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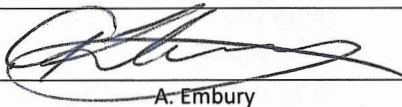
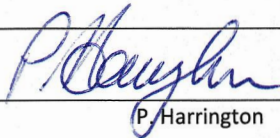
**LOWER CHURCHILL PROJECT**

**MONTHLY PROGRESS REPORT**

**PERIOD ENDING: 31-AUGUST-2015**

**RECORD NO.: 200-160641-00131**

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## Section 1. EXECUTIVE SUMMARY

### Scope and Purpose

This report covers the progress and associated cost pertaining to the Lower Churchill Project – Phase I (LCP) up to period end 31-August-15. The scope includes all of the ongoing Engineering, Procurement, Construction and Project Management activities for Muskrat Falls Generation (MFG), Labrador Transmission Asset (LTA), and Labrador Island Transmission Link (LITL). Information pertaining to Newfoundland and Labrador Benefits and Aboriginal Affairs is excluded from this report and can be found at <http://muskratfalls.nalcorenergy.com> under Monthly Project Reports.

### Health and Safety

Statistics registered during the period include 0 Lost Time Incidents; 14 Near Misses and 2 High Potential Near Misses; 21 First Aid Incidents; 3 Medical Aids; and 27 Property Damage claims. The Innu Protest during the period saw a halt in operations at the North Spur and a significant reduction in operations at the Muskrat Falls sites between 12-19-Aug-2015. The Emergency Operations Team ensured all safety standards were followed during this period. Worker who sustained the lost time injury in July returned to full duties during the current period; full investigation had taken place during the previous period and corrective actions to prevent recurrence were identified and implemented. Risk reduction strategies and focus on initiative to reduce incidents relative to slips, trips, and falls is continuing, and the incident classification scale model is under review with Nalcor corporate to ensure alignment with Corporate Health and Safety processes. Preparations are in progress for the November 2015 Contractor Safety Forum in Goose Bay. Health and Safety Audit Plan and schedule are under development to ensure effective and timely completion of all audits. Project safety recognition program is under review and recognition cards have been approved. Updated Field Level Risk Assessment (FLRA) Card approved - will be distributed to the various components.

### Environmental and Regulatory Compliance

All project Components were within regulatory compliance during the period, and environmental assessment commitments showed 392 completed, 51 on hold and 28 proposed. There were 38 recordable hazardous material spills (>2 liters) during the period, along with 1 reportable incident which occurred in Labrador under the CH0008 scope of work for Construction of the North Spur involving the release of diesel from a fuel truck cap. Audits were conducted on Contracts CD0508 (Supply and Install of Electrode Sites) at Dowden's Point, and CT0327-015 (HVdc ROW Clearing and Access) on the Northern Peninsula. Ducks Unlimited conducted a visit to the Generation Site during the period in support of the ongoing development of the Wetland Compensation Plan.

### Quality

Quality performance during the period showed 64 non-conformances, 1 quality audit, 0 corrective actions and 22 preventive actions. 9 Internal Corrective Actions Reports issued in 2014 continue to remain outstanding, with efforts refocused in September to close out. Use of materials from unapproved sources continues to be an area of concern resulting in increased focus to ensure all materials meet specifications.

### Progress Highlights

Overall construction progress currently resides at 33.5% versus a plan of 43.3%. The Muskrat Falls First Power timeline of December 2017 continues to be assessed; however, it is likely there will be a delay in achieving this date. LCP are continuing to work toward a

revised plan for Muskrat Falls with the affected Contractors. Meanwhile, significant progress is being achieved on all work fronts, including the increased productivity on Construction of the Intake, Powerhouse, Spillway, and Transition Dams under Contract CH0007 which had a delayed start, however, are now making significant improvements. During the period, the Contractor continued with concrete placements during the period, with 16 spillway pier placements, 8 placements at the center transition dam; 5 separation wall placements, 3 north transition dam placements; 16 intake placements, 10 south service bay placements, and 13 draft tube placements. Ongoing maintenance of curing, hoarding and heating of placed concrete continued, along with the commencement of spillway concrete surface repairs, and commissioning of the downstream powerhouse tower crane. Manufacturing of Supply and Install Turbines and Generators under CH0030 is proceeding on schedule, with a majority of the second shipment of components delivered to the site laydown area; and the ongoing packaging and preservation activities in preparation for the next shipment of components scheduled for transport from China in September 2015. Manufacturing of primary anchor materials for the intake, powerhouse and spillway continued under Contract CH0032 for Supply and Installation of the Powerhouse Hydro-mechanical Equipment, with fabrication of the spillway second stage embedded parts completed during the period, and intake and draft tube embedded parts fabrication, draft tube crane fabrication, and primary anchor installation ongoing. Construction activities at the North Spur continued under CH0008 for Construction of North Spur Stabilization Works with commencement of installation of the upstream cement bentonite cut-off wall panels, and continuation of upstream embankment excavation and backfilling activities; installation of the temporary road (from the South End access) was completed on the downstream embankment, along with continuation of excavation activities and the commencement of rock placement on the downstream shoreline, and commencement of full operations at the onsite laboratory.

Construction activities continued for the HVac Transmission Line under CT0319 and by the end of August 1172 foundations were installed, 957 towers were assembled and 799 erected, out of a total of 1263 (total quantity adjusted from 1260 based on field changes); 893 of the 990 guy anchors installed have been tested, out of a grand total of 1100 (total quantity adjusted from 1088 based on field changes); and 172,012 metres of conductor stringing out of a total of 490,481 metres, was completed. Work continues on the development of access routes and distribution of materials along the transmission line ROW, and in support of HVac transmission line construction activities, the Labrador marshalling operation is ongoing receiving and issuing materials such as steel towers, foundations, and hardware as needed. The forecasted completion date for HVac line construction has been adjusted, but line construction activities continue to be forecasted to complete in advance of the ac switchyards. Resources and work priorities are being managed across both the LTA and the Labrador Island Transmission Link to optimize progress on both. Work is continuing on the preparation of management, technical, and commercial deliverables for Construction of AC Substations under CD0502, and the Contractor is mobilizing at both Muskrat Falls and Churchill Falls. Civil works and building services' activities commenced at the Muskrat Falls switchyard during the period, and continued at the Churchill Falls switchyard. Activities include civil excavation, rebar and forming for gantries and transformer pads. Fabrication and Factory Acceptance Testing of the final transformer for Muskrat Falls has been successfully completed under PD0537 for Supply of Power Transformers, AC Substations at facilities in St. Louis, and all units from the St. Louis plant are scheduled for shipment to site in September.

As previously reported, construction activities on the HVdc Transmission Line have now resumed following suspension due to spring thaw and the resultant poor conditions of the access. By the end of August, quantities produced for Workfront 1 (of 3) were as follows: 469 foundations installed, 478 towers assembled and 111 erected, out of a total of 1284; and 135 guy anchors tested, out of 191 installed, of an overall total of 1147. Mass fabrication activities of material for the transmission line towers are continuing in Texas, Dubai and India, and activity at both the Argentinia Marshalling Yard and the Labrador Marshalling Yard are ongoing to support HVdc construction activities. ROW Clearing and access development of the HVdc Transmission Line under multiple packages for



CT0327 is proceeding well with approximately 1,693 hectares cleared to date in Labrador representing 71% complete of the clearing required for the region, and approximately 1,503 hectares cleared to date in Newfoundland representing 36% complete of the clearing required on the Island. Work is progressing well and ahead of schedule under Contract CD0508 for Supply and Install of Electrode Sites in support of construction of the two electrode stations. At the Dowden's Point site in Conception Bay South, repair and coring of both original and new pipe holes has been completed, with installation of the conduit, and junction boxes scheduled for September 2015. At the L'Anse au Diable site in the Strait of Belle Isle area of Labrador, placement of core material, filter and armour stone continued, the road to breakwater was completed up to subgrade elevation and all HDPE wells have been installed. Work is continuing on the preparation of management, technical, and commercial deliverables under contracts CD0501 for the Supply and Installation of Converters and Cable Transition Compounds, CD0502 for Construction of AC Substations and CD0534 for EPC Synchronous Condensers at Soldiers Pond. Civil works activity for the Soldier's Pond switchyard and converter station continued during the period, with significant progress made with respect to excavation activities and work on concrete foundations in the Valve Hall and control Building areas, along with footings and foundations for the gantries. Fabrication activities are ongoing under CD0534, and civil works activity at the Soldier's Pond site continued with water reservoir, building and gantry foundations. Fabrication and Factory Acceptance Testing of the three remaining transformers for Soldier's Pond has been successfully completed under Contract PD0537 for Supply of Power Transformers, AC Substations at facilities in St. Louis, with all units scheduled for shipment to site in September. Manufacturing and testing of the submarine cable in Japan under contract LC-SB-003 continues to progress as planned. Handover of both the Shoal Cove and Forteau Point sites to the LC-SB-003 cable Contractor has now been completed, and land cable preparations including scaffolding, tower erection and guy wire support installation, has commenced at Shoal Cove, with activities scheduled to commence at Forteau Point in September 2015 once all land cables have been delivered from Halifax. Quayside construction activities continued, and final 2016 rock quantities for cable protection have now been defined as 448,000 tonnes, with 435,000 tonnes currently ready for use.

## Cost

As of period end 31-August-2015, project to date incurred cost was \$3,261B, exclusive of all interest, project debt financing, and forex costs, while committed costs totalled \$5,969B. Incurred cost for the period was \$178.1 and lower than planned with a variance of \$22.7M, attributable to lower than anticipated progress under CH0030 (Manufacturing of the Turbines and Generators) and CH0032 (Supply and Installation of Hydro-Mechanical Equipment) respectively, under CD0501 (Supply and Install Converters and Cable Transition Compounds), as well as an adjustment to incurred cost last month for the HVac Transmission Line; offset by higher than anticipated progress at Muskrat Falls under CH0007 for Construction of the Intake, Powerhouse, Spillway and Transition Dams as part of recovery of previous missed progress. CCB changes this period resulted in a budget contingency drawdown of \$19M, stemming from: 1) an increase of \$14M under LIL for a contract value adjustment under CT0342 for the HVac 230 kV Modifications and Island Electrode Line, the additional cost of services at Muskrat Falls for Catering, Housekeeping and Janitorial under SH0018, Garbage Removal and Disposal under SH0040, and Fuel Supply under SH0022 to accommodate the work being carried out under Component 3, and additional material costs associated with PT0330 on the HVdc Transmission Line; and 2) an increase of \$5.1M under LTA to accommodate cost increases associated with the 735 kV line under CT0319, transportation of concrete from the batch plant to the Muskrat Falls Switchyard under CH0007, as well as the additional cost of services under multiple services for Component 3 as described under LIL. There were no budget adjustments carried out under MF during the period. The overall FFC change of \$20M (Pre-Contingency Capital) was mainly as a result of the CT0342 contract increase, additional services at Muskrat Falls, and concrete transport to the MF Switchyard as described in the CCB changes; as well as clearing cost increases in Labrador under CT0327, additional import backfill requirements for the HVac Transmission Line, the cost of additional trailers required at the Muskrat Falls and Churchill Falls Switchyards, as well as bedrock removal, and a forecast re-evaluation of CH0007 to accommodate

ongoing changes. Increase in commitment during the current period is aligned with the award of a Limited Notice to Proceed (LNTP) for Construction of the North and South Dams under CH0009, additional clearing sections of the HVdc Transmission Line under CT0327, adjustment to foundations cost for the HVac TL, additional materials for the HVdc TL, increases in maintenance costs, as well as the addition of C3 services at Muskrat Falls, and indirect costs.

The Project is reviewing proposed cost increases across Muskrat Falls Generation, the Labrador Transmission Asset, and the Labrador Island Transmission Link as a result of market conditions and pressures, reliability improvements & design enhancements, as well as contractor performance & project management execution. The LCP Team, however, are continuing to work within these elements and will evaluate the best cost options and solutions for all challenges as the Project moves forward. Further details can be found under Sections 11.4, 12.3, and 13.4 respectively.

### **Key Priorities/Issues & Opportunities**

- The LCP Team are continuing to look for opportunities to mitigate cost exposure throughout the project with the remaining Contracts to be placed.
- The performance of CH0007 Contractor, Astaldi Canada Inc. continues to trend behind plan. A review of the C1 work plan is underway, and implementation of an updated C1 schedule will remain on hold pending acceptance of agreed actions and mitigations plan.
- In relation to other Contractor performance, a strong management focus is being applied to resolve issues experienced by Contractors to limit potential future cost/schedule exposure.
- As indicated under Health & Safety, an Incident Classification Scale has been developed as a result of the high potential incidents and lagging frequencies, and is currently under review. Development of a three point contact sticker and awareness package is also in process in order to increase awareness and reduce slip, trip and fall exposures. There is significant focus on specific areas and strategies to reduce the number of Modified Work Cases, including the inclusion of this classification as part of lead/lag triangle to increase awareness.

## Section 2. HEALTH, SAFETY AND SECURITY

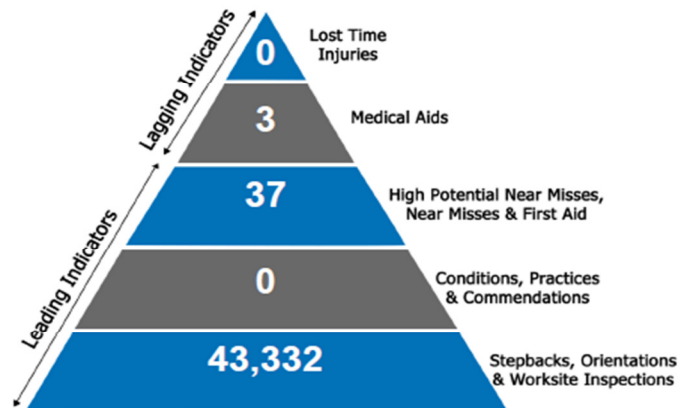
### 2.1 MONTHLY STATISTICS

Description	Month	Year to Date	Total to Date	Comments
Hours Worked	980,795	5,282,569	15,437,911	August Estimate
Lost Time Injuries (LTI)	0	2	6	
Medical Aids	3	24	49	
TRIFR	2.65	4.43	2.03	Target=1.0
LTIFR	0.00	0.08	0.08	Target=0.0
AIFR	0.61	0.98	0.71	Target=1.0
<b>Note 1: Total to Date: From January 2008 to present.</b>				

### Project Overall (Delivery Team & Contractors) Current Period

#### Leading/Lagging Summary

Leading Total	<b>43,369</b>
Lagging Total	<b>3</b>
Ratio (leading/lagging)	<b>14,456</b>
Target Ratio	<b>840:0</b>



Note:

1. Monthly Statistic Overview reported under Section 2.1 is based on estimated hours at month end.
2. Reported Total to Date is based on a June 1, 2006 start date for data compilation.
3. Formula for TRIFR:  $((LTI + MA + MWC + OI) * 200000) / \text{Number of Hours Worked for the Period}$ .
4. Formula for AIFR:  $((LTI + MA) * 200000) / \text{Number of Hours Worked for the Period}$ .
5. "Other Contractors" include all Contractors other than the EPCM Contractor (SLI), but does include hours expended by SLI outside of the EPCM contract.

### 2.2 HIGHLIGHTS

- Incident log registered for period ending August 2015:
  - 0 Lost Time Injuries (LTI).
  - 3 Medical Aids.
  - 21 First Aid Incidents.
  - 16 Near Misses and High Potential Near Misses.
  - 10 Modified Work Cases (formerly labelled as "Restricted Work Cases").

- Worker who sustained lost time injury in July returned to full duties during the current period. A full investigation had taken place during the previous period and corrective actions to prevent recurrence were identified and implemented.
- Muskrat Falls Generation:
  - Stop the Drop campaign was launched with all crews with an initial kick-off at the weekly safety meetings. This was supplemented by a full week of toolbox talks focusing on Dropped Object Potential.
  - A comprehensive Working at Heights review of the CH0007 Contractor's operations was undertaken and conducted by LCP Senior HSSER Management. The review included interviews with site personnel (LCP HSSER team and Astaldi safety representatives) as well as a review of relevant documentation (LCP/Astaldi) and a field survey of various work sites. Discussions and interactions with the various trades occurred along with observation of use of fall protection equipment, inspection of fall protection equipment and assessment of work practices.
  - Oversight of Remediation Works at MF Accommodations Complex.
  - Participation and support of contractor Town Hall Safety Meetings.
  - Conducted multiple table top exercises with Site Security prior to implementation of Emergency Dispatch Panel.
  - Implementation of Emergency Dispatch Panel for site Emergency Response.
- HVdc Specialties:
  - Medical Aid at Churchill Falls - Insect Bite.
  - Participation in the weekly H&S Coordination Meetings at all Sites.
  - Participated in management inspections at Churchill Falls.
  - Participated in management inspections with both Alstom Grid and Alstom Power at Soldiers Pond.
  - Closed out OHS Directives for Soldier's Pond.
  - Roll out of Big Three Weekly Trending.
  - Met with Senior Representative from St. John's Regional Fire department to discuss continued support during construction at Soldier's Pond.
- Overland Transmission Lines:
  - Filled two of the three vacant HSSER Field Advisor positions.
  - Safety Alerts generated for Wildlife encounters on the ROW roads/trails; smoking on the ROW; and heat related illness.
  - Completed all IMT action items for hand protection and slip/trip awareness.
  - Completed month long focus on three (3) point contact whenever accessing/egressing mobile equipment.
  - Completed updates to SafetyNet and generated a Guidance document for Pronto Safety Alerts.
- HSSER Management Team:
  - Filled Health and Safety Lead position for Component 1.
  - Finalized the new Stepback Card.
  - Roll out of 3 point contact presentation.
  - Completed assessment of working at heights at the Muskrat Falls site.
  - Finalized "revised" safety recognition card.

- Security Status for the period:

VSO	352
Orientations/access cards printed	494
Foot patrols	783
Mobile patrols	248
Vehicle searches	203
Baggage searches	386
Fire calls/alarms	7
Radar checks	1,748
Speeding warnings	24
Speeding/parking violations	8

- Attachment 14.1 includes the Safety Statistics; and attachment 14.2 the detailed Safety Incidents Log for the current reporting period.

### 2.3 ISSUES & OPPORTUNITIES

- Working at heights review completed: Findings submitted to the Contractor to develop an action plan to ensure implementation of the campaign.
- Incident Classification Scale Model: New classification scale model is being used by HSSER field advisors as a pilot program.
- Stepback Cards: New version of the stepback card has been sent for printing - expected to be available for distribution within a few weeks.
- Three point contact: New sticker and presentation developed to highlight the three point contact protocol.
- Safety Forum: Commence preparations for LCP Safety Forum.
- Tool box guide: Guide is currently being developed to assist those conducting tool box talks - focus on improving worker engagement during the talks.

### 2.4 ACTIVITIES PLANNED FOR THE UPCOMING PERIOD

- Muskrat Falls Generation:
  - Planning of Emergency Response table top exercises.
  - In conjunction with site contractor, conduct Emergency Response Drill.
  - Audit of contractor working at height activities to verify compliance.
  - Site kick-off meetings with CH0009 Contractors' pre-mobilization to site.
  - Support LCP construction management and participation in Simultaneous Operations meeting with Astaldi and Andritz.
  - Engagement of Site Contractors with respect to development of Winterization Plans.
  - Develop and communicate training and information on Hand Protection.
  - Implement Field/Focus Audit schedule and audit contractor work activities to verify compliance to OHS, Site and Contractor policies and programs.
- HVdc Specialties:
  - Continue to Roll out Incident Communication protocols at all C3 sites.
  - Roll out Security Restricted Access platform in LCP Benefits Database
  - Provide Final Approval on revised ER plans from Alstom Grid for all sites.

- Initiate direct email notifications in SafetyNet.
- Test ERP at all locations.
- Set up Corrective Action Trackers at all sites.
- **Overland Transmission Lines:**
  - Finalize the hiring and mobilization of remaining HSSER field Advisor position.
  - Finalize Guidance document for Pronto Safety Alerts and promote utilization by all users.
  - Seek management approval of draft Project Work Standard for Blasting Operations.
  - 90 day follow-up meeting stemming from assigned tasks at Contractor Safety Workshop held in May.
  - Continued focus on FLRA specifics, 3 Points of Contact, Fire Response Readiness, and Work Terrain preparation.
- **HSSER Management Team:**
  - Development of Tool Box guide for Tool Box talks.
  - Development of Project Health and Safety Audit Plan.
  - Development of a site specific audit tool.
  - Roll out of the new Stepback Card.
  - Fill the vacant health and safety advisor position at the North Spur.
  - Implementation of the revised safety recognition program.
  - Implement changes to the leading/lagging triangle
  - Roll out of the new incident classification scales.

## Section 3. ENVIRONMENT – REGULATORY COMPLIANCE

### 3.1 HIGHLIGHTS

- Environmental Engineering and Technical Support:
  - Conducted weekly sampling of outlet ditches at Generation Site. Various TSS concentrations are decreasing and generally below 30 mg/l.
  - Ongoing segregation of excess wood at Generation has resulted in a significant reduction (>30%) in amount of waste transported to landfill.
  - Drainage ditches constructed at Soldiers Pond and Churchill Falls Sites functioning adequately.
  - Reviewed various detailed work plans for North Spur scope at Generation Site.
  - Completed environmental audit on CD0508 for Supply and Install of Electrode Sites at Dowden’s Point.
  - Completed environmental audit on CT0327-015 for HVdc ROW Clearing and Access on the Northern Peninsula.
  - Ongoing development of the Wetland Compensation Plan - Ducks Unlimited visited the Generation site 12-Aug-2015.
  - Ongoing environmental monitoring at various construction sites project wide.
  - Reviewed C-SEPPs for Contracts CH0030 (Supply and Install Turbines and Generators) and CH0032 (Supply and Installation of Powerhouse Hydro-Mechanical Equipment).
  - Developed streamlined Environment and Regulatory Compliance Guidance Document and provided to select C3 contractors; commenced weekly regulatory permits meeting with select C3 contractors.
  - Provided guidance and support to CD0502 for Construction of AC Substations regarding the Churchill Falls batch plant.
- Regulatory Compliance:
  - Water Resources:
    - Completed Q2 Stream Crossing Report.
    - Submitted water withdrawal spreadsheet (volumes used under each WUL).
    - Submitted completion reports.
  - Site setup permits for Locke’s Electrical.
  - Building and used oil applications for CD0534 (EPC Synchronous Condensers at Soldier’s Pond) – H.J. O’Connell.
  - Valard camp permits for CT0327 - Valard and JCL.
  - Site setup permits for CD0501/0502/0504 quarry permits:
    - Ongoing acquisition of hundreds of quarry permits required for LIL transmission access and construction.
- Historic Resources Management:
  - 2015 field season:
    - Excavation continues at Sandy Banks Hudson’s Bay Company Outpost - FgCg-01.
    - Excavation continues at FfCi-02 location at Gull Lake.
    - Anticipated upcoming work:
      - Completion of recovery Work-FgCg-01, Locus B; continuation of work-FgCg-01 Locus D.
      - Establishment of site limits at FfCi-02 Locus D and removal of baulks, mapping and photography in preparation for excavation to sterile.
      - The commencement of gridding and excavation at FfCi-02 Locus E.

- Aquatic:
  - 2015 Field Program:
    - Completed the sampling in Lake Melville and Goose Bay; collected water samples from all stations and install the OBS turbidity meters.
    - Primary Productivity sampling completed in late August.
    - Installed turbidity sensor units on Blackrock Bridge (downstream of Muskrat Falls).
  - Anticipated upcoming work:
    - Begin electrofishing at 8 locations upstream and downstream of Muskrat Falls.
    - Begin fyke net and snorkel sampling in late September.
- Avifauna Management:
  - 2015 field surveys concluded on 08-Aug-2015.
- Environmental Effects Monitoring:
  - Annual report preparation and review for several aspects of the environmental effects monitoring program.
  - Review of environmental effects monitoring reports from 2014.
  - Ongoing monitoring and mitigation for the Labrador caribou herds and Island caribou for the environmental effects monitoring program.
  - Weekly Threatened Labrador Caribou Report prepared and submitted to Wildlife Division.
  - Review and updating of the LCP Commitments/Requirements Management Plan and the associated commitments.
  - Preparation of maps to provide a bi-weekly update of construction activities to the general public.
- Attachment 14.3 includes a detailed listing of Environmental Incidents for the current reporting period as well as a summary of occurrences  $\geq 2L$  since January 2014.

### 3.2 ISSUES & OPPORTUNITIES

- Investigation of wetland compensation by LCP into the site restoration/rehabilitation program. Development of temporary access roads and bridges may facilitate public access.
- Delays in transmission line quarry and borrow permit approval turnaround time continues to be a challenge.

### 3.3 ACTIVITIES PLANNED FOR THE UPCOMING PERIOD

- Quarterly meeting with Department of Environment and Conservation (DOEC) (Provincial) scheduled for 02-Sept-2015.
- Continue environmental construction monitoring and reporting at all sites.
- Environmental audits planned for CD0508 (Supply and Install of Electrode Sites) at L'Anse au Diable and CH0008 (Construction of North Spur Stabilization Works).
- Attend kick-off and C-SEPP review for CH0009 (Construction of North and South Dams).
- Complete Q2 water quality sampling and repairs to sediment and erosion control measures at Soldier's Pond.
- EMC AGM to be held in October; preparations ongoing.
- Updating of environmental assessment commitments; and complete revisions to the Wetland Compensation Plan.
- Finalize various C-SEPPs for CH0030, CH0032, CD0501 and CD0502.
- Work with provincial regulators on obtaining potential landfill for excess wood waste.
- Regulatory visits from DOEC WD monitor at various HVdc line work fronts in September.
- Continue quarry and borrow bit rehabilitation on the AC/DC transmission lines.
- Continue to support and provide guidance to various Contractors and LCP Construction Groups.



## Section 4. QUALITY ASSURANCE

### 4.1 HIGHLIGHTS

- Closed QA issue from corporate internal audit I7L20FB.
- Issued for approval procedure for use of LCMC professional engineering seal and permit to practice.
- Development of QA home page for LCP portal.
- Ongoing resolution of open actions regarding 2014 CARs and PARs.
- Muskrat Falls Generation:
  - Under CH0007 for Construction of the Intake, Powerhouse, Spillway and Transition Dams, a tentative date (early September 2015) is scheduled for final walk down of C-line; turnover documents reviewed, and Contractor has engaged third party inspector for inspection of Super Metal fabrication shop; review of spillway base slab binder completed and punch list items submitted to Contractor.
  - Preparations in progress for Quality Audit of CH0008 Contractor for Construction of North Spur Stabilization Works scheduled for mid-September 2015; both LCP and Contractor generated and open NCRs are under review for proposed dispositions.
  - Documentation review and sign-off for Shipment No. 3 is continuing under CH0030 for Supply and Install Turbines and Generators; QA releases, documentation review, and MRB sign-offs are ongoing, along with NCR close-outs and internal CAR close-outs.
  - Finalized 4 sample tests with positive results, and testing log updated for Supply and Install Powerhouse and Spillway Hydro-Mechanical Equipment under CH0032; reviewed and approved several dispatch dossiers to support the fabrication of the spillway guides; shop surveillance performed at the axle and wheel supplier in China; audit completed on the guide manufacture report to be issued; Contractor provided disposition for the CAR's issued by LCP regarding the audit performed at Sinohydro; and shop surveillance by LCP ongoing for the gates, guides, trash machine (Muhr), and draft tube crane at various supplier facilities; LCP material testing of steel in China is ongoing.
  - Commenced lab trials for CH0007 fly-ash under SM0705 for the Provision of Laboratory Services; sampling and testing materials for CH0007 with respect to spillway, powerhouse, transition dams, crushers, and grout testing, is continuing.
- HVDC Specialties:
  - Responses provided by Contractor with respect to the audit report of CD0502 for Construction of AC Substations continue to be reviewed; ITPs for civil works reviewed and accepted; Contractor to provide expanded ECR and QSL plan including scheduled hold points remains outstanding.
  - CARE (Customer Acceptance and Review Evaluations) is effectively being utilized under CD0534 for Supply and Install Soldier's Pond Synchronous Condensers, to require Alstom Power to have LCP approve all purchases of critical equipment; preparation of quality assurance surveillance plan including schedule of activities is ongoing, and third party surveillance of first steel structures underway.
  - Quality release provided for manufacturing of transformers under PD0537 for Supply of Power Transformers; final documentation in process of being compiled.
- Overland Transmission Lines:
  - Completed quality audit of CT0327 for Construction of the HVdc Transmission.

- Review of MTR submittal from Conroe Texas ongoing; and awaiting quality deliverable documentation from both India and Conroe Facilities under PT0330 for Supply of Steel Towers-350 kV HVdc Transmission Line.
- Strait of Belle Isle (SOBI):
  - Review of outstanding documentation/ITP's and NCRs is ongoing under LC-SB-003 for SOBI Submarine Cable Design, Supply and Install.
  - Report entailing audit conducted in July completed under LC-SB-011 for Subsea Rock Protection Design Supply and Installation.
  - Initiated communications regarding 2015 conduit inspection campaign under LC-SB-024 for Directional Drilling; receipt of procedures for review of campaign works in progress.
  - Completion of Knave 1 vessel inspection under LC-SB-044 for the Conduit End Inspection Marine Campaign; and preparations for the campaign are ongoing.

#### 4.2 ISSUES & OPPORTUNITIES

- Internal Corrective Actions outstanding for an extensive period of time.
- Continual release of materials from vendors without documents properly coded in Aconex.
- Muskrat Falls Generation:
  - ITPs for Super Metal Powerhouse and CTU structural fabrication not submitted under CH0007 for Construction of Intake and Powerhouse, Spillway and Transition Dams; no formal plan in place for off-site fabrication monitoring by Astaldi; replacement or delegation of duties for outgoing QA Manager not fully outlined; inadequate response provided by CH0007 Contractor regarding quality issues; LCP in process of responding.
  - Current shortage of lab technicians has resulted in testing delays under CH0008 for Construction of North Spur Stabilization Works; candidate search is continuing.
  - Increased efforts required by Contractor to implement approved disposition and close NCRs under CH0032 for Supply and Install Powerhouse and Spillway Hydro-Mechanical Equipment, deal with backlog of documentation, and avoid recurrence of ongoing fabrication.
  - Under SM0705 for the Provision of Laboratory Services, issue of surrounding drains in the main laboratory not working; permanent water has been connected, however, not turned on.
- HVdc Specialties:
  - Continued search for suitable candidate to fill the position of Quality Coordinator for HVdc Specialties remains a challenge.
  - Continued misalignment within civil works engineering activities under CD0502 for Construction of AC Substations.
  - Continued pressure on CD0534 Contractor for Supply and Install Solder's Pond Synchronous Condensers in ensuring all LCP quality requirements (all technical and quality documents) are provided to subcontractors when purchasing.
- Overland Transmission Lines:
  - NCR's raised on 100+ tower foundations under CT0319/CT0327 which do not meet dimensional tolerances; rework and reverse engineering ongoing.
  - Material from unapproved supplier included in various shipments under PT0308 for Supply of Steel Tower Foundations continues.

- Production quality issues continue to be a concern under PT0330 for Supply of Steel Towers-350 kV HVdc; lab testing being performed without official approval; and Quality Surveillance Release for DC tower steel supplied from Jyoti Americas is pending receipt of material test reports.
- Strait of Belle Isle (SOBI):
  - Awaiting approval of documentation for installation activities, backfilling etc. under LC-SB-003 for SOBI Submarine Cable, Design, Supply and Install.
  - Audit report to be issued under LC-SB-021 for SOBI Civil Works.

#### 4.3 ACTIVITIES PLANNED FOR THE UPCOMING PERIOD

- Follow up on closure of internal CARs.
- Continual review of documents in advance of materials release from suppliers.
- CH0007-Construction of Intake and Powerhouse, Spillway and Transition Dams: Monitor concrete defects and minor repairs in spillway; major focus on ensuring Contractor is pushing to complete and document C-line repairs; monitor placement of concrete in pier final lifts; walk down of A line piers for concrete defects; and attention on formwork surfaces and embedment installation in Powerhouse.
- CH0008-Construction of North Spur Stabilization Works: LCP quality audit of GNL.
- CH0030-Supply and Install Turbines and Generators: Attend inspection of unit 1 stator punchings and space blocks in Austria, scheduled for mid-September 2015.
- CH0032-Supply and Install Powerhouse and Spillway Hydro-Mechanical Equipment: Issue quality audit report for Canmec for the guide fabrications; follow up on post pour surveys for the embedded anchor installations; issue LCP quality release for the spillway guides first shipment; coordinate quality surveillance visit for the draft tube crane drums in Romania; verify completion of material testing backlog.
- SM0705 - Provision of Laboratory Services: Continue CH0007 lab mix design trials using fly-ash.
- CT0319-Construction of the HVac Transmission Line: Completion of QA audit.
- PT0308-Supply of Steel Tower Foundations-350 kV HVdc: Finalize Exhibit 8 revision.
- PT0330-Supply of Steel Towers-350 kV HVdc: Receive outstanding quality deliverables from Jyoti Americas; provide Quality Surveillance Release if documentation received and acceptable.
- LC-SB-003-SOBI Submarine Cable Design, Supply and Install: Continue to work on and close out NCR's and PAR's; continue processes for all cables in preparation of receipt and installation.
- LC-SB-011-Subsea Rock Protection Design Supply and Installation: Continue evaluation of WTO's submitted for marine survey.
- LC-SB-024-Directional Drilling: Completion of conduit internal inspection operation.
- LC-SB-044-Conduit End Inspection Marine Campaign: Issue QSR for vessel inspection; completion of conduit end inspection scope.
- Attachment 14.4 includes the LCP Quality Performance Statistics as at 31-August-2015.

## Section 5. CHANGE MANAGEMENT

### 5.1 HIGHLIGHTS

- Agreement on path forward with respect to LCP Tracker maintenance/support.
- Development of guideline for preparing PCNs dealing with budget transfers not requiring contingency.

### 5.2 CURRENT PRIORITIES

- Resolve LCP Tracker development contract.
- Change Management compliance audit underway.
- Assess the processing of budget transfers by PCNs.

### 5.3 ISSUES AND OPPORTUNITIES

- Issues:
  - Completion of actions and reporting of completion of actions.
  - Delays in circulating PCNs.
- Opportunities:
  - Streamlining of PCN creation/review process.

### 5.4 ACTIVITIES FOR THE UPCOMING PERIOD

- Continued efforts to maintain and progress change management effectiveness.
- Providing support/input to ongoing Change Management Compliance Audit.

