Lower Churchill Management Corporation



CHANGE MANAGEMENT PRODEDURE

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Additional Approvals

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MFG Project Manager	Scott O'Brien
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1 PURPOSE

This procedure describes the formal process to be used by the Project Delivery Team (PDT) to implement change management including:

- o identification and management of potential Deviations
- o identification of those potential Deviations that may contribute to Project Change
- o identification of the conditions that generate potential Project Changes;
- o development of high level contingency plans or responses to potential Project Changes;
- o assessment of the need to adopt the potential Project Changes including the cost benefit;
- evaluation of the impacts of potential Project Change to the Project baseline;
- evaluation of potential Project Change with regard for health, safety, environment, operability and maintainability requirements;
- o provision of approval of Project Change by all stakeholders;
- o implementation of action plans to address the Project Change; and
- o documentation of lessons learned with respect to the change.

This procedure also ensures that the impact of Project Changes to applicable documents and processes are identified, evaluated, approved, documented, implemented, and closed out properly. It is to be used in conjunction with the *Change Management Plan – LCP-PT-MD-0000-PM-PL-0002*.

2 APPLICATION AND SCOPE

This procedure is applicable to the PDT during the Engineering, Procurement, Construction and Commissioning stages for the following *Sub-Projects* or *Components* of the LCP Phase I:

- Muskrat Falls Generation
- HVdc Specialties
- Transmission Lines
- Strait of Belle Isle Crossing

3 DEFINITIONS

This section will include terms that are primary or unique to the Change Management process only. The *Project Dictionary, Acronyms and Abbreviations List LCP-PT-MD-0000-PM-LS-0001-01* provides additional information on any terms, acronyms, or abbreviations not included in these next sections.

Change Approval Hierarchy

The Change Approval Hierarchy establishes the limits of authority designated to specified positions of responsibility within the Project and establishes the types and thresholds of change that may be approved by individuals.

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Change Control Board

This is a panel led by the Project Director – Generation (for Power Development) and the Vice President Transmission (for Power Supply) and comprised of the remaining members of the Project Management Team (see Project Delivery Team Organization Charts – LCP-PT-MD-0000-PM-CR-0001 Chart LCP1A: Power Development Management Team, LCP1B:Transmission Link Management Team and LCP1C: Functional Management Team). It is responsible for determining whether proposed Project Changes shall be approved and developed further or rejected. Occasionally higher levels of authority may be required to approve a Project Change (reference AAL).

Change Management

The process of incorporating a balanced change culture of recognition, planning, and evaluation of Project Changes in an organization to effectively manage Project Changes (reference *Construction Industry Institute*.)

Change Management Database

A database that is used to record, manage, and report on all proposed Deviations and Project Changes (Deviation Alert Notices and Project Change Notices) and their statuses. The Change Management Database resides in the Change Management module of LCP Tracker.

Change Management Team

This team is comprised of the Component Change Management Leads along with any other staff who may be assigned to support those individuals.

Decision Support Package

A standardised report or presentation used to provide background on a proposed Project Change with respect to cost/benefit analysis, impacts on key areas, alternative solutions, risks, and next steps required to implement the proposed Project Change.

Deviation

A Deviation is a departure of a characteristic from specified product, process, or system requirement. Specifically with respect to the Project, the term refers to a change/ modification / alteration from established Project guidelines, plans, or intentions.

Deviation Alert Notice

This is the mechanism used to facilitate the processing of potential Project Deviations. A Deviation Alert Notice (DAN) is represented by both a form and a record which are generated in the LCP Change Management Database. A Deviation Alert Notice may originate from any member of the Project Delivery Team. Deviation Alert Notices may be reviewed by the Change Control Board to obtain direction on how they shall be addressed or resolved

Non-Scope Change

This is a Project Change that cannot be classified as a scope change, but can be attributed to project evolution (pricing, quantity fluctuations, design

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evolution, labour productivity variances, execution approach, etc.) and other developments within the defined project baseline scope, cost, and schedule. Approval of Non-Scope Changes may not affect the Current Control Budget, but rather may influence the Final Forecast Cost. Non-Scope Changes must be funded by contingency.

Project Change

A Project Change is a Deviation which represents a change or departure from the Project baseline scope, estimate, schedule, intended quality, HSE targets, project policy, or execution plan that results in an addition to or reduction in the Original Control Budget or baseline Project Control Schedule including correction for scope / estimate omissions.

Project Change Notice

This is the mechanism used to facilitate the processing of potential Project Changes. A Project Change Notice (PCN) is represented by both a form and a record which are generated in the LCP Change Management Database. Project Change Notices must be reviewed by the Change Control Board for approval or rejection.

Project Scope

Project Scope is a concise and accurate description of the end products or deliverables to be expected from the project and that meet specified requirements as agreed between the Project stakeholders. It represents the combination of all project goals and tasks, as well as the resources and activities required to accomplish them. See Project Controls Management Plan – LCP-PT-MD-0000-PC-PL-0001-01, for additional detail.

Scope Change

A Project Change that results from the addition or deletion of scope to meet functional requirements or due to regulatory requirements is a Scope Change. Scope Change within the project boundaries results in the need to adjust the control budget through allocation of estimate contingency to support the implementation of the scope change, therefore increasing the Original Control Budget (which becomes the Current Control Budget). In the case of Scope Changes outside the Project's boundaries, Management Reserve must be allocated by the Gatekeeper to support implementation of the Scope Change.

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4 ABBREVIATIONS AND ACRONYMS

AAL Approval Authorisation Limit

CCB Change Control Board
CMT Change Management Team
DAN Deviation Alert Notice

E&RC Environmental & Regulatory Compliance

HSS&ER Health, Safety, Security & Emergency Response

PCN Project Change Notice
PDT Project Delivery Team
PMT Project Management Team

5 RESPONSIBILITIES

Project Gatekeeper

Final authority for decisions on Project Changes that impact the Project's boundaries, execution / delivery or operating philosophies, moves the Project into a high risk zone (reference *Project Risk Management Plan – LCP-PT-MD-0000-RI-PL-0001-01*), or as determined by the Change Management Approval Matrix included in the *Change Management Plan – LCP-PT-MD-0000-PM-PL-0002-01* and in accordance with the *Capital Expenditure Authorization Procedure – LCP-PT-MD-0000-FI-PR-0001-01*.

