

# Comstock

Document Title:

## Establishing and Maintaining an Approved Suppliers List

Document Number:

QP-002N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

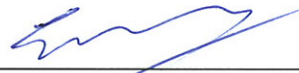
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## Revision History

Revision	Date	Author	Description of Changes
0	28-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This Procedure controls establishing and maintaining the Comstock Canada Ltd. (CCL) Approved Supplier List for Ontario Power Generation (OPG) projects.

## 2 SCOPE

This procedure applies to the acquisition of contracts for safety related services and acquisition of QL-1 or QL-3 items for work performed under the direction of Comstock Canada Ltd. at OPG Nuclear Sites.

## 3 REFERENCE DOCUMENTS

- a) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- b) CCL-MAN-001, CSA N285.0 Quality Manual
- c) CSA N286-05, Management system requirements for nuclear power plants
- d) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- e) EPRI NP-6629 Guidelines for the procurement and receipt of items for nuclear power plants


## 4 ACRONYMS AND DEFINITIONS

Term	Definition
AIA	Authorized Inspection Agency
ASL	Approved Suppliers List
ASME	American Society of Mechanical Engineers
CCL	Comstock Canada Ltd
OPG	Ontario Power Generation
PB	Pressure Boundary
QL-1	Quality Level-1 as designated by OPG
QL-3	Quality Level-3 as designated by OPG
Safety Related Services	A service is classified as safety related if it is performed upon a safety related item, and if it involves activities that have a potential to affect safety related function of the item

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

Overall responsibility for maintenance of Approved Supplier List

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## 5.2 Quality Manager, Nuclear

Verify that all CCL quality program requirements have been met prior to adding a Supplier to the CCL ASL.

## 6 PROCEDURE

### 6.1 Approved Supplier List

The VP, Shared Services or a delegate shall ensure that the quality performance of each approved vendor is documented on the Approved Suppliers List (ASL), and an audit or performance assessment shall be conducted to ensure continued acceptable performance.

The use and approval of suppliers list takes into account EPRI Guidelines regarding Counterfeit, Fraudulent and Items and where appropriate CCL will apply anti-counterfeit measures.


The VP, Shared Services shall be responsible to ensure that the CCL Approved Suppliers List (ASL) is prepared and maintained to reflect the current status of Suppliers who have been approved to supply to the requirements of CCL's Nuclear Management System and quality programs. The list shall, as applicable, clearly indicate:

- a) The name of the supplier.
- b) The legal address of the supplier facility that is approved.
- c) A description of the material, items, or service for which the approval is granted, and the Code which is applicable.
- d) Date of last and next approval audit by CCL.
- e) The program that the audit was conducted to.
- f) Date of expiration of the ASME or AIA authorization certificate.

For OPG work requests, OPG requires that suppliers also be on their ASL. If the supplier is not on OPG ASL, OPG approval is required prior to issuing a purchase order to that supplier. CCL has adopted an approach that it is only in rare circumstances that a non-OPG approved supplier is used. This approval will be obtained by completing an OPG ASL Request Form.

### 6.2 Use of OPG Approved Supplier List to Qualify Suppliers

OPG will provide CCL with a list of suppliers qualified on OPG's ASL. The list will contain the following information: the PassPort Suppliers Code, Suppliers name, supplier web page when available, Quality level (QL1 or QL3), qualification result (SATISFACTORY or UNSATISFACTORY), detailed scope of qualification, if the supplier has Corrective Actions issued or restrictions and warnings (only Yes or No – no additional details), qualification effective date and expiry date, scope of supply – manufacturer, services, distributor, etc, Pressure Boundary (PB), non PB flag, and quality standard used. CCL may use the list for the sole purpose of work to be performed for OPG.