### 5.5 DEVIATION ALERTS

Figure 5.1-1: Deviation Alert Notices (DANs) Monthly Totals (to date) by Status

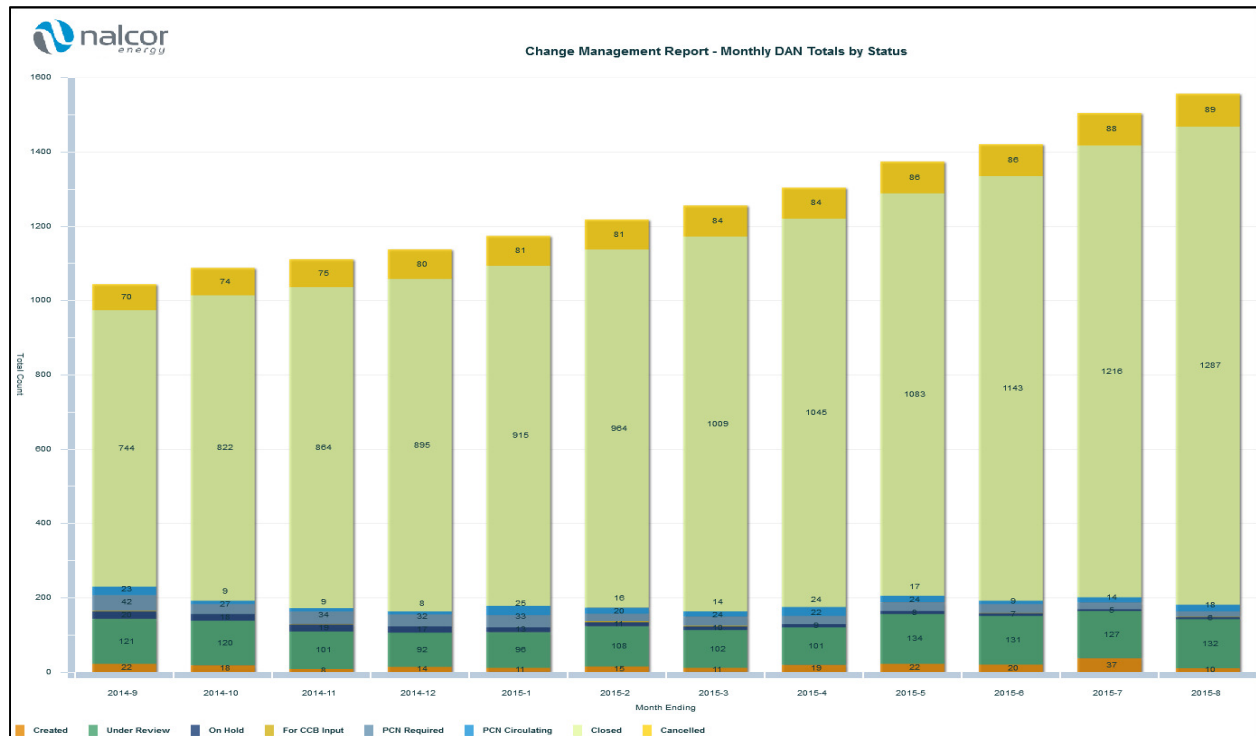


Figure 5.1-2: Deviation Alert Notices (DANs) Monthly Totals by Status

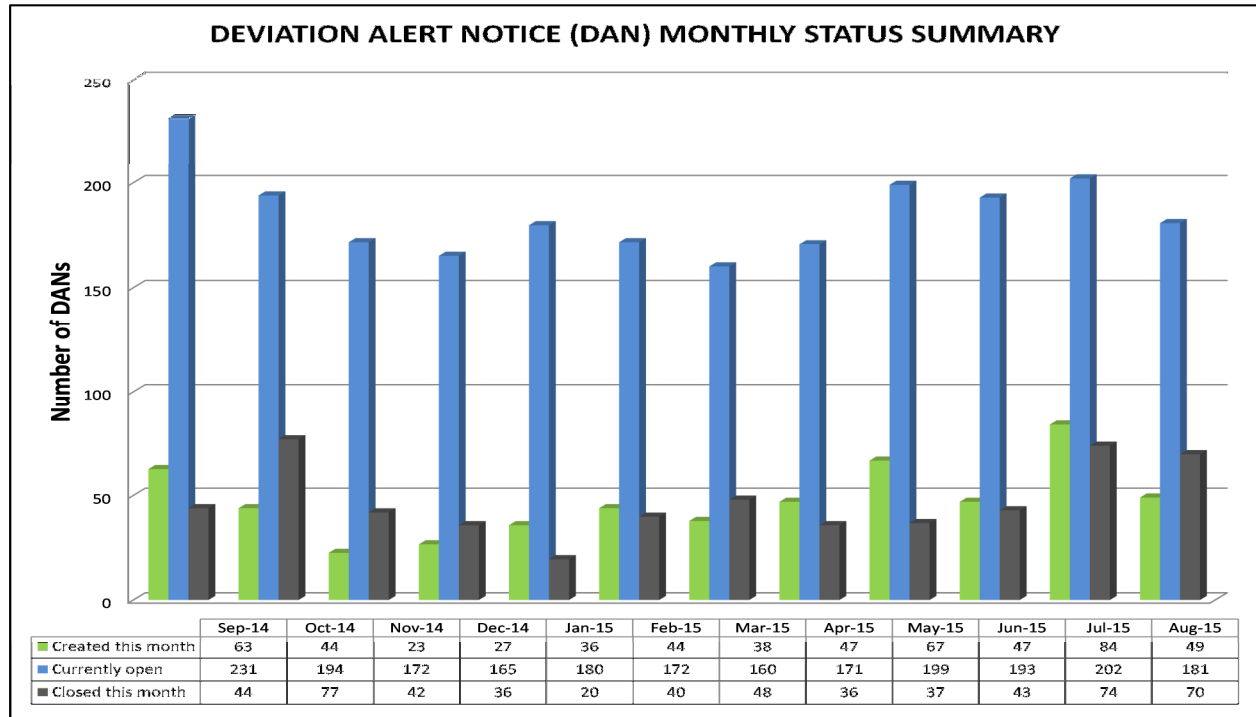
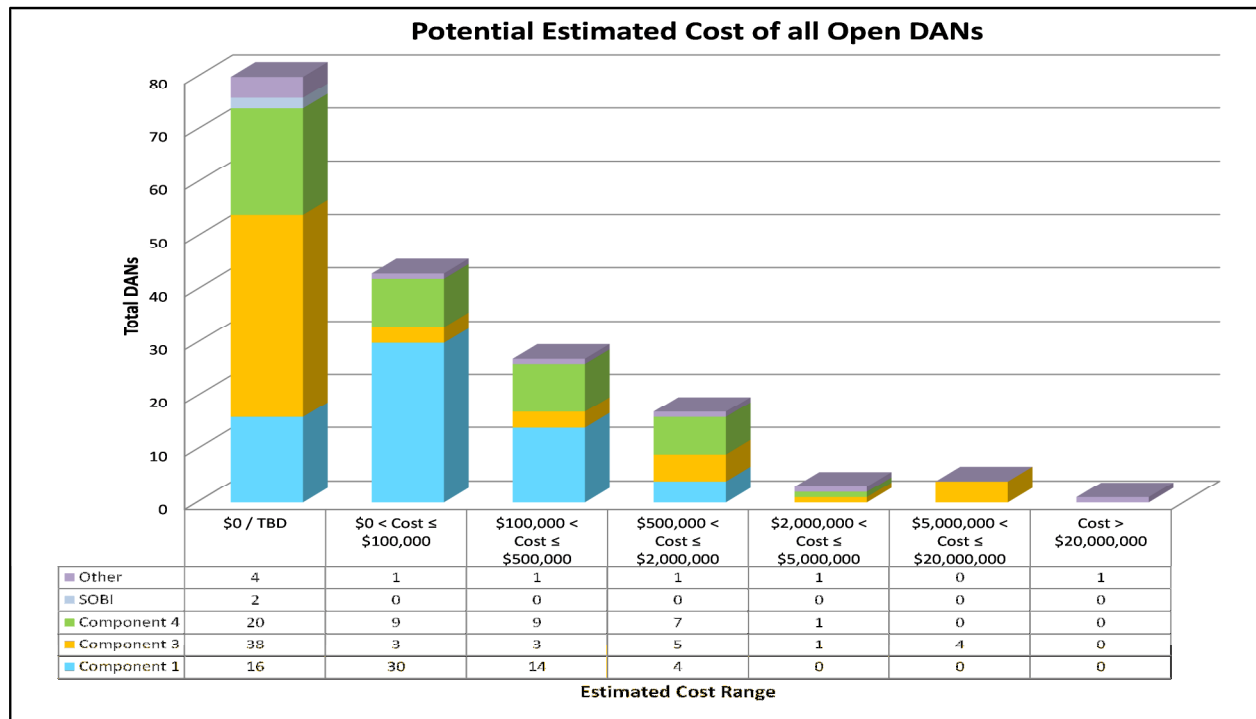


Figure 5.1-3: Deviation Alert Notices (DANs) – Potential Estimated Cost



**5.6 PROJECT CHANGES**

- PCN-0247: Budget Transfers required for 230 kV Re-Termination Modification Material (Tower, foundations, Steel Wires, Insulators, wood poles and Conductor).
- PCN-0425: 350 kV HVdc Line Fasteners Scope transfer and Order of Additional Fasteners.
- PCN-0448: Removal of the ADSS Fibre Optic Cable from the Wood Pole Electrode Line between Soldiers Pond and Holyrood Plant (BCC).
- PCN-0453: 350 kV HVdc Towers - Addition of Construction Spares.
- PCN-0464: HVdc Line Modification for Clearance Over Distribution Lines.
- PCN-0468: Site Services for Component 3 Contractors.
- PCN-0478: Fibre Optic Cable to Company Office Trailer at Valard Camp in North Spur.
- PCN-0479: Supply and Transportation of Concrete at Muskrat Falls from Batch Plant to Converter/Switchyard (Budget Transfer).
- PCN-0480: LTA/LITL Requirements - Muskrat Falls Camp Catering (C3 Contractors).
- PCN-0483: AC Breaker Upgrades (NL Hydro Project) - Budget Increase.
- PCN-0493: HVdc Tower OPGW Bracket Change.
- PCN-0494: Relocation of Access Road at CF Switchyard due to Interference with 735kV TL to be Erected in the Area.
- PCN-0496: PT0330- Strengthening of Guy Cross-Arm Connection for Tower Type A2 and A4.
- PCN-0497: 230 kV HVac Re-termination Construction.
- PCN-0504: CD0510 - Civil Works at Three Rocks Repeater Site (Budget Transfer).
- PCN-0506: CD0501/CD0502/CD0504 - Transfer of Scope from CW Baseline budget (CD0504) to EPC Contractor (CD0501/CD0502).

**Figure 5.6-1: Project Change Notices (PCNs) Monthly Totals (to date) by Status**

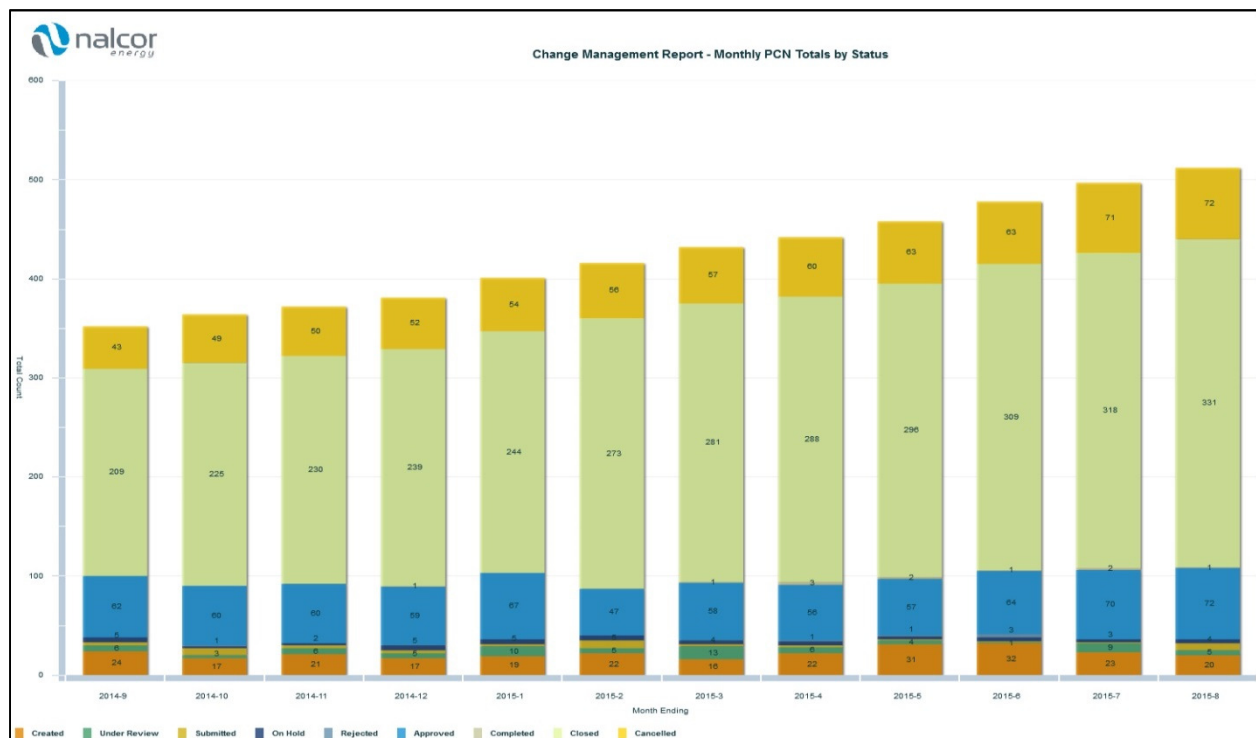
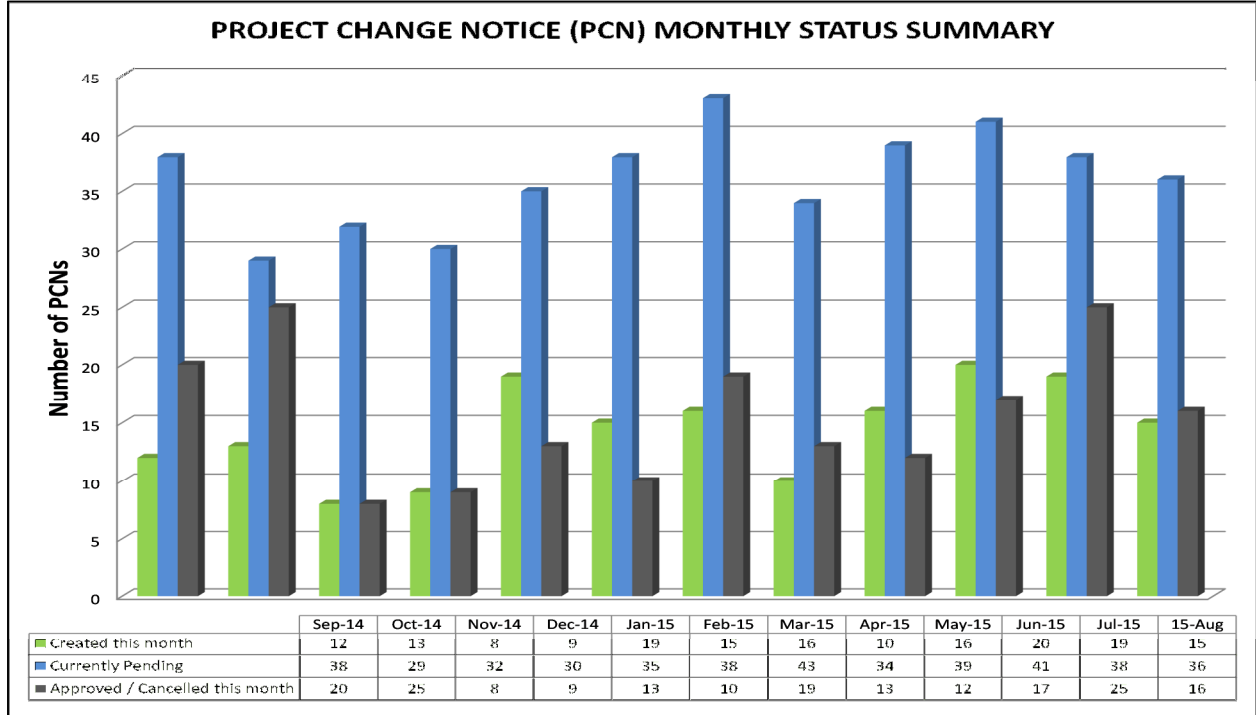


Figure 5.6-2: Project Change Notices (PCNs) Monthly Totals (to date) by Status



## Section 6. TECHNICAL INTERFACE MANAGEMENT

### 6.1 HIGHLIGHTS

- Development of internal flow diagram and instructional memo for dealing with information updates to open and closed Contractor Technical Interfaces.
- Interface Coordinator training to new Contractor personnel involved in the process; refresher training for existing personnel.
- Progress to date in the implementation of the Technical Interface Management process:

Type	Open	Closed/Cancelled	Total
Technical Interface – Internal (TII)	62	213	275
Technical Interface – External (TIE)	64	125	189
Technical Interface – Contractor (TIC)	139	87	226
Technical Queries (TQ)	24	156	180
Requests for Information (RFI)	110	311	421
Total	399	892	1,291

### 6.2 CURRENT PRIORITIES

- Technical Interface Management process with respect to EPC and other key contractors:
  - Management of Astaldi and Andritz interfaces (T&G and Gates).
  - Development of Contractor Technical Interface Distribution Matrix.
- Further follow-up by C4 with LCP-Operation TL working group to confirm outage windows.
- Increased focus on providing guidance and working with Andritz on outstanding technical interfaces.
- MCT working interface point register.
- Currently focus within Component 3 on closing out the high number of Priority 1 Technical Interfaces.

### 6.3 ISSUES & OPPORTUNITIES

- Issues:
  - Vacant leadership position for the LCP-Operations Interface Steering Committee – awaiting direction on this issue.
- Opportunities:
  - Leverage bi-weekly component level technical interface meetings to provide attention to technical interfaces and their management.

### 6.4 ACTIVITIES PLANNED FOR THE UPCOMING PERIOD

- Continued efforts to maintain and progress technical interface management effectiveness.
- Meeting scheduled by RFI Manager to resurrect the LCP-Operations Interface Steering Committee that has not been held in over a year.



Figure 6.4-1: Lower Churchill Project Interface Management Dashboard – LCP-Operations (by Request Group)

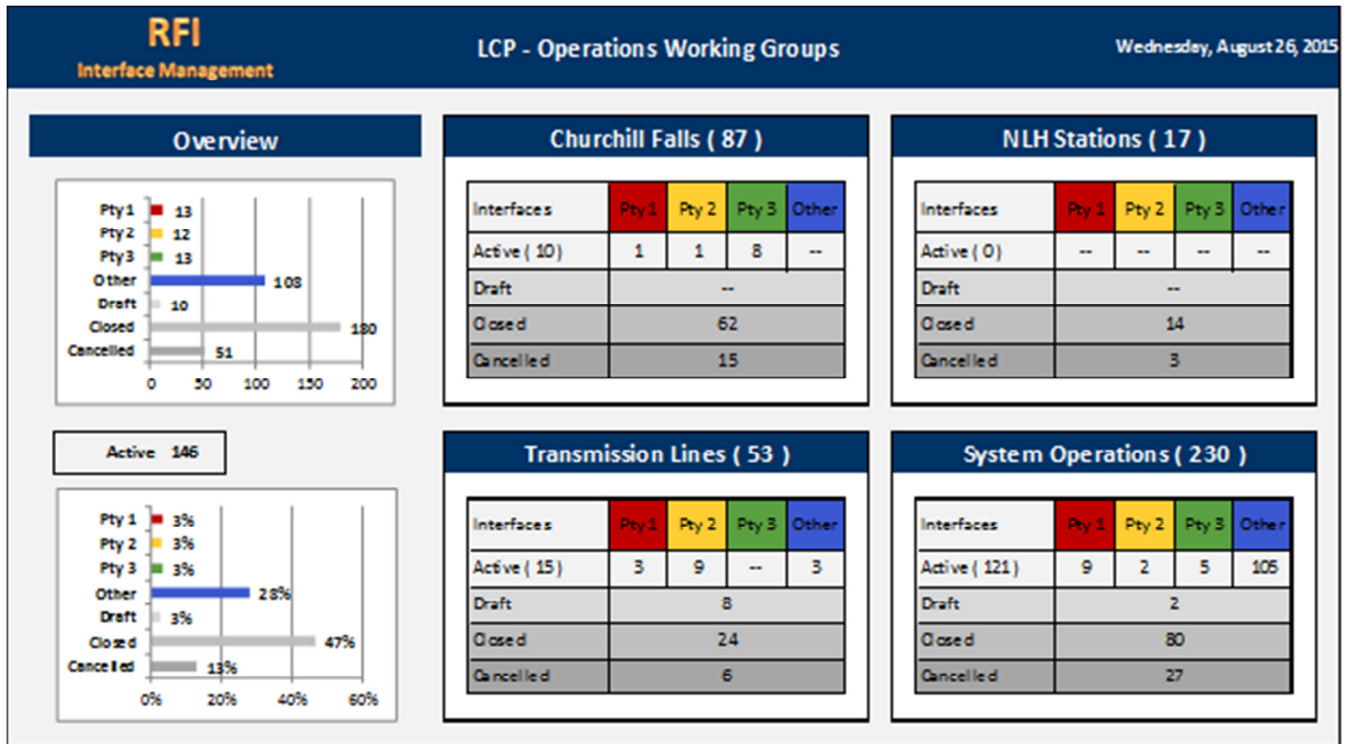


Figure 6.4-2: Lower Churchill Project Interface Management Dashboard – Project Totals (by Request Group)

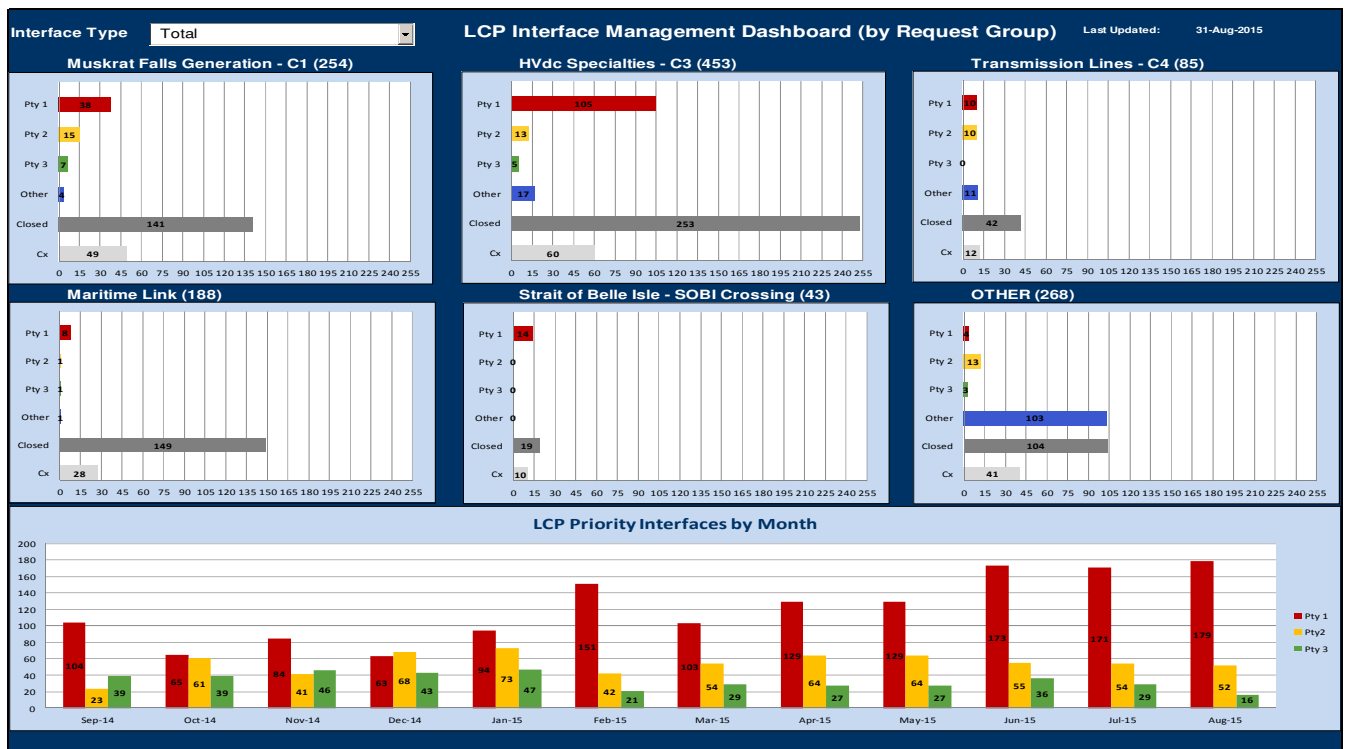
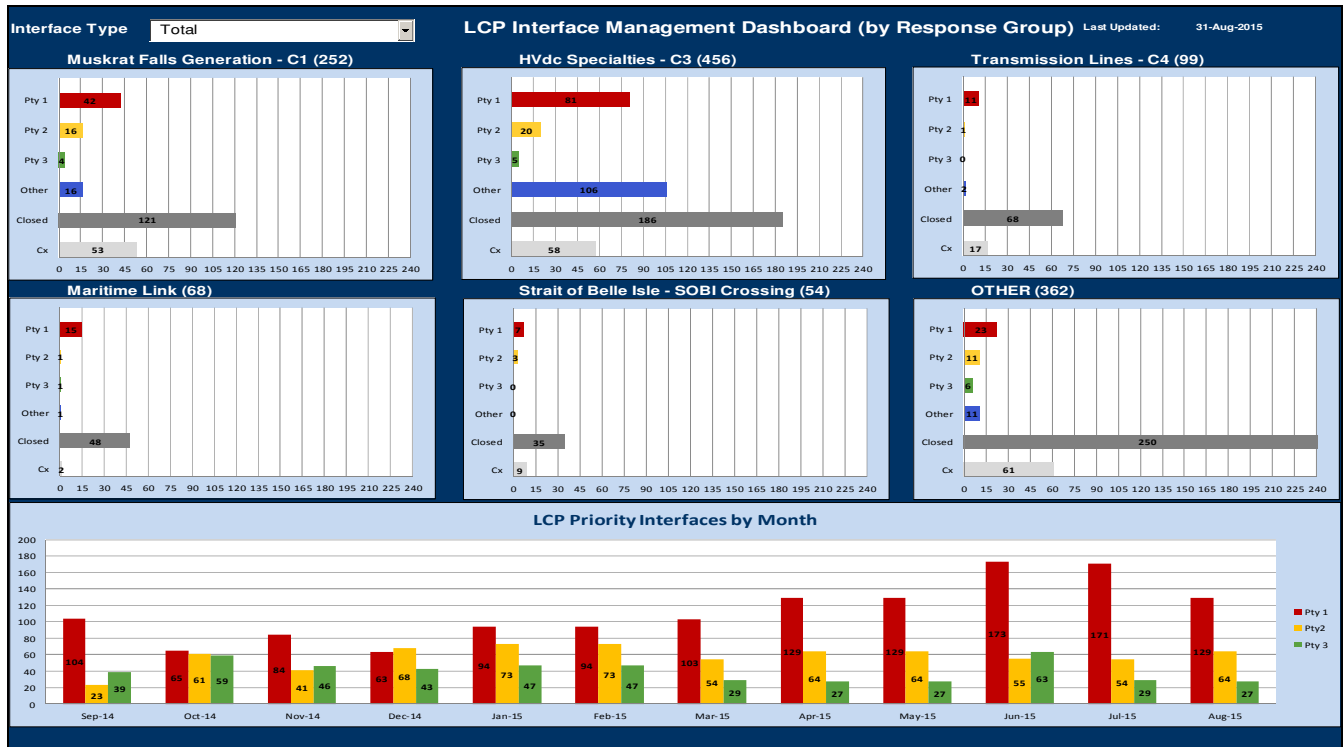


Figure 6.4-3: Lower Churchill Project Interface Management Dashboard – Project Totals (by Response Group)



## Section 7. RISK MANAGEMENT

### 7.1 HIGHLIGHTS

- Prepared risk questionnaire and evaluation matrix to be included as part of the RFP documents for package CD0510-001 – Supply and Install Permanent Communications Systems, Optical Transport Network (OTN).
- Continued coordination process with the following LCP Supplier/ Contractors to develop their Risk Management Plan document and Risk Register to be reported on a monthly basis:
  - CD0534 - Supply and Install of Synchronous Condensers; internal meeting held with Contractor and risk register is in process of being updated
- Continued internal meetings with LCP Sub-Projects Risk Coordinators to review definition and implementation of mitigations-actions (risk response step) for identified risks.
- Continued internal review of LCP Suppliers/Contractors risk registers submitted on a monthly basis as part of their monthly progress reports.
- Continued monitoring and reporting process of responses (mitigation strategies – actions) identified and implemented for risks registered in the LCP Risk Register (strategic).
- Attachment 14.5 includes the LCP Risk Register as at 31-August-2015.

### 7.2 CURRENT PRIORITIES

- Monitoring and control of LCP risk register (strategic) based on updated responses plans (mitigations strategies-actions) implemented according to the current context of the LCP Project.
- Continue coordination process with the following LCP Supplier's/Contractors to update their Risk Registers to be reported on a monthly basis:
  - CD0501 - Supply and Install Converter Stations and Transition Compounds.
  - CD0502 - Construction of AC Substations.
    - Joint risk review of both packages scheduled for mid-September 2015.
- Completing definition and implementation of mitigations – action (risk response step) for all identified LCP Sub-Projects' risks (tactical) in the LCP Risk Management tool to carry-on with the monitoring and control step, including reporting.
- Follow-up internal risk review meetings conducted for major packages related to MFG Sub-Project; risk review completed; updating response (mitigations-actions) plans with risk owners.

### 7.3 ISSUES & OPPORTUNITIES

- The concept of risk exposure activity and timeframe is being introduced to LCP Suppliers/Contractors for implementation in their risk registers. Impacts have been narrowed to the following outcomes: schedule, quality, safety and environment. Cost is considered for reimbursable agreements. Status: ongoing.

## Section 8. HUMAN RESOURCES/INFORMATION SYSTEMS

### 8.1 HIGHLIGHTS

- Human Resources:
  - 8 new hires mobilized during the period; and onboarding of 17 co-op students for various positions within the Project (10 students in the Torbay Road office and 7 students at Muskrat Falls/Transmission/North Spur).
  - 25 orientations completed in the Torbay Road Office (8 Project Delivery Team members, and 17 students); there were also 2 Project Delivery Team member orientations completed at site.
  - Initiated student recruitment for the Winter 2016 semester.
  - Revised the LCP Standard for Business Travel, and currently making final adjustments before distribution for approval signatures.
  - Review of all Nalcor staff job descriptions.
- Information Systems:
  - Internal audit review on information security completed - awaiting report.
  - Presentation to IMT on IS work plan status and overview of “The Current”.

### 8.2 CURRENT PRIORITIES

- Human Resources:
  - 2016 Winter semester co-op student recruitment.
  - Finalize LCP Recruitment Process Document.
  - Finalize Supervisor’s Checklist in conjunction with Training.
  - Issue the LCP Live Out Allowance (LOA) Procedure.
  - LCP Recognition Policy currently out for approval signatures.
  - Reissue the LCP Business Travel Standard.
  - Issue LCP Site Safety Absolute Review Committee Procedure.
  - Continue to assist Managers with Nalcor-LCP Staff mid-year performance reviews.
  - Finalize update and collection of all LCP employee job descriptions.
- Information Systems:
  - Continue with content updates for “The Current” prior to go live in September 2015.
  - Aconex Security review - implementation of complex passwords continues.
  - Two-factor authentication for Aconex accounts with access to sensitive data continues.
  - Continued focus on communications improvements in remote field locations.

### 8.3 ISSUES & OPPORTUNITIES

- Human Resources:
  - Ongoing timely recruitment for the Project of key roles to meet timelines—currently 47 competitions running in various stages for Components 1, 3 and 4.
- Information Systems:
  - Insufficient lead time on hardware requests for new hires continues to be an issue.
  - Aconex security improvements.
  - Continue focus on information and data security across the Project.

**8.4 ACTIVITIES PLANNED FOR THE UPCOMING PERIOD**

- Human Resources:
  - Continue LCP recruitment; orientation and onboarding of new hires.
  - Initiate student recruitment for the Winter 2016 semester.
- Information Systems:
  - Finalize “The Current” rollout, communications plan, and proceed with launch, scheduled for early September.
  - Finalize Aconex security enhancements.
  - LCP server infrastructure improvements continue.
  - Continuation of iPad deployment - 241 devices currently in use.
  - Project Commissioning System - configuration and implementation.
  - Evaluate Prism G2 upgrade.
  - IS Security internal audit follow-up.

## Section 9. LABOUR RELATIONS

### 9.1 HIGHLIGHTS

- IBEW all Canadian Conference 18-19-August-2015, with Ed Martin presenting; positive turnout and feedback.
- 4 MFEAs and 2 TCEAs Grievance settled.

### 9.2 CURRENT PRIORITIES

- Respectful Workplace Complaints Status for the month of August:
  - Four new complaints received.
- Innu Cultural Sensitivity Training to date - 10,353 workers.
- Muskrat Falls labour availability - as of 31-August -2015, few trades are being requested from outside the Province.
- Muskrat Falls labour productivity - as of 31-August-2015, Contractors indicate there are no significant issues impacting their labour productivity; concern over operating engineers' position of one man/one machine and utilization of apprentices.
- Transmission labour availability - as of 31-August-2015, majority of workers are being obtained from within the Province, with the following trades being accessed from outside the Province: drillers and blasters, stringing operations, and linesmen with steel tower experience.
- Transmission labour productivity - as of 31-August-2015, Contractors indicate there are no issues impacting their labour productivity.
- Labour Acquisition Plan:
  - No current initiatives planned.

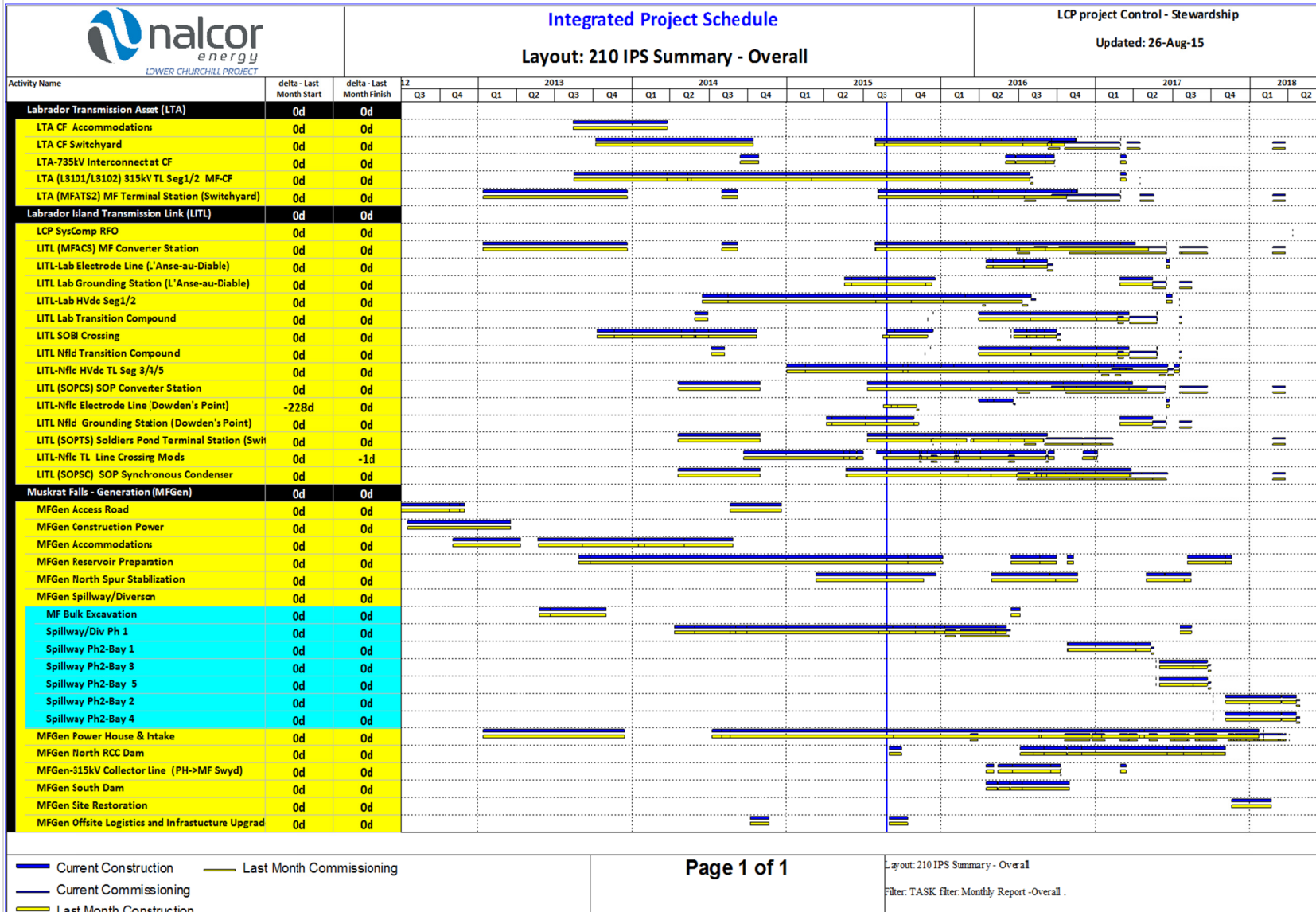
### 9.3 ISSUES & OPPORTUNITIES

- Muskrat Falls Labour Relations:
  - 129 grievances to date: 33 considered abandoned; 62 settled; 20 referred to arbitration or arbitrated; and 14 active.
- Transmission Labour Relations:
  - 33 grievances to date: 27 considered abandoned/settled; 2 referred to arbitration or arbitrated; and 4 active.
  - Valard advised will require 150-160 workers in various trades by the end of September.
  - C3 operations continue to ramp up and require a vast number of non-IBEW trades.
- Reservoir Clearing Labour Relations:
  - There are no current activities taking place.
- Development of Site Standards:
  - Drug and Alcohol Standard to be released in September 2015.

