From:	Richard Noble
To:	David Steele
Subject:	Updated Comparison with Typical Assurance Reviews Appended
Date:	Thursday, June 19, 2014 12:04:00 PM
Attachments:	Further comparison following 10-06-2014 meeting +Assurance Prog v9.docx

Hi,

Have added a list of the type of work we would expect to see performed by Internal Audit functions… these should appear in the detailed Audit Plans

This is based off our discussions with Bruce Power and is similar to what EY has done with other P&U sector clients

Cheers,

R

bFurther comparison of requested data items per "Oversight Protocol for LCP –March 2014" versus "LCP Compliance Checklist-Monthly Oversight Report" following meeting on 10/06/2014.

Following the meetings with Nalcor on 10/06/2014, the tables below capture a summary of what is provided and what is still required over and above what was provided for our review (per the Nalcor the LCP Compliance Checklist) . The rational for the request/ usage of the information is also summarized. There is proprietary information in this including areas of cross checking. Distribution should be limited to the client only.

Items in red highlight the areas where additional information was required in addition to what was in the package provided for review.

However, the Nalcor team did confirm that with exception of Earned Value data (CPI, SPI, TCPI and IEAC) , all of the information we requested was being produced on the program. Mr Bush also confirmed that the request matched his own expectations of what was would be requested for an oversight function.

It must be stressed that this information is also **"preliminary"** and **"draft"** and has been constructed to assist in our preparations for that future meetings.

Oversight Protocol for LCP Item	Notes based on LCP Compliance Checklist	
Cost Information		
a. Baseline Budget with Basis of Estimate (BOE)	• This was not in the package. • Please add DG3 Estimate (which it was indicated includes the BOE) • Please note: The BOE will not be separately re-assessed, but should inform other cost review and oversight activities.	• Basis of estimate provides broken details of the estimate itself, how it was calculated and the core assumptions on which it is based. • When a variance from the plan occurs, this can be referenced to see if the BOE has been compromised and to what extent… this will be cross checked to see if management planned response will bring the costs back on track. • As such it is important that the OC working group has this

		information to assess the validity/severity of cost risks… but also so that it can judge whether the impact of any variance is material

b. Cost report showing: Cost Performance Index (CPI), Budget (Baseline, Change Approved, Change Pending, In Period), Actuals (Incurred -In Period, Cumulative), Estimate To Complete (ETC), Estimate at Complete (EAC), Variance – Period and Cumulative	• Summary Level information was provided in
	   • Project Monthly Report (Including In period costs for each project)
	   • Construction Report (including Cum costs for each project)
	• Please provide Contract and WP level information
	• Please provide both In Period and Cumulative details on costs
	• Please ensure complete/consistent information (Incurred/Actuals, Budget, Changes, Control Budget, Estimate to Complete, Final Forecast Cost (FFC) and Variances are provided at each line)
	• Please note: Inconsistencies were found in format of cost data in Schedule A, B & C in Construction report e.g. Part I MF Plant Hard costs does not include FFC & Variance. Schedule B does.
		• The Cost report should include all of the details requested and give a view not only on the current and historic performance of the project but also the forecast going forward.
		• Earned Value methods are not being used except on one major project. EVM gives insight on whether the cost budgeted for the work complete to date is equal to the actual cost (CPI)… it also gives insight on the feasibility of forward projections.
		• In lieu of EV methods, management is using tight contracting (target pricing/fixed pricing, incentives) and doing detailed estimates/forecasts to complete on a regular basis…
		• In absence of EV and in order for the OC to get comfort that the rolled up costs forecasts are valid… they will need to see the detail.
		• They will also want to do a cross comparison with schedule and change.
		• The consistency of information is critical in order to perform analysis (and management should be asking for/insisting on this themselves.)