Executive Vice President – Power Development

Authority for decisions on Project Changes that impact the Power Development Project boundaries, scope limits, and delivery philosophies, moves the Project into a high risk zone (reference *Project Risk Management Plan – LCP-PT-MD-0000-RI-PL-0001-01*), or as determined by the Change Management Approval Matrix included in the *Change Management Plan – LCP-PT-MD-0000-PM-PL-0002-01* and in accordance with the *Capital Expenditure Authorization Procedure – LCP-PT-MD-0000-FI-PR-0001-01*.

Executive Vice President – Power Supply

Authority for decisions on Project Changes that impact the Power Supply Project boundaries, scope limits, and delivery philosophies, moves the Project into a high risk zone (reference *Project Risk Management Plan – LCP-PT-MD-0000-RI-PL-0001-01*), or as determined by the Change Management Approval Matrix included in the *Change Management Plan – LCP-PT-MD-0000-PM-PL-0002-01* and in accordance with the *Capital Expenditure Authorization Procedure – LCP-PT-MD-0000-FI-PR-0001-01*.

Change Control Board

The Change Control Board (CCB) is the approval authority for Project Changes and although the composition of this group is

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fixed, only those members that are stakeholders in any given change are required to provide authorisation for that change.

The CCB must demonstrate leadership and commitment to the principles of the change management system by:

- ensuring the PDT appropriately applies and follows the processes described in the change management plan and procedure;
- ensuring decisions on changes are made in a timely manner and the appropriate approvals are in place prior to implementation;
- providing the necessary resources to achieve the process objectives;
- reviewing, editing as appropriate, and approving / rejecting all PCNs; and
- ensuring that all members of the PDT understand their roles and responsibilities in reviewing and providing input to the change management process.

Project Controls Manager

As owner of the *Change Management Procedure*, this role is accountable for:

- implementation of this plan and ensuring the necessary resources are available to support the change management process;
- championing and communicating the importance of discipline and proactive change management;
- championing and communicating the importance of risk screening as an essential element of change management;
- being engaged in and providing direction on all Project Changes prior to their submission to the Change Control Board as PCNs; and,
- o organizing, preparing, and moderating regular Change Control Board meetings.

Component Change Management Leads

The Component Change Management Leads are responsible for supporting the implementation of this *Change Management Procedure* within their respective Components. This includes ensuring project personnel are aware of it, facilitating communication on Deviation Alert Notice (DAN) and Project Change Notice (PCN) status, ensuring the Project Change management tools and supporting processes are maintained and that the project baseline impacts of DANs and PCNs are

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accurately reflected in the project baselines and forecasts.

Specific activities include:

- working with other members of the Project Controls Team to compare current project activities and performance against approved budgets and scope and highlight any areas of concern;
- ensuring the maintenance of the Project Change Management Database including the status of DANs and PCNs;
- ensuring Project Changes are properly routed and approved as per the approval requirements provided in Section 8.0 Change Approval of the *Change Management Plan*;
- facilitating the generation of DANs and PCNs by providing guidance to the Originators and ensuring that approvals are obtained in a timely fashion;
- facilitating the processing of DANs and PCNs;
- assisting originators in compiling all DAN and PCN supporting documentation;
- o overseeing the preparation / execution of PCN
 Implementation Plans
- providing DAN and PCN status updates to Originators and management;
- producing / overseeing the production of monthly change management reports for input into the Project monthly report;
- interfacing with Supply Chain, Engineering, Construction, Operations, and other functional groups to identify impact of all DANs and PCNs;
- Providing guidance on the use of the Change Management Database; and,
- Leading Change Management Meetings within their Components.

Scope / Project Manager

The Scope / Project Manager is the Sponsor for any proposed Deviation or change within their area of responsibility. This includes having responsibility for stewardship of the issue through the change management process.

Specific activities include:

Checking the completeness and validity of the initiated

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- DAN including designation of "Discretionary" or "Non discretionary"
- Addressing system messages regarding the progression of changes through the system.
- Reviewing and ensuring that all PCNs within their area of responsibility are complete and accurate and that the appropriate stakeholders have been identified and involved prior to submitting to the Change Control Board for approval.
- Responsible for the management of Deviations and implementation of approved Project Changes. The Scope / Project Manager participates in various change management processes including the Change Control Board meeting and supporting meetings held within their own teams as appropriate.
- Responsible for verification of completion of actions / requirements associated with DANs and approved PCNS within their area of responsibility prior to closeout.

Area Manager

The Area Manager must be aware of and understand the implications of any proposed Deviation or change within their area of responsibility. This includes supporting the agreed way forward as well as identifying / recognizing the implications of a proposed change with respect to other areas, components, assets, and regulatory bodies. The Area Manager is responsible for ensuring that other areas, components, assets, and / or regulatory bodies have been appropriately engaged and proposed changes have duly taken their concerns into consideration.

Package Leader

The Package Leader is accountable for Deviations and Project Changes with respect to their commitment package.

Specific activities include:

- Ensuring DANs are raised upon identification of potential deviations and brought to the attention of their Area Manager and Project Manager.
- Determining the alternatives available when potential Deviations or Project Changes are identified.
- Championing the way forward identified and keeping their Area Manager and Project Manager abreast of the way forward.

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- Presenting proposed Project Changes to the Change Control Board for direction.
- Verifying completion of actions / requirements associated with DANs and approved PCNS within their area of responsibility prior to closeout.

Originator

This is any member of the PDT who has identified or who has been made aware of a potential Deviation, typically the individual who is technically responsible or most familiar with the issue. This individual must enter the issue in the Change Management Database.