## Section 10. COST AND SCHEDULE

### 10.1 Overall Project Schedule

- Current forecast for the availability of the LTA for power transmission is 04-July-2017.
- Current forecast for the availability of the LITL ready for sustainable power transfer Labrador to Newfoundland is 11-Nov-2017.
- For MFG, first power date is under assessment; however it is likely there will be a delay in achieving this date. LCP is working with Contractors to mitigate the delay.
- The critical paths for the three projects (MF, LTA and LITL) remain unchanged.
- Overall project construction progress is 33.5%. The Overall Project Schedule is outlined in Figure 10.1-1. Overall progress and progress for the individual assets is provided in Figure 10.1-2, and the Overall Construction Progress Curve is provided in Figure 10.1-3.
- The Project is finalizing rebaseline efforts within LTA and LITL to align to approved Contractor's schedules in accordance with procedures.



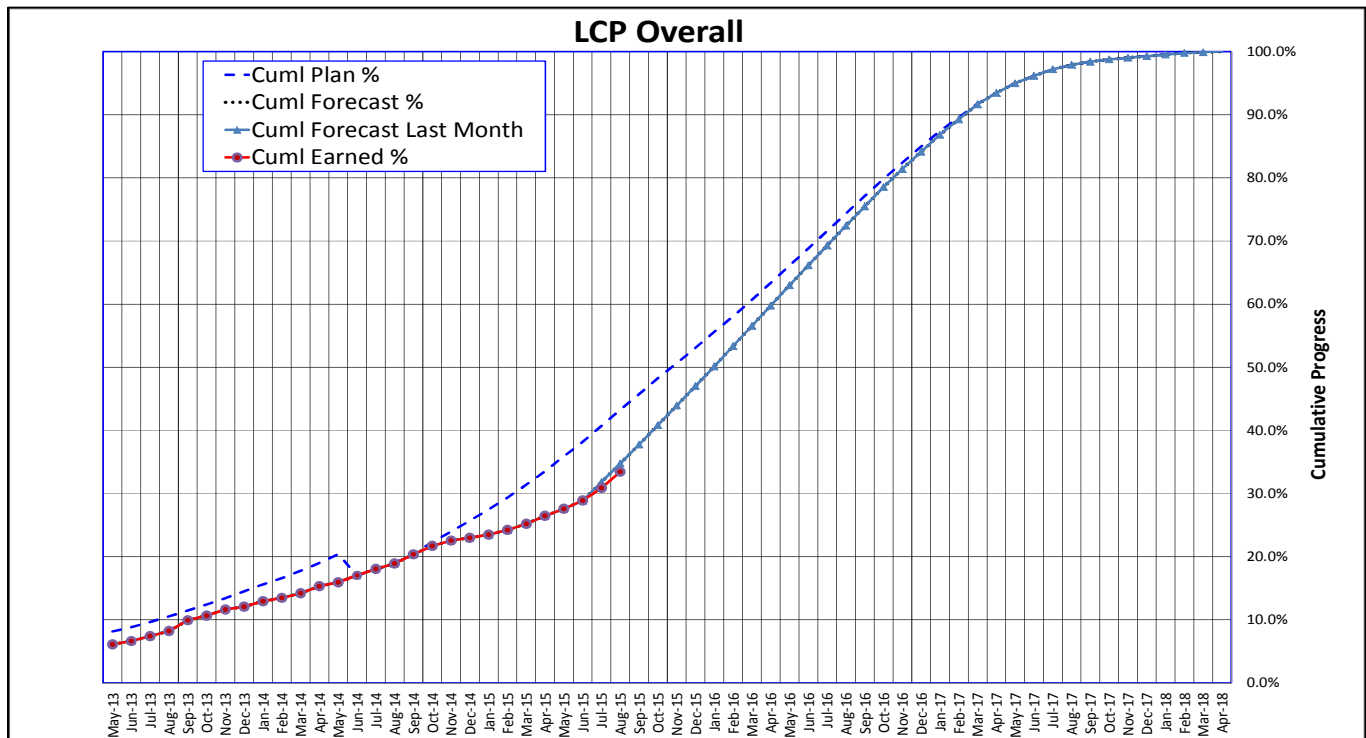


10.1-2: Summary Construction Progress Table - Overall Project

LCP - Overall 2015 Aug										
This Reporting Period									Next Month	
	Weight	Period %				Cumulative %			Forecast %	
	Factor %	Plan *1	Forecast *2	Earned	Var-Forecast	Plan	Earned	Variance	Period %	Cumulative %
	A	B	B1	C	C-B1	E	F	F-E	G	F+G
Labrador Transmission Asset (LTA)	11.1%	4.0%	3.9%	2.6%	-1.3%	57.1%	51.8%	-5.3%	3.8%	58.9%
Labrador Island Transmission Link (LITL)	42.2%	2.7%	3.0%	2.8%	-0.2%	33.4%	27.1%	-6.3%	3.2%	31.9%
Muskrat Falls Generation (MFGen)	46.7%	2.1%	2.6%	2.4%	-0.2%	48.8%	34.8%	-14.0%	2.6%	38.0%
<b>LCP-Overall</b>	<b>100.0%</b>	<b>2.5%</b>	<b>2.9%</b>	<b>2.6%</b>	<b>-0.3%</b>	<b>43.3%</b>	<b>33.5%</b>	<b>-9.8%</b>	<b>3.0%</b>	<b>37.7%</b>
Last Reporting Period										
	Weight	Period %			Cumulative %					
	Factor %	Plan		Earned	Plan	Earned				
	A	B		C	E	F				
Labrador Transmission Asset (LTA)	11.1%	3.9%		2.1%	53.2%	49.2%				
Labrador Island Transmission Link (LITL)	42.2%	2.6%		1.7%	30.7%	24.3%				
Muskrat Falls Generation (MFGen)	46.7%	2.1%		2.2%	46.7%	32.5%				
<b>LCP-Overall</b>	<b>100.0%</b>	<b>2.5%</b>		<b>2.0%</b>	<b>40.7%</b>	<b>30.9%</b>				

Notes: \*1 - Plan represents the June 2014 baseline \*2 - Forecasted Value from last month report

10.1-3: Construction Progress Curve - Overall Project



**10.2 Capital Cost**

**Control Basis**

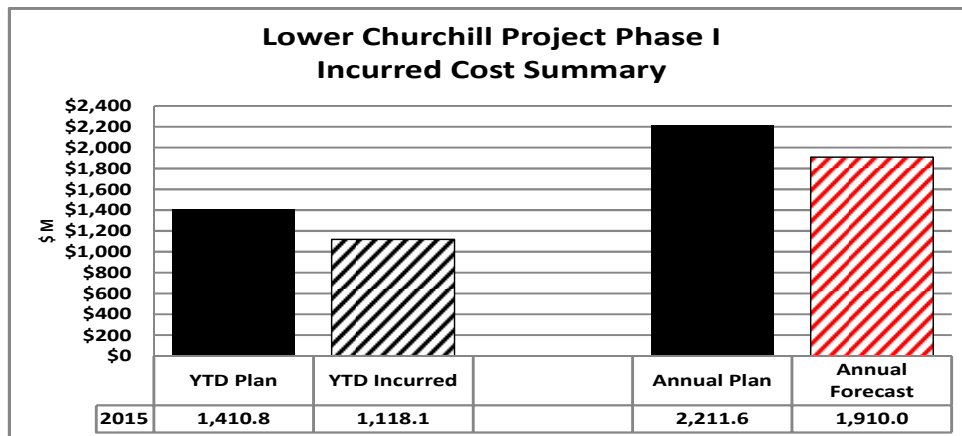
- This section reports costs only related to Phase I of the Lower Churchill Project encompassing Muskrat Falls Generation, the Labrador Island Transmission Link, and the Labrador Transmission Asset. Costs associated with the Maritime Link and Gull Island Generation are not included in this report.
- Reporting is now being undertaken against the capital budgets provided in revised AFE's for Muskrat Falls Generation, the Labrador Transmission Asset, and the Labrador Island Transmission Link, approved by their respective Boards of Directors in June 2014 (CCB). CAPEX costs for Phase I is \$6.990 billion comprised of Muskrat Falls Generation: \$3.372 billion; Labrador Island Transmission Link: \$2.786 billion and the Labrador Transmission Asset: \$0.832 billion.
- Costs related to interest (historical), debt financing, and currency impact are not included in this report.

**Period Incurred versus Plan Incurred Cost**

- Incurred cost for the August 2015 reporting period was \$178.1 million versus the re-baseline CCB for the period of \$200.8 million and a forecast provided at the end of July 2015 of \$243.1 million broken down by component as follows:

Component	Baseline	Forecast	Incurred Cost	Variance
Muskrat Falls Generation	\$85,091,737	\$88,710,575	\$76,177,781	-\$12,532,794
Labrador Island Transmission Link	\$96,914,333	\$141,309,566	\$92,509,510	-\$48,800,056
Labrador Transmission Asset	\$18,835,105	\$13,050,411	\$9,429,243	-\$3,621,168
	<b>\$200,841,175</b>	<b>\$243,070,552</b>	<b>\$178,116,534</b>	<b>-\$64,954,018</b>

- Project incurred cost to date is \$3,261 million, inclusive of CAPEX costs only. The overall variance between August's incurred cost and the forecasted value reported in July is (\$65) million, with the largest variance of (\$48) million being attributable to the Labrador Island Transmission Link, with lower than forecasted progress on the electrode line contract due to lateness in receiving Contractor information in the prior period; lower than expected progress in the engineering and fabrication of the converters; an incurred adjustment for the synchronous condensers; delays in civil works for the synchronous condensers and the switchyards contract; and lower than expected progress on HVdc transmission line construction being the key drivers. Cost details by asset and reporting categories are contained in Sections 11.4, 12.4 and 13.4.
- The 2015 planned, incurred and forecast costs based on the June 2014 re-baseline are summarized below. Project year-to-date incurred costs are \$1,118.1 million.

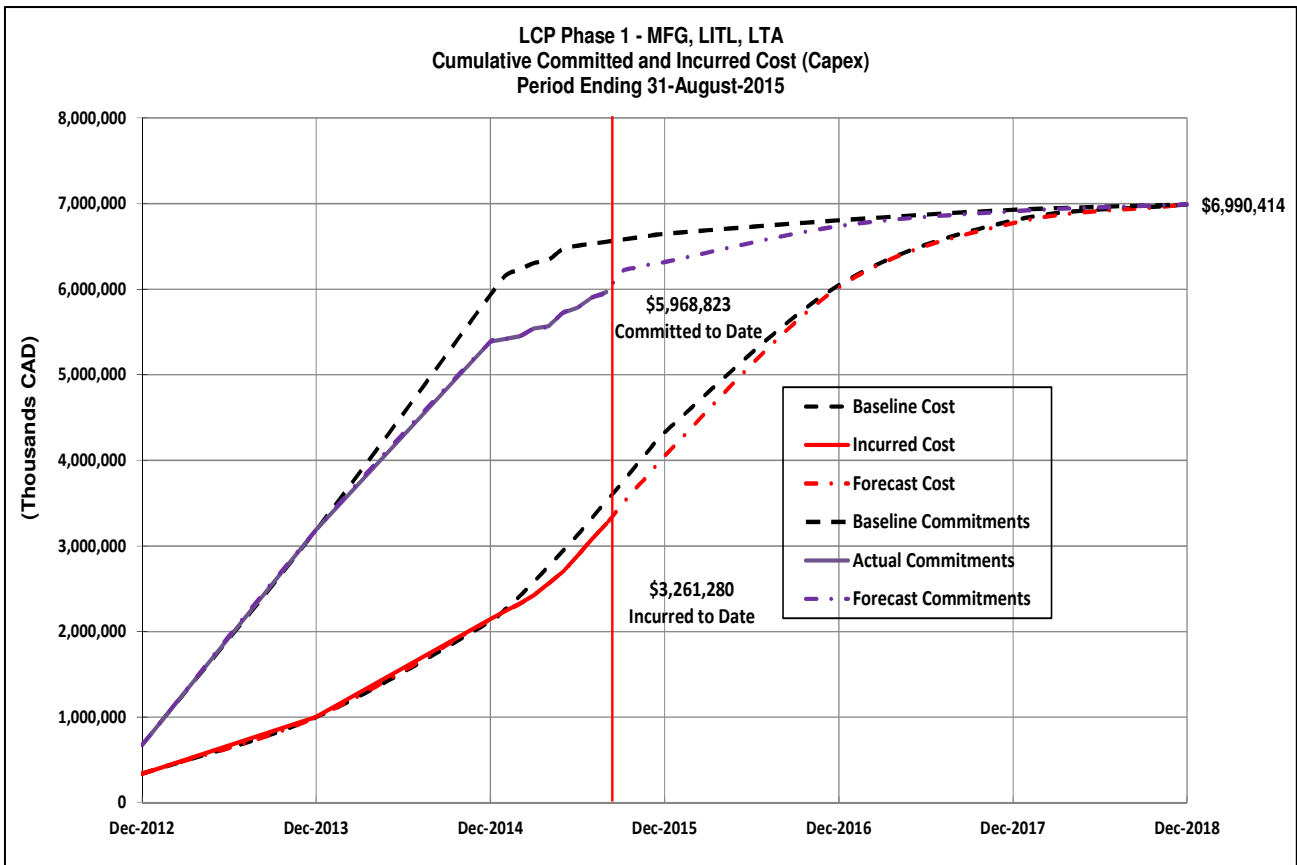


Note: The above values exclude Interest Charges, Project Debt Financing and Other Costs.

**Committed Costs**

- Total committed cost to date is \$5,969 million, inclusive of CAPEX costs only, with an overview of the cumulative commitment and incurred cost outlined below in Figure 10.2-1. Increase in commitment during the current period is aligned with the award of a Limited Notice to Proceed (LNTP) for Construction of the North and South Dams under CH0009, additional clearing sections of the HVdc Transmission Line under CT0327, adjustment to foundations cost for the HVac transmission line, additional materials for the HVdc transmission line, increases in maintenance costs, the addition of C3 services at Muskrat Falls, as well as indirect costs incurred.

**10.2-1: Cumulative Committed and Incurred Cost Overview**



**Note: Baseline represents the 2014 revised Authorization for Expenditure (AFE) approved in June 2014.**

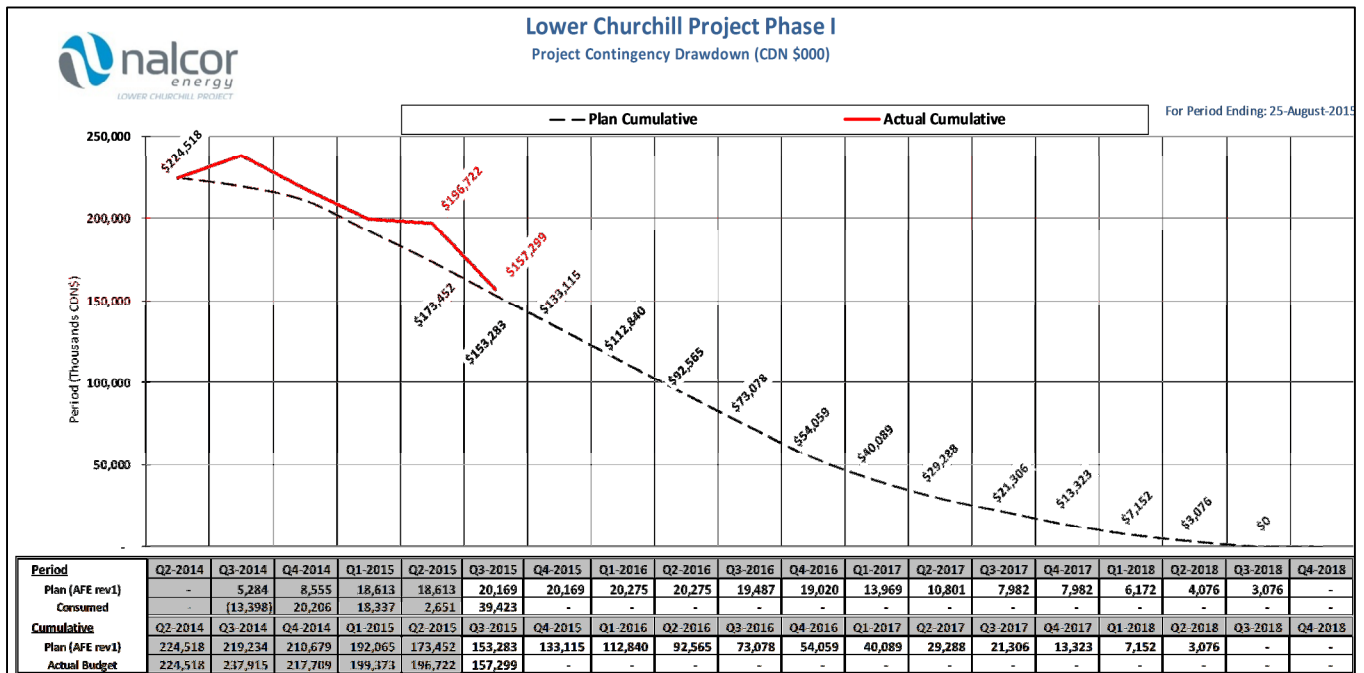
**Current Forecast**

- As of the end of the August reporting period the total FFC for CAPEX costs is \$6.99 billion. The Project is reviewing proposed cost increases across MF, LTA, and LITL. Further details can be found under Sections 11.4, 12.3, and 13.4 respectively.

**Contingency**

- Available Budget Contingency totals \$157.3 million (Muskrat Falls: \$88.4 million; LITL: \$45.3 million; LTA: \$23.6 million). The overall project contingency drawdown curve is provided in Figure 10.2-2. Key contributors to the drawdown this period are mainly attributable to \$14M under LIL mainly for a contract value increase under CT0342 for the HVac 230 kV Modifications and Island Electrode Line, the additional cost of services at Muskrat Falls for Catering, Housekeeping and Janitorial under SH0018, Garbage Removal and Disposal under SH0040, and Fuel Supply under SH0022 to accommodate the work being carried out under Component 3, additional material costs associated with PT0330 on the HVdc Transmission Line; and an increase of \$5.1M under LTA to accommodate cost increases associated with the 735 kV line under CT0319, transportation of concrete from the batch plant to the Muskrat Falls Switchyard under CH0007, as well as the additional cost of services under multiple services for Component 3 as described under LIL; there were no budget adjustments carried out under MF during the period.

**Figure 10.2-2: Project Contingency Drawdown Curve**



**Cost Reports**

- The LCP cost report is outlined below in Figure 10.2-3. Figure 10.2-4 outlines the 2014 control budget, incurred and forecast costs; and Figure 10.2-5 outlines the yearly budget, incurred and forecast cost for the overall project.

Figure 10.2-3: Phase 1 Monthly Incurred Cost Report

Phase I Monthly Incurred Cost Report - Muskrat Falls Generation, Labrador-Island TX Link, Lab. TX Asset							
NALCOR ENERGY - Lower Churchill Project							
COST IN CAD (\$ Thousands)							
For Period Ending: 25-Aug-2015							
	A	B	C = A + B	Incurred Costs		E	G = E - C
	Original Control Budget (OCB)	Approved Project Changes	Current Control Budget (CCB)	Current Period	D Project-to-Date	Final Forecast Cost (FFC)	Variance from CCB
100 NE-LCP Owners Team, Admin and EPCM Services	\$711,963	-\$3,042	\$708,921	\$13,801	\$513,715	\$708,921	\$0
200 Feasibility Engineering	\$51,750	-\$12,329	\$39,421	\$0	\$39,421	\$39,421	\$0
300 Environmental & Regulatory Compliance	\$44,404	-\$338	\$44,066	\$1,027	\$27,914	\$44,066	\$0
400 Aboriginal Affairs	\$15,746	\$1	\$15,747	\$0	\$7,136	\$15,747	\$0
500 Procurement & Construction	\$4,967,670	\$1,012,420	\$5,980,090	\$164,052	\$2,643,163	\$5,979,941	-\$149
900 Commercial & Legal	\$43,103	\$1,768	\$44,871	-\$763	\$29,931	\$44,871	\$0
990 Contingency	\$367,852	-\$210,554	\$157,299	\$0	\$0	\$157,448	\$149
<b>CAPEX Total:</b>	<b>\$6,202,489</b>	<b>\$787,925</b>	<b>\$6,990,414</b>	<b>\$178,117</b>	<b>\$3,261,280</b>	<b>\$6,990,414</b>	<b>\$0</b>

Figure 10.2-4: Phase 1 Current Year Budget, Incurred and Forecast Cost

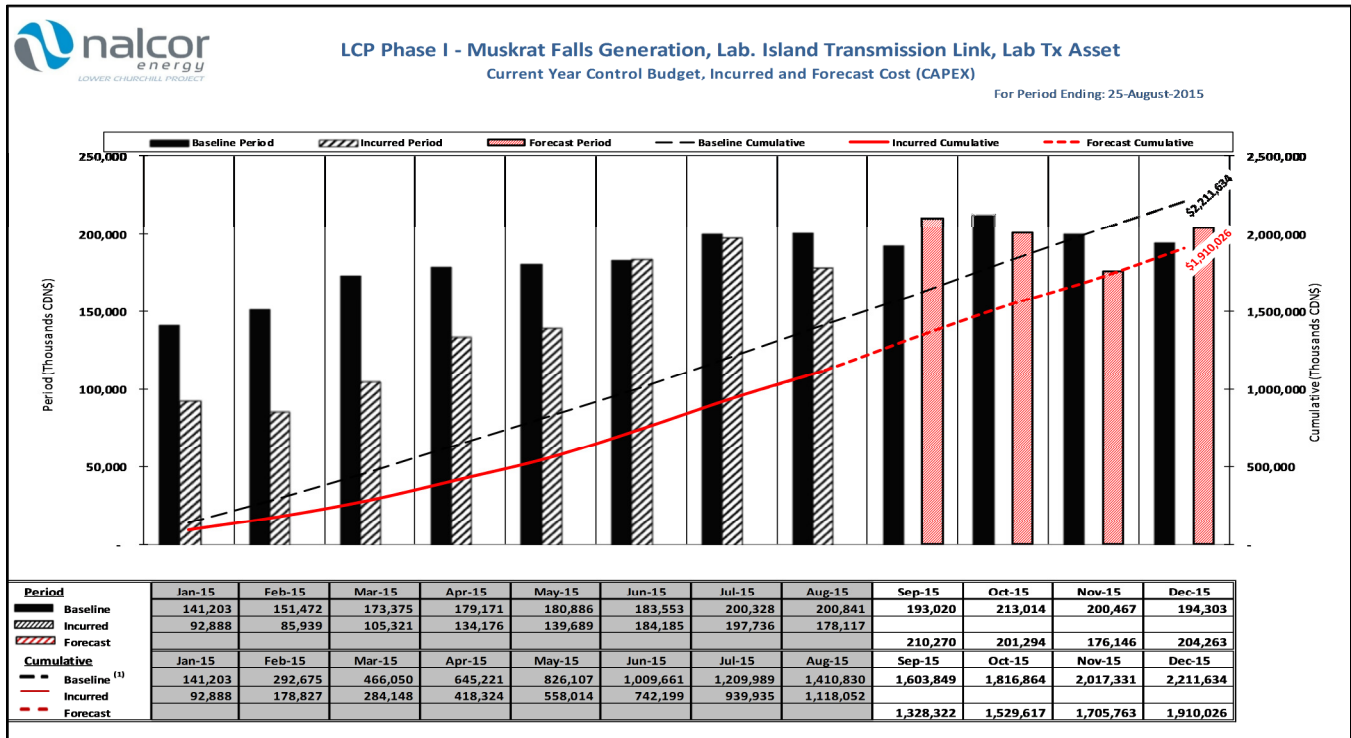
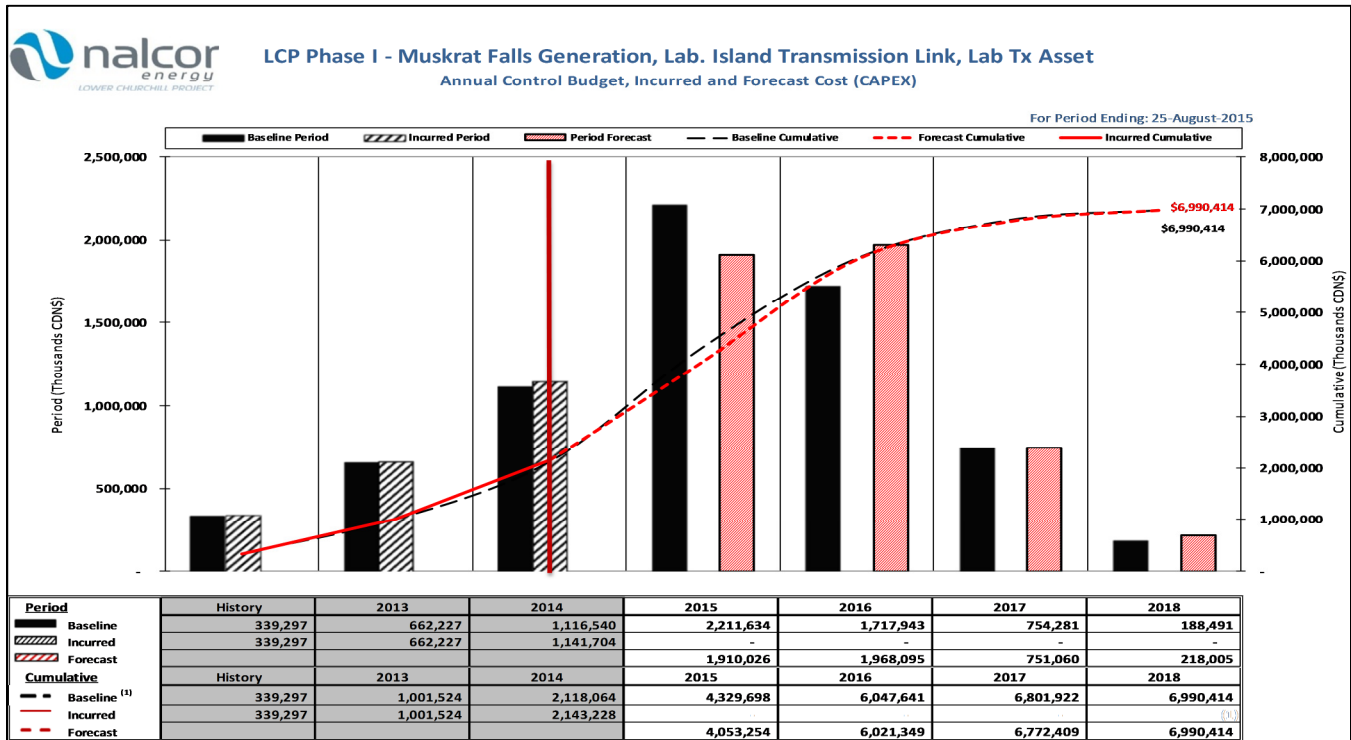


Figure 10.2-5: Phase 1 Annual Budget, Incurred and Forecast Cost



## Section 11. MUSKRAT FALLS GENERATION (MFG)

### 11.1 ENGINEERING

- Engineering coordination continues under Contract CH0007 for the Intake, Powerhouse, Spillway & Transition Dams, with various Engineering Change Notices (ECN) including spillway discharge channel lining and spillway gallery covers, updating of the intake roof beam piping drawings, C5C hatch covers drawings, grounding method for guard rails at the top of spillway piers, embedded conduits at Centre Transition Dam; update to the intake gate hoist building roof access ladder and revision to Powerhouse superstructure columns structural tie detail; update of powerhouse embedded dewatering piping, along with follow-up activities (site queries, concession requests and other construction management forms), and the ongoing review process of submittals (drawings, material submissions) received from Astaldi.
- In the area of Mechanical and Electrical, engineering work for the Turbines and Generators under Contract CH0030 is at 96% complete versus 100% planned, with design of the control system continuing to be the main focus. Engineering for Mechanical and Electrical Auxiliaries under CH0031 is now supporting bid reviews/clarifications, and there is currently an exercise underway to review and identify opportunities for possibly “re-packaging” the scope of work with a focus on capturing technical and commercial implications. Value engineering is ongoing and currently at 50% complete. Under Contract CH0032 for Powerhouse Hydro-Mechanical Equipment, spillway engineering for spillway embedded parts is complete. With respect to the intake and draft tube, continued production of detailed drawings for the intake gate body, and wheels is ongoing, and the bulkhead gate body drawings have been issued for construction; in addition, several O&M manuals have been submitted for review.
- Engineering review of fabrication documents is ongoing and design substantially complete for the Powerhouse Cranes under CH0033; additional clarification on LCP comments requested by Contractor prior to resubmission for the Powerhouse Elevator under CH0034; and continuation of design and issue of documentation associated with Concrete Lab Generator, North Spur Pump house Diesel Generator Installation, Construction Power Supply at Spillway and Laydown Area for CH0032, 25kV Construction Power Supply for CH0009 Contractor, and Generator Installation at North Spur Pump house.
- In the North Spur under CH0008, work on the Engineering Design Report is ongoing. Both the third party consultant dynamic study phase 2 and the hydrogeological study have been finalized, draft reports received, comments underway; and external review of the hydrogeological study has been completed; meeting with Hatch has taken place, and awaiting final report. Award recommendation for the on-demand service contract for geotechnical investigation and instrumentation approved 07-Aug-2015; implementation of Observational Method Action Plan in progress; and ECN for permanent access road, finger drains, NW COW drainage, etc. in progress.
- Under the area of River Management, Habitat and Site Restoration, river management internal bi-weekly progress meetings are ongoing; Public Safety around Dams study ongoing for construction phase; developed strategy for roll-out of Emergency Preparedness Plan to external stakeholders; Stage 2 River Management (Diversion Manual) internal reviews completed; held internal workshop to review options for spillway operations during river diversion. Working with Contractor to obtain signed Issued for Tender drawings; design and drawings completed; and specifications 95% complete under CH0049-001 for Design of Debris/Ice/Safety Boom (CH0049-001). Work continued on preparation of specifications for Request for Proposals under CH0049-002 for Supply & Install Debris/Ice/Safety Boom. Hydro-technical analysis continued on Edwards Brook delta site and alternative site along Churchill River; assessment of Edward’s Brook delta and spawning shoal habitats work ongoing; and secured CAD support services to prepare habitat compensation drawings

under CH0052 for Habitat Compensation. Site visit and meetings held with representatives from Ducks Unlimited Canada to prepare wetland compensation plan.

**11.2 PROCUREMENT**

- Bid Evaluations are ongoing for the following Packages:
  - CH0031-001 Supply and Install of Mechanical & Electrical Auxiliaries (MF).
- Bidder’s List Approved for the following Packages:
  - Nothing to report this period.
- RFP’s issued for the following Packages:
  - Nothing to report this period.
- RFI – RFP statistics and charts:

Description	Total Packages to Procure	Schedule to Date	Actual to Date
Issue EOI/Pre-qual.	60	59	58
Issue Request for Proposal	60	59	57
Issue PO/Contract	60	57	56

- Contracts and PO’s awarded for the following Packages:
  - CH0009-001 Construction of North and South Dams (LNTP).
- Activities planned for the upcoming period:
  - Continue to manage procurement activities to meet project schedule.
  - Continue to manage procurement activities to work toward the award of Contracts CH0009-001 - Construction of North and South Dams, and CH0031 - Supply and Install of Mechanical & Electrical Auxiliaries (MF).
  - Issue RFP for CH0049-002 - Supply and Install of Log Booms.

**11.3 CONSTRUCTION**

**11.3.1. INFRASTRUCTURE AND SERVICES**

- All contracts have progressed to warranty and contract close out, and all service contracts are in place and are being managed as per contractual arrangements.

**11.3.2. DAMS**

**CONSTRUCTION HIGHLIGHTS:**

- CH0009 - Construction of North and South Dams: Contractor onboarding under LNTP ongoing; finalizing Contract.

**COMMISSIONING:**

- Nothing to report this period.

**ISSUES & OPPORTUNITIES:**

- Nothing to report this period.

**ACTIVITIES PLANNED FOR THE UPCOMING PERIOD:**

- CH0009 - Construction of North and South Dams: Continuing with mobilization.



### 11.3.3. POWERHOUSE/INTAKE AND SPILLWAY

#### **CONSTRUCTION HIGHLIGHTS:**

- CH0007 - Intake, Powerhouse, Spillway & Transition Dams:
  - Completed the following:
    - 16 Spillway pier concrete placements.
    - 8 Center Transition Dam placements.
    - 5 Separation Wall Placements.
    - 3 North Transition Dam placements.
    - 0 South Transition Dam placements.
    - 16 Intake placements.
    - 10 South Service Bay placements.
    - 13 Draft Tube placements.
  - Ongoing maintenance of curing, hoarding and heating of the place concrete.
  - Contractor batch plant switched to utility power.
  - Commenced spillway concrete surface repairs.
  - Commissioned downstream powerhouse tower crane.

#### **COMMISSIONING:**

- Nothing to report this period.

#### **ISSUES & OPPORTUNITIES:**

- Performance of the CH0007 Contractor continues to trend behind plan. The LCP team have been collaborating with the Contractor in the implementation of organizational and production changes at the construction management level, and plans to improve production are being realized since re-start of 2015 operations. A review of the C1 (Muskrat Falls Generation) work plan is underway, and implementation of an updated C1 schedule will remain on hold pending acceptance of agreed actions and mitigations plan. Increased and sustained production rates through summer and fall will be assessed for schedule impacts.
- ICS removal plan required.

#### **ACTIVITIES PLANNED FOR THE UPCOMING PERIOD:**

- Continue implementation of changes to the Contractor's construction management organization.
- Complete all concrete placements in Spillway line A piers.
- Commissioning of Spillway Downstream Temporary and Permanent Bridges.

### 11.3.4. MECHANICAL AND ELECTRICAL

#### **CONSTRUCTION HIGHLIGHTS:**

- CH0030 - Turbines and Generators:
  - Manufacturing progress is 50% compared with a plan of 69%.
  - Focus is on packaging and preservation for the components scheduled for shipment from China in September.
  - The majority of the 2<sup>nd</sup> shipment from China was delivered to site; however, some items were offloaded in Goose Bay due to protests at the site gate during the week of 14-Aug-2015.

- CH0032 - Powerhouse Hydro-Mechanical Equipment:
  - Spillway Second stage embedded parts fabrication complete; preparations for QA release and shipment to site ongoing.
  - TCM fabrication ongoing; FAT delayed - some documentation and electrical concessions outstanding.
  - Draft tube crane fabrication ongoing at CEC.
  - Intake/draft tube embedded parts fabrication ongoing at Canmec.
  - Primary anchor installation ongoing in spillway upstream block-outs.
  - Mobilization planning and preparation ongoing; first tradespeople scheduled to be on site for orientation 8-Sep-2015.
  - Draft mobilization and acceleration plan for spillway mechanical scope received.
- CH0033 - Powerhouse Cranes:
  - Fabrication is continuing to progress and is on schedule; FAT is scheduled for October 2015.
- CH0068 - Construction Power Remaining Works:
  - Cut Over to Pumphouse 25kV Distribution Line on North Spur to allow CH0008 to perform civil work on North West Cutoff scheduled to be complete in August by NL Hydro resources.
  - Concrete Lab Electrical work for new equipment complete.
  - Batch Plant Switchgear Breaker modification complete.

**COMMISSIONING:**

- Nothing to report this period.

**ISSUES & OPPORTUNITIES:**

- Out of tolerance primary anchors in base slab: CH0032 package team to assist CH0007 with NCR disposition to achieve lowest impact, technically acceptable solution. Andritz had previously provided a lump sum proposal to address the issues with out of tolerance anchors; change request in approval process.
- Initial quality/management issues, including material testing and preparation of material test reports, and Inspection Test Protocols, at SinoHydro have been addressed. Identification of specific technical solutions; management meetings with LCP, Andritz Canada and Linz; and the majority of actions, have been completed; documentation backlog to be addressed is pending.
- Andritz Mobilization Readiness under CH0032: Requested mobilization plan and accelerated spillway schedule due 12-Aug-2015; draft mobilization and acceleration plan for spillway mechanical scope received.

**ACTIVITIES PLANNED FOR THE UPCOMING PERIOD:**

- CH0030 - Turbines and Generators: Shipment of turbine and generator components for Units 2 and 3; assembly of Unit 3 runner will continue during the coming month; inspection of the test stator bars is scheduled for 03-04-Sept-2015; a visit to the fabrication facility in China is scheduled for the end of September.
- CH0031 - Mechanical and Electrical Auxiliaries: Bid review/clarification activities; value engineering activities.
- CH0032 - Hydro-mechanical equipment: Complete mobilization for spillway scope; commence site installation of spillway downstream embedded guides; first spillway gate pre-assembly and testing.
- CH0033 - Powerhouse cranes: FAT final preparation and pre-checks.
- CH0034 - Powerhouse elevator: Review updated deliverable package.
- PH0014 - Generator Step-Up Transformer: Continue with review of submitted documents.
- PH0015 - Isolated Phase Bus: Provide technical input to supplier.