c. Contingency draw log, report of planned vs. consumed contingency	• This was not included, but was confirmed to be available • Please provide this information	• Contingency is set aside against assessed risk and should be drawn on a controlled basis as risks are realized and/or retired… as such it is a contributor to the final probable cost. • However, its usage is also an indication as to the adequacy of the contingency provisions… earlier and/or greater draw on contingency than forecast is an early indicator of potential problems. • It will also impact forecast cash flow.
d. Performance Graphs showing performance, trend and forecast	• Summary Progress Curves are provided in Monthly report • In the absence of earned value performance indices, it was indicated that trend information was used by management.	• We were shown Construction Progress curves which are useful information to indicate whether the actual progress is tracking to plan. Further information is required on the

		details of how this is calculated, but should be available from close review of the project management controls documents.
	• Please indicate what trend information is used in management of cost and include this in the package.	• Trends in actual cost versus plan can be analyzed... this trend analysis and management can be done a number of ways. • Dependent on what Trend analysis is performed his again, may provide the OC with proactive insight on how the project is actually doing
e. Independent Estimate At Complete (IEAC) and To Complete CPI (TCPI)	• EVM Not used across the board. TCPI and IEAC not information used in Management process. Alternate methods in use include bottoms-up ETC's and trend tracking supported by a strong change management process. • In lieu of EV methods, TCPI and IEAC etc, please provide details of trend analysis performed and assurance on the related Cost Management Processes & Controls.	• Per notes on item b) concerning cost reporting above.
f. Contract level cost reporting as above but including: original commitments, approved changes, pending changes, revised commitments, invoiced to date, paid to date, percentage complete and CPI	• It was indicated that this information is available and used by management but not yet in the package • Please provide the Contract and WP level information requested.	• Per notes on item b) concerning cost reporting above.
g. Rolling cash flow (TBD Period) – planned versus actual	• It was indicated that this information is available but not yet in package • Please provide cash flow actual and forecast information	• Cash flow indicates ... cash flow... and you want to see baseline, actual and forecast and check how it is tracking. • But also can be broadly cross checked against schedule to do a ball-park check of whether there are issues. • Other checks include the stability of the cash flow forecast (which are indicators of issues with estimates, changes as well as the processes, systems and controls.
h. Log for tracking funding draws	• Summary level information is provided. • Details of verification by IE is also provided	• Funding draw process exists including associated validation. This can be secondarily checked by OC. • However, it should be noted that errors also have downstream impact... and can accumulate... so this is not just for historical / compliance purposes
i. Analysis and management corrective actions for variance at the individual line item level	• This information is not managed under a separate Variance Management process • It is managed through Change control and DAN processes.	• Variances are departures from plan. They may be current/historical or triggered by changes in forward planned action/forecast costs. They can be tracked either in period or

	Management confirmed that this information is available. • Please provide details of DANs and Changes at WP & Contract level	cumulative. • Management action is triggered in response. • A separate formal Variance Management processes is nboot being used… Variances are being managed through DANS/Change processes and contract/project management… • In lieu of separate variance reports and management process, have requested equivalent DAN and Change info.

Oversight Protocol for LCP Item	Notes based on LCP Compliance Checklist Item	
Schedule Information		
a) Schedule Specification, Basis of Schedule, Assumptions and a Predecessor/Successor report	• Management indicated Schedule Spec is provided in Schedule Development and Control plan. Basis of schedule also in this document. • Please provide Schedule Development and Control Plan • Predecessors/successors will be requested in Gantt data (see request below)	• Provides details of the key drivers and metrics underpinning the planning and forecasted schedules • Provides early indication of poor planning, likely Schedule Challenges and allows us to understand / prioritize findings and recommendations • As with Cost BOE… is also cross checked when variances from plan occur. • A schedule specification provides standards and guidance to all those involved in creating schedules on the project. • This is essential when you have multiple entities under multiple contracts producing schedules that have to be integrated. • Without the schedule specification, schedules can become an uncontrollable mess. • For our review, this would provide a basis for our assessing the overall quality of the schedules in use • Predecessor successors indicate overall schedule integrity but also the critical risk at interfaces between work packages so is an indication of where to focus review.