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Suppliers on OPG's ASL may be used by CCL, however it remains the responsibility of CCL to ensure that the supplier has an acceptable management system, as a minimum this is accomplished in the following manner:


- a) OPG Nuclear Supply Chain Quality Service Supplier Qualification Process shall be audited by CCL, to ensure that it meets the requirements of the applicable codes and standards,
- b) The Quality Manager, Nuclear determines that the information provided in the OPG ASL information is sufficient and meets the requirements of the applicable standards, and CCL's own quality program. This shall include confirmation that supplier is qualified for the scope of, the location that the work is to be performed and the management system standard that is required.
- c) The Quality Manager, Nuclear or delegate shall obtain the suppliers management system/Quality Assurance Document and independently confirm that the supplier's documented program meets requirements. This shall include a review of the manual against the required standard, assurance that sub-suppliers have the technical and quality assurance capability for the scope of work they are utilized for, the ability to provide the required product or service and their performance history. This will include obtaining assurance that the sub-suppliers have an appropriate and effective quality program implemented in accordance with CCL's quality program and applicable standards requirements. This review will be done in accordance with the audit procedure. Once the Quality Manager, Nuclear accepts this review, the supplier can be added to the CCL ASL.
- d) For items that have significant impact on project objectives, CCL will perform audit as well as (b) and (c) above. The decision rules on significance is QL1 and Z299.2 or above, or at the discretion of the Quality Manager, Nuclear or the VP Nuclear – Darlington & Pickering.
- e) Information on those suppliers who are approved shall be forwarded to the Vice President, Shared Services by the Quality Manager, Nuclear for inclusion on the CCL ASL.

CCL is responsible to use the suppliers on OPG's ASL only for the specific purpose(s) for which they have been approved on OPG's ASL. The Supplier can only be added to CCL's Approved Suppliers List after the Quality Manager, Nuclear has determined that the requirements of CCL's quality program have been met.

### 6.3 Supplementary Requirements for Pressure Boundary Suppliers

In addition to the requirements in 6.2 above, Contractors and suppliers of QL-1 and QL-3 pressure boundary materials shall be evaluated and selected by one or more of the following methods:

- a) **C of A holders Qualified without audit.** Suppliers who have a quality program in accordance with the requirements of ASME Section III Division I and CAN/CSA N285.0 that has been audited and approved by ASME and/or the AIA may be approved without audit providing the program is in current certification and a review of the audit reports provided to support their qualification is acceptable. These suppliers must also meet the quality program specifications set out in Appendix B of QP-004N-OPG. Such suppliers shall provide the Company with a copy of the current authorization certificate. This copy of the certificate shall be maintained in the approved suppliers file.

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- b) **Qualified by Audit.** The Quality Manager, Nuclear, shall assign a qualified lead auditor to perform a qualification audit of suppliers, including services who are not currently certified by ASME or the AIA. The lead auditor shall prepare an audit plan consistent with the scope of the proposed vendor supply. The audit shall be performed in accordance with the requirements of Comstock's audit procedure QP-701N-OPG.

The lead auditor report and checklist shall be forwarded to the Quality Manager, Nuclear, for a review of the results.

Qualification audits on suppliers for the supply of material, including welding consumables, shall satisfy the following requirements:

- a) Suppliers that produce and certify material or perform operations affecting properties required by the material specification shall be evaluated against ASME Section III, Div 1, NCA-3800. In either case the requirements of subparagraphs NCA-3856, Identification and Marking of Material Produced and NCA-3860, Certification of Material, ASME Section III, Subsection NCA, shall be met.
- b) Suppliers that supply material produced and certified by others, and who do not perform operations affecting the material properties required by the material specification shall be evaluated to the requirements of the CAN3-Z299.3/ISO 9001 plus NCA 3855.2 – approved service supplier; NCA-3856 – identification and material control; NCA-3859.1 (e) – internal audits; and NCA-3860-certification. In either case the requirements of ASME Section III, sub-paragraphs NCA-3856 and NCA-3860, shall be met. The Quality Manager, Nuclear shall review the audit result and checklist as prepared by the lead auditor, and shall approve or disapprove the vendor based on the evaluation.