Specific responsibilities include:

- Clearly documenting Deviations via Deviation Alert Notices (DANs), ensuring awareness and understanding of their potential impacts by the responsible Scope / Project Manager.
- Supporting / championing the resolution of all Deviations that they have identified.
- Presenting / preparing DANs for tabling at the Change Control Board meetings or supporting the respective Package Engineer / Package Leader in this effort.
- Stewardship of the associated actions including, in particular, responsibility for preparing and tabling a PCN for approval should the way forward agreed upon by the CCB represent *Project Change*.

Change Analysis Team

This is ad hoc team or working group with required functional expertise may be either assembled formally or function informally to analyse a proposed Project Change in order to "quantify" the direct and indirect benefits and impacts the proposed Project Change in line with the Project's business case.

Cost Controller

The responsible Cost Controller must ensure:

- all DANs are assessed for any potential cost impacts and that Trends are created to monitor such impacts;
- all potential deviations within the Cost Controller's jurisdiction are brought to the attention of the responsible Package Leaders and captured in the Change Management Database;
- that the cost implications of proposed Project Changes are adequately reviewed, assessed, and documented; and

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 that actions specific to the Cost Control function are implemented in a timely fashion upon approval of any associated change.

Through attendance at Change Control Board meetings the Lead Cost Controller will provide input on cost related aspects of proposed Deviations and Project Changes to the board.

Planner

The responsible Planner must ensure:

- all DANs are assessed for any potential schedule impacts and that Trends are created to monitor such impacts;
- all potential deviations within the Planner's jurisdiction are brought to the attention of the responsible Package Leaders and captured in the Change Management Database
- that the schedule implications of proposed Project Changes are adequately reviewed, assessed, and documented; and
- that actions specific to the planning function are implemented in a timely fashion upon approval of any associated change.

Through attendance at Change Control Board meetings the Planner will provide input on schedule related aspects of proposed Deviations and Project Changes to the board.

Project Risk Coordinator

Responsibilities of the Project Risk Coordinator with respect to change management include:

- reviewing, providing input as appropriate, and endorsing all PCNs to ensure that risk levels relative to an unmitigated base case have been adequately identified, assessed, and mitigated; and
- coordinate major risk assessments for changes and specification Deviations which identify the need for a risk assessment after completion of the risk screening.

In this case, the Project Controls Manager is the Project Risk Coordinator.

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6 REFERENCES

LCP-PT-MD-0000-PM-PL-0002-01	Change Management Plan
LCP-PT-MD-0000-PM-LS-0001-01	Project Dictionary, Acronyms and Abbreviations List
LCP-PT-MD-0000-PM-CR-0001	Project Delivery Team Organization Charts
LCP-PT-MD-0000-PC-PL-0001-01	Project Controls Management Plan
LCP-PT-MD-0000-RI-PL-0001-01	Project Risk Management Plan
LCP-PT-MD-0000-FI-PR-0001-01	Capital Expenditure Authorization Procedure
LCP-PT-MD-0000-EN-PL-0001-01	Engineering Management Plan
LCP-PT-MD-0000-PR-PL-0001-01	Procurement Plan
LCP-PT-MD-0000-CA-PL-0001-01	Contract Administration Plan
LCP-PT-MD-0000-AD-PL-0001-01	Administrative Management Plan

7 CHANGE MANAGEMENT PROCEDURE

Deviations, including changes to the Project's baseline, may occur throughout the execution of the Project. The earlier a potential Deviation or Project Change is identified the more options are available to avoid, mitigate, or manage the impact to the Project. Attachment 1 provides the Change Management Process Flow that is used by the Project. Each of the six (6) discrete steps of the process is discussed in detail in the following subsections.

7.1 STEP 1: IDENTIFICATION

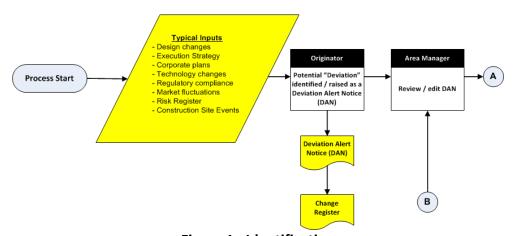


Figure 1: Identification

The Deviation Alert Notice (DAN) is an "early warning" mechanism for the identification, communication, assessment, and management of perceived or real departures or "Deviations" from the established Project guidelines, plans, or intentions. **DANs** provide both the means and the opportunity to prevent or substantially reduce the number of unexpected scope, cost and schedule changes that might impact the Project Baseline and also to assist in identifying opportunities that should be exploited for the Project's benefit. One of the primary objectives in raising a DAN is to assess

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and control the number of variances and proposed changes that become PCNs – and as a result have an impact on Project scope, cost and schedule baselines.

Each individual involved in the Project is responsible for the early identification of any potential change that might impact project scope, cost, or schedule baselines. DANs are required for such potential Deviations as scope revisions (including additions, deletions, and transfers), modifications to the execution strategy (e.g. repackaging), quantity variations, re-work and work subject to claims, schedule milestone or key date changes, and changes to any other Project baselines or associated documents. (Note: DANs may originate from a wide range of sources within the Project including those identified in Attachment 2 of the *Change Management Plan*). They may first be identified through or as a result of a number of other project processes including but not limited to Site or Technical Queries, NCRs, engineering reviews, and contractor change requests.

Any member of the PDT (DAN Originator) who identifies a potential Deviation or change should advise/consult with the applicable Area / Scope / Project Manager who will act as the Sponsor for the change. The Originator shall then raise a DAN (reference Attachment 2) in the Change Management database (LCP Tracker), contacting a member of the Change Management Team for assistance if necessary (see Figure 1 above). The Change Management Team will maintain and monitor the DAN in the Change management database which is the recording and tracking system for all potential "Deviations" or changes.