b) Updated Gantt Chart including with critical path, baseline, float, % complete, actual/forecast start, actual/forecast end date (full requirements in Appendices)	• Level 1 schedule is provided in Monthly report • Level 3 schedules (9000 lines) are centrally controlled by Nalcor PMO in Primavera P6 • Management has done top down scheduling to level 3, uses rolling wave with break out to level 4 using contractors controlled schedules following contract award • Please provide Level 3 schedules in format (to be discussed) or alternatively provide the native .XER file • The assurance process on control of contractor schedules needs to be assessed as part of the discussion with Internal Audit. • Level 4 schedules may be required if assurance plans do not fully address level 3-level 4 management process.	• Gantt charts are the key schedule tool on any project. The information requested is conventional data contained within the scheduling tools (we believe Nalcor is using Primavera) • They show not only the original plans, duration and critical path … but should contain the updates and revised forecasts. • The lower the level of detail we see, the better our ability to analyze and intercept not only delays… but also issues in the quality of the planning performed • Each item of data requested provides added visibility into performance and issues. • Cross checking is also performed versus cost and cash flow reporting (e.g. if only 40% schedule complete but 60% cost burned... then there's clearly a risk.)
c) Schedule milestone report showing Baseline Finish, Actual/Forecast Finish, Schedule Performance Index, Variance	• This is included in IPS report	• This is a summary of the critical activities/completions on which management focuses. • These should be set in stone and a culture of hitting them. • The specific data we have requested will indicate not only what the
d) Performance Graph showing performance, trend and forecast	• Progress curves on construction provided at project level • Per above, please provide detail on each major contract (if this is being generated)	• Schedule performance index illustrates "What percentage of the value of work we had planned to do, have we actually finished". It is a key indicator of the performance of the project and a decent predictor of future required performance. • Showing a graph of how this varies over time also indicates whether management is addressing its schedule performance issues. • The basis of the progress curves and their calculation will need to be checked. • Cross check of schedule performance versus cost and cash flow (actuals and forecast is also done to check accuracy of reporting.
e) Top 10 Critical Items and Float	• Sub-critical path items are reported in IPS report	• Strictly speaking, there should be just one formal critical path… this is the longest chain of activities through to completion NOT the necessarily "the most important/biggest

		• activities" • While the critical path is important... knowing the overall schedule performance (see above) and what are the other next 10 or so critical chains, allows management to focus • Loss of float on sub critical paths Is an indicator of potential "'bow-wave" on projects (the classic green green green green green yellow red scenario)
f) Analysis and management corrective action (at individual line item level)	• This information is not separately managed under a Variance Management process • It is managed through Change control and DAN processes. • Please provide details of DANs and changes at WP & Contract level • Management confirmed that this information is available.	• Variances are departure from the original plan • Variance analysis and management are techniques employed by the team to pull the project variance back on track and/or justify changes in the program including consumption of contingency. • As with Cost Variance above... Detailedd DAns and change info are bein requested in lieu of EV data and formal Variance Management.

Oversight Protocol for LCP Item	Notes based on LCP Compliance Checklist Item	
Other Information		
a. Standard project monthly progress report (including Health & Safety, Environment, Community/Stakeholder, Scope & Change, Cost, Schedule, Quality, Risk and Contract reports)	• This has been included	• Basic tool for reporting on status of project • Typically includes summaries of key metrics for Health & Safety, Environment, Community/Stakeholder, Scope & Changes, Cost, Schedule, Resource Profiles, Quality, Risk and Contract reports) • Provides baseline of management's own assessment of metrics, progress and performance for OC to test
b. Resource profile and graphs/histograms (planned versus actual/forecast)	• Management believes risk on staffing levels and productivity to be manageable • However, Project Controls procedures provided indicate that resource	• Resource histograms show the planned and actual and forecast resources for the program • Human Resources generally determine the pace of a

