasted
	<p>Review:</p> <ul style="list-style-type: none"> - How trend analysis is used for schedule forecasting purposes - What information is used for schedule forecasting - What is the basis for schedule forecasting - How risks and mitigation actions are taken into consideration during forecasting process (compare with risk register)
1.5	How schedule variations at level 4, 5, 6 are integrated in the project control schedule
	<p>Review:</p> <ul style="list-style-type: none"> - How schedule integration between different contractors/subcontractors is assessed - How the application of consistent standards and expectation with contractors/subcontractors is assessed

1.6	How corrective actions and change requests are managed
	<p>Review:</p> <ul style="list-style-type: none"> - How corrective actions are identified - Approval process in place to make changes to the master schedule - How significant schedule delays get communicated to various package leaders/Component Managers - How roles and responsibilities for implementation of corrective actions are assigned / how implementation plan is monitored - How rectification of trends and improvement to project's schedule performance are done - How costs associated with schedule delays are quantified and how these costs are factored in the budget/forecast process
1.7	How data for schedule progress reporting (actuals, forecasts, performance measurements) are gathered and reviewed
	<p>Review:</p> <ul style="list-style-type: none"> - Sample of progress reports - How the weighting system factor is used for measuring progress - How progress is assessed (physical % complete, earned value...) for engineering, construction, supply chain, offsite fabrication. - How the quality of information in the report is assessed and validated - How progress versus baseline is tracked and reported - Process for compiling the monthly report (who prepares the report, who reviews/approves it) and average turnaround for its issuance - How progress reports compare to monthly project report - Other reports issued to senior management in between issuance of the monthly report / other reporting mechanism in place
2.0	Cost Management and Maintenance
2.1	How costs of major work packages and major contractors are monitored and controlled
	<p>Review:</p> <ul style="list-style-type: none"> - Monitoring and controlling processes in place - How work performance data is provided (incurred costs, project progress) and controlled - How checks and balances were implemented to ensure that the budgeted funds approved via the AFE/DG3 estimate were entered in Prism correctly. Any documentation supporting this reconciliation. - Consistency of data entered at a CCA (Cost Control Account) level with the WBS - Mapping of task in WBS to cost element - Sample reconciliation report that outlines changes to actual costs, CCB (Current Control Budget) and FFC (Final Forecast Cost) that is provided to the scope/area manager - Coordination procedures for contractors that outline cost reporting requirements and review a sample of these reports - Type of information requested to contractors to support their cost reports - PM+ and Prism's role for capturing costs (modules of Prism and PM+ that are used by Project Controls). How often incurred costs are updated into Prism - How reconciliation process are performed to ensure incurred costs get updated to actual costs for a contract closeout

	<ul style="list-style-type: none"> - How reconciliation with invoice costs/report from Finance is done
2.2	How cost performance is reviewed for major contractors and work packages
	<p>Review:</p> <ul style="list-style-type: none"> - What metrics are used to measure cost performance (CPI...) - How performance data are collected and reviewed - How often cost performance is reviewed - If a process for documenting lessons learned from inaccurate budgeting and/or forecasting is in place
2.3	How cost variance analysis is conducted for major contractors and work packages
	<p>Review:</p> <ul style="list-style-type: none"> - How current project status / data to conduct variance analysis are gathered and assessed - How often cost variance analysis are conducted
2.4	How changes to cost baseline are managed
	<p>Review:</p> <ul style="list-style-type: none"> - Process and approvals required to make a change to the Original Control Budget - Approvals required for moving approved budget funds between CCA codes.
2.5	How project costs are forecasted
	<p>Review:</p> <ul style="list-style-type: none"> - How trend analysis is used for cost forecasting purposes - What information is used for cost forecasting (work performance...) - Process to calculate Estimate At Completion, Estimate To Complete - What the basis for cost forecasting are - How risks and mitigation actions are taken into consideration during forecasting process (compare with risk register) - Cash flow forecasting process - Process for updating the final forecast cost. Authorization/approval required. Frequency.
2.6	How data for cost progress reporting (actuals, forecasts, performance measurements) are gathered and reviewed
	<p>Review:</p> <ul style="list-style-type: none"> - Sample of progress report. - How the weighting system factor is used for measuring progress - How progress is assessed (physical % complete, earned value...) for engineering, construction, supply chain, offsite fabrication - How the quality of information in the report is assessed and validated - How progress versus baseline is tracked and reported - Process to assess incurred costs (resources involved, inputs used in addition to contractor reports, monthly cut off to capture costs...) and what assumptions are made to estimate and report these costs - Working papers/electronic files maintained each month to support the incurred balance - Process to adjust prior month incurred balances to actuals - How accurate incurred inputs are. Volume/size of the adjustments to actual costs required month over month - Process for compiling the monthly report (who prepares the report, who reviews/approves it)

	<p>and average turnaround for its issuance</p> <ul style="list-style-type: none"> - How progress report compare to monthly project report - Other reports issued to senior management in between issuance of the monthly report / other reporting mechanism in place
2.7	How reserve analysis to monitor status of contingency is conducted
	<p>Review:</p> <ul style="list-style-type: none"> - Process / approvals required to use funds from contingency - How contingency requirements are tracked/reforecasted/updated and reported - Forecast change notice process that is used to draw down funds from the escalation and contingency control account

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