- PH0016 - Generator Circuit Breaker: Continue with review of documents.
- CH0068 - Construction Power Remaining Work: Complete North Spur 25kV Distribution Line Relocation work; commence work on WTO for Sports Complex Diesel Generator Installation; issue WTO for the Concrete Lab Diesel Generation Installation; issue WTO for Construction Power Supply to CH0032 Contractor.

#### **11.3.5. NORTH SPUR STABILIZATION AND RESERVOIR CLEARING**

##### **CONSTRUCTION HIGHLIGHTS:**

- CH0024 - Reservoir Clearing North and South Banks:
  - Approximately 1146 ha cleared to date, representing approximately 64.7% complete. Activities on reservoir clearing had been suspended, and the Contractor had re-sequenced priorities to clearing of the HVdc Transmission Line. The team is evaluating the timing for resuming activities.
- CH0008 - Construction of North Spur Stabilization:
  - Protesters began to gather on the North Spur site on 12-Aug-2015 resulting in limited work activity during the day shift and no night shift activities. All production stopped and Crafts were sent home as of approximately 1:00 pm on 13-Aug-2015. This resulted in the shutdown of all day and night shift operations on site. Protest activity ended on the North Spur site on 18-Aug-2015, and the Contractor was able to resume full production on Thursday, 20-Aug-2015 after craft personnel had returned.
  - Commenced installation of the upstream cement bentonite cut-off wall panels on 03-Aug-2015. To mitigate the delay in starting the work, a second shift began on Wednesday 26-Aug-2015. As of 31-Aug-2015, 30 of 49 panels were completed, and based on current production the completion of the upstream cut-off wall is expected in September 2015. Alternate production work has also been initiated to fully utilize the GNLC equipment fleet. Excavation of the trench for the North West CB Cut-Off Wall continued; and excavation work is approximately two thirds complete.
  - Upstream Embankment backfilling work in Cross-Section 8 (North of the US/NW Cut-Off Wall Intersection) on the Upstream Slope continued; completed the stripping of overburden from bedrock at the South end of the Spur for future tie-in with the Upstream Till layer.
  - On the Downstream Embankment, completed installation of the temporary road RT-07 (Access from the South End); began overburden and sand (2G) excavation in cross sections 11, 12 & 13 on the upper slopes; began the placement of rock (3E) along the Downstream Shoreline.
  - The Onsite Laboratory (managed and run by Project Delivery Team members with resources from AMEC) began full operations in early August after remaining services (water and additional power) were connected.

##### **COMMISSIONING:**

- Nothing to report this period.

##### **ISSUES & OPPORTUNITIES:**

- With the increasing workload, the lab is currently unable to meet the testing frequency requirements of the contract specifications due to limited resources: Currently seeking additional lab technicians with the assistance of the AMEC Contract Administrator.

##### **ACTIVITIES PLANNED FOR THE UPCOMING PERIOD:**

- CH0008 - Construction of North Spur Stabilization:
  - Complete the upstream cement bentonite cut-off wall and begin the Northwest cement bentonite cut-off wall.

- On the Upstream Embankment, commence till backfilling operations over the cut-off wall & continue sand (2G) backfilling work (in Cross-Section 8). Clean the bedrock at the South end and begin rock foundation treatment work as required.
- On the Downstream Embankment, continue sand excavation on the upper slopes, continue overburden excavation in various locations, and continue with shoreline backfill work.
- Follow work progress and analyze agreement with design.

#### 11.3.6. RIVER MANAGEMENT/HABITAT/SITE RESTORATION

##### CONSTRUCTION HIGHLIGHTS:

- Nothing to report this period.

##### COMMISSIONING:

- Nothing to report this period.

##### ISSUES & OPPORTUNITIES:

- Decision on execution strategy for operation of spillway during construction needed.

##### ACTIVITIES PLANNED FOR THE UPCOMING PERIOD:

- Obtain services of consultant to perform geotechnical investigations for proposed drag embedment anchors for debris/safety/ice boom.
- Continuation of Vista Inflow Model simulations for precipitation events.
- Spillway operations during diversion/log boom debris removal - obtain decision on execution strategy.
- Draft Muskrat Falls Public Safety Plan (Construction) for internal review.
- Finalize scope of work for River Management Cold Eyes Review and make necessary arrangements to allow this assessment to be initiated in September.
- CH0052 - Habitat Compensation: Continue assessment of Spawning Shoals and Edwards Brook delta for design drawings; commence preparation of Pinus River delta drawings.
- CH0049-001 - Design of Debris/Ice/Safety Boom: Finalize boom package technical specifications.
- CH0049-002 - Supply and Install Debris/Ice/Safety Boom: Finalize documents for RFP.
- Review Ducks Unlimited Canada recommendations from site visit and prepare draft Wetland Compensation Plan for regulatory approval.

#### 11.4 COST

- Incurred Costs for the Current Period and Project-to-Date are lower than planned mainly due to lower than anticipated progress under Contracts CH0030 and CH0032 for Manufacturing of the Turbines and Generators, and Supply and Installation of Hydro-Mechanical Equipment respectively; however, higher than anticipated progress in the period was achieved in relation to CH0007 due to recovery of progress. The net negative Current Period Incurred Cost under “Commercial & Legal” is related to the transfer of historical internal labour costs to the category of “Owners Team, Admin and EPCM Services” to align with where budgets are allocated, and Incurred Costs for the Current Period under “Owners Team, Admin and EPCM Services” are higher than planned mainly as a result of the higher than planned costs for contractor management, reconciliations with Nalcor services, and the transfer of costs from the category of “Commercial & Legal” as described above. The incurring of the Contingency is reflected within the incurred and future incurred costs in

the categories outlined in Figure 11.4-1 as and where the work is performed. Cost to complete continues to remain significant as construction activities for work in progress remain in the early stages, including Contract CH0009 in which an LNTP was entered into during the current period, and the remaining major construction contract for MF (CH0031) pending award.

- The overall Approved Final Forecast Cost (FFC) for MFG continues to be aligned with the AFE approved in June 2014 however adjustments to FFC at the specific category level were made as the project continued to progress during the period. The FFC for “Procurement & Construction” has decreased during the current reporting period as a result of a forecast re-evaluation to accommodate ongoing changes associated with CH0007 for Construction of the Intake, Powerhouse, Spillway and Transition Dam. Offsetting adjustments were made to the FFC for “Contingency” to align with the changes made within the category of “Procurement & Construction”. A summary of the MFG cost profile, along with the asset overview of Project Contingency Drawdown are provided in Figures 11.4-1, 11.4-2, 11.4-3 and 11.4-4.

**Figure 11.4-1: Muskrat Falls Generation Monthly Incurred Cost Report**

		Monthly Incurred Cost Report - Muskrat Falls Generation			For Period Ending: 25-Aug-2015			
		NALCOR ENERGY - Lower Churchill Project			COST IN CAD (\$ Thousands)			
		A	B	C = A + B	Incurred Costs		E	G = E - C
		Original Control Budget (OCB)	Approved Project Changes	Current Control Budget (CCB)	Current Period	D Project-to-Date	Final Forecast Cost (FFC)	Variance from CCB
100	NE-LCP Owners Team, Admin and EPCM Services	\$368,215	\$19,508	\$387,723	\$7,535	\$287,204	\$387,723	\$0
200	Feasibility Engineering	\$17,985	-\$36	\$17,949	\$0	\$17,949	\$17,949	\$0
300	Environmental & Regulatory Compliance	\$17,927	\$6,815	\$24,742	\$496	\$16,945	\$24,742	\$0
400	Aboriginal Affairs	\$13,314	\$0	\$13,314	\$0	\$6,683	\$13,314	\$0
500	Procurement & Construction	\$2,236,847	\$577,762	\$2,814,609	\$68,653	\$1,382,843	\$2,806,567	-\$8,042
900	Commercial & Legal	\$20,021	\$5,219	\$25,239	-\$506	\$14,733	\$25,239	\$0
990	Contingency	\$226,849	-\$138,437	\$88,412	\$0	\$0	\$96,454	\$8,042
<b>CAPEX Total:</b>		<b>\$2,901,158</b>	<b>\$470,831</b>	<b>\$3,371,989</b>	<b>\$76,178</b>	<b>\$1,726,356</b>	<b>\$3,371,989</b>	<b>\$0</b>

Figure 11.4-2: Muskrat Falls Generation Current Year Budget, Incurred and Forecast Cost

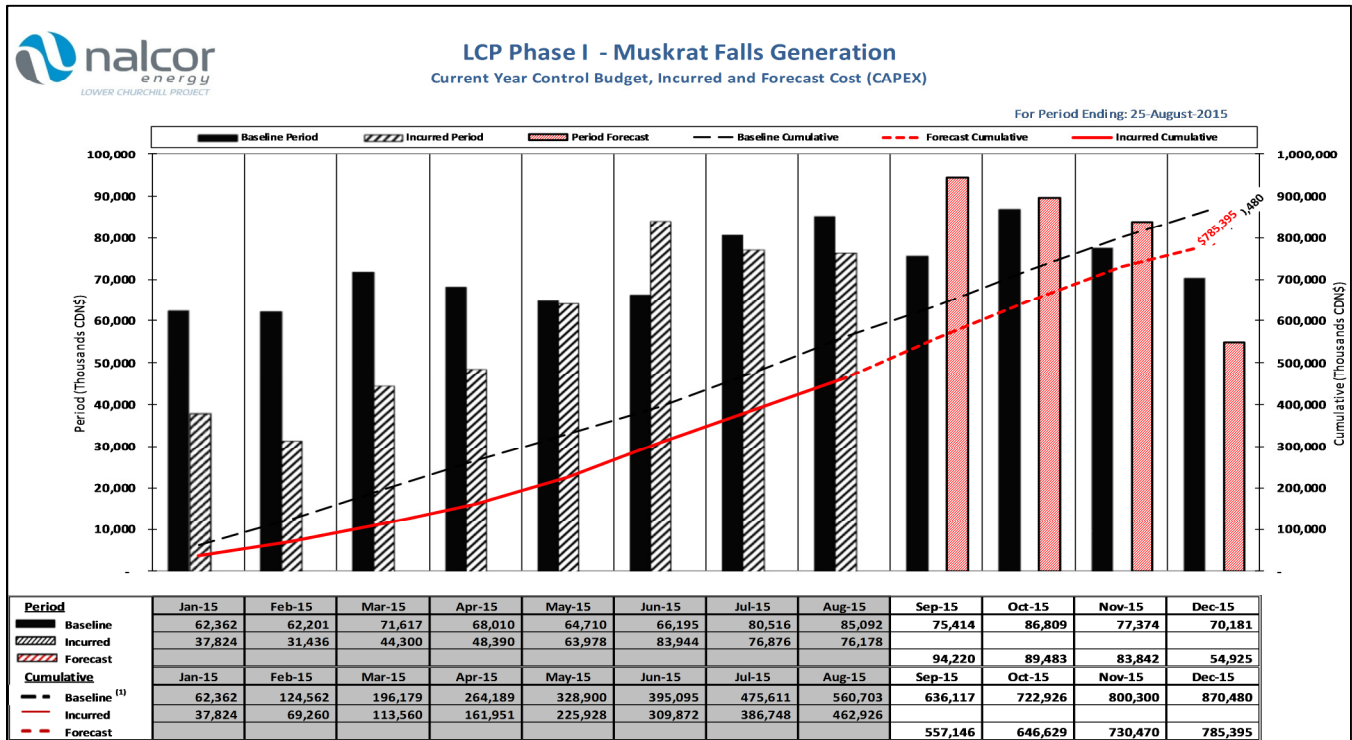


Figure 11.4-3: Muskrat Falls Generation Annual Budget, Incurred and Forecast Cost

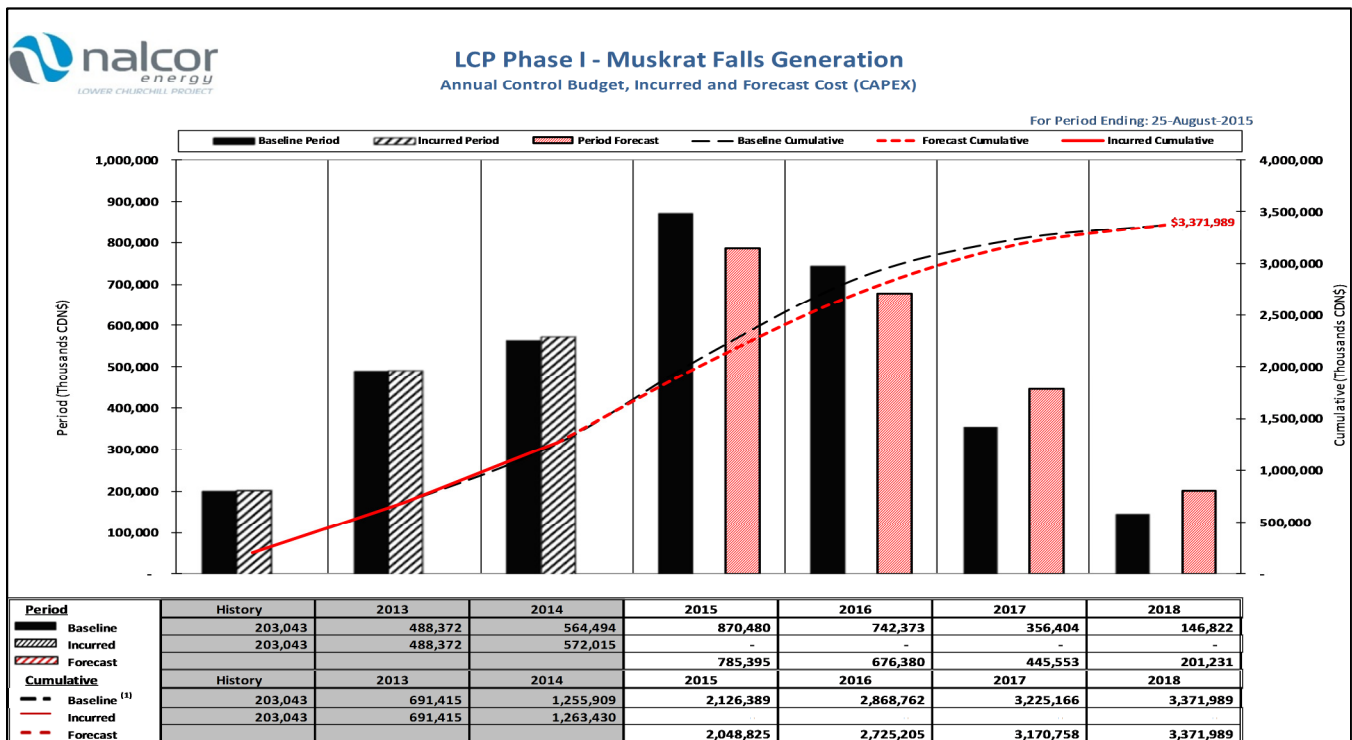
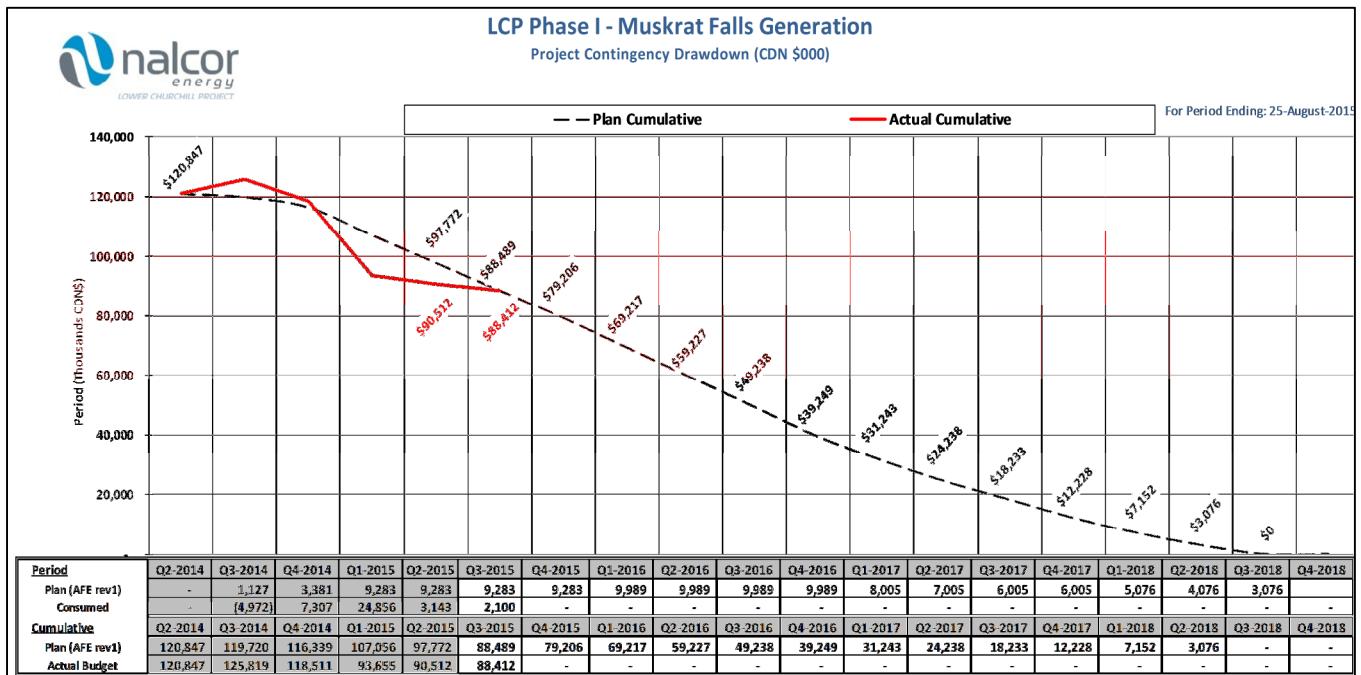


Figure 11.4-4: Muskrat Falls Generation Project Contingency Drawdown Curve



- Cost increases under MFG are likely and under review given current market conditions and pressures, reliability improvements & design enhancements, as well as contractor performance & project management execution. The project is experiencing market pressures which in turn are increasing the price of the work and the contracts required for Muskrat Falls Generation. The major contracts for Construction of the Intake, Powerhouse, Spillway and Transition Dams (CH0007), Construction of North Spur Stabilization Works (CH0008), Construction of the North and South Dams (CH0009), and Supply and Install of Mechanical & Electrical Auxiliaries (MF) (CH0031) are primarily those that these conditions have an impact, including labour productivity matters. Design enhancements have accounted for scope changes and the need for additional quantity of materials specifically for Contracts CH0007 and CH0030 for the Turbines and Generators. The requirement for more direct project management from the Project to oversee some of the MFG contracts, along with the requirement for increased services to accommodate additional manpower at the Muskrat Falls site, environmental cost increases and increases in dispute costs are having a potential impact on cost.

### 11.5 SCHEDULE

- Period Planned Progress was 2.1% vs. Period Earned Progress of 2.4% - Variance: 0.3%; while Period Forecast Progress was 2.6% as stated in last month's report.
- Cumulative Planned Progress was 48.8% vs. Cumulative Earned Progress of 34.8% - Variance: -14.0%; Cumulative Forecast Progress was 35.1%, as stated in last month's report.
- Critical Path(s):
  - Diversion - River Closure (priority 1a) – On schedule for start of 06-July-2016; completion of North dam upstream cofferdam (5) Groins 1&2 to El. 17m – no change from last month.
  - Diversion - Winter Headpond El. 25m (priority 1b) – On schedule for start of 25-Oct-2016; completion of North dam upstream cofferdam (5) to El.26 - no change from last month.

- Diversion - Impoundment Full Supply Level El. 39m (priority 1c) – Scheduled start of 06-Nov-2017 on hold; completion of North Dam - no change from last month.
- Reservoir Clearing: Labour transferred to ROW clearing in LITL; forecast completion under review, however is not to impact diversion.
- North Spur:
  - 2016 scope for winter headpond is a subset of the overall 2016 scope; there exists some small float to target completion date.
  - 2017 scope for impoundment is a subset of the overall 2017 scope; there exists some small float to target completion date.
- Spillway/Powerhouse/Transition Dams:
  - The Spillway is progressing on schedule for priority 1a River Closure.
  - A review of the C1 (Muskrat Falls Generation) work plan is underway, and implementation of an updated C1 schedule will remain on hold pending acceptance of agreed actions and mitigations plan.
- A summary of the Schedule and Construction Progress data for Muskrat Falls Generation as reported in the Integrated Project Schedule (IPS) is outlined in Figures 11.5-1, 11.5-2 and 11.5-3.

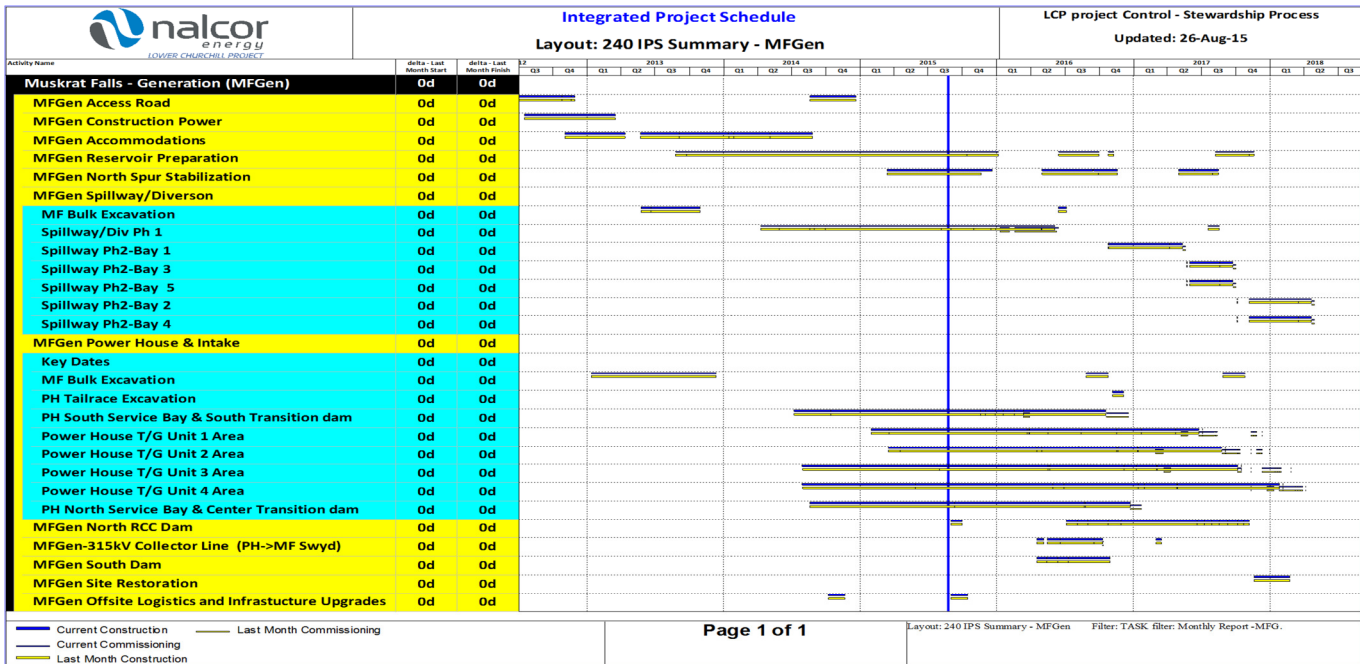
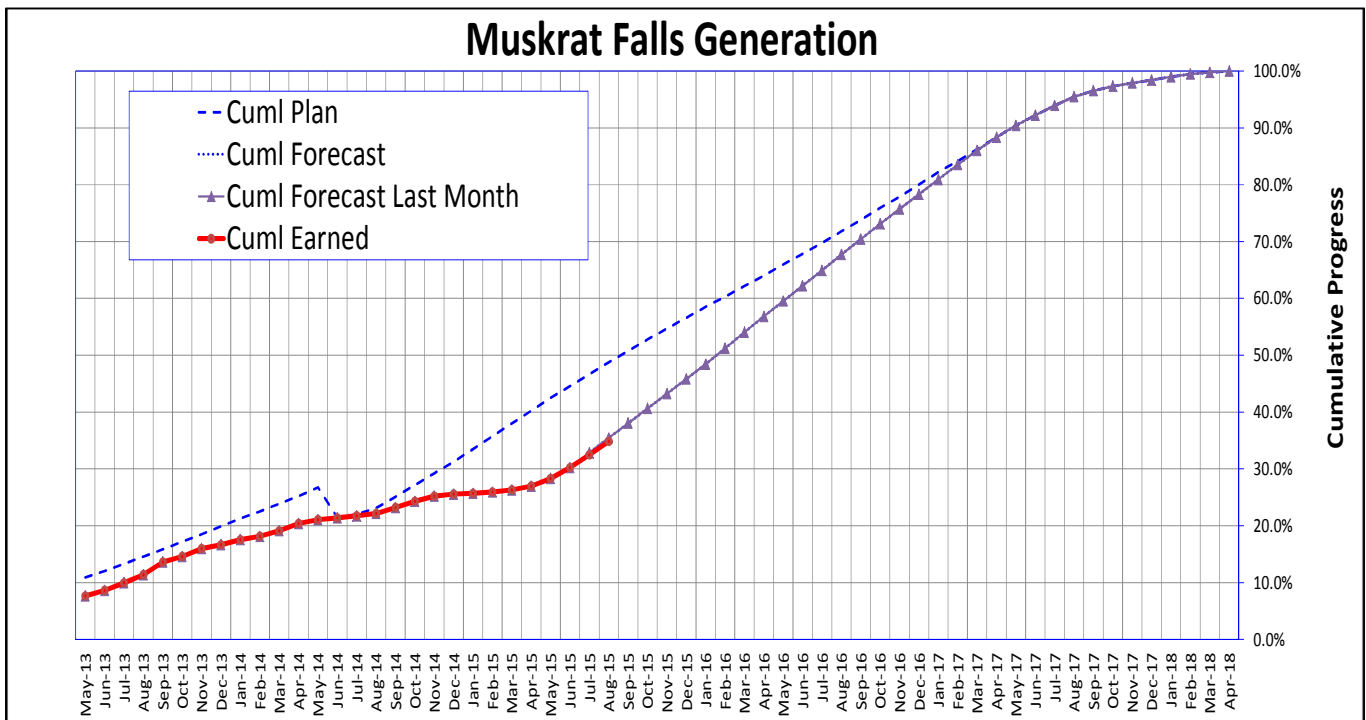
**Figure 11.5-1: IPS Summary - Muskrat Falls Generation**




Figure 11.5-2: Summary Construction Progress Table – Muskrat Falls Generation

MFGen Progress Table 2015 Aug							
	Weight Factor % A	This Reporting Period			Cumulative %		
		Plan	Period % Earned	Variance C-B	Plan	Earned	Variance
		B	C	C-B	E	F	F-E
MFG Road/Camp/Constr. Power	7.9%	0.0%	0.0%	0.0%	100.0%	99.8%	-0.2%
MFG Reservoir Preparation	6.5%	2.2%	0.0%	-2.2%	71.5%	60.8%	-10.7%
MFG Spillway & Gates	11.4%	2.4%	6.0%	3.6%	54.6%	58.0%	3.4%
MFG North Spur Stabilization	4.2%	4.1%	6.6%	2.5%	41.6%	16.6%	-25.0%
MFG North Dam (incl North Transition Dam)	7.5%	0.0%	0.6%	0.6%	0.0%	1.4%	1.4%
MFG Powerhouse & intake	54.9%	2.7%	2.5%	-0.2%	41.9%	18.5%	-23.4%
MFG South Dam (incl South Transition Dam)	1.1%	0.0%	0.7%	0.7%	0.0%	4.3%	4.3%
MFG Misc:Eng/ 315kV/Site Rest./logistic	6.5%	0.6%	0.0%	-0.6%	83.2%	83.5%	0.3%
<b>MFGen TOTAL</b>	<b>100.0%</b>	<b>2.1%</b>	<b>2.4%</b>	<b>0.3%</b>	<b>48.8%</b>	<b>34.8%</b>	<b>-14.0%</b>
Last Reporting Period							
	Weight Factor % A	Plan	Period % Earned	Variance C-B	Plan	Earned	Variance
		B	C	C-B	E	F	F-E
		MFG Road/Camp/Constr. Power	0.0%	0.0%	0.0%	100.0%	99.8%
MFG Reservoir Preparation	2.2%	0.0%	-2.2%	69.3%	60.8%	-8.5%	
MFG Spillway & Gates	2.6%	7.1%	4.5%	52.2%	52.0%	-0.2%	
MFG North Spur Stabilization	4.8%	3.0%	-1.8%	37.5%	10.0%	-27.5%	
MFG North Dam (incl North Transition Dam)	0.0%	0.4%	0.4%	0.0%	0.8%	0.8%	
MFG Powerhouse & intake	2.7%	2.3%	-0.4%	39.2%	16.0%	-23.2%	
MFG South Dam (incl South Transition Dam)	0.0%	0.6%	0.6%	0.0%	3.6%	3.6%	
MFG Misc:Eng/ 315kV/Site Rest./logistic	0.6%	0.0%	-0.6%	82.6%	83.5%	0.9%	
<b>MFGen TOTAL</b>	<b>100.0%</b>	<b>2.1%</b>	<b>2.2%</b>	<b>0.1%</b>	<b>46.7%</b>	<b>32.5%</b>	<b>-14.3%</b>

Figure 11.5-3: Construction Progress Curve - Muskrat Falls Generation



11.6 PHOTOS



CH0007: Spillway-as seen from Cofferdam 1



CH0007: Downstream temporary/permanent spillway bridges



CH0007: Separation Wall



CH0007: Intake-Unit 4



CH0008: Construction of North Spur Stabilization Works-  
Upstream cement bentonite cut-off wall panel installation  
works



CH0008: Construction of North Spur Stabilization Works-  
Overview of overburden excavation works on upper slopes of the  
downstream

## Section 12. LABRADOR TRANSMISSION ASSET (LTA)

### 12.1 HVdc SPECIALTIES

#### 12.1.1 ENGINEERING

- CD0502 - Construction of AC Substations:
  - One hundred and fourteen (114) Supplier Documents were returned to Contractor with comments (Code 02).
  - Eighty-four (84) Supplier Documents were reviewed and accepted (Code 01).
  - LCP and Contractor held several teleconferences to discuss comment response sheets for a number of drawings; this will continue on weekly basis to allow design to progress to IFC in a timely manner.
  - Evaluating change requests from Contractor related to LCC mimic panels, visible local disconnects and structured cabling.
  - Two engineering change notices were submitted to Contractor.
  - Contractor submitted eight (8) new Concession Requests; Company responded to six; there are two CON's currently circulating for Company response.
- PD0537 - Supply of Power Transformers, AC Substations at Churchill Falls, Muskrat Falls and Soldiers Pond: Engineering is 100% complete for Churchill Falls, Muskrat Falls and Soldier's Pond units; as-building submission process is ongoing to facilitate package closeout.

#### 12.1.2 PROCUREMENT

- Contracts and POs awarded for the following packages:
  - All HVdc Specialties contracts and POs under the Labrador Transmission Asset have been awarded, excluding the following which are managed under the EPC Contractor's scope of work:
    - CD0504 - Civil Works and Buildings Services for HVdc Specialties: Limited Notice to Proceed (LNTP) awarded to Pomerleau for Labrador, and H.J. O'Connell for Newfoundland. Activities commenced during the period.
- Activities planned for the upcoming period:
  - Continue to manage procurement activities to meet project schedule.

#### 12.1.3 CONSTRUCTION

##### 12.1.3.1 SWITCHYARDS

###### **FABRICATION AND CONSTRUCTION HIGHLIGHTS:**

- PD0537 - Supply of Power Transformers, AC Substations at Churchill Falls, Muskrat Falls and Soldiers Pond:
  - Final MF unit has been completed and passed all FAT testing at ABB in St. Louis.
  - Shipping of all units from the St. Louis plant planned start for 03-05-Sept-2015.
- CD0502-001 - Construction of AC Substations: Construction has started at Muskrat Falls and Churchill Falls with civil excavations, rebar and forming for gantries and transformer pads. Some challenges with building labour relations and labour acquisition on these two sites.

###### **COMMISSIONING:**

- Nothing to report this period.

#### **12.1.4 ISSUES & OPPORTUNITIES**

- PD0537 Project Management deliverables quality and timing: Communicate with Supplier on expectations to facilitate closure.
- CD0502 Contractor's Organizational Structure is not effective (latest organizational chart showed that CD0502 Engineering Manager had been replaced, however, impacts not yet known to engineering design): Continue to work with Contractor to develop roles, responsibilities and workable reporting relationships within their organization.
- CD0502 Contractor's Quality of deliverable submissions (some submissions are continuing to be rejected because of poor quality): Continue to remind contractor about the extent of the deficiencies.
- During site visit to CF(L)Co., and subsequent meeting held in July, CD0502 Contractor was notified of some potential design requirement may need to follow Hydro-Quebec standards, which were not known: Technical Interfaces will be sent to CF(L)Co requesting these specific requirements; a high level design review meeting is scheduled between Hydro-Quebec and CF(L)Co. in September.
- CD0502 Contractor and company in discussions on potential impacts from a 'delay' to approving the control building layouts.
- Upon receiving minutes of meeting for LCC design review, CD0502 Contractor made a statement regarding "changes" to design that LCP have requested. LCP had asked Contractor to outline what these supposed changes were and the Contractor did submit a table outlining the possible changes; further discussions are required.
- CD0502 Contractor has proposed a 42m high triple circuit tower at Soldier's Pond to accommodate the feeders going to the synchronous condenser. Operations have an issue with this proposal because of three energized circuits on the same tower: Company will be making a request that the Contractor review other options; Contractor has proposed using underground cables; sketches have been provided and an estimate is expected week of 07-Sept-2015.
- CD0502 Contractor is well behind schedule for secondary design which includes P&C design and design for the GIS local control cubicles: Company is still working with Contractor to get design back on schedule.
- Slow construction progress at Churchill Falls and Muskrat Falls: Issues with labour supply at site, especially Muskrat Falls, has led to slower than expected progress. In addition, issues with concrete supply at Churchill Falls have resulted in no concrete being poured in August.

#### **12.1.5 ACTIVITIES PLANNED FOR UPCOMING PERIOD**

- CD0502 - Construction of AC Substations:
  - Proposed detailed design review meeting with Alstom related to building architectural, mechanical and electrical services.
  - Review document deliverables from Contractor.
  - Review and respond to site queries and concession requests provided from Contractor.
  - Hold weekly teleconferences with Contractor to help progress with engineering design.
  - Continue work on gantries and foundations at all sites; commence concrete pouring at CF and MF; continue with positive progress at Soldier's Pond.
- PD0537 - Supply of Power Transformers, AC Substations at Churchill Falls, Muskrat Falls and Soldiers Pond:
  - Work with Contractor, Alstom, to develop a site assembly and preservation plan for all sites.
  - Coordinate site activities related to delivery and pad placement.
  - Execute shipping of Churchill Falls and Soldier's Pond units to site.
  - Facilitate the setup of preservation routines for storage of all transformers and spares at each Site.

**12.2 TRANSMISSION LINE**

**12.2.1 ENGINEERING**

- Post award follow on support is continuing for all 315 kV HVac packages in support of construction of the HVac Transmission Line.
- Lower Brook re-configuration scope completed and submitted for quotation.
- 25 kV under build across the Churchill River scope completed and submitted for quotation.

**12.2.2 PROCUREMENT**

- Contracts and POs awarded for the following packages:
  - All Transmission Line contracts and POs under the Labrador Transmission Asset have been awarded.
- Expediting Releases are ongoing for:
  - PT0303-002 - Supply of Tower Hardware HVac: Expediting Release No. 012 was issued for HVGB/Contractor.
  - PT0335-001 - Supply of Anchor Materials 315kV HVac: Expediting Release No. 027 was issued for HVGB MY.
- Logistics:
  - Deliveries for PT0302-001 - Supply of HVac Tower Steel: Deliveries TBA.
  - Deliveries for PT0335-001 - Supply of HVac Anchor Materials: Deliveries are ongoing and as of 31-August-2015, 36 shipments were delivered to HVGB MY.
  - Deliveries for PT0303-001 - Supply of HVac Tower Hardware: Deliveries are ongoing and as of 31-August-15, delivered 2 containers to HVGB MY.
  - Deliveries for PT0303-002 - Supply of HVac Implo devices: Deliveries are ongoing and as of 31-August-2015, delivered 11 shipments to Valard.
  - Deliveries for PT0307-001 - Supply of HVac Foundation Materials: Deliveries are ongoing and as of 31-August-15, delivered 2 loads to HVGB MY.
- Activities planned for the upcoming period:
  - Continue to manage procurement activities to meet project schedule.