7.2 STEP 2: INITIAL ASSESSMENT

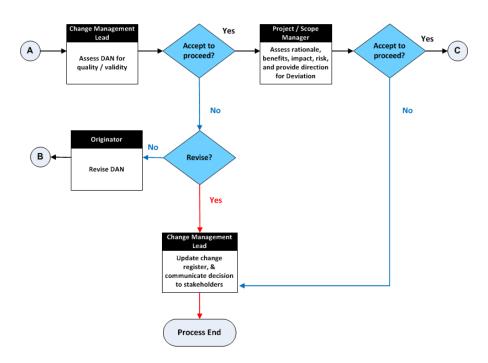


Figure 2: Initial Assessment

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The first step in the initial assessment includes the determination of whether the issue meets the criteria of a Deviation from what was planned or expected, regardless of the level of detail. The Component Change Management Lead will typically determine this through discussion with the Area Manager and Package Leader. This may require deliberation at Component level change management meetings and the responsible Scope / Project Manager along with the Project Controls Manager may be consulted for input at this stage. For issues that do not pertain specifically or directly to one of the Components or for issues which the Component requires additional support or direction the validity of an issue may be determined at the Change Control Board (CCB) meeting.

If the issue <u>does not</u> meet the criteria of a DAN (e.g. is an information request or observation), the rationale for this decision will be documented in the DAN, it will be cancelled, the change database updated and DAN Originator notified. Alternatively, if the issue does meet the required criteria, there may still be a decision not to pursue an issue any further as not only the validity, but the merit of any proposed Deviation must be taken into account. If the Scope / Project Manager, or other recognised authority makes a determination that the issue does not merit further consideration, this direction shall be documented in the DAN and it shall be closed without further effort. Another option is that the DAN is not clear or specific enough or does not speak to the subject of concern and may be temporarily rejected until the required clarity has been provided.

However, if the issue <u>does</u> meet the criteria for a DAN (i.e. represents a true Deviation or change from plan regardless of the level of detail) and merits further consideration, the responsible member of the Change Management Team (CMT) will work with the stakeholders (often the Package Leader / Area Manager / Scope Project Manager) to both ensure that the appropriate level of detail is provided and determine the initial required action(s) to progress the matter in an effective manner to bring it to resolution. This may entail additional engineering, studies by consultants, or corrective actions.

The Originator, with the support of the Scope / Project Manager, may choose to first present a Deviation at a CCB meeting to obtain a "qualitative" determination as to whether a proposed change would provide benefits to the Project. If it is determined that the proposed change would not benefit the Project, the Component Change Management Lead will update the Change Management Database with the rationale and close the DAN. If it is determined that the proposed change provides benefits to the Project, it will proceed to the detailed analysis step prior to reconsideration by the Change Control Board. Regardless of the need for immediate direction from the CCB, all new DANs will be reported to them on a regular basis and introduced at the CCB meeting for greater awareness.

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7.3 STEP 3: DETAILED ANALYSIS

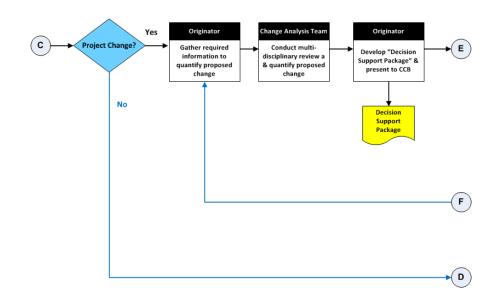


Figure 3: Detailed Analysis

A DAN may represent an issue for which the proposed solution will or could result in a Project Change. Project Change, and therefore requirements for a PCN, includes commitment package modifications (including creation, deletion, major re-work and transfers between), changes to IPS milestones or commitment package milestones, changes that impact more than one of the Project components, changes that impact cost control accounts such as transfers between commitment packages, all changes that require transfers into or out of Project contingency, and all changes to Project baseline or associated documents.

Note: The determination of Project Change is paramount to the change management process as the Component Change Management Lead and relevant Scope / Project Manager will have to assess the documented Baseline to determine if the proposed solution to the DAN constitutes a change from the published baseline or its underlying intention. If uncertain, the Component Change Management Lead will consult with the Project Controls Manager, other members of the PMT, or owners of the baseline documents in order to determine if it is a Project Change.

If it is determined that the proposed solution to a DAN <u>does not</u> constitute a Project Change, it will be managed by the Scope / Project Manager simply as a Deviation within the boundaries of the Project Baseline. A Deviation that is not a Project Change may still require mitigating action(s) and it is the responsibility of the Scope / Project Manager to ensure that any required action(s) is/are appropriately identified, communicated, implemented, and tracked to completion in order to resolve the matter and close it out in the system. Regardless of a DAN's origins the Scope / Project Manager must ensure that an action plan is developed to this end. In such cases the DAN will progress seamlessly through the implementation and closeout steps of change management.

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If it is determined that the proposed solution to a DAN <u>does</u> constitute Project Change, the Originator and Scope / Project Manager will gather both qualitative and quantitative details as per the PCN form including the Cost/Benefit, Schedule, Scope, Quality, Health and Safety, Environment and Regulatory Compliance, Reputation, and other potential impact areas. The Originator or Scope / Project Manager, with the assistance of the CMT, may convene a meeting of a Change Analysis Team comprising the appropriate functional expertise to "quantify" the proposed Project Change with regard to these potential impact areas. Alternatively the Originator may choose to avail of these subject matter experts individually without formally convening a meeting. The decision to identify and convene a meeting of a Change Analysis Team is contingent upon the complexity of the change.

Key questions that need to be addressed during this process include:

- o Is this proposed Project Change discretionary or non-discretionary?
- Will undertaking the proposed Project Change assist the Project in achieving its goals and objectives?
- Does the proposed Project Change introduce new or impact existing risk to the cost, schedule, or scope?

Furthermore the change analysis will include a detailed assessment of the alternatives considered and their respective merits, and a summary of potential impacts on other packages (interfaces).

During the change analysis process, the responsible Cost Controller will assess the proposed Project Change to determine the existence or extent of any cost impact on the Project. Likewise the responsible Planner will determine the existence or extent of any impact on the Project schedule. Changes to the overall cost and schedule baseline, or which involve engineering design or scope changes will be identified and detailed during the PCN process and approved as part of the CCB decision process.