	graphs and histograms are to be generated. Please provide these or indicate what other processes, control and risk management are in place for resource management.	program… they also start to impact indirect costs (camp, equipment etc) when profile changes from plan. • They should also reconcile to the forecast costs. • As such they are a secondary observer on the accuracy of plans and estimates as well on hidden delays and cost overruns
c. Project WBS structure and dictionary	• WBS and WP Dictionary has been included	• Fundamental information to help a reviewer understanding how project has been defined and structured into packages of work and costs. • This is also cross checked against costs and schedule for completeness of planning.
d. Project policies and procedures (Project Management Plan, Project Execution Plan, other processes)	• Key processes have been included • These would need to be reviewed in detail to understand the reliance that can be placed on them. • Similarly, the detailed assurance plans need to be assessed	• Outlines how a project is to be managed. • This can be used to assess integrity/adequacy of management processes and controls for the project. • It also helps understand the information provided, its sources and relevance.
e. Project execution and contracting strategy	• These were included • These would need to be reviewed in detail to understand the reliance that can be placed on them.	• Project Contracting strategy outlines how management intends to set up and manage the execution of contracts. The approach also gives the reviewer the ability to identify areas of risk within that approach to achieve efficient targeting of review focus.
f. Project risk register	• Not currently included, though management confirmed this exists … Gov NL confirmed this information will need to be managed carefully during any review. • Please include the risk register	• Should include not only identification of risks, but (accompanied by the risk management plan) also impact analysis (including quantitative cost and schedule risk), management response (including contingency allocations) as well as support risk reporting including realization/retirement of risks and may include identification of the use of contingency. • This helps the OC/ reviewer understand where the risks lie in the program, the scale of risk and the appropriateness of management response.
g. Change order log	• PCNs, Change Requests/Notices and DAN's information is available	• Log of all proposed and approved changes.

	from PM+. Note: This is also how Variances are captured, dispositioned and managed. • Please include the above information in the package.	• This is also an indicator of the stability of project scope and the potential for growth in cost and schedule. • So is both current indicator and a future predictor of problems.
h. Claims log	• This was not included. • Management indicated that a Claims avoidance and management process is being developed and the claims information will available • Please include in the package	• Indicates all existing and potential claims against the contract and how these will be managed • These may indeed be managed by Management • However, this should also provide an indicator of future potential cost risks
i. Liens register	• This is included • Please ensure un-redacted material is included in the package	• Lists all liens against elements of the project with potential indication for further costs to be incurred.
j. Project assurance plan(s) – including internal audit and third party assurance	• LCP assurance framework is included • Other independent assurance is included. • The material does not include detailed assurance on project management processes and controls and detailed LCP assurance plans have not yet been provided… this will need to be discussed with IA.	• Allows the OC/reviewer to understand the extent to which reliance can be put on management's first second and third line of defence. • Particular focus will be given to whether adequate assurance is being provide on Project Management and Control processes and systems which generate the data supporting management's reporting • This will help efficiently target OC assurance activities.

Project Review and Assurance reviews/audits

- **Program/Project Controls Review**

- **Contract Management Review**

- **Program Baseline Review**

- **(On-going program monitoring)**[*]

- **Milestone reviews, IV&V**

- **Inflight Project Reviews (compliance, performance, reporting)**

- **Inflight Contract Audits (compliance, performance, reporting)**

- **Inflight Integrated Program Audit (compliance, performance, reporting)**

- **Project Closeout Reviews**

- **Contract Closeout Reviews**

- **Program Phase Closeout & Lessons Learned**

- **Compliance Audits**

  (e.g. EHSS & Regulatory Audits)

- **Functional Reviews**

  (e.g. Schedule Management, Cost Management, Resource Management, Risk Management)

- **Others as required**

  (e.g. IT Controls, IT Readiness, Vendor Quality Assessments)

*Some assurance organizations perform this also