**12.2.3 CONSTRUCTION**

**12.2.3.1 HVac TRANSMISSION LINE**

**CONSTRUCTION HIGHLIGHTS:**

- CT0319 - Construction of 315kV HVac Transmission Line:
  - Cumulative Progress to Date:

Commodity	Budget Total QTY	Planned to Date	Installed to Date	Variance	% Complete	SPI
Anchor Installation	1100	688	990	302	90.00%	1.44
Anchor Testing	1100	678	893	215	81.18%	1.32
Foundation Installation	1263	802	1172	370	92.79%	1.46
Tower Assembly	1263	832	957	125	75.77%	1.15
Tower Erections	1263	781	799	18	63.26%	1.02
Conductor Stringing	490,481	203,116	172,012	(31,104)	35.07%	0.85

- Stringing of OSHW, OPGW and conductor with sagging, clipping-in and spacer installation on-going.
- North Spur and Osprey Camp installation completed and both camps operational.

- The camp at the 123 km mark is occupied as a temporary camp (full capacity) until permitted as permanent camp with final waste disposal system.
- Utilization of the camp at Churchill Falls is ongoing to support work being completed on an additional work front from the Churchill end.
- Hauling of materials, foundation installation, tower assembly and erection ongoing.
- Guy anchor installation and tower plumbing ongoing.
- Helicopter installation of tower hardware and pulling of pilot lines ongoing.
- Foundation work south of the river at Muskrat Falls, structure 8 has commenced.
- Contractor has mobilized a rehabilitation/reclamation crew to sites where construction work has completed.
- Work continues on two structures at the Churchill Falls Switchyard.
- Some Contractor crews are moving to the HVdc Transmission Line.
- Combined, anchor Installation and foundations are nearly 90% complete and forecast to complete underground work is December of this year. SPI is well above 1.0 in all areas, except stringing - Valard plans to bring on a second Stringing Crew, working from the west to augment the current stringing effort and bring this segment of the project back on schedule. Overall, Inception-to-date SPI is 1.16.
- Material receipts including steel towers, foundations, hardware, guy wire and conductor are ongoing at the HVGB Marshalling Yard.

**COMMISSIONING:**

- Nothing to report this period.

**12.2.4 ISSUES & OPPORTUNITIES**

- Tower steel shortages/missing materials for tower installation: Issuing missing pieces from surplus inventory. Additional steel and bolts being procured from Sa-Ra to replenish supplies.
- C4, along with other components (C1 and C3), are now going to be working beside each other with more potential interactions between contractors and sharing access and work spaces: Close coordination between components required as necessary when contractors are working at the same time. Regular meetings between construction management teams will be set up to share information and plan work accordingly.
- Powerhouse and switchyard interconnect at Muskrat Falls site may not be constructed this year as originally planned due to Powerhouse progress: Scope will be deferred to 2016/2017 as a result and would require remobilization of contractor, however current plan is to proceed with construction of first structure of interconnect at the Muskrat Falls switchyard.
- NCR's raised on tower foundations which do not meet dimensional tolerances; rework and reverse engineering ongoing.

**12.2.5 ACTIVITIES PLANNED FOR UPCOMING PERIOD**

- Post award follow-on engineering support for all open 315 kV HVac packages, as well as resolving site queries and concession requests generated in the field.
- CT0319 - Construction of 315kV HVac Transmission Line: Continue all construction activities.
- Coordination planning with C1 and C3 across all interaction points.
- Potential start of second stringing crew working from structure 485 working west.
- Expectation that Contractor will commence work on 735 kV line at Churchill Falls.
- Potential start of OPGW splice work along ROW.
- Delivery of additional foundations ordered from Fabrimet.
- Analysis continuing of consumption rate of materials to inventory.

- Contract to be awarded to excavate and transport backfill material at structures 1-8.
- Complete evaluation of quotations received for Lower Brook and under build scopes.
- 735 kV Lines at CF: Review final hardware drawings.

### 12.3 COST

- Incurred costs project-to-date remain higher than planned, however, are lower than planned for the Current Period mainly as a result of an adjustment made to modify incurred cost for the prior period for the HVac Transmission Line under “Procurement & Construction”. The net negative Current Period Incurred Cost under “Commercial & Legal” is related to the transfer of historical internal labour costs to the category of “Owners Team, Admin and EPCM Services” to align with where budgets are allocated, and Incurred Costs for the Current Period under “Owners Team, Admin and EPCM Services” are higher than planned mainly as a result of the higher than planned costs for contractor management, reconciliations with Nalcor services, and the transfer of costs from the category of “Commercial & Legal” as described above. The incurring of the Contingency is reflected within the incurred and future incurred costs in the categories outlined in Figure 12.4-1 as and where the work is performed. Cost to complete continues to remain significant for LTA as construction activities for work in progress are ongoing.
- The overall Approved Final Forecast Cost (FFC) for LTA continues to be aligned with the AFE approved in June 2014 however adjustments to FFC at the specific category level were made as the project progressed during the period. The Final Forecast Cost for “Owners Team, Admin and EPCM Services” has decreased during the current reporting period as a result of the transfer of costs for site office supplies for C3 (HVdc Specialties) from this category to the category of “Procurement & Construction” under SD0568. The Final Forecast Cost for “Procurement & Construction” has increased during the current reporting period as a result of additional import backfill requirements for the HVac Transmission Line under CT0327-020, the transportation of concrete from batch plant to the Muskrat Falls Switchyard under CH0007, costs associated with additional trailers required at the Muskrat Falls and Churchill Falls Switchyards, as well as bedrock removal, under Contracts CD0502 and CD0504, the additional cost of services at Muskrat Falls for Catering, Housekeeping and Janitorial under SH0018, Garbage Removal and Disposal under SH0040, and Fuel Supply under SH0022 to accommodate the work being carried out under C3 at the switchyard, as well as the transfer noted above. Offsetting adjustments were made to the FFC for “Contingency” to align with the adjustments made in these categories. A summary of the LTA cost profile, along with the asset overview of Project Contingency Drawdown are provided in Figures 12.3-1, 12.3-2, 12.3-3 and 12.3-4.

Figure 12.3-1: Labrador Transmission Asset Monthly Incurred Cost Report

**Monthly Incurred Cost Report - Labrador Transmission Asset**  
NALCOR ENERGY - Lower Churchill Project  
COST IN CAD (\$ Thousands)  
For Period Ending: 25-Aug-2015

	A Original Control Budget (OCB)	B Approved Project Changes	C = A + B Current Control Budget (CCB)	Incurred Costs		E Final Forecast Cost (FTC)	G = E - C Variance from CCB
				Current Period	D Project-to-Date		
100 NE-LCP Owners Team, Admin and EPCM Services	\$90,385	\$9,551	\$99,936	\$1,885	\$87,365	\$99,936	\$0
200 Feasibility Engineering	\$136	\$84	\$220	\$0	\$220	\$220	\$0
300 Environmental & Regulatory Compliance	\$709	\$310	\$1,019	\$5	\$813	\$1,019	\$0
400 Aboriginal Affairs	\$188	\$0	\$188	\$0	\$1	\$188	\$0
500 Procurement & Construction	\$543,309	\$160,541	\$703,850	\$7,618	\$397,676	\$706,173	\$2,323
900 Commercial & Legal	\$2,479	\$662	\$3,141	-\$78	\$2,202	\$3,141	\$0
990 Contingency	\$54,375	-\$30,784	\$23,591	\$0	\$0	\$21,268	-\$2,323
<b>CAPEX Total:</b>	<b>\$691,582</b>	<b>\$140,364</b>	<b>\$831,945</b>	<b>\$9,429</b>	<b>\$488,277</b>	<b>\$831,945</b>	<b>\$0</b>

Figure 12.3-2: Labrador Transmission Asset Current Year Budget, Incurred and Forecast Cost

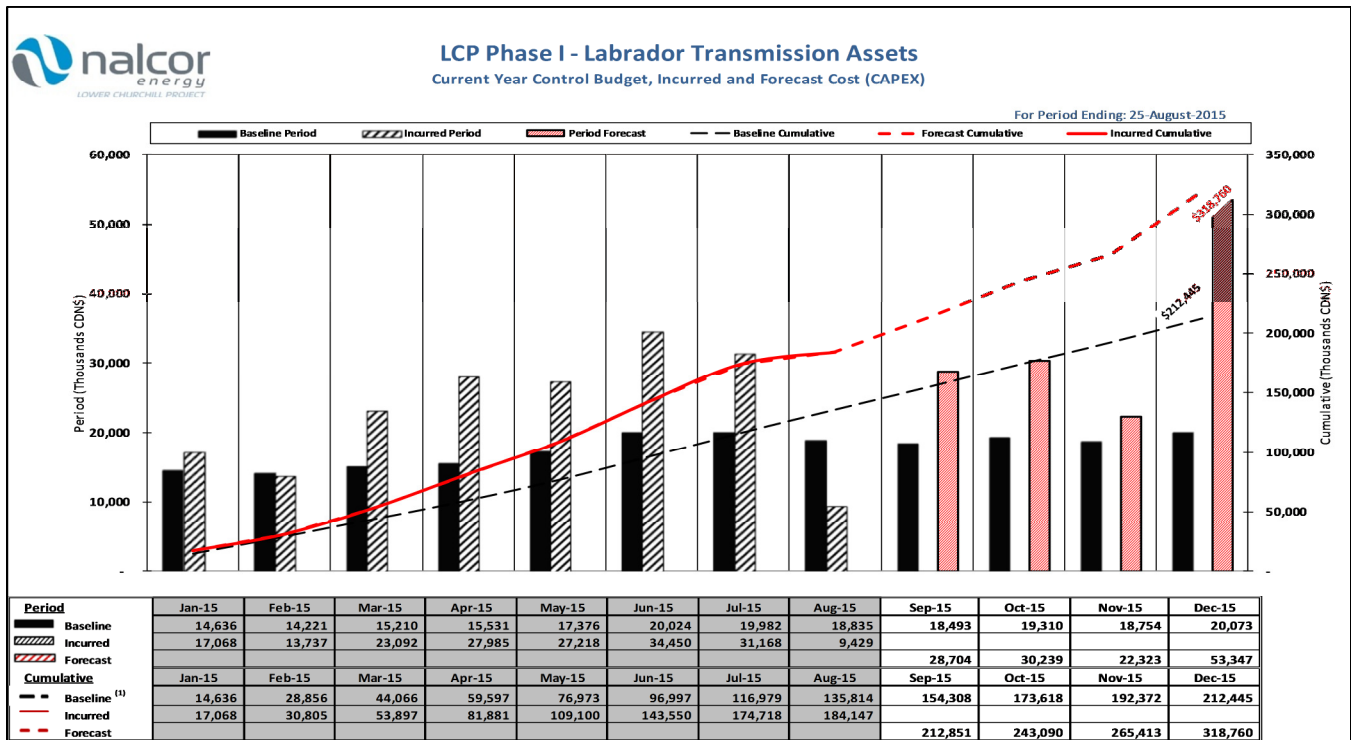




Figure 12.3-3: Labrador Transmission Asset Annual Budget, Incurred and Forecast Cost

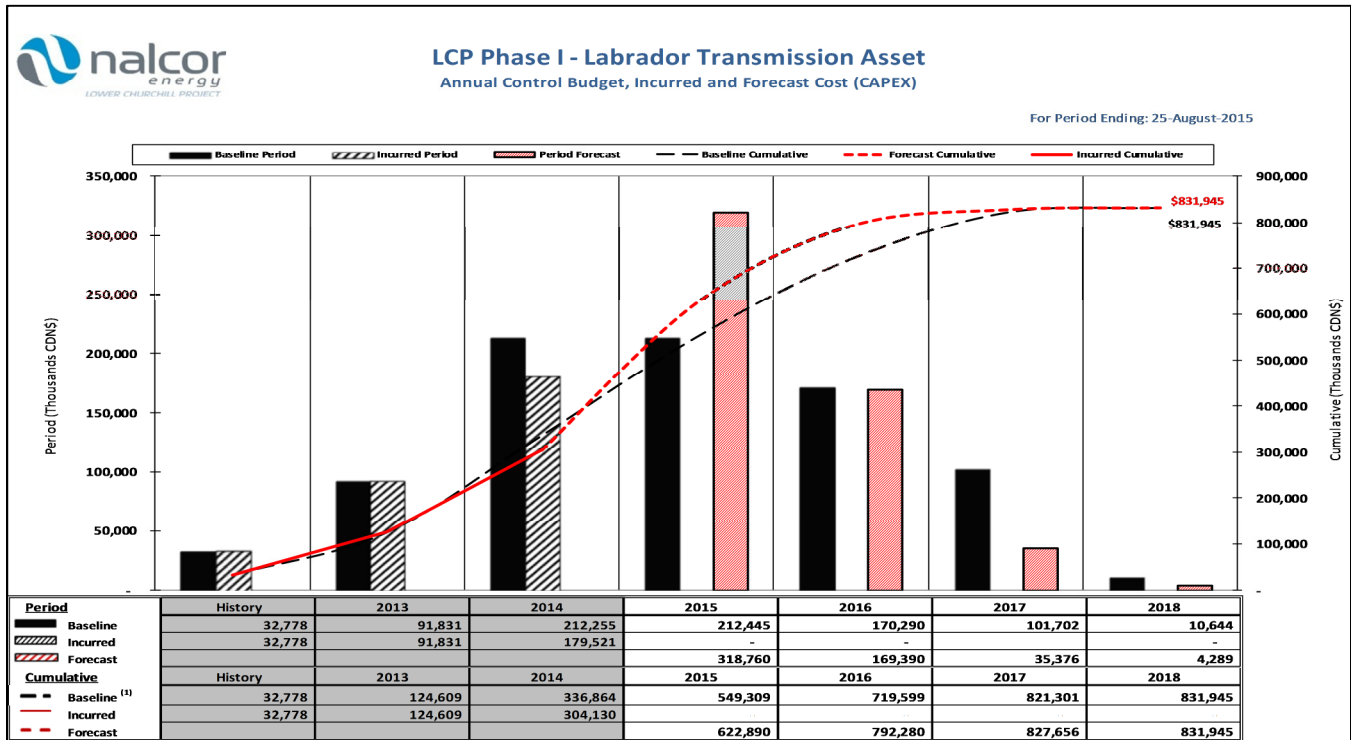
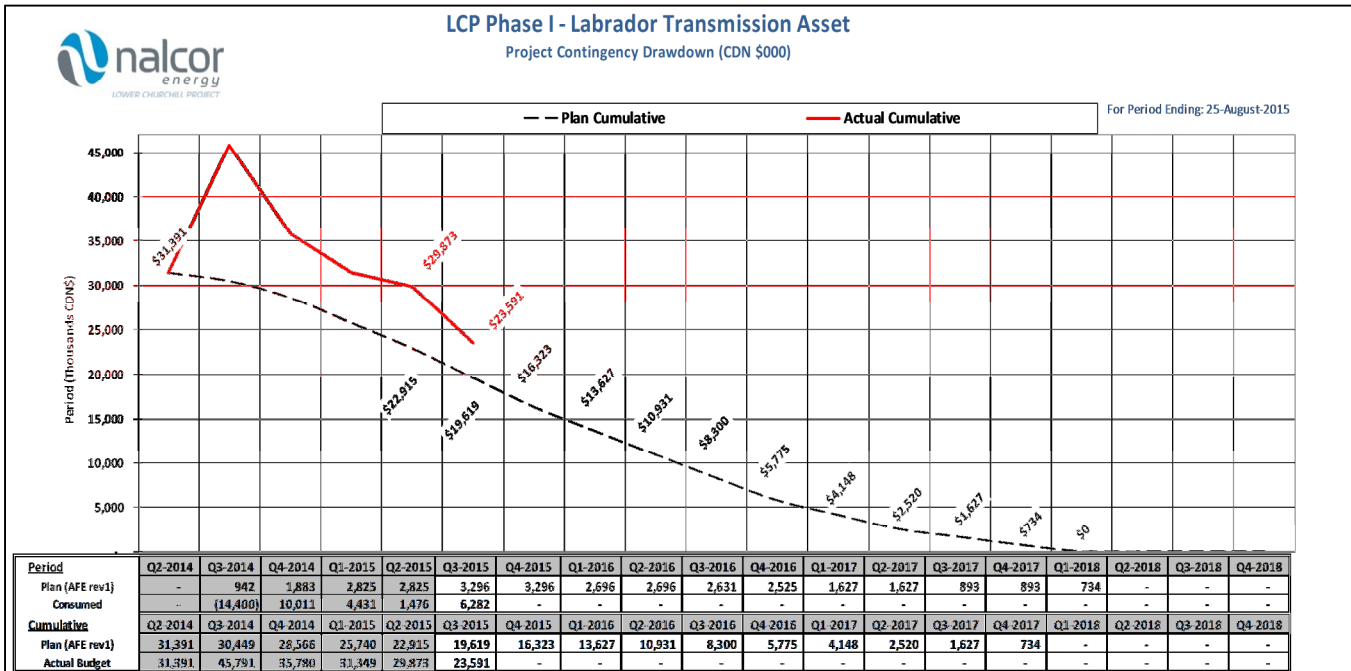


Figure 12.3-4: Labrador Transmission Asset Project Contingency Drawdown Curve



- Similar to MFG, a review is underway given that cost increases under LTA are likely given current market conditions and pressures. Construction of the 735 kV line, along with site services for Construction of the Muskrat Falls and Churchill Falls Switchyards are primarily those Contracts that these conditions are having an impact. Design enhancements to account for geotechnical conditions at the Switchyards as well as on the terrain encountered on the HVac Transmission Line to ensure reliability, along with the requirement for more direct project management from the Project also impact the cost increases under LTA.

#### 12.4 SCHEDULE

- Period Planned Progress was 4.0% vs. Period Earned Progress of 2.6% - Variance: -1.4%; while Period Forecast Progress was 3.9% as stated in last month's report.
- Cumulative Planned Progress was 57.1% vs. Cumulative Earned Progress of 51.8% - Variance: -5.3%; Cumulative Forecast Progress was 53.1%, as stated in last month's report.
- Progress shortfall due to delayed start to civil works in the switchyards, however, the switchyards are expected to catch up to forecast so the forecast curve remains unchanged for this month; 315 kV HVac Line remains on schedule.
- Critical Path: CF Switchyard continues to be on critical path to LTA Power Available forecast for May 2017, no change from last month.
- Switchyards:
  - Civil works at the Churchill Falls switchyard commenced in the previous period; and at the Muskrat Falls switchyard during the current period.
  - Current forecast date for Static Commissioning for both the MF and CF Switchyards is March 2017, no change from last month.
  - Both the MF and CF switchyard civil works schedule have been incorporated into the Alstom schedules and reflected in the IPS.
- 315kV HVac Lines CF-MF:
  - HVac Seg 1/2 - line construction/stringing is progressing with no change this month to HVac Seg 1/2 final inspection date (end of line construction).
- 735kV HVac CF Interconnection (Bus Extension):
  - CF 735kV (bus extension) TL construction start (foundations) not planned until June 2016.
- A summary of the Schedule and Construction Progress data for the Labrador Transmission Asset (LTA) as reported in the Integrated Project Schedule (IPS) is outlined in Figures 12.5-1, 12.5-2 and 12.5-3.
- The Project is reviewing the implementation of a revised baseline to reflect approved Contractor's schedules in accordance with procedures.

Figure 12.5-1: IPS Summary - Labrador Transmission Asset

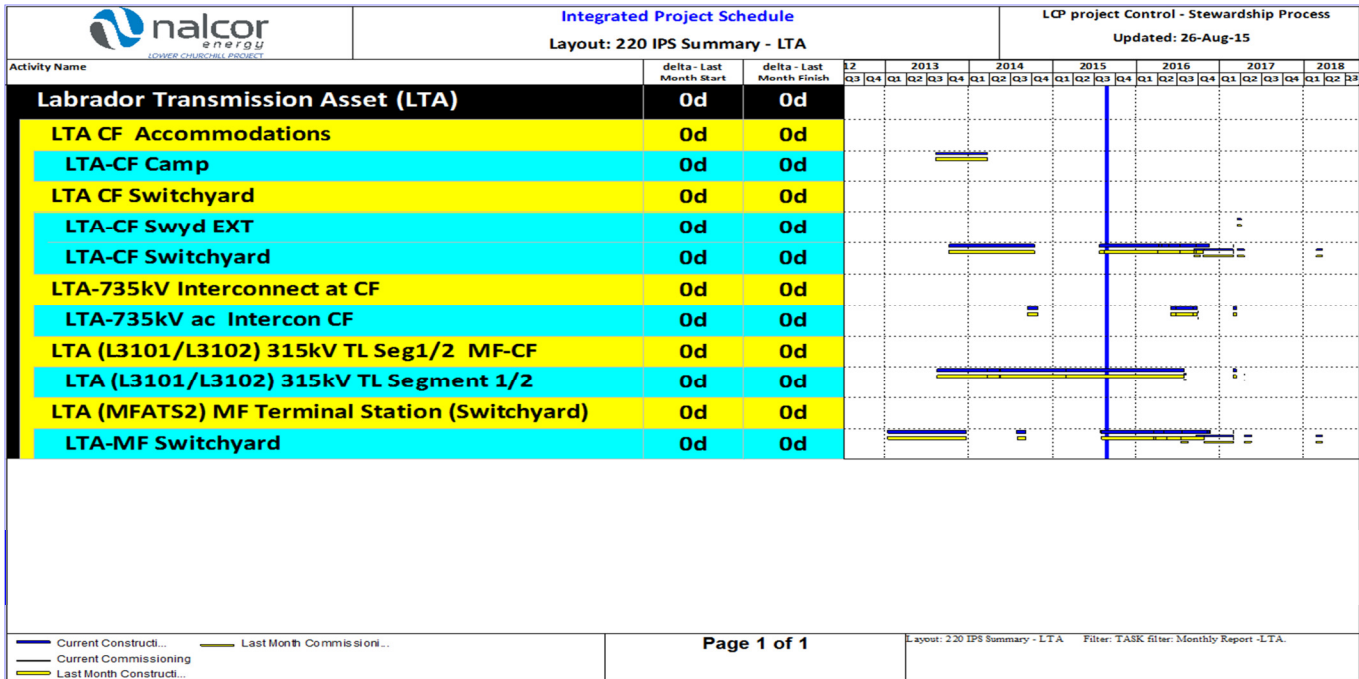
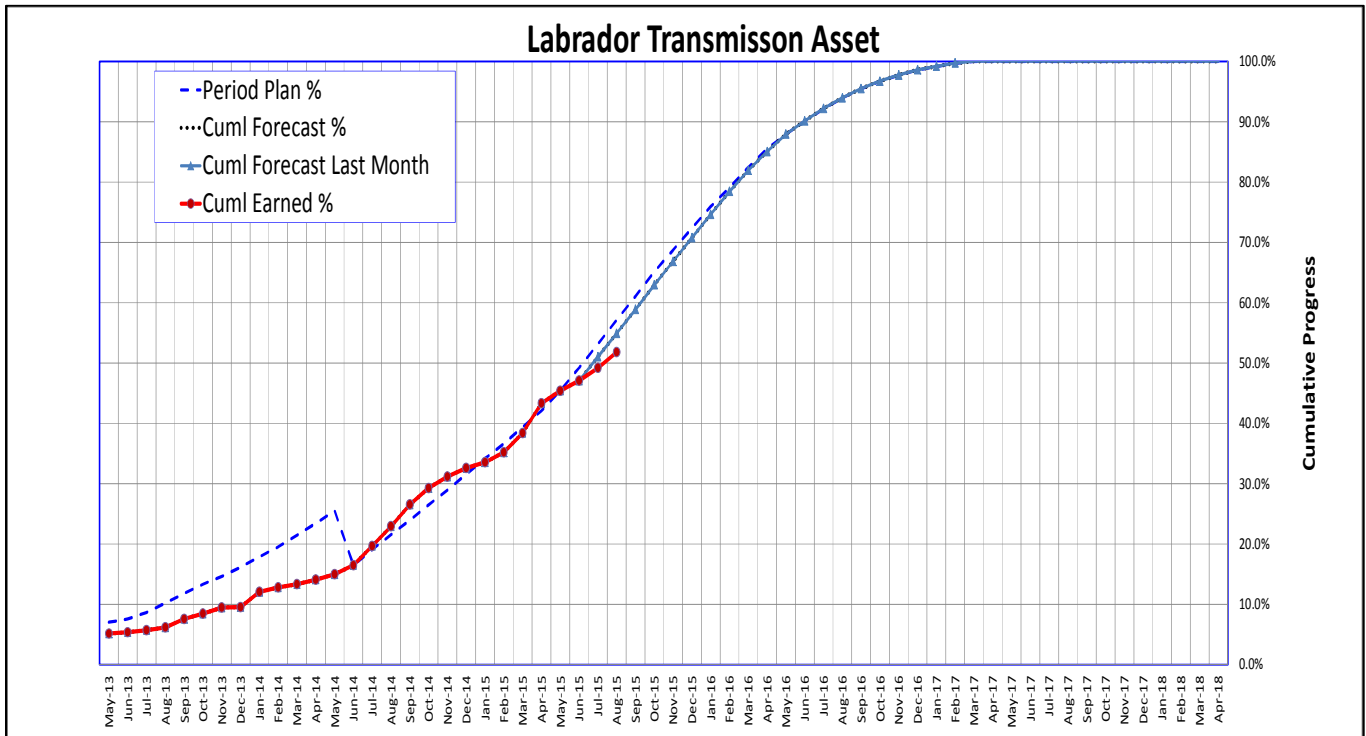


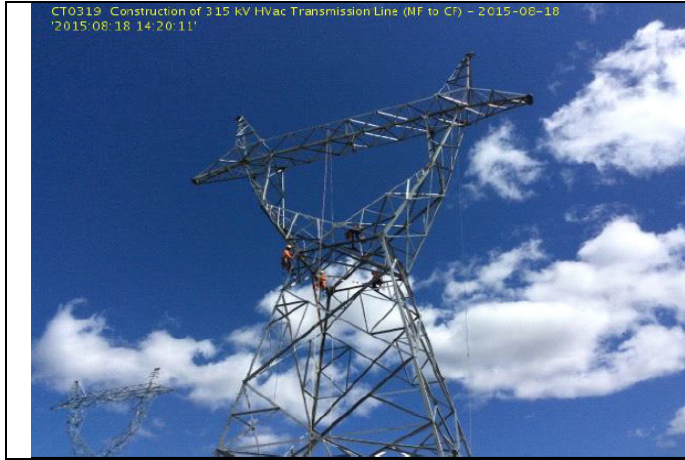
Figure 12.5-2: Summary Construction Progress Table - Labrador Transmission Asset

LTA Progress Table 2015 Aug								
This Reporting Period								
	Weight Factor % A	Period %			Cumulative %			
		Plan B	Earned C	Variance C-B	Plan E	Earned F	Variance F-E	
LTA CF Accommodations	1.1%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	
LTA HVac Transmission Line Seg1/2 - MF to CF	56.0%	3.9%	3.5%	-0.4%	66.1%	66.9%	0.8%	
LTA Churchill Falls Switchyard	20.9%	4.1%	2.8%	-1.3%	37.4%	25.1%	-12.3%	
LTA Muskrat Falls Switchyard	14.0%	6.7%	0.5%	-6.2%	29.3%	6.3%	-23.0%	
LTA Misc	8.0%	0.0%	0.0%	0.0%	89.1%	89.2%	0.1%	
<b>LTA TOTAL</b>	<b>100.0%</b>	<b>4.0%</b>	<b>2.6%</b>	<b>-1.4%</b>	<b>57.1%</b>	<b>51.8%</b>	<b>-5.3%</b>	
Last Reporting Period								
	Weight Factor % A	Period %			Cumulative %			
		Plan B	Earned C	Variance C-B	Plan E	Earned F	Variance F-E	
LTA CF Accommodations	1.1%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	
LTA HVac Transmission Line Seg1/2 - MF to CF	56.0%	3.9%	3.6%	-0.3%	62.2%	63.4%	1.2%	
LTA Churchill Falls Switchyard	20.9%	3.9%	0.0%	-3.9%	33.3%	22.3%	-11.0%	
LTA Muskrat Falls Switchyard	14.0%	6.7%	0.0%	-6.7%	22.6%	5.8%	-16.8%	
LTA Misc	8.0%	0.0%	1.1%	1.1%	89.1%	89.2%	0.1%	
<b>LTA TOTAL</b>	<b>100.0%</b>	<b>3.9%</b>	<b>2.1%</b>	<b>-1.8%</b>	<b>53.2%</b>	<b>49.2%</b>	<b>-4.0%</b>	

Figure 12.5-3: Construction Progress Curve - Labrador Transmission Asset



12.5 PHOTOS



CT0319: Construction of HVac Transmission Line-tower erection at structure 517 line 1



CT0319: Construction of HVac Transmission Line-L2-7



CT0319: Construction of HVac Transmission Line-Erection crew lowering tower on access AT 90



CT0319: Construction of HVac Transmission Line-Rock grillage assembly at L1-290



CT0319: Towers erected and power line conductor strung along the HVac Transmission Line between MF and CF



CT0319: Construction of HVac Transmission Line: Installation of piles and anchors, foundations A,B,C,D, on structure 248 L2

## Section 13. LABRADOR ISLAND TRANSMISSION LINK (LITL)

### 13.1 HVdc SPECIALTIES

#### 13.1.1 ENGINEERING

- CD0502 - Construction of AC Substations:
  - One hundred and fourteen (114) Supplier Documents were returned to Contractor with comments (Code 02).
  - Eighty-four (84) Supplier Documents were reviewed and accepted (Code 01).
  - LCP and Contractor held several teleconferences to discuss comment response sheets for a number of drawings; this will continue on weekly basis to allow design to progress to IFC in a timely manner.
  - Evaluating change requests from Contractor related to LCC mimic panels, visible local disconnects and structured cabling.
  - Two engineering change notices were submitted to Contractor.
  - Contractor submitted eight (8) new Concession Requests; Company responded to six; there are two CON's currently circulating for Company response.
- PD0537 - Supply of Power Transformers, AC Substations at Churchill Falls, Muskrat Falls and Soldiers Pond: Engineering is 100% complete for Churchill Falls, Muskrat Falls and Soldier's Pond units; as-building submission process is ongoing to facilitate package closeout.
- CD0501 - Supply and Install Converters and Cable Transition Compounds:
  - AC Filter design ECN has been submitted and agreed. Filter design is in progress and costing proposal will be provided to Company as basis for a Change Order.
  - Awaiting formal response from Contractor on deferment of Transition Compound civil construction commencement (by Company) until Spring 2016.
  - Received Technical Note on how to compensate for the change in undersea cable from 38 to 32 km. This involves either a fundamental frequency blocking filter at the Converter Stations or an additional capacitor bank at Forteau Point. Company has studied proposal and has provided a list of questions to Alstom Grid to reply; reply is expected in mid-September.
  - In final stages of reviewing proposed layout change impacts at Muskrat Falls with Contractor to define the quantities that have changed as a result of the layout changes; approximately 10% of items remaining to be settled.
  - Working with Contractor management to align Stafford and Montreal units on Control System engineering.
  - Working an issue relating to the design of an Electrode line disconnect switch and its capabilities with regards to commutating dc current when a single electrode line fault is discovered.
  - Waiting for Visible Break issue response to be provided.
  - Evaluating Arc Flash proposal provided by Contractor; early indications are that it has technical merit.
- CD0534 - Supply and Install Soldiers Pond Synchronous Condensers: Contractor has completed the rotor design and has submitted their proposal. Company has engaged a third party FEA specialist to review the design. Third party is reviewing final FEA model; final report to be issued 11-Sept-2015 which will bring the work package to a close; FEA specialist does not have any concerns to date with Contractor's design.
  - One hundred and four (104) concession requests received (including twenty (20) that have been revised), ninety-eight (98) are closed and six (6) are currently being evaluated; one (1) Change Request has been issued to the Contractor for removing some pumping equipment that was initially included in the specification; Contractor has responded formally to Company in a letter with a credit proposal, under review.

- Still lack of document submittals, Contractor's engineering is lagging behind Contractor's procurement process. This continues to be an area of concern. Alstom has added engineering staff to increase engineering output which has been noticed in some areas.
- Weekly and bi-weekly conference call meetings are being held with Contractor to review engineering issues and resolve issues, for all major sub-packages; this has been providing better visibility on design process. Additionally, a weekly quality meeting has been initiated.
- Action Register created for technical issues; updated weekly by Company and sent to Contractor (Fridays) for discussion during Monday's weekly technical meeting; being used to highlight major technical issues, from Company's viewpoint, to Contractor. Aids in prioritization of work & responses from Contractor.
- CD0508 - Supply and Install of Electrode Sites: Nothing to report this period.
- SD0560 - Provision of Early Works Construction Telecommunications Services:
  - Weekly work packages for NL Hydro Network Services prepared.
  - Continued with preparation of as-built drawings and documentation.
  - Churchill Falls - Engineering:
    - Provided field support for Telecoms for Company Laydown Area.
- CD0509 - Construction Telecommunications Services at Muskrat Falls:
  - Muskrat Falls Engineering:
    - Weekly work packages for NL Hydro Network Services prepared.
    - Continued with preparation of as-built drawings and documentation.
    - Provided field support for telecoms scope of work for relocation of fiber optic cable - 25 kV distribution line relocation-North Spur.
    - Worked with LCMC IS department to troubleshoot latency issues for the administration network.
    - Worked with C1 and Astaldi regarding extension of cellular coverage to the powerhouse and spillway.
    - Support Telecoms scope of work for Muskrat Falls Converter/Switchyard network connection.
    - Support for C1 to establish scope of work for AC power fail alarm for North Spur powerhouse.
    - Support for additional cameras for the CCTV system.
    - Commenced preparation of telecoms scope of work for connection of Barnard and Andritz construction trailers.
- CD0510 - Supply and Install Permanent Communication Systems:
  - Optical Transport network – Request for Proposal:
    - Request for Proposal was issued in June, with closing date changed from 04-Aug-2015 to 01-Sept-2015.
    - Addendum 4 was issued during the current period.
  - CD0510 Schedule:
    - Meeting held 31-Aug-2015 with the IPS Senior Planner and Completions Manager to review CD0510 schedule in preparation for update of the IPS.
  - PCN-0335 Repeaters – Permanent Phase Optical Transport Network (OTN):
    - Request for Proposal (RFP) closed during June; two (2) bids have been received.
    - Commercial evaluation of the RFP continued during the month; meetings were held with both bidders to review and clarify bid pricing.
    - Change order issued to Mike Kelly and Sons to complete site earthworks for the three rocks repeater site.

### 13.1.2 PROCUREMENT

- Bid evaluations ongoing for the following packages:

- CD0510-002 - Supply & Install of Permanent Communications Systems Repeater Buildings.
- RFI – RFP statistics and charts:

Description	Total Packages to Procure	Schedule to Date	Actual to Date
Issue EOI/Pre-qual.	7	7	7
Issue Request for Proposal	7	7	7
Issue PO/Contract	7	6	5

- Contracts and POs awarded for the following packages:
  - Nothing to report this period.
- The following are managed under the EPC Contractor’s scope of work:
  - CD0534-002 - Civil Works for Synchronous Condensers: Contractor is working under a Limited Notice to Proceed (LNTP) awarded in April 2015.
  - CD0534-003 - Third Party FEA: Contractor is nearing completion of analysis.
  - CD0504 - Civil Works and Buildings Services for HVdc Specialties: Two separate Contractors working under an LNTP awarded in June 2015, in Newfoundland, and in Labrador.
- Activities planned for the upcoming period:
  - Continue to manage procurement activities to meet project schedule.
  - RFP closing for CD0510-001 for Supply & install of Communications Systems & Optical Transport Network.
  - Contract award of CD0510-002 for Supply & Install of Permanent Communications Systems Repeater Buildings.