The Project Risk Coordinator, with the support of appropriate PDT members, is responsible for supporting and validating the risk screening of the proposed Project Change using the Project's risk matrix to determine its impact on the overall risk profile for the Project. This is provided and documented by completing a risk analysis of the current state and a second analysis indicating residual risk after implementation of the proposed change. Generally a Project Change that increases the Project's overall risk exposure (i.e. risk screening indicated a higher level of risk than existed prior to implementing the proposed change) requires a broad and comprehensive analysis of the proposed change.

Once the Project cost / benefit analysis is quantified, the Component Change Management Lead, Package Leader, Area Manager and Scope / Project Manager together will develop an implementation plan that articulates how the proposed Project Change would be implemented if supported by the Change Control Board. This should be presented to the CCB in the form of a *Decision Support Package* – typically a slide presentation that follows a standard format consistent with the structure of a PCN.

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7.4 STEP 4: EVALUATION

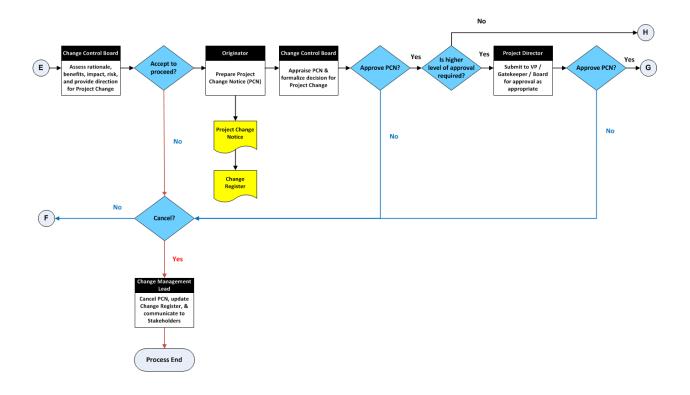


Figure 4: Evaluation

The Project Controls Manager convenes meetings of the CCB on a regular basis to review proposed changes at both the identification and detailed analysis step. At this point the CCB will provide clarity on whether to proceed with the change. If support is indicated the *Decision Support Package*, along with the contents of the associated DAN(s), will be used as the basis for developing the proposed Project Change into a formal Project Change Notice (PCN) using the PCN entry screen in the Change Management Database (reference Attachment 3).

If the proposed change receives the approval of the CCB they will also determine if it requires a higher level of approval (i.e. Executive Vice President (Power Supply and/or Power Development), Gatekeeper, or Board of Directors). In accordance with the Project Change Approval Hierarchy (reference *Change Management Plan* – Figure 2), if a PCN requires elevation to a higher level of approval, the Project Director – Generation (for Power Development) and/or the Vice President Transmission (for Power Supply)may choose to convene a review of the PCN by the Executive Vice President (Power Development and/or Power Supply) or Gatekeeper for Approval/Rejection or elevation to the Nalcor's Board of Directors.

All approved PCNs shall be endorsed by way of signatures from the appropriate approval authorities as indicated on the PCN Form. The approval authorities are determined by a combination of those stakeholders within the Change Control Board directly impacted by the change (see Table 1 below), the

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Change Approval Hierarchy, and the *Capital Expenditure Approval Procedure - LCP-PT-MD-0000-FI-PR-0001-01*. The signed PCN form is maintained in an electronic filing system by the Component Change Management Lead, and notification is provided to the relevant members of the CCB (Power Development or Power Supply), Scope / Project Manager, Area Manager, Package Leader and those parties actioned on the implementation plan.

If a PCN is Rejected by any of the Change Control Board, Executive Vice President (Power Development or Power Supply), Gatekeeper or Nalcor's Board of Directors, the Component Change Management Lead will terminate the PCN, update the change management database and notify the proponents (Originator, Scope / Project Manager, Sponsors, etc.). A rejection signature is likewise required from the appropriate manager. The records shall be updated accordingly in the Change Management Database.

It is recognised that while the authorization process for approving a project change is a PCN, situations may occasionally arise where strict adherence to the documented approval workflow could result in lost opportunity and/or increased cost to the Project. There could also be emergency situations arise that demand immediate action. Firstly, where such situations do arise, it is critical that the appropriate levels of approval are still provided in accordance with the delegated levels of authority as outlined in *Capital Expenditure Authorization Procedure LCP-PT-MD-0000-FI-PR-0001-01* and that some record of communicating such approval in advance of the change proceeding is obtained. Secondly a PCN, complete with all required signatures, is still required to ensure the change approval is clearly documented and all manner of records used to communicate the approval are subsequently included as support for the PCN. The PCN will also ensure all necessary follow-on actions are considered and assigned. Thirdly, the <u>rationale</u> for approving the change in advance of the PCN must be documented and included with the PCN.

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7.5 STEP 5: IMPLEMENTATION

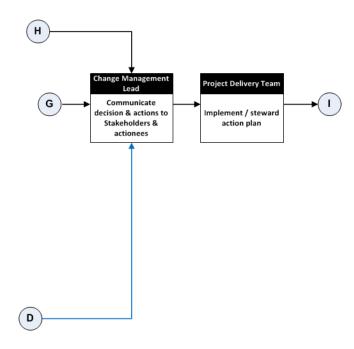


Figure 5: Implementation

The approval of a PCN at the appropriate level of authority signifies the beginning of the Implementation Phase. In order to facilitate awareness and initiate implementation of actions, a notice must be issued to the actionees and stakeholders. There is a differentiation between Scope Change and Non-Scope Change with respect to the requirements to implement an approved Project Change. For descriptive purposes the difference between them is the addition of an engineering step versus purely the treatment of cost accounting. For simplicity, only the process involving a Scope Change will be described below. These examples speak to several of the more common implementation requirements.

If impacted, the Project Basis of Design will be revised by the Technical and Design Integrity Manager to reflect the approved Project Change in Project baseline scope. Relevant specifications, philosophies, material requisitions, drawings, data sheets, studies, and reports will be revised to reflect the approved change in line with this. Reviews, acceptance and approval of the revisions will be in accordance with the *Engineering Management Plan – LCP-PT-MD-0000-EN-PL-0001-01*. As well communication of engineering action will occur within the PDT and to any contractors as required. The Component Change Management Lead will also be advised when revisions have been made such that the records in the Change Management Database may be kept current.