Those suppliers who are not approved may be considered for re-audit, once compensatory measures requested have been verified, or when recommended changes to their quality program have been implemented.

Information on those suppliers who are approved shall be forwarded to the Vice President, Shared Services for inclusion on the CCL Approved Suppliers List (ASL) Re-Qualification

Re-qualification audit is performed prior to the expiry date in the ASL, or at any time that the Quality Manager Nuclear determines supplier's performance is suspect. Audits are performed in accordance with QP-701N-OPG, Nuclear Management System Audit Procedure.

#### **6.4 Removing Suppliers from ASL**

Suppliers shall be removed from ASL, due to poor performance, failure to address corrective action, or deficiencies identified during audit, surveillance or inspection that cannot be resolved.

### **7 RECORDS**

Form P-017N - Approved Suppliers List

# Comstock

Document Title:

## Management System Review

Document Number:

QP-003N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

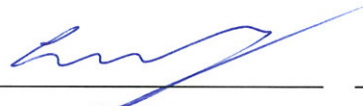
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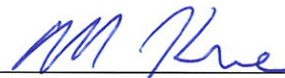
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28 SEP 2011

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28 SEP 2011

*dd-mmm-yyyy*

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## 1 PURPOSE

The purpose of this procedure is to describe the process to review the suitability, adequacy, and effectiveness of the Comstock Nuclear Management System definition and implementation and to identify opportunities for improvement or need for changes.

## 2 SCOPE

The scope of this procedure is the application of the Nuclear Management System as it pertains to OPG Nuclear projects.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) Z299.1 – Quality Assurance Program – Category 1
- d) Project Managers Body of Knowledge (Version 3)

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

Vice President, Shared Services is accountable for the definition and continual improvement of this process

## 6 PROCEDURE

The Nuclear Management System will be subjected to a formal review process at least once every year. The process flow is in Appendix A.

The review will be conducted by a senior management committee consisting of the direct reports to the VP Nuclear – Darlington & Pickering.

Each Management Review meeting will assess currently available information concerning the performance of the Nuclear Management System. This will be accomplished by addressing the applicable points on the typical agenda shown in Appendix B, Management Review Meeting Typical Agenda and other points as deemed necessary. The meeting will be chaired by the management system representative. The following inputs will be used

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- a) Minutes and follow-up actions from previous management review committee meetings
- b) Results of internal, compliance and external audits
- c) Company objectives including:
  - i. Satisfaction of customer requirements and other external feedback
  - ii. Health, safety and environmental performance
  - iii. Project Performance / Deviations
  - iv. Quality Control Performance
- d) Risks and opportunities to leverage performance strengths while minimizing areas of weakness
- e) Non-conformance reports including status of preventive and corrective actions
- f) Changes that could affect the Management System

Outputs of the management review meeting may include recommendations to improve:

- a) Processes or plans
- b) Project Management
- c) Policies, objectives, targets and other elements of the Management System
- d) Risk management

At the conclusion of the meeting, unresolved or outstanding issues will be documented and assigned to an appropriate individual for further assessment and resolution. Problems identified in the meeting will be entered in accordance with QP-006N-OPG, Non-Conformance Procedure.

Recommendations for improvement will be targeted for completion prior to the next scheduled meeting or within one month of being recommended. They will be further evaluated to determine if a need exists for additional or new resources.

Minutes of the Management Review Meeting will be documented and distributed to those in attendance at the meeting and other persons as deemed necessary at the time. These minutes will be maintained as records.