**13.1.3 CONSTRUCTION**

**13.1.3.1 SWITCHYARD**

**FABRICATION AND CONSTRUCTION HIGHLIGHTS:**

- PD0537 - Supply of Power Transformers, AC Substations at Churchill Falls, Muskrat Falls and Soldiers Pond:
  - Three (3) remaining SOP units have been completed and passed all FAT testing at ABB in St. Louis.
  - Shipping of all units from the St. Louis plant planned start for 03-05-Sept-2015.
- CD0502-001 - Construction of AC Substations: Construction is continuing at Soldiers Pond with good progress on footings and foundations for gantries and control building.

**COMMISSIONING:**

- Nothing to report this period.

**13.1.3.2 CONVERTER STATIONS AND CABLE TRANSITION COMPOUNDS**

**CONSTRUCTION HIGHLIGHTS:**

- CD0501 - Supply and Install Converters and Cable Transition Compounds:
  - Soldiers Pond work in progress with excavation and concrete foundations started in the Valve Hall and Control Building areas; approximately 75% of pier foundations completed with the walls between the piers being formed and readied for rebar installation.
  - Muskrat Falls work is in the excavation and form construction stage; some challenges with labour relations and labour acquisition at Muskrat Falls.
  - Muskrat Falls temporary power not yet hooked up to the trailer infrastructure; temporary generators being used for power.



**COMMISSIONING:**

- Nothing to report this period.

**13.1.3.3 SYNCHRONOUS CONDENSERS AND ELECTRODES**

**FABRICATION AND CONSTRUCTION HIGHLIGHTS:**

- CD0534 - Supply and Install Soldiers Pond Synchronous Condensers:
  - Civil Works Construction: Contractor and HJOC are in various stages of piling for piles 1-18 for the synchronous condenser and should be completed all 18 piles during the week of 07-Sept-2015. Water reservoir, building and gantry foundations are in progress; approximately forty (40) workers are on Site.
  - Customer Acceptance Review Evaluation (CARE) process has been implemented for all Purchase Orders associated with Equipment Criticality Matrix (equipment of significant criticality). Process ensures increased visibility into Contractor's Procurement process and that Company's technical, quality, and commercial requirements are included in Contractor's POs for equipment; Company's approval is required prior to Contractor's commencement of work.
  - Fabrication has resumed by Contractor on stator frame.
- CD0508 - Supply and Install of Electrode sites:
  - Work is progressing at both sites and is now ahead of baseline schedule; Dowden's Point is 77.5% completed, and L'Anse au Diable is 65.1% complete; approximately 43,000 labor hours logged (combined for both sites).
  - Dowden's Point :
    - All of the core and filter material has been delivered with only armour stone remaining to be delivered to site. Class A gravel and 4" minus rock fill needs to be hauled to site during the month of September. Armour Stone is built to final grade on the eastern side of the breakwater +7.55 m.
    - Coring the new holes in the pipe and repairing the original holes has been completed.
    - Installation of the electrode wells is completed.
    - Installation of the conduit, junction boxes and other underground appurtenances will begin in September.
  - L'Anse Au Diable:
    - Continued to sort through and haul core, filter stone and armour stone after large blasts at quarry on Site; a good supply of armour was achieved by Contractor; another blast is planned for the week of 14-Sept-2015 for the remaining armour stone required.
    - Core material, filter stone and armour stone continue to be placed.
    - All HDPE wells are installed and the new holes are being drilled.

**COMMISSIONING:**

- Nothing to report this period.

**13.1.3.4 TELECOMMUNICATIONS**

**SYSTEM INTEGRATION:**

- Optical Transport Network Fibre Optic Redundant Path:
  - Negotiations continued with 3rd party providers.
  - Preparation of Indefeasible Right of Use (IRU) agreements continued during the period.
- Terrestrial Fiber Optic Mapping:
  - Drawings to map Optical Transport Network "A" and "B" path fibres have been prepared and are ready for Aconex review.

- Interfaces:
  - Interfaces for telecoms raceways created for CD0501, CD0502, and CD0534 with some responses received during the month.
  - Agreement for interfaces for telecoms device locations for CD0501 and CD0502, with responses provided pending close out; Contractor discussions regarding close out of interfaces ongoing.
- Integration Laboratory:
  - All materials have been assembled and are ready for testing.
  - Commenced configuration of test gateways to prove redundant operation.
- System Operations Interface Committee:
  - Meetings were held 26-Aug-2015 to monitor Telecoms, ECC, System and IT interfaces.
- C4 HVac and HVdc OPGW Fiber Testing:
  - Meetings ongoing with C4 on Valard OPGW fibre testing and execution plan; Valard will prepare the plan which will be reviewed by System Integration and Telecoms.

**CONSTRUCTION HIGHLIGHTS:**

- SD0560 - Provision of Early Works Construction Telecommunications Services:
  - Churchill Falls:
    - Ongoing maintenance and support.
    - Completed telecoms scope of work for the Company laydown area.
- CD0509 - Construction Telecommunications Services at Muskrat Falls:
  - General:
    - Ongoing operations and maintenance support.
  - T1 Backup Link:
    - Completed final testing of the link.
  - North Spur Pumphouse AC Power Fail Alarm:
    - Completed telecoms scope of work.
  - Structuring Cabling - Fiber Optic Cables:
    - Completed installation of fiber optic cable and telecoms scope of work for Nalcor trailer at Valard North Spur Camp.
    - Completed relocation of fiber optic cable to support relocation of the North Spur 25 kV feeder.
  - Switchyard/Converter:
    - Completed installation of telecoms equipment for temporary construction communications.

**COMMISSIONING:**

- Nothing to report this period.

**13.1.4 ISSUES & OPPORTUNITIES**

- **Switchyard:**
  - PD0537 Project Management deliverables quality and timing: Communicate with Supplier on expectations to facilitate closure.
  - CD0502 Contractor's Organizational Structure is not effective (latest organizational chart showed that CD0502 Engineering Manager had been replaced, however, impacts not yet known to engineering design): Continue to work with Contractor to develop roles, responsibilities and workable reporting relationships within their organization.

- CD0502 Contractor's Quality of deliverable submissions (some submissions are continuing to be rejected because of poor quality): Continue to remind contractor about the extent of the deficiencies.
- During site visit to CF(L)Co., and subsequent meeting held in July, CD0502 Contractor was notified of some potential design requirement may need to follow Hydro-Quebec standards, which were not known: Technical Interfaces will be sent to CF(L)Co requesting these specific requirements; a high level design review meeting is scheduled between Hydro-Quebec and CF(L)Co. in September.
- CD0502 Contractor and company in discussions on potential impacts from a 'delay' to approving the control building layouts.
- Upon receiving minutes of meeting for LCC design review, CD0502 Contractor made a statement regarding "changes" to design that LCP have requested. LCP had asked Contractor to outline what these supposed changes were and the Contractor did submit a table outlining the possible changes; further discussions are required.
- CD0502 Contractor has proposed a 42m high triple circuit tower at Soldier's Pond to accommodate the feeders going to the synchronous condenser. Operations have an issue with this proposal because of three energized circuits on the same tower: Company will be making a request that the Contractor review other options; Contractor has proposed using underground cables; sketches have been provided and an estimate is expected week of 07-Sept-2015.
- CD0502 Contractor is well behind schedule for secondary design which includes P&C design and design for the GIS local control cubicles: Company is still working with Contractor to get design back on schedule.
- Slow construction progress at Churchill Falls and Muskrat Falls: Issues with labour supply at site, especially Muskrat Falls, has led to slower than expected progress. In addition, issues with concrete supply at Churchill Falls have resulted in no concrete being poured in August.
- **Converter Stations and Cable Transition Compounds:**
  - Concern remains around the cost of the changes that have not been identified by Contractor yet: Ongoing meetings held in August to discuss progress; currently awaiting Contractor revised proposals.
  - Engineering progress is falling further behind, month by month: Monitor the mitigation plan progress.
  - Integration of SBC and PES re Control Systems: Meeting scheduled with both SBC (re DS Agile Control System) and PES (re Series V Control System) in September to ensure systems and outcomes (including method of commissioning) are aligned.
  - Electrode Line disconnect switch commutation capability: Contractor presently assessing whether standard style dc disconnect switches will be able to have sufficient duty to isolate one electrode line in the event of a fault on the line, or whether hi-speed switches are required.
  - Lack of construction progress, both at the Muskrat Falls and Soldier's Pond sites: Working with Contractor to encourage increase in workers at the sites so that schedule may be accelerated to get back where we need to be.
- **Synchronous Condensers and Electrodes:**
  - CD0534 - Engineering documents are being received but continue to lag in some areas. This issue has been discussed with Contractor and they are looking into a recovery plan for P&C in particular. Contractor has committed to sending the majority of the building and related systems drawing in the coming weeks: Discussions with Contractor have resulted in a 90% design review for the building and systems scheduled for the next few weeks prior to 100% design completion.
  - CD0534 - Concern that civil works progress is slow, and the civil works contractor is significantly behind their baseline schedule. Civil works Contractor has provided a high level recovery plan to accelerate efforts to minimize schedule delays; considerable costs are associated with acceleration efforts and further clarification on costs and causes is required: Daily construction meetings are taking place to monitor progress and actively highlight areas of concern. Meeting has been scheduled between civil works Contractor and Contractor for 02-Sept-2015 to clarify acceleration efforts, costs, and causes of delays.

- Facilitation of civil works change management by Contractor is slow and requires extensive management by Company. To date, twenty-eight (28) change requests have been issued by civil works Contractor and only three change order recommendations have been made by Contractor: Continue with bi-weekly change management meetings with Contractor to expedite the process.
- CD0508 - C&T Quarry at L'Anse au Diable may need to cease drilling & blasting after electrode line is installed (due to proximity of infrastructure susceptible to damage due to vibrations and flyrock): Preliminary discussions were held with present quarry permit holder regarding alternatives and possibly compensation if justified.
- **Telecommunications:**
  - Nothing to report this period.

### 13.1.5 ACTIVITIES PLANNED FOR UPCOMING PERIOD

- CD0502 - Construction of AC Substations:
  - Proposed detailed design review meeting with Alstom related to building architectural, mechanical and electrical services.
  - Review document deliverables from Contractor.
  - Review and respond to site queries and concession requests provided from Contractor.
  - Hold weekly teleconferences with Contractor to help progress with engineering design.
  - Continue work on gantries and foundations at all sites; commence concrete pouring at CF and MF; continue with positive progress at Soldier's Pond.
- PD0537 - Supply of Power Transformers, AC Substations at Churchill Falls, Muskrat Falls and Soldiers Pond:
  - Work with Contractor, Alstom, to develop a site assembly and preservation plan for all sites.
  - Coordinate site activities related to delivery and pad placement.
  - Execute shipping of Churchill Falls and Soldier's Pond units to site.
  - Facilitate the setup of preservation routines for storage of all transformers and spares at each Site.
- CD0501 - Supply and Install Converters and Cable Transition Compounds:
  - Ongoing review of submitted Alstom Grid technical documents.
  - Identify path forward on the capacitor solution being used to block coupled currents.
  - Decisions on outstanding Change Requests.
  - Design Review meetings; TST mechanical design review scheduled in Stafford.
  - Monitor Alstom Grid mitigation plan for Engineering.
  - Meet with Alstom Grid Construction Management to identify methods to employ to increase workers at the two sites.
- CD0534 - Supply and Install Soldiers Pond Synchronous Condensers:
  - Ongoing review of submitted Alstom Power technical documents.
  - Decisions on outstanding Concession Requests.
  - Participate in 90% design review for Mechanical Auxiliaries, Building and Building Mechanical Systems.
  - Continue to participate in CARE process for all critical equipment PO's.
  - Finalize Quality Surveillance Plan for all equipment listed with Equipment Criticality Matrix.
- CD0508 - Supply and Install of Electrode Sites: Continue with placement of core, filter stone, and armour stone at Dowden's Point, along with commencement of installation of underground electrical conduits and junction boxes; continue to haul and install core, filter stone and armour stone for breakwater at L'anse au Diable, along with commencement of installation of underground electrical conduits and junction boxes.

- CD0509 - Construction Telecommunications Services at Muskrat Falls:
  - Barnard and Andritz Construction Trailers:
    - Complete telecoms scope of work.
  - CCTV:
    - Complete telecoms scope of work for additional cameras.
- CD0510 - Supply and Install Permanent Communication Systems (Permanent Telecoms):
  - Continue to develop package execution strategy.
  - Finalize engineering deliverables list.
  - Integrate CD0510 schedule into update of Integrated Project Schedule.
  - PCN-0335 Repeaters – Permanent Phase Optical Transport Network (OTN):
    - Complete full evaluation for the Request for Proposal (RFP) for the three (3) repeater sites and determine way forward.
    - Complete earthworks for the three rocks repeater site.
  - PCN-0146 (Rev. 1) System Integration for LITL, MFA, LTA and MTL:
    - Continue preparation of test plan for testing of redundant Optical Transport Network gateways.
  - Optical Transport Network Request for Proposal:
    - Commence evaluation of the proposals.
- System Integration:
  - Maritime Link:
    - Continue to develop Indefeasible Right of Use (IRU) agreements with 3rd party provider and EMERA.
  - Points Approval Process:
    - Continue working with Ready for Integration (RFI) on development of Points Approval Process, including definition of roles and responsibilities; RFI workshop is tentatively scheduled for 18-Sept-2015.
- CD0510 Interfaces:
  - Continue with identification and management of internal and external interfaces.
  - Continue Aconex review of telecom related Contractor drawings and documents.
  - Continue with telecom base line review for packages CD0501, CD0502 and CD0534.
  - Develop plan for temporary and permanent network integration at Hydro Place.
- Terrestrial Fibre Optic Mapping:
  - Complete Aconex review of drawings for Optical Transport Network “A” and “B” path fibres.
  - Continue negotiations for 3rd party telecom IRU agreements for exchange of fibres for redundant “B” path; complete first draft of IRU agreements.
- ECC Upgrades:
  - Continue meetings with ECC.

## 13.2 TRANSMISSION LINE

### 13.2.1 ENGINEERING

- Post award follow on support is continuing for all 350 kV HVdc packages in support of construction of the HVdc Transmission Line.

- 3-year outage plan completed for re-terminations with NL Hydro; multiple presentation sessions help with NL Hydro - priority placed on ensuring outages are granted as planned.

**13.2.2 PROCUREMENT**

- Application for Bidder Selection Process is initiated for the following Packages:
  - SM0700-024 Transportation of Transmission Line Material (Newfoundland).
- Bid evaluations ongoing for the following Packages:
  - CT0327-050 - HVdc Clearing & Access – Section 2.
- RFI – RFP statistics and charts:

Description	Total Packages to Procure	Schedule to Date	Actual to Date
Issue EOI/Pre-qual.	18	18	18
Issue Request for Proposal	18	18	18
Issue PO/Contract	18	17	17

- Expediting Releases are ongoing for:
  - PT0307-001 - Supply of Steel Tower Foundations 315 kV HVdc: Expediting Release No. 066 was issued for HVGB MY.
  - PT0308-001 - Supply of Steel Tower Foundations 350 kV HVdc: Expediting Release No.'s 131, 132, 134, 135 and 137 were issued for Argentina MY; and Expediting Release Nos. 136, 138, 139 and 140 were issued for HVGB MY during the period.
  - PT0329-001 - Supply of HVdc Insulators: Expediting Release No. 008 was issued for Argentina.
  - PT0331-001 - Supply of Tower Hardware HVdc: Expediting Release No. 023 was issued for HVGB MY; Expediting Release No. 026 was issued for Argentina MY.
  - PT0334-001 - Supply of Steel Wires 350 kV HVdc: Expediting Release No. 022 was issued for Argentina MY.
  - PT0352-001 - Supply of Anchors HVdc: Expediting Release No. 042 was issued for HVGB MY; Expediting Release No. 041 was issued for Argentina MY.
  - PT0356-001 - Supply of Dampers HVdc: Expediting Release No. 001 was issued for HVGB MY; Expediting Release No. 002 was issued for Argentina MY.
- Logistics:
  - Deliveries for PT0308-001 - Supply of HVdc Foundation Materials: Deliveries of Seg 1 and 2 for Labrador are ongoing and as of 31-August-2015, 119 shipments were delivered to the HVGB MY. There were also 15 loads delivered from the Argentina MY, to the HVGB MY. Deliveries of Seg 3-5 for Newfoundland are ongoing and as of 31-August-2015, 107 shipments were delivered to the Argentina MY.
  - Deliveries for PT0352-001 - Supply of HVdc Anchor Materials: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015, 53 shipments were delivered to HVGB MY. Deliveries of Seg 3-5 are ongoing and as of 31-August-2015, 34 shipments were delivered to Argentina MY.
  - Deliveries for PT0328-001 - Supply of HVdc Conductors: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015, 615 reels were delivered to HVGB MY. Deliveries of Seg 3-5 are ongoing and as of 31-August-2015, 530 reels were delivered to Argentina MY. As of 31-August-2015, 400 reels were shipped to the Port of Trois Rivieres, QC, to be delivered to Argentina, MY in October 2015.

- Deliveries for PT0329-001 - Supply of HVdc Insulators: Deliveries of insulators are ongoing and as of 31-August-2015, 1 load of insulators was delivered to Argentic MY.
- Deliveries for PT0330-001 - Supply of HVdc Tower Steel: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015 the following deliveries were made to HVGB MY: Ex Houston - 407 containers and 14 truckloads; Ex Dubai - 264 containers; Ex Turkey - 32 containers; Ex India - 91 containers. Deliveries of Seg 3-5 are ongoing and as of 31-August-2015 the following deliveries were made to Argentic MY: Ex Dubai - 87 containers; Ex Turkey - 5 containers; Ex India – 156 containers; currently consolidating containers for Seg 3 – 5 in Houston, TX, India and Dubai, UAE.
- Deliveries for PT0330-003 - Supply of 230 kV Tower Steel and HVdc Tower Steel Bolts: Deliveries of tower steel bolts for Seg 1 & 2 are ongoing and as of 31-August-2015, 4 containers were delivered to HVGB MY; deliveries of 230 kV tower steel are ongoing and as of 31-August-2015, 6 containers were delivered to Argentic MY.
- Deliveries for PT0334-001 - Supply of HVdc Wire Rope: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015, delivered 36 shipments to HVGB MY. Deliveries of Seg 3-5 are ongoing and as of 31-August-2015 delivered 58 shipments to Argentic MY.
- Deliveries for PT0331-001 - Supply of HVdc Tower Hardware: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015, delivered 18 shipments to HVGB MY. Deliveries of Seg 3-5 are ongoing and as of 31-August-2015 delivered 7 shipments to Argentic MY.
- Deliveries for PT0331-002 - Supply of HVdc Guy Wire Assemblies: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015, delivered 14 shipments to HVGB MY. Deliveries of Seg 3-5 are ongoing and as of 31-August-15, delivered 3 shipments to Argentic MY.
- Deliveries for PT0331-003 - Supply of HVdc Implo Devises: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015, delivered one shipment to Valard.
- Deliveries for PT0353-001 - Supply of HVdc OPGW: Deliveries of Seg 1 and 2 are ongoing and as of 31-August-2015, delivered 85 reels of ADSS conductor and 10 shipments of hardware to HVGB MY; deliveries of Seg 3-5 are ongoing and as of 31-August-2015, delivered 162 reels of ADSS conductor and 10 shipments of hardware to Argentic MY.
- Deliveries for PT0356-001 - Supply of HVdc Dampers: Deliveries of Seg 1 and 2, and Seg 3-5 have commenced.
- Activities planned for the upcoming period:
  - CT0327-050 - HVdc Clearing & Access – Section 2.

### 13.2.3 **CONSTRUCTION**

#### 13.2.3.1 **HVdc TRANSMISSION LINE**

- CT0327-001 – 350 kV HVdc Transmission Line:
  - Construction continues to run behind plan on Work Front 1, and as previously reported, Valard have now resumed all construction activities on the line following the suspension due to spring thaw and the resultant poor conditions of the access. Overall SPI for HVdc Work Front 1 is 0.21, and with nearly 20% overall complete on this work front, Valard has re-forecasted the scope of work to be fully completed in 2016. To support this schedule, Valard is adding additional crews to augment their current efforts as these crews finish up on the HVac lines.

- o Cumulative Progress to Date (Work Front 1) is as follows:

Commodity	Budget Total QTY	Planned to Date	Installed to Date	Variance	% Complete	SPI
Anchor Installation	1147	1086	191	(895)	16.65%	0.18
Anchor Testing	1147	1086	135	(951)	11.77%	0.12
Foundation Installation	1284	1285	469	(816)	36.25%	0.36
Tower Assembly	1284	1210	478	(732)	37.23%	0.40
Tower Erections	1284	981	111	(870)	8.65%	0.11
Conductor Stringing	396,205	271,038	0	(271,038)	0.00%	0.00

- ROW clearing and access development is proceeding well and staying in front of planned construction activities under multiple HVdc clearing contracts:
  - o Labrador - approximately 1,693 hectares have been cleared to date representing 71% complete of the clearing required for Labrador. The project continues to evaluate progress, particularly Blocks 4-7 to ensure current progress on access development in these sections supports the needs of construction; current forecast to complete this section is December 2015.
  - o Newfoundland - approximately 1,503 hectares have been cleared to date representing 36% complete of the clearing required for Newfoundland; remaining blocks for clearing and access on the island are scheduled for award during Q3 2015.
- PT0330-001 - Mass fabrication activities of material for the transmission line towers are continuing in Texas, Dubai and India.

**COMMISSIONING:**

- Nothing to report this period.

**13.2.3.2 AREA HVAC LINES RE-TERMINATIONS AND MODIFICATIONS**

**CONSTRUCTION HIGHLIGHTS:**

- CT0342-001 - Construction of AC Transmission Line-Island:
  - o Awaiting turnover preparations for TL232; construction on TL201 crossing is continuing; and erection of poles for 2 of 4 structures scheduled for completion in September 2015.
- CT0342-002 - Transmission Line Construction (HVac 230 kV Modifications and Island Electrode Line): Awarded in August; survey crews have staked structures and worked with engineering to avoid bad structure locations; access work, bridges and pioneer roads ongoing.

**COMMISSIONING:**

- o Full inspection of TL218 and TL232 complete, and preparation of turnover documentation in progress.

**13.2.4 ISSUES & OPPORTUNITIES**

- Degree of effort and difficulty constructing suitable access for DC construction likely lead to cost growth beyond cost target: Working both internally and with Valard to optimize work in order to seek efficiencies. Final proposals for HVdc ROW and access (Blocks 15-19) have been received and are under evaluation.
- Jyoti America's financial position impact their operating cash flow and hence threaten timely deliveries of critical HVdc tower supply: LCMC continue to work with Jyoti in order to ensure security of supply. Risk mitigation efforts continue to



be implemented, including directly procuring tower bolts, and re-allocation of production to the financially stable Jyoti Gulf Fabricator's facility in Dubai and make use of spare production capacity in India.

- Finalize decision for the Long Range re-route options: Clearing fronts in Block 12 are at the base of the Northern LRM entrance. The proposed re-route is being flagged in anticipation of approval. Final approval to proceed with clearing and access is expedited. Clearing crews have been sent to other parts of blocks 9-12 pending a final decision.
- NCR's raised on tower foundations which do not meet dimensional tolerances; rework and reverse engineering ongoing.

### **13.2.5 ACTIVITIES PLANNED FOR UPCOMING PERIOD**

- Post award follow-on engineering support for all open 350 kV HVdc packages, as well as resolving site queries and concession requests generated in the field.
- Re-termination and modification of 230 KV Lines finalize design; engineering is complete with preliminary quantities; finalize C1 documents for construction contract, and finalize material list to support procurement efforts.
- Electrode Line NL: Finalize line design C1 revision.
- CT0327-001: Continue installing foundations, anchors, tower assembly and erection for Segment 1; continue Segment 2 tower assembly, foundation and guy anchor installation and testing.
- CT0327-010 Clearing (Springdale Forestry): Completed clearing, contract closeout ongoing. Implementation of remedial ballast program on unsuitable access works ongoing.
- CT0327-013 Clearing (JCL): Clearing and Access works ongoing in Blocks 4, 5 and partial 6 in Labrador.
- CT0327-011 Clearing (C&T): Continuation of access work in lower portion of Block 6.
- CT0327-014 Clearing (SFR): Clearing and access ongoing on Blocks 13 & 14 on the Island.
- CT0327-015 Clearing (JCL): Clearing and access ongoing on Blocks 9-12 on the Island.
- CT0327-050 Clearing Section 2 RFP: Finalize award recommendation for Blocks 15-18.
- CT0342-001: Finalize final connection and outage work on TL201 re-route.
- CT0342-002: Commence work with focus on TL201 and TL217 at Soldier's Pond.

### **13.3 STRAIT OF BELLE ISLE (SOBI)**

#### **CONSTRUCTION HIGHLIGHTS:**

- LC-SB-003 - Submarine Cable Design, Supply and Install: Armoring of the third cable is ongoing, with FAT on schedule for completion by October 2015. FAT of Submarine Cables 1 and 2 previously completed successfully and are stored awaiting load out in late 2015 for the 2016 installation. All land cable reels are in Halifax and are scheduled for delivery to site in September 2015. Nexans mobilization and equipment delivery to the Shoal Cove transition compound and cable trench worksite is complete, and activities including scaffolding tower erection and guy wire support installation, have commenced, with activities scheduled to commence at Forteau Point in September. Insulation coordination development for surge arrester design is ongoing with Alstom; and the 2016 campaign transportation and installation engineering development is ongoing.
- LC-SB-011 - Subsea Rock Placement Design, Supply and Install: Quayside construction is ongoing with 5 of 7 cribs successfully installed, and armor stone placement and crib ballasting ongoing; final rock quantities have been defined as 448,000 te for the 2016 installation campaign, and decision finalized to commence crushing activities of additional 10,000 te to be performed in September, 2015.

- LC-SB-021 - Civil Works: Contractor has completed all civil works for the six cable vaults, trenches and ramps at Shoal Cove and Forteau Point in preparation for installation of land cables, and both sites have now been handed over to the LC-SB-003 cable contractor.
- LC-SB-024 - Conduit Internal Inspection: Kick-off performed for the upcoming campaign to verify integrity of conduit bore and preservation effectiveness; deliverable/engineering development is ongoing; HIRA scheduled for mid-September, and mobilization for execution of site works scheduled for late September 2015.
- LC-SB-044 - Conduit External Inspection: Engineering and deliverable development nearing completion; vessel and equipment audit performed; HIRA completed and mobilization to commence site works planned for late September 2015.
- Spare cable turntable site: Leases for Spare Cable Turntable Site location under development with Commercial and Lands Groups; preferred bidder has been selected and final negotiations are ongoing.
- Climate controlled cable spares location has been awarded to a local vendor in Forteau.

**COMMISSIONING:**

- Nothing to report this period.

**ISSUES & OPPORTUNITIES:**

- 2016 submarine cable logistics and transportation engineering to ensure solution is risk mitigated: Securing of vessel for transport of submarine cables from Japan to Norway; currently ongoing discussions between Nexans and potential carriers under the guidance of LCP.

**ACTIVITIES PLANNED FOR THE UPCOMING PERIOD:**

- LC-SB-003 - Submarine Cable Design, Supply and Install: Land cable reel transportation to SOBI and local site transportation logistics for 2015; Nexans 2015 site mobilization and installation procedures, procurement and general readiness; 2015 construction coordination between Nexans, MCT Civil Contractor and C3 civil contractor; 2016 readiness for submarine cable load out and installation.
- LC-SB-008 - HDD Design and Project Support: Ongoing engineering support as required during field execution and as-builts for closeout of civil works scope of work for land cable installation.
- LC-SB-011 - Subsea Rock Placement Design, Supply and Install: Final bern design and installation engineering ongoing.
- LC-SB-024 - HDD Directional Drilling Services: Complete design and installation engineering and HIRA procedures; mobilize inspection equipment to site and perform inspection works.
- LC-SB-044 - Conduit External Inspection: Vessel mobilization to SOBI for commencement of inspection works.
- Spare Cable Turntable Site: Finalization of negotiation process with preferred bidder and award.
- A detailed update with regard to the Strait of Belle Isle can be found in the [Labrador - Island Link – SOBI Marine Crossing 26-August-2015 Monthly Report](#).

**13.4 COST**

- Incurred costs for the current period and project-to-date are lower than planned mainly as a result of lower than estimated progress at the Converter Stations under CD0501 for Supply and Install Converters and Cable Transition Compounds in the category of “Procurement and Construction”. The net negative Current Period Incurred Cost under “Commercial & Legal” is related to the transfer of historical internal labour costs to the category of “Owners Team, Admin and EPCM Services” to align with where budgets are allocated, and Incurred Costs for the Current Period under “Owners Team, Admin and EPCM Services” are higher than planned mainly as a result of the reconciliations with Nalcor services,

the higher than planned costs for contractor management, and the transfer of costs from the category of “Commercial & Legal” as described above. The incurring of the Contingency is reflected within the incurred and future incurred costs in the categories outlined in Figure 13.4-1 as and where the work is performed. Cost to complete continues to remain significant for LITL as construction activities for work in progress are ongoing.

- The overall Approved Final Forecast Cost (FFC) for LITL continues to be aligned with the AFE approved in June 2014 however adjustments to FFC at the specific category level were made as the project progressed during the period. The Final Forecast Cost for “Owners Team, Admin and EPCM Services” has decreased during the current reporting period as a result of the transfer of costs for site office supplies for C3 (HVdc Specialties) from this category to the category of “Procurement & Construction” under SD0568. The Final Forecast Cost for “Procurement and Construction” has increased during the current reporting period primarily as a result of clearing cost increases on the HVdc Transmission Line in Labrador under CT0327, alignment with contract value increase for the HVac 230 kV Modifications and Island Electrode Line under CT0342, additional rock anchors required for the HVdc Transmission Line under PT0352, and the additional cost of services at Muskrat Falls for Catering, Housekeeping and Janitorial under SH0018, Garbage Removal and Disposal under SH0040, and Fuel Supply under SH0022 to accommodate the work being carried out under C3 at the switchyard and converter station, as well as the transfer noted above. Offsetting adjustments were made to the FFC for “Contingency” to align with the adjustments made in these categories. A summary of the LITL cost profile, along with the asset overview of Project Contingency Drawdown are provided in Figures 13.4-1, 13.4-2, 13.4-3 and 13.4-4.

Figure 13.4-1: Labrador Island Transmission Link Monthly Incurred Cost Report


		 <b>Monthly Incurred Cost Report - Labrador-Island Transmission Link</b> NALCOR ENERGY - Lower Churchill Project COST IN CAD (\$ Thousands)						
				Incurred Costs				For Period Ending: 25-Aug-2015
	A	B	C = A + B	D		E	G = E - C	
	Original Control Budget {OCB}	Approved Project Changes	Current Control Budget {CCB}	Current Period	Project-to-Date	Final Forecast Cost (FFC)	Variance from CCB	
100 NE-LCP Owners Team, Admin and EPCM Services	\$253,363	-\$32,101	\$221,262	\$4,381	\$139,146	\$221,262	\$0	
200 Feasibility Engineering	\$33,629	-\$12,377	\$21,252	\$0	\$21,252	\$21,252	\$0	
300 Environmental & Regulatory Compliance	\$25,768	-\$7,462	\$18,306	\$526	\$10,156	\$18,306	\$0	
400 Aboriginal Affairs	\$2,244	\$0	\$2,244	\$0	\$453	\$2,244	\$0	
500 Procurement & Construction	\$2,187,514	\$274,117	\$2,461,631	\$87,782	\$862,644	\$2,467,200	\$5,570	
900 Commercial & Legal	\$20,603	-\$4,113	\$16,490	-\$179	\$12,997	\$16,490	\$0	
990 Contingency	\$86,628	-\$41,332	\$45,295	\$0	\$0	\$39,726	-\$5,570	
<b>CAPEX Total:</b>	<b>\$2,609,749</b>	<b>\$176,731</b>	<b>\$2,786,480</b>	<b>\$92,510</b>	<b>\$1,046,647</b>	<b>\$2,786,480</b>	<b>\$0</b>	

Figure 13.4-2: Labrador Island Transmission Link Current Year Budget, Incurred and Forecast Cost

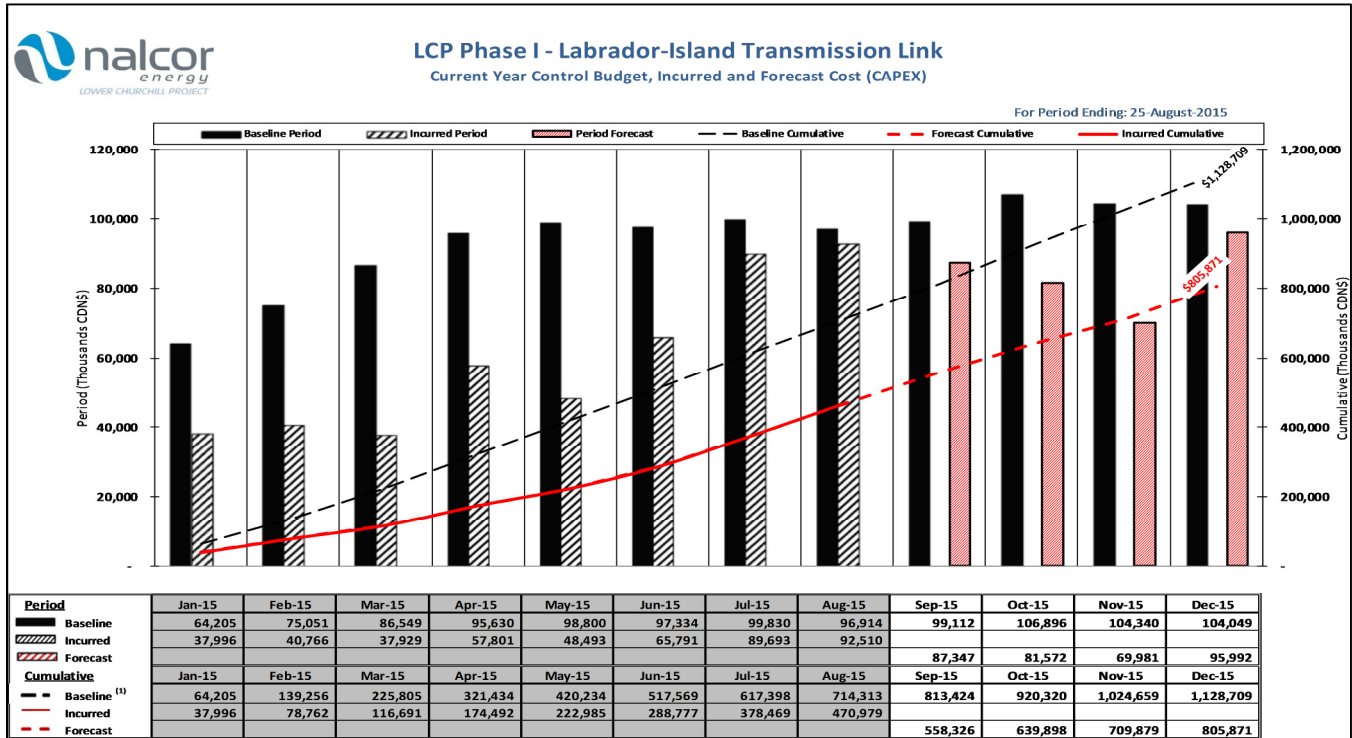


Figure 13.4-3: Labrador Island Transmission Link Annual Budget, Incurred and Forecast Cost