Individual Project Component Schedules will be revised by the respective Planners as appropriate. If necessary, the Integrated Project Schedule (IPS) will be revised by the Senior Planner to reflect the change in project baseline schedule. Relevant durations, dependencies, critical paths, key dates,

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milestones and float will be revised to reflect the Project Change. Reviews, acceptance and approval of the revisions will follow the *Project Controls Management Plan – LCP-PT-MD-0000-PC-PL-0001-01*. As well as communication of planning action will occur within the PDT. The Component Change Management Lead will also be advised when revisions have been made such that the Change Management Database may be kept current.

The Project Control Budget will be revised by the respective Cost Controller to reflect change in the Project's baseline budget (or) Final Forecasted Cost for each Project Change. If there is a scope change associated with implementation of the approved Project Change then a revision to the Current Control Budget (via allocation of estimate contingency) and Final Forecast Cost is made by the Lead Cost Controller via a Forecast Change Notice. If no scope change is reflected in the approved Project Change, then the Lead Cost Controller will recalculate the Final Forecast Cost (FFC), also referred to as the Estimate at Completion (EAC). Review, acceptance and approval of budget and/or cost revisions will follow the *Project Controls Management Plan – LCP-PT-MD-0000-PC-PL-0001-01*. The Component Change Management Lead will also be advised when revisions have been made such that the Change Management Database may be kept current.

Change Orders will be prepared for relevant Project Contracts, by the Contract Administrator, to reflect scope, budget and/or schedule changes made for each Project Change. Review, acceptance and approval of the revisions will follow the *Procurement Plan – LCP-PT-MD-0000-PR-PL-0001-01* and the *Contract Administration Plan – LCP-PT-MD-0000-CA-PL-0001-01* as well as communication of purchasing action within the PMT. The Component Change Management Lead will also be advised when revisions have been made such that the Change Management Database may be kept current. (Note: All requirements with respect to Change Orders are contained in contracts and purchase orders).

Execution of the Implementation Plan associated within a Project Change should follow the Management Plan associated with the affected scope. EXAMPLE: An Engineering Change must also be implemented in accordance with the *Engineering Management Plan – LCP-PT-MD-0000-EN-PL-0001-01*.

The Component Change Management Lead is tasked with recording and communicating the status of each PCN that is pending, approved or rejected. The principal tool for controlling and reporting change is the Project Change Management Database which shall be maintained current and accessible to all stakeholders including Deviation Originators, Scope / Project Managers and CCB members. Minutes of Change Control Board meetings shall provide summary updates on both DANs and PCNs while regular action log reports will be issued to maintain awareness of incomplete elements of the Implementation Plans.

The completion of actions associated with DANs will occur throughout the life-cycle of the DAN as the issue is screened, analysed, and moved through implementation as appropriate. Regardless of whether the Deviation constitutes a Project Change, these actions must be implemented in accordance

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with the requirements of and impacts on the various functional areas including engineering, cost control, and contract administration. Reporting and stewarding of these actions will be managed in the same manner as those resulting from approved Project Changes.

7.6 STEP 6: CLOSEOUT

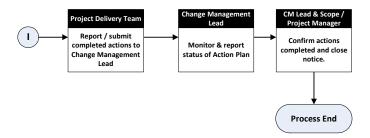


Figure 6: Closeout

As stated in Step 5, the Action Plan associated with any Project Change should be in compliance with the Management Plan associated with the affected scope (e.g. Engineering Management Plan, Construction Management Plan).

The steps required to close out a PCN include:

- 1. The Component Change Management Lead, with the support of other members of the Change Management Team, will track the status of a Project Change and all associated actions.
- 2. The Component Change Management Lead will coordinate the closeout of the PCN with the responsible Scope / Project Manager.
- The Component Change Management Lead, with the support of other members of the Change Management Team, will update the Change Management Database to include closeout signatures and reflect closeout status.
- 4. The Component Change Management Lead will participate in the Lessons Learned from a Project Change.

The closeout of DANs is administered by the CMT through monitoring of the associated actions, determination of any additional requirements, and consultation with the responsible parties to ensure not only that the actions have been completed, but also that decisions with respect to the issue are documented.

In general, the Component Change Management Leads will ensure that the Change Management Database is updated as Deviation Alerts and Project Changes are identified processed, implemented, and closed out. Reporting of changes will be on done at a minimum on a monthly basis to the PMT, included in the Project monthly report and incorporated into the current budgetary and schedule documentation where appropriate.

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7.7 REVISION

Approved Project Changes may be subject to further development or successive factors impacting their implementation. It is important to understand the nature of these developments or factors in order to determine whether they are in fact directly associated with the original change or are subsequent issues that should be addressed as new changes. Simply because the change is with respect to the same area or component does not necessarily indicate that it can be rationalised and executed under the original decision support package. Situations where a revision is appropriate include where final costs may have been impacted by information not available at the time of the original approval due to delays in receiving information from contractors for example. A revision, however, would not be appropriate when the scope of the change has evolved or has been modified. Another factor is the passage of time and the impact that may have had on the understanding of the original rationale and benefits. A revision should not include new or modified scope or schedule changes that would materially impact the nature of the change and possibly jeopardize the likelihood of the PCN's approval as an approved PCN cannot be cancelled unless the intention is to reverse all actions approved under any previous revisions. New or modified scope or schedule changes, even though pertaining to related change must be submitted for approval under a new PCN.

8 RECORDS

The Change Management Database resides in LCP Tracker. This system is the repository for all records associated with DANs and PCNs including but not limited to the notices themselves, Decision Support Packages, relevant documents from other Project processes, and confirmation of completed actions. Copies of signed PCNs are scanned and maintained in an electronic filing system and as attachments to the respective PCNs in the LCP Tracker System to document the approval process.