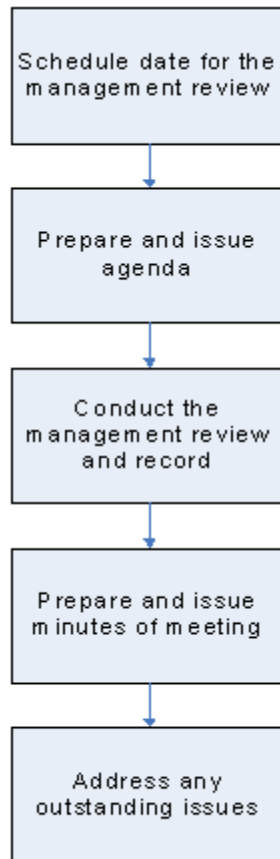
## **7 RECORDS**

- a) Management Review Minutes

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## Appendix A

### Flowchart Management Review



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## Appendix B

### Management Review Meeting Typical Agenda

**Comstock Canada Ltd.**  
**MANAGEMENT REVIEW MEETING**  
**TYPICAL AGENDA**

Each of the following items will be discussed as applicable:

- 1) Follow up actions from the previous meeting
- 2) Results of internal and external Audits
- 3) Company Objectives and Targets including:
  - Customer satisfaction and other external feedback
  - Health, Safety & Environmental Performance
    - i. Status of objectives and targets
    - ii. Incident and accident performance
    - iii. Workers Compensation Insurance and accident costs
    - iv. Legislative compliance
  - Project Performance / Deviations:
    - i. Major profit margin deviations (cost control)
    - ii. Major schedule deviations (schedule control)
  - Quality Control Performance
- 4) Risks and opportunities to leverage performance strengths while minimizing areas of weakness
- 5) Non-conformances, investigations, corrective actions & preventive actions
- 6) Changes that could affect the Management System
- 7) Recommendations for improvements to the Management System

# Comstock

Document Title:

## Purchasing of Services

Document Number:

QP-004N-OPG

Revision Number:

REV: 0

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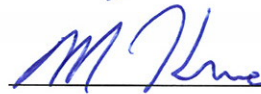
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	REVISION HISTORY	

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## **1 PURPOSE**

The purpose of this procedure is to provide consistent direction to the Purchasing and Project team that are required to work within the acquisition of services processes.

- a) This procedure details the life cycle of the acquisition of a contract for services, including:
- b) Planning and specification for the service to be purchased
- c) Preparation commercial conditions.
- d) Ensuring the supplier understands the requirements
- e) Bid process and assessment of bids.
- f) Selection of Suppliers.
- g) Awarding of contracts (PO).
- h) Management of contracts to ensure the contract requirements are met.
- i) Evaluation and acceptance of service deliverable
- j) Closeout of contracts

## **2 SCOPE**

This procedure applies to the acquisition of contracts for services for work performed under the direction of Comstock Canada Ltd. at OPG Nuclear facilities.

### **2.1 Acquisition of Contracts for Services**

The acquisition of contracts for services is divided into four stages:

Stage 1: Planning and Specification

Stage 2: Pre-Contract Award

Stage 3: Contract Execution

Stage 4: Closeout

## **3 REFERENCE DOCUMENTS:**

- a) Comstock Canada Ltd. Nuclear Management System
- b) OPG N-PROC-MM-0021
- c) OPG N-PROC-MP-0098 Procurement Engineering activities
- d) ASME Section III NCA 4000 Quality Assurance requirements
- e) Process Flowchart
- f) Table 1- Pressure Boundary Suppliers' Quality Program Requirements
- g) Supplementary Conditions

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#### 4 ACRONYMS AND DEFINITIONS