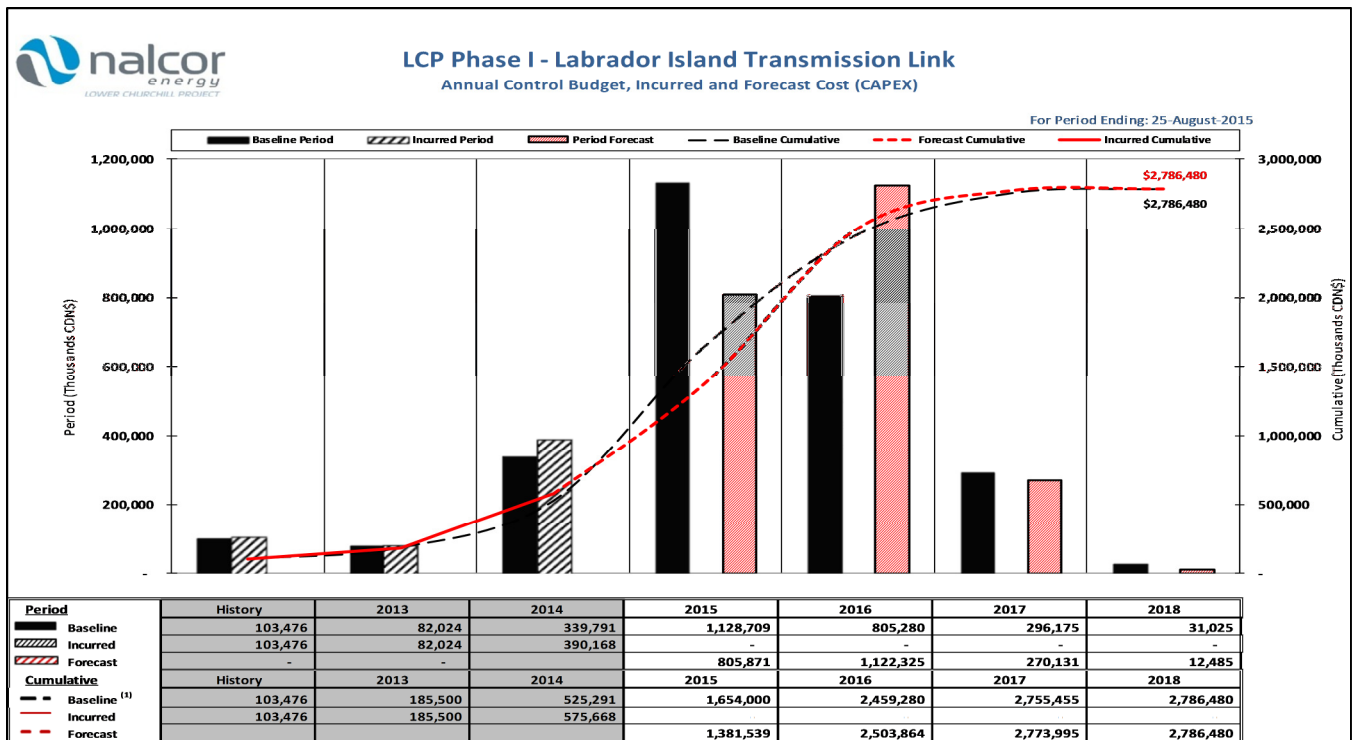
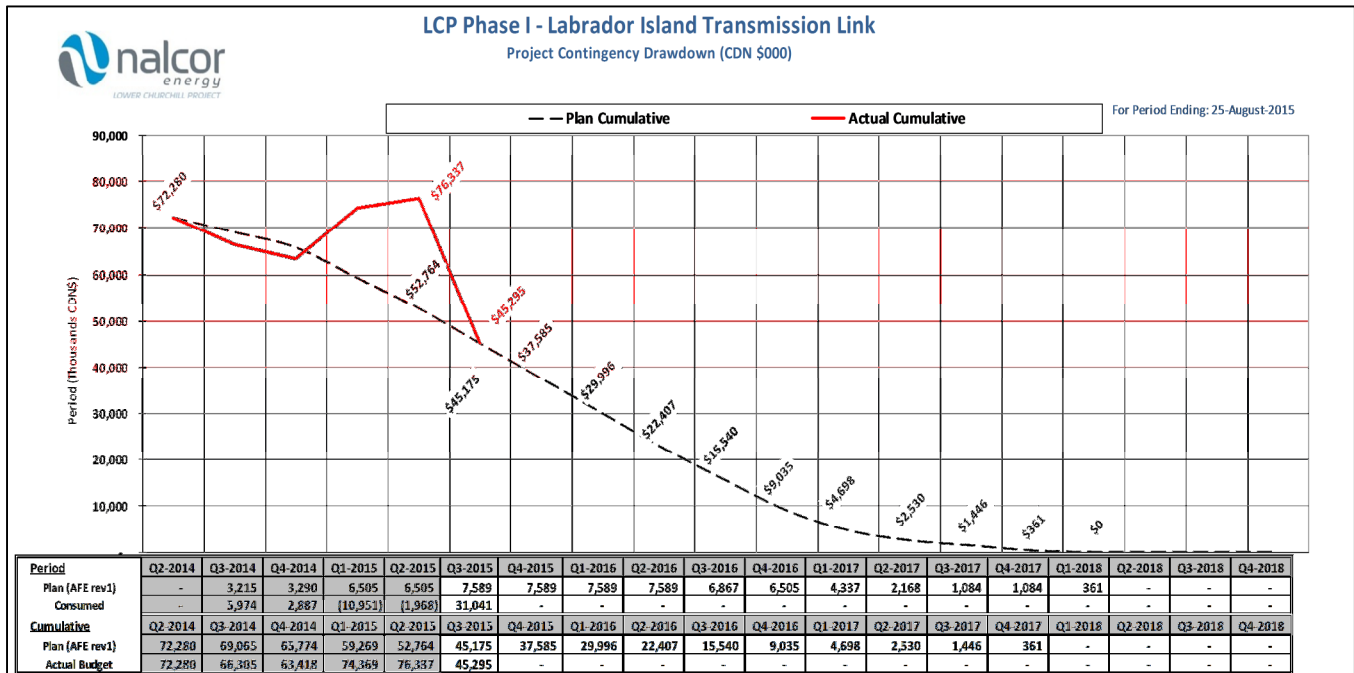


Figure 13.4-4: Labrador Island Transmission Link Project Contingency Drawdown Curve



- Cost increases under LITL are under review given current market conditions and pressures, as well as reliability improvements & design enhancements impacting the Project. The Contract CD0501 for Supply and Install Converters and Cable Transition Compounds has seen an impact in considering labour productivity matters, as well as the increase in manpower. The difficult and the unknown topography of the terrain have resulted in the adjustment in the type of contracts for clearing and accesses of the dc line. Contractors are experiencing poor productivity due to unknown geotechnical constraints; and severe weather contribute to cost escalation. Due to the recent turmoil in the markets, there has also been a realized impact of foreign currency specifically within Contracts CD0501, as well as CD0534 for Supply and Install Soldier’s Pond Synchronous Condensers. Design enhancements on the HVdc Transmission Line have been made to ensure reliability in order to adapt to geotechnical conditions of the terrain encountered. As well, potential issues relating to the soil at Muskrat Falls, size constraints in Soldiers Pond, and the layout of the Converter Stations were adjusted, along with grounding quantities. Reliability improvements were made in consideration of the extensive access requirements required for construction; due to a combination of remoteness and the size of the transmission line towers and hardware, all bridging, culverts and roads were recommended be left in place for post operational support, while incremental effort (e.g., abutment height) be made for long-term infrastructure for line survey and emergency repair. The effect of the above changes are being reviewed for funding increases.

**13.5 SCHEDULE**

- Period Planned Progress was 2.7% vs. Period Earned Progress of 2.8% - Variance: 0.1%; while Period Forecast Progress was 3.0% as stated in last month’s report.
- Cumulative Planned Progress was 33.4% vs. Cumulative Earned Progress of 27.1% - Variance: -6.3%; Cumulative Forecast Progress was 27.3%, as stated in last month’s report.
- Progress shortfall due to delayed civil works in switchyard/converters and in HVdc transmission installation works. The switchyard/converters and transmission lines are expected to catch up to forecast so the forecast curve remains

unchanged for this month; HVdc transmission installation works adjusted due to resequencing of Contractor program to account for access and constructability adjustments, however, overall program completion remains unchanged.

- Critical Path:
  - HVdc Segment 5 is driving the LITL critical path.
- SOBI Crossing:
  - The next construction activity is Shoal Cove and Forteau Point land cable installation planned for Q3 2015.
- HVdc Line:
  - HVdc Labrador Segment 1 - Final inspection date is now 113 days later but well within float.
  - HVdc Labrador Segment 2 - Final inspection date is now 21 days later but well within float.
  - HVdc Newfoundland Segment 3 - Final inspection date is now 92 days earlier resulting in more float.
  - HVdc Newfoundland Segment 4 - Final inspection date is now 26 days later but well within float.
  - HVdc Newfoundland Segment 5 - Final inspection date remains unchanged.
- Converters / Switchyards / Synchronous Condensers:
  - MF Converter earthworks was completed in December 2013; concrete and building scope commenced in late July; static commissioning is planned for June 2017, no change from last month.
  - Soldier's Pond Converter earthworks was completed 31-Oct-2014; concrete and building scope commenced in early July; static commissioning is planned for June 2017, no change from last month.
  - SOP Switchyard earthworks was completed 31-Oct-2014; concrete and building scope commenced in early July; static commissioning is planned for early December 2016.
  - SOP Synchronous Condensers earthworks was completed 31-Oct-2014; concrete and building scope commenced in May 2015 and is ongoing; static commissioning of the third unit is planned for May 2017, no change from last month.
  - Civil works of the converters/switchyards/synchronous condensers is slow to start impacting progress, but with no effect on completion date of static commissioning.
- Transition Compounds/Grounding (Electrode Stations):
  - Work at both the Newfoundland grounding station and the Labrador grounding station (electrode sites) are ongoing, with breakwaters scheduled to be completed this year; progress is 47.9% ahead of planned; static commissioning dates for both sites is June 2017, no change from last month.
  - Transition compound/civil structures scheduled to begin in April 2016; static commissioning dates for both Forteau Point and Shoal Cove are scheduled for May 2017, no change from last month.
- SOP Transmission Line Re-routing: Scheduling reworked to line by line level of detail.
- A summary of the Schedule and Construction Progress data for the Labrador Island Transmission Link (LITL) as reported in the Integrated Project Schedule (IPS) is outlined in Figures 13.5-1, 13.5-2 and 13.5-3.
- The Project is reviewing the implementation of a revised baseline to reflect approved Contractor's schedules in accordance with procedures.

Figure 13.5-1: IPS Summary - Labrador Island Transmission Link

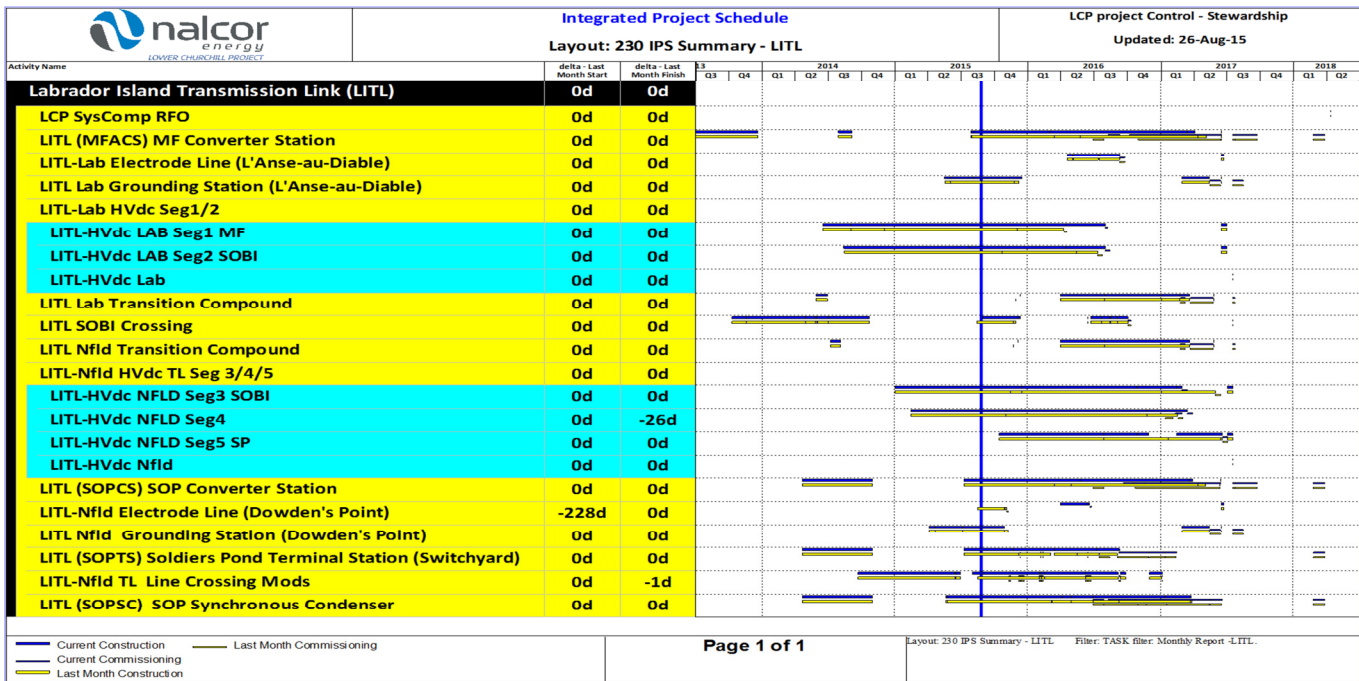
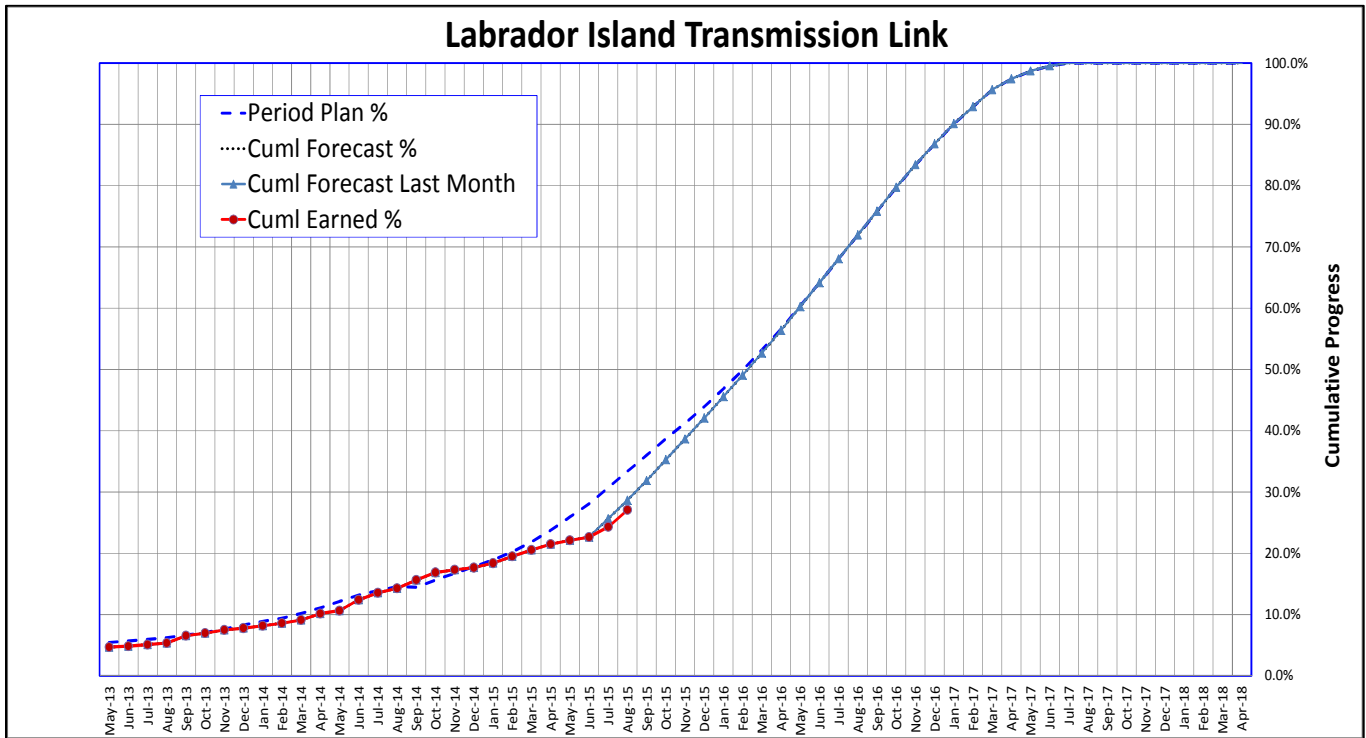


Figure 13.5-2: Summary Construction Progress Table - Labrador Island Transmission Link

LITL Progress Table 2015 Aug								
This Reporting Period								
	Weight Factor %	Period %			Cumulative %			Variance
		Plan	Earned	Variance	Plan	Earned	Variance	
	A	B	C	C-B	E	F	F-E	
LITL Muskrat Falls Converter	5.7%	5.9%	0.6%	-5.3%	19.5%	5.0%	-14.5%	
LITL Soldiers Pond Converter	5.8%	2.2%	1.4%	-0.8%	18.3%	11.9%	-6.4%	
LITL HVdc Transmission Line Seg 1/2	19.3%	3.6%	5.9%	2.3%	36.4%	27.9%	-8.5%	
LITL HVdc Transmission Line Seg 3/4/5	35.3%	3.2%	0.9%	-2.3%	20.1%	5.7%	-14.4%	
LITL Grounding (Electrode) Sites	1.7%	1.7%	21.1%	19.4%	5.0%	52.9%	47.9%	
LITL Transition Compounds	1.8%	0.0%	0.0%	0.0%	30.5%	33.3%	2.8%	
LITL SOBI Cable Crossing	18.0%	0.8%	1.1%	0.3%	59.6%	66.5%	6.9%	
LITL Soldiers Pond Switchyard	3.2%	3.4%	4.0%	0.6%	30.3%	19.9%	-10.4%	
LITL Soldiers Pond Synchronous Condensers	4.9%	2.3%	7.3%	5.0%	23.0%	21.5%	-1.5%	
LITL Misc	4.3%	0.0%	3.2%	3.2%	83.0%	77.3%	-5.7%	
<b>LITL TOTAL</b>	<b>100.0%</b>	<b>2.7%</b>	<b>2.8%</b>	<b>0.1%</b>	<b>33.4%</b>	<b>27.1%</b>	<b>-6.4%</b>	
Last Reporting Period								
	Weight Factor %	Period %			Cumulative %			Variance
		Plan	Earned	Variance	Plan	Earned	Variance	
	A	B	C	C-B	E	F	F-E	
LITL Muskrat Falls Converter	5.7%	5.9%	0.0%	-5.9%	13.6%	4.4%	-9.2%	
LITL Soldiers Pond Converter	5.8%	1.9%	0.9%	-1.0%	16.1%	10.5%	-5.6%	
LITL HVdc Transmission Line Seg 1/2	19.3%	3.6%	1.3%	-2.3%	32.8%	22.0%	-10.8%	
LITL HVdc Transmission Line Seg 3/4/5	35.3%	3.2%	1.7%	-1.5%	16.9%	4.8%	-12.1%	
LITL Grounding (Electrode) Sites	1.7%	1.7%	14.2%	12.5%	3.4%	31.8%	28.4%	
LITL Transition Compounds	1.8%	0.0%	0.0%	0.0%	30.5%	33.3%	2.8%	
LITL SOBI Cable Crossing	18.0%	0.8%	2.2%	1.4%	58.8%	65.4%	6.6%	
LITL Soldiers Pond Switchyard	3.2%	2.9%	0.3%	-2.6%	26.9%	15.9%	-11.0%	
LITL Soldiers Pond Synchronous Condensers	4.9%	2.1%	2.2%	0.1%	20.7%	14.2%	-6.5%	
LITL Misc	4.3%	0.0%	0.0%	0.0%	83.0%	74.2%	-8.8%	
<b>LITL TOTAL</b>	<b>100.0%</b>	<b>2.6%</b>	<b>1.7%</b>	<b>-0.9%</b>	<b>30.7%</b>	<b>24.3%</b>	<b>-6.4%</b>	

Figure 13.5-3: Construction Progress Curve - Labrador Island Transmission Link





13.6 PHOTOS



CT0327-001: HVdc Transmission Line—Assembled steel grillages



CT0327-001: HVdc Transmission Line—Tower assembly



CD0501: Muskrat Falls Converter Station



CD0508: Supply and Install of Electrode Sites-Dowden's Point



Ongoing construction of switchyard, synchronous condenser and converter station at Soldier's Pond



SOBI: Sand installation in cable trenches at Shoal Cove

**Section 14. ATTACHMENTS**

14.1 SAFETY STATISTICS – AUGUST 2015



HSE Report

For period 01-Aug-2015 to 31-Aug-2015

	Current Period			Year to Date			Project to Date		
	Project Delivery Organization	Contractors	Total	Project Delivery Organization	Contractors	Total	Project Delivery Organization	Contractors	Total
Exposure Hours	81,544	899,251	980,795	624,087	4,658,482	5,282,569	3,930,828	11,507,082	15,437,911
<b>Leading Indicators</b>									
High Potential Near Misses	0	2	2	0	37	37	2	169	171
Near Misses	0	14	14	4	95	99	39	291	330
First Aid	0	21	21	3	169	172	18	490	508
Conditions/Hazards, Practices, & Commendations	0	0	0	1	1	2	2,976	453	3,429
Orientations Completed	187	884	1,071	1,794	4,877	6,671	9,447	10,928	20,375
TSA's Completed	0	1,252	1,252	0	4,232	4,232	24	6,090	6,114
StepBacks Completed	1,068	40,184	41,250	5,885	227,991	233,876	15,738	482,959	498,697
Worksite Inspections	349	662	1,011	2,708	8,351	11,059	5,601	14,637	20,238
<b>Lagging Indicators</b>									
Lost Time Injuries	0	0	0	0	2	2	0	6	6
Medical Aids	0	3	3	0	24	24	0	49	49
Occupational Illnesses	0	0	0	0	0	0	0	0	0
Modified Work Cases	0	10	10	0	91	91	0	102	102
Vehicle Incidents	1	3	4	2	13	15	2	26	28
Modified Work Days	0	390	390	0	1,584	1,584	0	1,727	1,727
Lost Time Days	0	44	44	0	227	227	0	229	229
Property & Equipment Damage	1	26	27	9	164	173	20	376	396
Security Incidents	2	3	5	4	13	17	5	26	31
<b>Lagging Frequencies</b>									
Total Recordable Incident Frequency Rate	0.000	2.891	2.651	0.000	5.023	4.430	0.000	2.729	2.034
Lost Time Incidents Frequency Rate	0.000	0.000	0.000	0.000	0.086	0.076	0.000	0.104	0.078
All Injury Frequency Rate				*****METRICS UNDER REVIEW*****					

**Note: Metrics for the AIFR are under review - please refer to Section 2.1 for monthly statistical reporting of this frequency.**

**MONTHLY PROGRESS REPORT**

**PERIOD ENDING: 31-AUG-2015**

**14.2 SAFETY INCIDENTS – AUGUST 2015**

Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/27/2015 11:45:00AM	7/27/2015 4:00:13 PM	Employee was backing out of an area and made contact with another parked vehicle.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/27/2015 2:30:00 PM	7/27/2015 5:57:31 PM	Injured Person (IP) was drilling through forms with a 1/2" drill when they pinched their hand between the rebar and the drill.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/27/2015 9:15:00 AM	7/27/2015 6:01:10 PM	Injured Person (IP) was removing water stop when another worker sprayed the pressure washer directly onto the concrete which resulted in the spray making contact with the IP.	First Aid	
C4 - Overland Transmission	C&T Enterprises Ltd.	CT0327-011	7/27/2015 12:00:00PM	7/28/2015 3:58:59 PM	A worker was trouble shooting a track tensioning issue on a 336 excavator when grease ejected at high velocity from the adjuster orifices, striking the worker in the lower chest/upper abdomen.	Modified Work	
C3 - HVdc Specialties	Alstom Grid	CD0502-mf	7/28/2015 3:00:00 PM	7/28/2015 7:21:03 PM	Surveyor was asked to get depth grade in the excavation. Although most of the excavation was sloped properly there was a section that needed more attention.	Near Miss	

MONTHLY PROGRESS REPORT

PERIOD ENDING: 31-AUG-2015

Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/28/2015 10:00:00PM	7/29/2015 8:11:22AM	As the IP was lifting a piece of rebar, they instantly felt pain in their lower back left hip and left leg.	Modified Work	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/28/2015 7:30:00 PM	7/29/2015 8:15:02AM	Worker was suspected of being under the influence of A&D by their Supervisor.	Near Miss	Yes
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/28/2015 12:40:00PM	7/29/2015 8:19:49AM	Security was advised of a camp resident in the lobby at the camp under the influence. Security found resident and he was brought to security office as he appeared to be intoxicated.	Security Incident	Yes
C1 - Muskrat Falls Generation	Gilbert NL Construction	CH0008	7/28/2015 3:00:00 PM	7/29/2015 9:44:11AM	A mechanic was using a cutting torch to cut metal at the T4-B area. A piece of slag (liquid metal) fell into the boot of the worker which resulted in a slight burn to the worker's right foot.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/29/2015 10:30:00PM	7/30/2015 8:02:34AM	Bobcat operator was cleaning underneath the crusher conveyor when they contacted a de-energized cable that was on the ground, resulting in the cable being severed.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	7/30/2015 7:50:00 PM	7/31/2015 9:17:06AM	IP was lifting a large tarp not realizing how heavy the tarp was, the IP pulled hard on the tarp and felt discomfort in left wrist.	First Aid	

MONTHLY PROGRESS REPORT

PERIOD ENDING: 31-AUG-2015

Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C3 - HVdc Specialties	Alstom Grid	CD0501-sp	7/30/2015 7:00:00 AM	7/31/2015 9:27:59 AM	A sheet of plywood was picked up by the wind and blown into the vehicle parking area.	Near Miss	
C1 - Muskrat Falls Generation	Gilbert NL Construction	CH0008	7/30/2015 9:50:00 AM	8/1/2015 10:19:01PM	A mechanic was placing the stick and boom of an excavator to reach a cable at the side of the stick and to change two hydraulic hoses. While doing so, the weight was too heavy and the hydraulic cylinder was bent as a result.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Stassinu Stantec Ltd. Partnership	LC-EV-102-MF	8/1/2015 12:00:00AM	8/2/2015 12:46:07 AM	An archaeology field assistant injured hand during manual tree root removal. Cutting was being completed by the individual using hand cutters. While applying weight to the cutters, the cutters twisted and the individual fell forward onto the cutters while still holding the cutters. The knuckle was injured. The individual was brought to the hospital in Goose Bay for examination. A hard cast with soft top was applied to the hand to immobilize it. Individual was asked to return to hospital for x-Ray and assessment on Monday (two days after).	Modified Work	
C4 - Overland Transmission	Valard Construction	CT0327-001	7/31/2015 9:20:00 AM	8/2/2015 10:27:24AM	While worker was walking on uneven, rocky terrain picking up bolts, the worker rolled	Modified Work	

MONTHLY PROGRESS REPORT

PERIOD ENDING: 31-AUG-2015

Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
					their ankle on a rock. Employee sustained a strain to the ankle and foot.		
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/2/2015 2:30:00 PM	8/3/2015 6:24:03AM	IP while walking on D-line slipped and fell on loose stone resulting in a small abrasion to their right knee.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/3/2015 7:00:00 AM	8/3/2015 5:00:27 PM	Tower Crane 1 was moving the trolley back towards the cab when the hooks swung and hit a light on the tower itself, resulting in damage to the light. The incident occurred at the end of shift yesterday and was not reported to Astaldi Safety until the beginning of the shift today.	Property & Equipment Damage	Yes
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/3/2015 7:30:00 PM	8/4/2015 9:31:18AM	While lifting a bucket of 20 Doka Sleeves, worker turned to the left and felt discomfort in the right side of the lower back.	Modified Work	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/3/2015 8:00:00 PM	8/4/2015 9:34:59 AM	IP was dismantling a scaffold, and while standing on the ledger (32 inches high) the IP was placing a scaffold deck on the level above. When the IP was lifting the piece of decking, grabbed cross brace. The cross brace was not wedged in and slipped out causing the IP to slip. The IP caught self on left arm causing discomfort to left	Modified Work	

MONTHLY PROGRESS REPORT

PERIOD ENDING: 31-AUG-2015

Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
					upper arm.		
C3 - HVdc Specialties	Alstom Grid	CD0501-sp	8/5/2015 12:50:00 PM	8/5/2015 1:48:26 PM	Workers were attempting to adjust a string line for elevation when a nail in one of the footings became dislodged, making contact with the workers left hand.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/5/2015 10:30:00 AM	8/5/2015 2:03:21PM	While working on a doka platform a measuring tape (weighing 1.3lbs) which was attached to a workers harness became unclipped and fell approximately 70 into an uncontrolled zone below.	High Potential Near Miss	
C3 - HVdc Specialties	Alstom Grid	CD0502-cf	8/5/2015 3:00:00 PM	8/6/2015 8:41:30 AM	Pomerleau had a hydraulic hose develop a leak this afternoon. As the operator noticed this right away, he extended the boom and shut down the excavator, which is the correct procedure, as it lessens the pressure on the hydraulic system. No product made it to the ground and absorbent pads were placed under the boom to collect any potential leakage.	Observation Only	
C4 - Overland Transmission	Valard Construction	CT0319	8/5/2015 11:00:00AM	8/6/2015 8:51:19A M	Employee upon exiting room in D Dorm pinched right third	Medical Aid	



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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
					digit (middle finger) between door and door frame. Employee sustained a laceration underneath the nail bed.		
C1 - Muskrat Falls Generation	Pardy's Waste Management and Industrial Services	SH0040	8/4/2015 11:30:00 PM	8/6/2015 8:58:45A M	The operator was servicing wash car no. 6 with Pardys unit# 6676. When he completed this task he proceeded to drive away with the water hose still hooked up to the wash car. This caused the hose to tear from the connection on the truck.	Property & Equipment Damage	Yes
C4 - Overland Transmission	Johnson's Construction	CT0327-013	8/3/2015 7:30:00AM	8/6/2015 4:33:02 PM	Worker squat finger while repositioning a barrel of fuel that had shifted while was being transported by boom truck.	Medical Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/6/2015 10:00:00 PM	8/7/2015 9:06:23AM	An operator had to clean the inside of the plexiglass covering the front windshield, after the operator had finished they attempted to lower the windshield down into the closed position; the windshield broke while performing this task.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/7/2015 4:00:00 AM	8/7/2015 9:09:50AM	Workers were bush-hammering in the gate guides in the Spillway 3A, the operator moved the AWP from the wall and notified the basket tip.	Property & Equipment Damage	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
					Upon noticing damage to articulating boom attached to the basket. The worker then unsuccessfully attempted to lower the basket to the ground; the workers had to be rescued by fellow co-workers with rescue basket.		
C3 - HVdc Specialties	Alstom Grid	CD0501-mf	8/2/2015 12:00:00 AM	8/7/2015 3:37:33 PM	Alstom Employee was stopped by security due to erratic driving. Site Security pulled him over and was suspicious that he may be under the influence. Employee claimed that he was overly tired.	Observation Only	
C4 - Overland Transmission	Springdale Forest Resources	CT0327-014	8/6/2015 1:00:00 PM	8/8/2015 10:41:53AM	The excavator operator was loading Rock Trucks near the back of a quarry site, when a rock approximately one foot square fell approximately 10 feet from the face of the quarry and landed between the cylinder and the boom causing damage to the cylinder rod. This was close to the bucket.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/7/2015 5:45:00 PM	8/8/2015 3:28:59 PM	Worker was tying rebar; the rebar wire scratched their left wrist.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/8/2015 4:45:00 PM	8/9/2015 12:11:33 PM	While lowering the deck on a flatbed roll off truck, the guide bracket under the deck damaged the cover of the storage box that was left open.	Property & Equipment Damage	

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C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/9/2015 12:30:00A M	8/9/2015 1:28:18 PM	Two workers had a physical altercation in the lunchroom at the intake.	Near Miss	Yes
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/8/2015 9:00:00 PM	8/9/2015 5:21:53 PM	While performing routine task moving material in the Crusher Laydown, excavator suffered a broken window from flying rock.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/10/2015 11:15:00AM	8/10/2015 3:51:56 PM	A worker was working on a doka form platform installing a 2x6 toe board when the worker's hard hat (weighing approx. 8lbs) dropped approximately 30 to the deck below into an uncontrolled zone.	Near Miss	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/10/2015 9:00:00 PM	8/11/2015 10:18:52 AM	Worker was dismantling and storing material; stepped in a burlap covered hole and twisted hip.	First Aid	
C3 - HVdc Specialties	Alstom Grid	CD0502-cf	8/11/2015 11:00:00AM	8/11/2015 12:47:15PM	Pomerleau worker was driving across a small ramp that protects a pump hose. He stopped halfway across and backed up hitting a wooden sign post.	Vehicle Incident	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C1 - Muskrat Falls Generation	Pardy's Waste Management and Industrial Services	SH0040	8/10/2015 5:00:00 PM	8/11/2015 2:33:42 PM	The operations supervisor for Pardys received a call from the garbage truck operator stating that after he finished lifting the garbage dumpster and replacing it in its location he noticed that the railing was lifted up and out of the cement block (elephant foot). Neither the driver nor his passenger thought that they made contact with it as they didn't feel anything different when moving the dumpster and didn't notice anything when they initially approached the dumpster. They did want to report it as per proper protocol.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Lower Churchill Management Corporation	LCP-MF	8/11/2015 11:00:00AM	8/11/2015 4:26:32 PM	Inspector was driving in area RT-04 and pulled off the road to inspect area. In doing so, they ran over a stump and when backing up their light vehicle, hooked the stump causing damage to the front bumper, driver's side.	Property & Equipment Damage	
C4 - Overland Transmission	Valard Construction	CT0327-001	8/11/2015 4:00:00 PM	8/12/2015 8:11:43 AM	Medic was backing unit in at the mechanic set up. Workers were standing on one side of the setup, medic was watching out that side of the unit, misjudged the distance	Vehicle Incident	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
					between MTC and setup, and backed into the trailer causing minor damage to the right side taillight of MTC.		
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/12/2015 2:00:00AM	8/12/2015 8:55:30 AM	IP was maneuvering though rebar bracing when they lost their footing and their left foot when down through the rebar mat.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/12/2015 4:00:00AM	8/12/2015 8:56:54 AM	IP was pulling apart rebar when they felt discomfort in their left arm.	Modified Work	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/12/2015 8:30:00 PM	8/13/2015 9:03:34 AM	Worker completed task of pulling up a 3 meter scaffolding ledger (weighing 26.34 lbs) and had stood it up by the stairwell. As they turned to talk to another worker, they hit the ledger with their foot causing the ledger to fall approximately 70 feet to the uncontrolled zone below; workers were in close proximity (approx. 2 meters) when the ledger fell.	High Potential Near Miss	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/13/2015 11:15:00AM	8/14/2015 2:22:54 PM	Pump truck operator was lowering pump from pier NA when the valve of the AIR cuff was not fully engaged causing concrete to spill out of the pump landing near a worker.	Near Miss	

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C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/13/2015 11:30:00AM	8/14/2015 2:26:00 PM	Mechanic was removing bolts from a mixer track chute using a torch when they burned a hole in the left leg of their coveralls. They smelled the burning and extinguished the fire using their gloves.	Near Miss	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/13/2015 3:20:00 PM	8/14/2015 2:28:01 PM	While reversing a fuel truck the driver backed into a panel van causing minor damage to the rear doors.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/14/2015 6:10:00AM	8/15/2015 12:16:36 PM	IP was cleaning drilled holes in powerhouse with air hose when debris came out of the hold and IP felt something in their eye.	First Aid	
C4 - Overland Transmission	Springdale Forest Resources	CT0327-014	8/15/2015 4 40:00 PM	8/16/2015 9:52:10 AM	Operator was unloading a culvert from flatbed trailer; lost swing control when he lifted the culvert from flatbed. The culvert hit the windshield next to the boom, causing it to break.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/15/2015 11:05:00 PM	8/16/2015 11:45:24 AM	Worker was breaking panels from concrete when a piece of 2x6x16 weighing 3lbs fell directly 120 feet to the walkway below.	Near Miss	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C3 - HVdc Specialties	HJ. O'Connell Ltd.	CD0508-001	8/15/2015 12:00:00 PM	8/17/2015 7:32:36 AM	A loader operator was moving armor stone on the Dowden's Point breakwater pad. While handling a large rock, the loader made a sudden bounce causing the operator discomfort to his left leg. He continued to work the remainder of the shift. After working for 2 hours on August 16, the operator reported to the superintendent that the discomfort in his leg had gotten worse. The worker left the site to seek medical attention.	To Be Determined	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/17/2015 3 30:00AM	8/17/2015 11:39:03 AM	Worker was descending staircase at A line area of Powerhouse when their left heel slipped from edge of step causing worker to stumble forward. Worker attempted to regain balance by reaching for handrail, and in the process fell back onto left ankle, resulting in soft tissue injury.	Modified Work	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/17/2015 10:30:00 AM	8/17/2015 2:15:29 PM	While tying rebar for a prefabricated column IP placed hand on rebar causing wire to go through glove, resulting in a scratch to left hand.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/13/2015 10:00:00 AM	8/17/2015 3:14:06 PM	Worker was observed showing signs of being under the influence of alcohol/drugs.	Security Incident	Yes