9 ATTACHMENTS

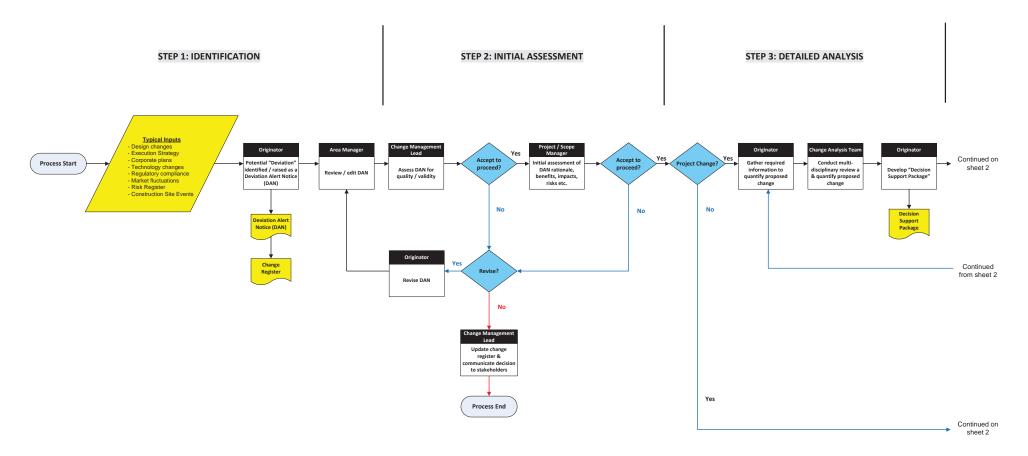
Attachment 9.1: Change Management Process Flow Diagram (sheets 1 & 2)

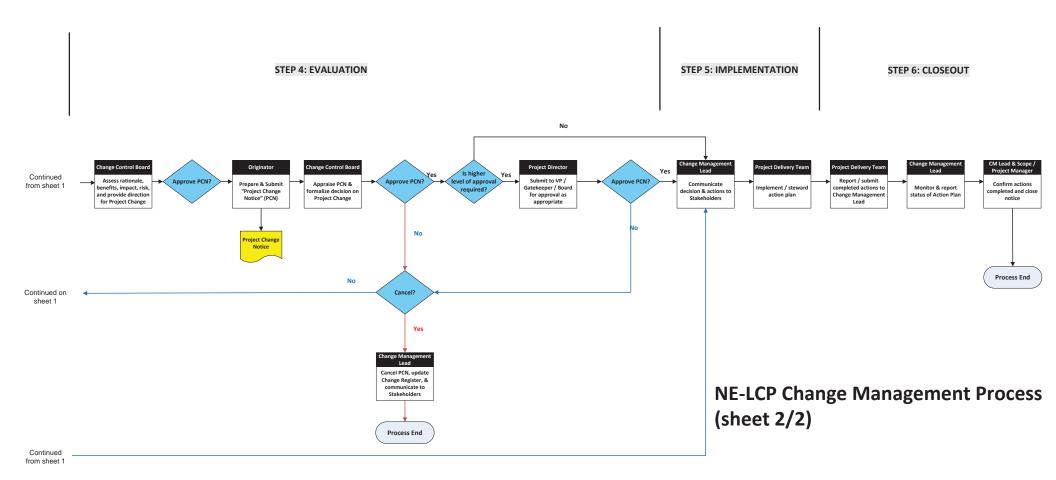
Attachment 9.2: Deviation Alert Notice (Sample) Attachment 9.3: Project Change Notice (Sample)

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ATTACHMENT 9.1: CHANGE MANAGEMENT PROCESS FLOW DIAGRAM

NE-LCP Change Management Process (sheet 1/2)





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ATTACHMENT 9.2: DEVIATION ALERT NOTICE (SAMPLE)

Deviation Alert Notice

				Deviation A	Alert Notice ID:	DAN-XXXX
Title:						
Description:						
Originator:			Su	bmission Date:		
Package Leader/Engineer:				Status:		
Area Manager:			(Close Out Date:		
Scope/Project Manager:				Process Ref:		
CM XRef:			E	Estimated Cost:		
Component:			Construc	tion Site Event: [
TL 267 Project:				High Impact: [
πο [
Agreement/CP No:	ID	Title				
Action List:	Action			Actionee	Status	

Comments:

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ATTACHMENT 9.3: PROJECT CHANGE NOTICE (SAMPLE)

PCN-XXXX Title

Section 1: Request for Proposed Change	
CM X-Ref.	Date Originated
	Originator
	Package Leader / Engineer
	Area Manager
Origin	Scope / Project Manager
☐ Internal PMT ☐ Contractor/Supplier	Component
Other Nalcor Construction Site Event	Current Status
SNC-Lavalin Other External	Revision
	TL 267 Project
	πο 🗆
Agreement No. Description	

Description

Rationale

Benefits

<u>Secti</u>	Section 2: Impact of the Proposed Change to Project					
Categ	orization	Affected Project Component				
Scope Addition/Deletion		Muskrat Falls Generation	☐ Maritime Link			
	Scope Modification	Labrador Transmission Assets	☐ Nalcor PM			
	Non-Scope Change	Labrador - Island Tx Link	Other			
Cost C	Control Account Summary					
Cost C	Control Account Description		Estimated Cost			
			Total Estimated Cost \$	0		
Dire	ct and Indirect Impact by Change Anal	ysis Team				
	Basis of Design					
	Construction					
	Contracts/Procurement					
	Cost Control	Reviewed By	Date Reviewed:			
	Design Philosophy					
	Environment and Regulatory Comp.					
	Execution Approach					
	Health & Safety					

Operations/Reliability		
Property and Lands		
Quality		
Reputation		
Schedule	Reviewed By	Date Reviewed:
Other		

Section 3: Risk Screening N/A: 🖂 **Comments Proposed Change** Risk Pre-Change Low Medium

Date

High

* Reference Project Risk Management Plan for risk screening guidelines.

Risk Pre-Change

Risk Coordinator

CATEGORY						
Cost (\$Millions)	Schedule (Months)	Safety	Environ.	Quality	Reputation	

PROBABILITY							
< 10%	10% - 30%	30% - 50%	50% - 70%	70% - 90%			
Very Low	Low	Medium	High	Very High			

RISK SCORE

International System & media Single or safety Extensive coverage. Extreme > 100 > 12 multiple requirements Effect Irreparable fatalities are not stakeholder achieved impact National Serious Substantial media personal coverage. Major effect on Major 10 - 100 3 - 12 injury -Effect performance Substantial permanent objectives stakeholder disability impact Regional All design Injury to media personnel and coverage. Localized High 1 - 10 1 - 3 not operating Effect Moderate permanent margins stakeholder disability eliminated impact Local media Medical Minor attention. Minor Treatment decrease in Medium 0.1 - 1 0.25 - 1 Minor - Lost time Effect system stakeholder incident performance impact Slight media Minor Slight attention. Impact -Slight degradation < 0.1 < 0.25 Low Little Effect First Aid of element stakeholder only performance Impact

			MISIN SCOILE		
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	12	15
1	1	2	3	4	5
	1	2	3	4	5

PCN-XXXX 4 of 10 17 Sep 2018

With Proposed Change

CATEGORY						
Coat	Calcadala					
Cost (\$Millions)	Schedule (Months)	Safety	Environ.	Quality	Reputation	

	ı	PROBABILITY	,	
< 10%	10% - 30%	30% - 50%	50% - 70%	70% - 90%
Very Low	Low	Medium	High	Very High

RISK SCORE

										MISK SCOME		
Extreme	> 100	> 12	Single or multiple fatalities	Extensive Effect	System & safety requirements are not achieved	International media coverage. Irreparable stakeholder impact	5	5	10	15	20	25
Major	10 - 100	3 - 12	Serious personal injury - permanent disability	Major Effect	Substantial effect on performance objectives	National media coverage. Substantial stakeholder impact	4	4	8	12	16	20
High	1 - 10	1 - 3	Injury to personnel - not permanent disability	Localized Effect	All design and operating margins eliminated	Regional media coverage. Moderate stakeholder impact	3	3	6	9	12	15
Medium	0.1 - 1	0.25 - 1	Medical Treatment - Lost time incident	Minor Effect	Minor decrease in system performance	Local media attention. Minor stakeholder impact	2	2	4	6	12	15
Low	< 0.1	< 0.25	Minor Impact - First Aid only	Slight Effect	Slight degradation of element performance	Slight media attention. Little stakeholder Impact	1	1	2	3	4	5
								1	2	3	4	5

Section 4: Implementation Plan		
Implementation Strategy		
Actions Actions		
Action	Actionee	Status
<u>Documents</u>		
Name	File Name	
Process References		
Additional Review		Date
Area Manager		
Component Change Management Coord.		
Component Project Controls Lead		
Component Deputy Project Manager		

<u>stribution</u>		
Originator		GENERATION - General Project Manager
Package Leader/Engineer		GENERATION - Project Director
Area Manager		POWER DEVELOPMENT - Executive VP
PM Muskrat Falls Generation		
PM HVdc Specialties		TRANSMISSION - Deputy Gen. Proj. Man.
PM HVac & HVdc		TRANSMISSION - Project Director
Project Controls Manager		TRANSMISSION LINK - General Project Manager
Supply Chain Manager		TRANSMISSION - VP
HSS & ER Manager		POWER SUPPLY - Executive VP
Quality Manager		
Environment & Reg. Comp. Manager		Building the Prod. Org. (BTPO) Manager
Business Services/Commercial Manager		Ready for Integration (RFI) Manager
Completion Manager		TRANSITION TO OPERATIONS (TTO) - VP
Technical & Design Integrity Manager		Other
VP Finance - LCP		
		Other
		Other
	Originator Package Leader/Engineer Area Manager PM Muskrat Falls Generation PM HVdc Specialties PM HVac & HVdc Project Controls Manager Supply Chain Manager HSS & ER Manager Quality Manager Environment & Reg. Comp. Manager Business Services/Commercial Manager Completion Manager Technical & Design Integrity Manager	Originator Package Leader/Engineer Area Manager PM Muskrat Falls Generation PM HVdc Specialties PM HVac & HVdc Project Controls Manager Supply Chain Manager HSS & ER Manager Quality Manager Environment & Reg. Comp. Manager Business Services/Commercial Manager Completion Manager Technical & Design Integrity Manager

ion 6: Acceptance Phase						
<u>Decision</u>						
Approved	Rejected/Cancelled		Decision Date			
Functional Management			Organizational Manageme	nt nt		
Scope / Project Manager	(Date)	Ш	GENERATION - Gen. Project Manage	er (Date)		
Project Controls Manager	(Date)	Ш	Generation Project Director	(Date)		
Supply Chain Manager	(Date)		POWER DEVELOPMENT - Executive	VP (Date)		
HSS & ER Manager	(Date)					
		_				
Quality Manager	(Date)	Ш	TRANSMISSION - Dep. Gen. Proj. Ma	anager (Dat		
Environment & Reg. Comp. Manager	(Date)		TRANSMISSION - Project Director	(Date)		
Environment & Reg. Comp. Manager	(Date)		TRANSIMISSION - Project Director	(Date)		
Business Services/Commercial Manager	(Date)		TRANSMISSION LINK - Gen. Proj. Ma	nager (Dat		
Completion Manager	(Date)		TRANSMISSION - VP	(Date)		
Completion Manager	(2000)			(3 3 3 7		
Technical & Design Integrity Manager	(Date)		POWER SUPPLY - Executive VP	(Date)		
VP Finance - LCP	(Date)					
Other	(Date)		Building the Prod. Org. (BTPO) Manager	(Date)		
Other	(Date)		Ready for Integration (RFI) Manage	(Date)		
5.1.5.			,			
PCN-XXX	(Date)		Transition to Operations (TTO) - VP	(Date)		

Other		

Section 7: Close-Out		
Implementation Status Complete:		
Signoff:		
Change Management Lead:	Date:	
Scope/Project Manager:	Date:	