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C4 - Overland Transmission	Valard Construction	CT0319	8/11/2015 1:00:00 PM	8/18/2015 7:06:18 AM	While flying rope on the center phase using the needle attached to the longline of the chopper, the shear pin broke causing the rope to detach from the belly of the chopper. No employees were on the ground at the time of the incident.	Near Miss	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/17/2015 9:05:00AM	8/18/2015 9:22:42 AM	Worker was walking on top of rebar mat when their foot went through the rebar mat causing the worker to fall forward; result was a soft tissue injury to their ankle.	Modified Work	
C4 - Overland Transmission	Valard Construction	CT0319	8/17/2015 10:00:00 AM	8/18/2015 4:11:37 PM	Shear pin broke while flying rope causing the rope and needle to detach from the belly of the chopper. Damage sustained to the needle; no employees on the ground at the time of the incident.	Property & Equipment Damage	
C4 - Overland Transmission	Valard Construction	CT0327-001	8/15/2015 9:30:00AM	8/18/2015 4:59:37 PM	Worker was lifting grout at str. 466 at 7:30 a.m. and felt slight discomfort in lower back. Crew relocated to str. 487 at 9:30 a.m. While walking downhill carrying tools, worker felt sharp pain in lower back & legs. Supervisor addressed worker immediately.	Modified Work	



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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C4 - Overland Transmission	Valard Construction	CT0327-001	8/16/2015 7:30:00AM	8/18/2015 5:29:32 PM	Excavator went into soft spot while moving a tower; tower swung & couldn't be controlled by tag lines, breaking excavator right side window.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/19/2015 3:00:00AM	8/19/2015 8:25:53 AM	While tying rebar at floor level, tie wire punctured IP's left forearm.	First Aid	
C3 - HVdc Specialties	Lower Churchill Management Corporation	LCP-LTA	8/16/2015 7:00:00 PM	8/19/2015 9:25:02 AM	This individual was parked in vehicle 2073 next to large orange and black traffic cone to observe the work at the condenser building. He had a severe reflux attack and decided to drive to security to obtain cold water. He started the vehicle put into gear and drove forward and few feet later he heard a thud. The vehicle struck the cone on the passenger side damaging both doors; there was no damage to the traffic cone.	Vehicle Incident	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/19/2015 :05:00AM	8/19/2015: 28:23 PM	IP was cleaning up work area by placing materials in a small bucket and dumping the bucket into a waste container. IP picked up the bucket and pinched their left pinky finger with the handle of the bucket causing a small abrasion.	First Aid	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/19/2015 11:30:00PM	8/20/2015 9:17:09 AM	IP was on the bottom of a ladder ready to receive a piece of 2x6. The worker on the top of the ladder dropped the 2x6 approximately 2' which resulted in the IP's middle finger on their left hand getting pinched between the 2x6 and the ladder.	Modified Work	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/19/20 15 7:40:00 PM	8/20/2015 9:19:19 AM	IP was entering office when they slipped on coffee on the floor; as the IP tripped their 4th digit on the right hand struck a desk; IP did not fall to the ground.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/19/2015 8:45:00 PM	8/20/2015 9:25:36 AM	Worker was walking at ground level on North Side of Pier 4A when they heard a noise behind them, the worker turned around and noticed a 1ft dewey rod had fallen from above and landed inside the control zone of Pier 4A; a worker on Pier NA stated that they heard a metal on metal sound before hearing a loud thud. No crews were working above at the time, but it is suspected that the rod fell from the North Side of 4A and fell approximately 120ft.	Near Miss	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C4 - Overland Transmission	Valard Construction	CT0319	8/19/2015 4:00:00 PM	8/20/2015 9:34:46 AM	A Dozer was cleaning off the crane pad; while doing so, the operator didn't see the anchor. The dozer contacted the anchor while leveling the crane pad, bending the anchor rod.	Property & Equipment Damage	
C4 - Overland Transmission	Valard Construction	CT0327-001	8/20/2015 12:00:00PM	8/21/2015 9:26:57 AM	Worker was walking towards zoom boom, slipped on loose gravel and fell onto bundle of steel causing a minor abrasion to right leg.	First Aid	
C4 - Overland Transmission	Valard Construction	CT0327-001	8/18/2015 5:00:00 AM	8/22/2015 8:26:53 AM	ATCO Worker burned end of right thumb while loading food into fryer basket. The workers hand came to close to the exhaust fan and hot exhaust caused a minor burn.	First Aid	
C3 - HVdc Specialties	Alstom Grid	CD0502-cf	8/21/2015 1:15:00 PM	8/22/2015 11:2L54AM	Equipment Damage; access door to hydraulic pump on excavator blew open causing damage to the door; it was not properly latched and this was the cause.	Property & Equipment Damage	
C3 - HVdc Specialties	Alstom Grid	CD0502-cf	8/19/2015 9:30:00 AM	8/22/2015 11:54:21AM	Worker was bitten by a fly. He reported it to his supervisor.	Medical Aid	
C1 - Muskrat Falls Generation	Gilbert NL Construction	CH0008	8/22/2015 10:10:00AM	8/22/2015 5:50:06 PM	The operator of the Semi Dump (#12-0104) was loaded with material at the GR-2 area. He was given the signal from the loader operator and began to move the truck. The Semi Dump became stuck and the	Property & Equipment Damage	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/ Absolute Violation
					operator was unable to move the unit after several attempts, so he decided to dump the load. During this process, the unit began to wobble and the entire unit tipped over onto the passenger side.		
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/22/2015 10:40:00PM	8/23/2015 9:22:58 AM	IP was walking across a 2X6 attached to a cement incline. As the IP was walking their right foot slipped and their knee made contact with the corner of the plywood walkway causing an abrasion.	First Aid	
C3 - HVdc Specialties	Alstom Grid	CD0502-sp	8/21/2015 6:15:00 AM	8/24/2015 8:34:06 AM	Other access road used to access site bypassing security and barriers.	To Be Determined	Yes
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/23/2015 9:55:00AM	8/24/2015 9:01:46 AM	Liquor bottle was found in workers room in the camp by a cleaner. Reported to Camp Management and security.	Security Incident	Yes
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/24/2015 1:45:00 AM	8/24/2015 11:4755 AM	Overhead crane 42 had a load on the hook and was about to start travelling when the load began to move up and down without any commands from the operator. There were no workers near the load at this time.	Near Miss	
C4 - Overland Transmission	Valard Construction	CT0319	8/21/2015 9:00:00AM	8/24/2015 1:18:56 PM	Mechanic was stepping down off of back step of mechanic truck. As their left foot hit the	Modified Work	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
					ground, it landed on a rock causing their ankle to roll, injuring it.		
C3 - HVdc Specialties	Alstom Grid	C00502-cf	8/22/2015 6:30:00AM	8/24/2015 3:20:14 PM	Individual tripped over a piece of machinery, caught his fall and reported that he did not fall, but twisted his lower back.	Security Incident	Yes
C4 - Overland Transmission	Valard Construction	CT0327-001	8/4/2015 9:45:00AM	8/25/2015 4:58:45 PM	Excavator operator loading rock truck with blast rock. Operator opened thumb of bucket, bolder dropped from bucket, and shattered the excavator window causing glass to hit the operator in the right shoulder and left knee.	Near Miss	
C1 - Muskrat Falls Generation	Lower Churchill Management Corporation	LCP-MF	8/12/2015 10:00:00AM	8/26/2015 8:24:27 AM	Group of unauthorized persons in 3 vehicles accessed the North Spur by driving onsite and parking by the company laydown. They advised security that they were protesting the project.	Security Incident	
C4 - Overland Transmission	Valard Construction	CT0327-001	8/23/2015 9:45:00AM	8/26/2015 10:44:10AM	A member of the cleaning staff discovered an empty alcohol bottle when she picked up a soiled towel sticking out from under the bed. The cleaning staff member removed the bottle from the room and took it to her immediate manager. The camp staff manager brought the bottle to the Valard Camp manager whom in	Safety Absolute	Yes

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
					turn reported it to the Safety Department.		
C4 - Overland Transmission	Valard Construction	CT0327-001	8/25/2015 10:00:00AM	8/26/2015 1:09:42 PM	While moving a compressor in front of an excavator, the operator set the compressor down. As the operator went down an embankment, the bucket made contact with the top of the compressor.	Property & Equipment Damage	
C4 - Overland Transmission	Lower Churchill Management Corporation	LCP-LITL	8/13/2015 6:00:00 PM	8/27/2015 10:25:07AM	LCP ROW Coordinator accessed Muskrat Falls site via ROW at S170 when it was discovered that protestors were blocking the main gate.	Security Incident	
C3 - HVdc Specialties	Alstom Grid	C00501-sp	8/27/2015 5:00:00 PM	8/27/2015 11:38:41AM	Worker was walking over footing, tripped and fell; the worker received a scratch under the right eye.	First Aid	
C1 - Muskrat Falls Generation	Astaldi canada Inc.	CH0007	8/26/2015 11:00:00 PM	8/27/2015 1:39:15 PM	IP was using an electric drill when the bit jammed, twisting the drill causing pain to the IP's right hand.	First Aid	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/27/2015 2:30:00AM	8/27/2015 1:43:44 PM	IP was walking down a doka stair tower in pier 3B in the spillway and struck their left hand on a champ resulting in an injury to their left hand.	First Aid	
C1 - Muskrat Falls Generation	Pardy's Waste Management and Industrial Services	SH0040	8/27/2015 2:45:00 AM	8/27/2015 1:44:05 PM	The operator finished servicing wash car no. 6. Not realizing that the hose was still hooked up to the inlet spout located within the wash car, he	Property & Equipment Damage	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/ Absolute Violation
					attempted to drive away. This caused damage to a set of stairs and it tore the hose from the fitting on the hose reel.		
C4 - Overland Transmission	Springdale Forest Resources	CT0327-014	8/27/2015 1:15:00 PM	8/28/2015 9:32:16A M	Boom Mulcher was mulching near S4-158 when the operator noticed a small fire approximately 100 meters away from his mulcher. He contacted his supervisor and then took the back tank from his mulcher and watered down the area and while there noticed smoke coming from another area about 30 meters away. By then there were more crew members there who watered down the site. Fire watch was then put in place.	Near Miss	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/28/2015 8:45:00AM	8/28/2015 12:43:52 PM	IP was passing an L-Bar approximately 60lbs down to a co-worker in the elevator shaft and felt a sharp pain in their lower back.	Modified Work	
C3 - HVdc Specialties	Alstom Grid	CD0501-sp	8/27/2015 9:30:00 PM	8/28/2015 5:-06:00 PM	When worker was backing in for 9:30 break he struck the metal fencing surrounding the lunchroom.	Property & Equipment Damage	
C3 - HVdc Specialties	Alstom Grid	C00501-sp	8/28/2015 10 30:00AM	8/28/2015 5:14:24 PM	While backing up the loader it came into contact with a barrier; there were no injuries.	Property & Equipment Damage	

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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C3 - HVdc Specialties	Alstom Grid	CD0502-mf	8/28/2015 8:30:00AM	8/28/2015 5:57:30 PM	Employee was backing into designated parking area when he struck bumpers with another parked vehicle.	Vehicle Incident	
C3 - HVdc Specialties	Alstom Grid	CD0501-mf	8/28/2015 9:00:00AM	8/28/2015 6:49:29 PM	An observation was made in the field of a worker potentially being under the influence of drugs or alcohol.	To Be Determined	Yes
C4 - Overland Transmission	Johnson's Construction	CT0327-013	8/27/2015 4:30:00 PM	8/30/2015 12:11:31PM	CMI caught fire rendering equipment non-operational.	Property & Equipment Damage	
C4 - Overland Transmission	Valard Construction	CT0319	8/28/2015 12 00:00PM	8/31/2015 6:15:16 PM	Operator was placing a steel out rigging mat; contacted bracket on crane while doing so.	Property & Equipment Damage	
C1 - Muskrat Falls Generation	Astaldi Canada Inc.	CH0007	8/28/2015 3:45:00 PM	9/1/2015 9:55:33 AM	Worker was preparing to do a weld inspection on the bridge, and as they were taking their tools out of their back to set up, a 1 1/2" putty knife inadvertently slipped from their bag. The putty knife fell approximately 45' straight down to the base of the spillway. The area below was not barricaded at the time of the incident; a second worker was enroute to the area to tape the drop zone at the time of the incident. No workers were in the drop location.	Near Miss	



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Component	Company	Contract	Time of Incident	Reported	Description	Class	Potential Safety/Absolute Violation
C4 - Overland Transmission	C&T Enterprises Ltd.	CT0327-011	8/28/2015 10:00:00 AM	9/1/2015 1:11:19 PM	Worker was welding mulcher and noticed some smoke and a small flame near the right rear door.	Near Miss	
C4 - Overland Transmission	Valard Construction	CT0319	8/26/2015 1:00:00 PM	9/1/2015 2:18:22 PM	Worker was operating dozer in congested area, backed into porta potty causing damage.	Property & Equipment Damage	
C4 - Overland Transmission	Valard Construction	CT0319	8/28/2015 4:00:00 PM	9/1/2015 2:20:49 PM	Worker was walking downhill towards foundation, slipped and rolled ankle.	Modified Work	
C4 - Overland Transmission	Valard Construction	CT0327-001	8/27/2015 3:00:00 AM	9/2/2015 4:52:11 PM	Worker bumped their head on a fridge.	First Aid	

14.3 ENVIRONMENTAL INCIDENTS – AUGUST 2015

Transmission Line Type / Contract	Date of Incident	Description of Incident: Fluid Release Incidents (>2L)	Risk Assessment	
			Actual Consequence	Maximum Reasonable Consequence
<b>AC Construction (Labrador)</b>				
CT0319	02-Aug-15	3L of hydraulic oil was leaked from a damaged hydraulic line of an excavator on Access Trail 79.	Contamination of the immediate ground.	No migration
CT0319	22-Aug-15	2L of hydraulic oil leaked from a backhoe on Highway 140.	Contamination of the immediate ground.	No migration
<b>DC Construction (Labrador)</b>				
CT0327-001	08-Aug-15	5L of hydraulic oil was spilled due to improper installation of oil filter from an excavator at Structure S2-485.	Contamination of the immediate ground.	No migration
CT0327-001	15-Aug-15	25L of hydraulic oil leaked from a ruptured hydraulic line of unknown equipment at Structure S1-494.	Contamination of the immediate ground.	No migration
CT0327-001	17-Aug-15	30L of hydraulic oil leaked from a ruptured hydraulic line of unknown equipment at Structure S2-448.	Contamination of the immediate ground.	No migration
CT0327-001	22-Aug-15	4L of hydraulic oil leaked from a faulty hydraulic line of unknown equipment at Structure S1-538.	Contamination of the immediate ground.	No migration
CT0327-001	30-Aug-15	25L of hydraulic oil was spilled due to hydraulic line failure on a loader at Forteau Hill Km 5 laydown.	Contamination of the immediate ground.	No migration
<b>DC Clearing/Access (Newfoundland and Labrador)</b>				
CT0327-010	16-Aug-15	8L of engine oil leaked from a punctured base pan on a tandem truck at Structure S1-336.	Contamination of the immediate ground.	No migration
CT0327-013	06-Aug-15	10L of hydraulic oil leaked from a broken hose of a rock drill at Structure S1-576.	Contamination of the immediate ground.	No migration
CT0327-013	08-Aug-15	60L of hydraulic oil spilled due to valve issues with the drain hose on a rock drill at Structure S1-590.	Contamination of the immediate ground.	No migration
CT0327-014	03-Aug-15	2L of diesel leaked on the ground where fuel truck was previously parked on Clam Pond Road.	Contamination of the immediate ground.	No migration
CT0327-014	20-Aug-15	5 to 6L of hydraulic fluid leaked from a broken hose on a float truck on Lynx Pond Road.	Contamination of the immediate ground.	No migration

**MONTHLY PROGRESS REPORT**

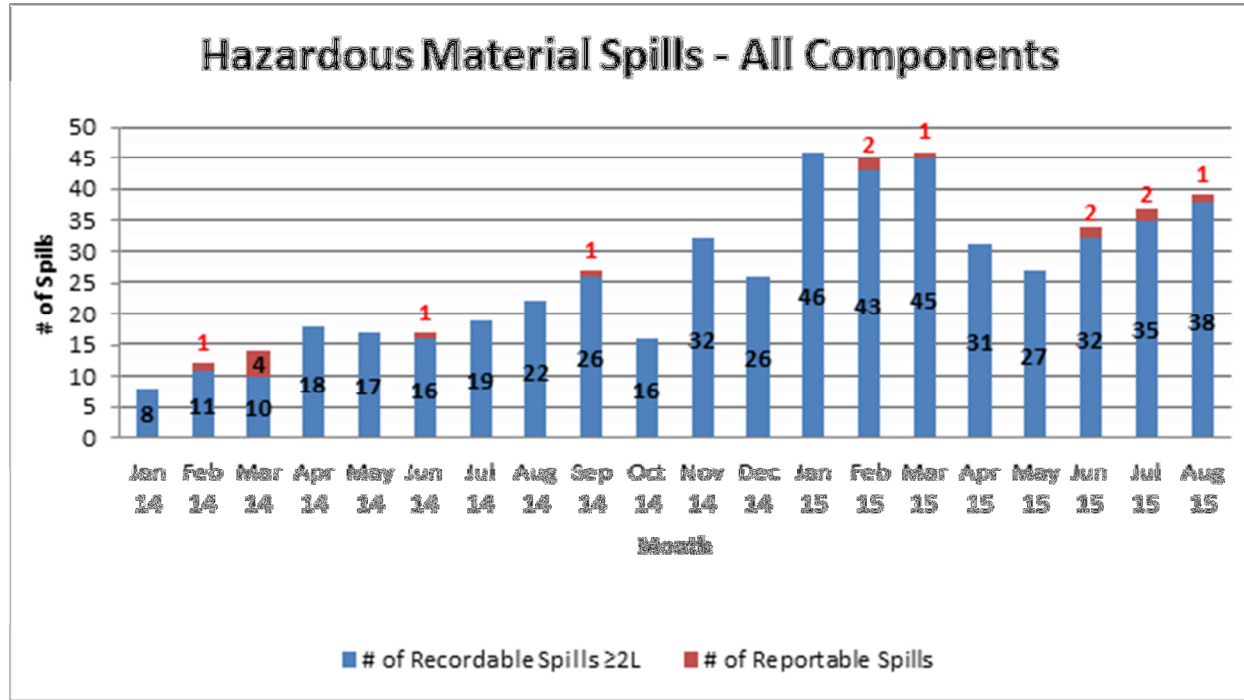
**PERIOD ENDING: 31-AUG-2015**

Transmission Line Type / Contract	Date of Incident	Description of Incident: Fluid Release Incidents (>2L)	Risk Assessment	
			Actual Consequence	Maximum Reasonable Consequence
CT0327-014	30-Aug-15	10L of transmission fluid leaked due to damage of a dump truck on Clam Pond Road.	Contamination of the immediate ground.	No migration
CT0327-015	01-Aug-15	2.5L of diesel leaked from an unknown source on the Squid Cover work front.	Contamination of the immediate ground.	No migration
CT0327-015	01-Aug-15	7L of hydraulic fluid leaked from a hose on a mulcher on the Batteau Barrens work front (near structure S3-371).	Contamination of the immediate ground.	No migration
CT0327-015	05-Aug-15	2.5L of hydraulic fluid leaked from a busted fitting on a rock drill on Mooney clock Pit.	Contamination of the immediate ground.	No migration
CT0327-015	06-Aug-15	3L of diesel spilled due to overflow while refueling fuel truck on East River work front.	Contamination of the immediate ground.	No migration
CT0327-015	09-Aug-15	12L of hydraulic oil leaked from broken hydraulic hose on an excavator on Squid Cover work front (near km 17).	Contamination of the immediate ground.	No migration
CT0327-015	12-Aug-15	5L of diesel was spilled when fuel cap was not replaced on rock truck with Right of Way between Structures S3-373 and S3-375.	Contamination of the immediate ground.	No migration
CT0327-015	14-Aug-15	5 to 7L of diesel leaked due to punctured slip tank on fuel truck on Mooney Block Road (near km 20).	Contamination of the immediate ground.	No migration
CT0327-015	28-Aug-15	20 to 25L of diesel leaked from ruptured hose on fuel truck on Squid Cover Resource Road (near km 15).	Contamination of the immediate ground.	No migration
<b>Generation Site (Labrador)</b>				
CH0007	03-Aug-15	10L of hydraulic oil leaked from an unknown source north of rock pile Area C1 (Crusher).	Contamination of the immediate ground.	No migration
CH0007	04-Aug-15	10-11kg of Genetron 22 – monochlorodifluorom ethane (airborne halocarbon R-22) spilled due to mechanical issues on ice machine #4 at LRM Batch Plant.	Contamination of the immediate ground.	No migration
CH0007	07-Aug-15	4L of engine oil leaked from cement truck during maintenance work in Maintenance Laydown Area.	Contamination of the immediate ground.	No migration
CH0007	11-Aug-15	8L of hydraulic fluid from busted hydraulic line on mini excavator in snow dump area.	Contamination of the immediate ground.	No migration
CH0007	11-Aug-15	2L of hydraulic fluid leaked from hydraulic line on roll-on truck in Laydown Area B.	Contamination of the immediate ground.	No migration

**MONTHLY PROGRESS REPORT**

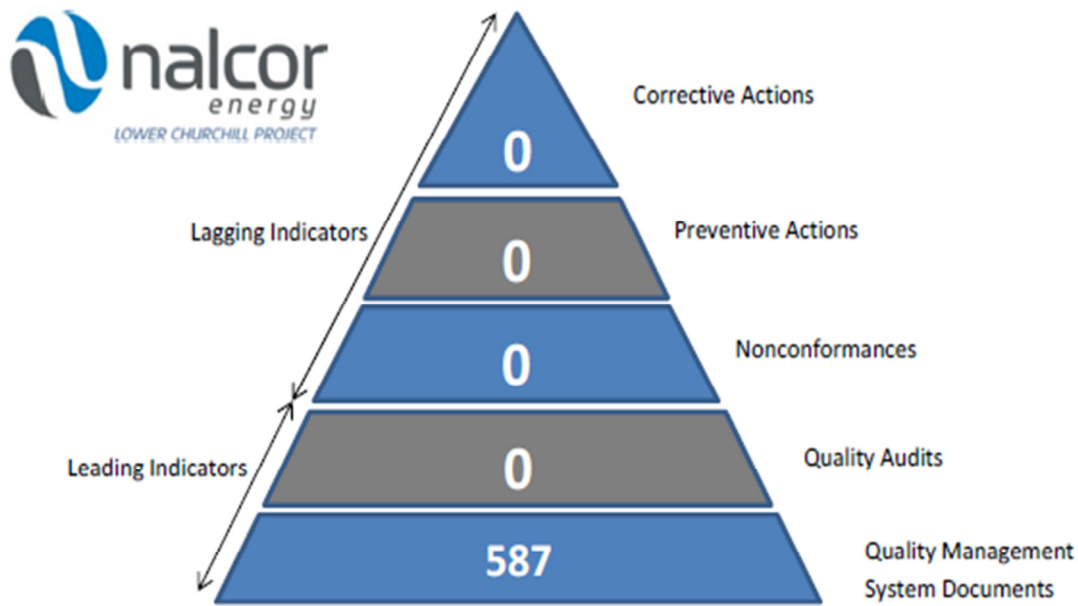
**PERIOD ENDING: 31-AUG-2015**

Transmission Line Type / Contract	Date of Incident	Description of Incident: Fluid Release Incidents (>2L)	Risk Assessment	
			Actual Consequence	Maximum Reasonable Consequence
CH0007	19-Aug-15	2L of engine oil leaked from hose on Diamec PU 45E near Upstream Spillway North.	Contamination of the immediate ground.	No migration
CH0007	27-Aug-15	2L of hydraulic fluid leaked from broken fitting on hydraulic hose of a skid steer in South Service Bay.	Contamination of the immediate ground.	No migration
CH0007	31-Aug-15	3L of diesel leaked from a plastic container in snow dump area.	Contamination of the immediate ground.	No migration
CH0007	31-Aug-15	5L of diesel leaked from sheen in 624J loader in Operators Laydown Area.	Contamination of the immediate ground.	No migration
CH0008	08-Aug-15	25L of used oils leaked from broken transfer case on a CAT 740 on North-West cut-off wall.	Contamination of the immediate ground.	No migration
CH0008	28-Aug-2015	200L of diesel released to ground from fuel truck cap. Incident currently being investigated.	Contamination of the immediate ground.	No migration
SH0040	18-Aug-15	4.5L of hydraulic fluid leaked from break in hydraulic line on a garbage truck between buildings PE and PB.	Contamination of the immediate ground.	No migration
CH0008	22-Aug-15	30 L of diesel spilled from an overturned dump trailer at GR2.	Contamination of the immediate ground.	No migration
SH0040	28-Aug-15	20L of hydraulic fluid leaked due to failure in hydraulic line on a water truck at wash trailer #23.	Contamination of the immediate ground.	No migration
<b>HVdc Specialties</b>				
CD0502	09-Aug-15	5L of diesel leaked from vent valve of fuel truck near the lunch trailer.	Contamination of the immediate ground.	No migration
CD0508	04-Aug-15	4L of hydraulic oil leaked due to fitting failure on 980 loader on breakwater pad.	Contamination of the immediate ground.	No migration
CD0508	20-Aug-15	20L of coolant leaked due to coolant hose failure on excavator on Breakwater Pad.	Contamination of the immediate ground.	No migration
<b>SOBI</b>				
Nothing to report this month				



14.4 QUALITY PERFORMANCE – AUGUST 2015

**QUALITY PERFORMANCE**  
**LOWER CHURCHILL**  
**PROJECT DELIVERY TEAM - Internal**  
**Year to Date August 2015\*\***



Identifying and reporting on quality audits and taking actions is critical to prevent nonconformances and corrective actions.

PROJECT DELIVERY TEAM QUALITY METRICS				
2015 Actual			Performance	Target
August	YTD		2014	2015
0	0	Corrective Actions	21	0
0	0	Preventive Actions	4	4
0	0	Nonconformances	0	0
0	0	Quality Audits	3	4
9	587*	Quality Management System Documents	510*	541*

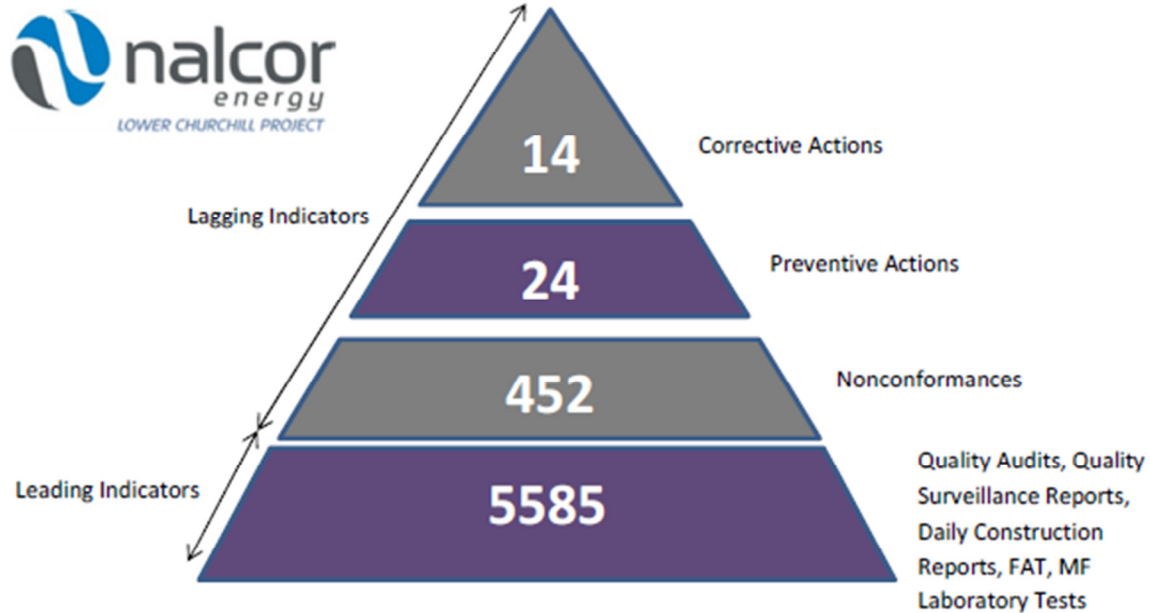
\*Includes previous years. \*\* Note numbers have been adjusted to reflect errors in previous reports

## QUALITY PERFORMANCE

### LOWER CHURCHILL

### SUPPLIERS / CONTRACTORS- External

Year to Date August 2015\*\*



Identifying and reporting quality audits, surveillance and daily reporting is and taking actions is critical to prevent nonconformances and corrective actions.

SUPPLIERS / CONTRACTORS QUALITY METRICS				
2015 Actual			Performance	Target
August	YTD		2014	2015
0	14	Corrective Actions	16	0
22	24	Preventive Actions	27	30
64	452	Nonconformances	299	500
1	15	Quality Audits	18	20
11	96	Quality Surveillance Reports	51	160
672	3910	Daily Construction Reports	2451	5600
3	33	Factory Acceptance Test/Type Test	86	40
329	1531	Laboratory Tests	810	3000

\* Statistics indicate those issued by the Project Delivery Team and Main Suppliers / Contractors which include the following::

- CH0007 Construction of Intake and Powerhouse, Spillway and Transition Dams
- CH0030 Supply and Install Turbines and Generators
- CH0032 Supply and Install Powerhouse Hydro-Mechanical Equipment
- CD0501 Supply and Install Converters and Cable Transition Compounds (EPC)
- CD0502 Construction of AC Substations
- CD0534 EPC Synchronous Condensers at Soldiers Pond
- CT0319 315 kV HVac Transmission Line Construction (MF to CF)
- CT0327 350 kV HVdc Transmission Line Construction (MF to SP)
- LC-SB-003 SOBI Submarine Cable Design, Supply and Installation
- LC-SB-011 Subsea Rock Protection Design, Supply and Installation













14.5 LCP RISK ASSESSMENT REGISTER –AUGUST 2015

Risk Assessment Level	Risk Title	Mitigation Update	Status	Trend This Period	Trend Previous Period	Comments
	Contract or PO awards delayed	Contract and PO priorities established. Resources brought to bear and target dates were generally met with no impact on the overall project schedule.	Open	↓	↓	Most of the major LCP contracts have been awarded. RFP completed for outstanding major contracts.
	Productivity & production	Labour agreements include productivity enhancement initiatives. Accommodation complex, food and conditions are highly competitive to attract and retain workers and enhance productivity. Wages and rotation cycles are competitive and attractive. Nalcor Project Management teams are working with all Contractors to identify and implement initiatives designed to improve production and productivity.	Open	●	●	Overall production at Muskrat Falls has the full attention of both Nalcor & Astaldi, with mitigation initiatives underway. In addition, Nalcor are working to increase production in all areas.
	Contractor interface management	Contracting strategy has been adjusted to reduce the number of interfaces and potential for claims. Large contract packages, EPC or Unit Price have been selected to reduce the interface risks.	Open	●	●	
	Aboriginal agreements/consultation/ Accommodation not achieved in a timely manner or delays caused by legal challenges	New Dawn Agreement signed and consultations carried out as required. Legal challenges have been made in Project's favour and no delays have been experienced.	Open	●	●	Some legal challenges are still before the courts but not expected to cause delays
	Availability of qualified and experienced PM resources to manage the project and organizational effectiveness	PM resources have been sourced from Canadian and North American engineering consultants, PM consultants and Nalcor staff. The IE has reviewed and endorsed the PM approach taken by Nalcor and the effectiveness of the PM team and have provided positive reports on the work to date and the organization for the upcoming project phases.	Open	↓	●	Ongoing monitoring.











MONTHLY PROGRESS REPORT

PERIOD ENDING: 31-AUG-2015

Risk Assessment Level	Risk Title	Mitigation Update	Status	Trend This Period	Trend Previous Period	Comments
	Qualified labour not available to contractors	Extensive training and recruitment initiatives were put in place early and to date no significant qualified labor shortages have been reported.	Open			Context of the project has been changed due to slowdown in the Oil and Gas industry.
	Safety performance of contractors	Project team has qualified and experienced H&S professionals who are reviewing safety of the bidders to ensure required standards are being met in the bids. Furthermore once awarded safety is a key feature of the kick off meeting and is followed up at site with toolbox talks, JSA's and if necessary safety standdowns if leading indicators point to potential incidents/accidents. The safety record of the Project is better than industry norms in NL however our goal is zero accidents and zero incidents. That is our safety culture, so it is a relentless pursuit of improvement in all areas.	Open			Safety standdowns carried out at MF and LITL work fronts because of high potential near misses.
	Ability to ensure commercial competitiveness with major contractors	Competitive contracting has been achieved by aggressively selling the project to Canadian, North American and International contractors.	Open			
	Timely approval to proceed with environmental, engineering and procurement required for BDE to WAV transmission line	Submitted to PUB awaiting a response. Proceeding with front end environmental and engineering.				PUB approval received– Project Manager appointed, in progress
	Contractor bids higher than estimate	This has been experienced and project capital costs have been adjusted accordingly to reflect the highly competitive market.	Open			Project team reviewing opportunities for cost reduction as required.
	Design enhancements to improve reliability and quality	This has been experienced and project capital costs have been adjusted accordingly to reflect the prudent design enhancements to improve reliability and quality.	Open			All design changes have been thoroughly vetted by a formal management of change process.
	Environmental performance of contractors	Project team has qualified and experienced environmental professionals who are reviewing	Open			The environmental record of LCP is good and our







MONTHLY PROGRESS REPORT

PERIOD ENDING: 31-AUG-2015

Risk Assessment Level	Risk Title	Mitigation Update	Status	Trend This Period	Trend Previous Period	Comments
		the environmental performance of the bidders to ensure required standards are being met in the bids. Furthermore once awarded, environment is a key feature of the kick off meeting and is followed up at site.				relationship with the regulators is positive however there is a relentless pursuit of improvement in all areas.
	North spur stability	Design has been carried out and costs reflected in the project estimate to bring the North Spur up to CDA standards. This design has been reviewed by a cold eyes review team, independent, internationally respected experts and the Independent Engineer. And all parties agree that the design meets all recognized standards and best practices. Initial Geotechnical Assessment is positive.	Open			Monitored by experts through construction; installation of cut off wall has gone well.
	River diversion in 2016	This is a critical milestone towards first power in 2017; critical path activities are spillway construction and award of the north dam contract and completion of that contract. Concrete placement rate at the Spillway is much improved.	Open			Project team and civil contractor have this as their highest priority with daily meetings to ensure progress towards the completion of the spillway to allow the river diversion to occur as planned. Currently civil contractor is confirming all milestones will be met. Hydro-mechanical are mobilizing next month.
	Powerhouse concrete placement	There is a significant amount of concrete placement required to complete the powerhouse and project team and civil contractor are working together to ensure the integrated cover system is installed in order to continue with work in a controlled environment through winter. Currently the civil contractor is confirming that key milestones will be met,	Open			Nalcor & Astaldi working to improve productivity and concrete placement.

**MONTHLY PROGRESS REPORT**

**PERIOD ENDING: 31-AUG-2015**

Risk Assessment Level	Risk Title	Mitigation Update	Status	Trend This Period	Trend Previous Period	Comments
		however this is a high priority for the project team.				
	Ability to place RCC dam in one season	Project team have assessed the original plan and have changed the plan to remove this risk by bringing forward the RCC dam contract award and start of the work to have a two season RCC placement schedule.	Open			Bid reviews identify schedule OK.
	Weather impact on schedule	Site preparation contracts have been scheduled to carry out the work in Summer. SOBI cable installation has a one year float built in and work will be carried out in summer. Transmission construction and ROW are year round activities but could be impacted by extreme weather conditions; if so additional work fronts can be opened in summer months to recover lost time. Reservoir and ROW clearing are scheduled in advance of following activity and have not been a risk to date.	Open			LCP and contractors/Suppliers coordinating internally development of appropriate winterization execution plans beyond 2015.
	Contractor performance causing schedule delays	Only top tier contractors and suppliers have been selected with reputations that they complete on time. Furthermore contract clauses including liquidated damages included in contracts to ensure contractor meets required schedule dates. Site teams are monitoring performance on a daily basis and LCP meets with senior contract management at Steering Committee level to ensure full corporate alignment and commitment.	Open	 & Improving	 & Improving	Nalcor & Astaldi are working to improve construction management organization and project management functions that support construction.

**Legend:**

**Risk Assessment Levels**

	Low
	Medium
	High

**Trend:**

	Increased Risk Assessment
	No Change
	Decreased Risk Assessment

Status: Open, Closed, Retired.