Term	Definition
ASME	American Society of Mechanical Engineers
CAT ID	Catalogue ID
CCA-1	Canadian Construction Association " Stipulated Price Subcontract" form
Contract	Purchase Order/subcontract defining the legally binding agreement between the parties.
Material Requisition	A form that is used to define and request materials or services from a Supplier.
Passport	An Enterprise Software Program that manages OPG databases. The information can be manually entered or, fed electronically from other databases
Points of Tender	Conditions or qualifications that are associated with a quotation or proposal
Procurement Coordinator	A designated individual who has the required subject matter expertise to help create the Material Requisition, defining contract technical requirements, in liaison with the Requestor or Purchasing Agent. May also act as an independent reviewer of procurement documents.
Purchasing Agent	An individual who has the required subject matter expertise to define commercial contract requirements and create the contract.
Quality Supervisor	An individual who has the required subject matter expertise to define contract quality requirements, in order to liaise with the Procurement Coordinator in preparation of the Material Requisition.
Requestor	An individual who has the required subject matter expertise to define contract technical requirements, in order to liaise with the Procurement Coordinator in preparation of the Material Requisition.
Short List	A list of candidates for a PO/Contract that has been reduced from a longer (initial) list of candidates. The length of a short list varies based on a number of conditions.
Supplier	Any individual or organization that furnishes services in accordance with a contract; includes consultants, agencies, distributors, etc.

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**5 RESPONSIBILITIES:**

**5.1 Vice President, Shared Services**

- a) Overall responsibility for this procedure

**5.2 Project Manager:**

- a) Accountable to assemble the team with the required skills and expertise
- b) Accountable to manage all aspects of the contract process, including Supplier compliance with technical and quality requirements

**5.3 Requestor:**

- a) Generate the requisition
- b) Define the technical requirements of the requisition for services or materials (Scope of work/Technical specification)

**5.4 Site Quality Manager:**

- a) Ensure the quality requirements of the services are met
- b) Monitor service provider performance

**5.5 Purchasing Agent:**

- a) Identify, apply and manage the commercial requirement aspects of the contract process.
- b) Transform the technical requirements into a requisition

**5.6 Procurement Coordinator:**

- a) Provide assistance when preparing Material requests
- b) Provide independent review of procurement documentation

**6 PROCEDURES**

**6.1 General**

This procedure describes the four stages of acquisition of contracts for services: Planning & specification, pre-contract award, contract execution, and close out.

Purchasing activities of suppliers of services shall be planned, performed and documented to ensure that the customer requirements are met.

Suppliers used for the supply of services, shall be approved by the Company, prior to use. This process is described in QP-002-OPG

**6.1.1 Approval of Suppliers**

Suppliers used to supply services shall be on OPG Approved Suppliers List (ASL)

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## 6.2 Acquisition of Contracts for Services

### 6.2.1 Stage 1: Planning and Specification

The planning and specification stage of the procedure defines the requirements, the scope and the schedule for the service to be contracted (i.e., the what, when, where, why and how). The service specifications (this includes the scope of work), along with appropriate commercial conditions, are the key to a successful contract and must be defined in complete detail to allow comprehensive bids or proposals to be generated.

The Quality Program requirements, if applicable, must be determined based on the table found in Appendix B.

#### 6.2.1.1 Definition of Management System / Quality Assurance Program Requirements

The Requestor or Purchasing Agent shall determine the management system/quality assurance program requirements for service providers using Appendix B Quality Program Requirements. The Quality Manager, Nuclear shall review this determination to ensure it is correct.

#### 6.2.1.2 Purchase Requisition Preparation:

The Requestor shall initiate and submit a Requisition in accordance with the Table 1 below. Templates listing Code and supplementary requirements are available in Appendix C for services including NDE, material testing and calibration. Additional supplementary conditions may be added.

As a component of the requisition the Requestor shall prepare the required specification.

The requisition, along with all supporting documentation as referenced above, must be forwarded to the Purchasing Agent or Project Manager or designate.

**Table 1 – Requisition for Services**

No.	Action	Responsible Position
1	Prepare Form F-501N or a form specific for OPG facilities, Material Requisition or equivalent for Company purchased services required for the contract. The requisition must clearly identify the required service and those instructions noted in instruction numbers 2 to 5 (as applicable).	Requestor / Procurement Coordinator
2	Typical instructions to be included in a requisition for services: <ul style="list-style-type: none"> <li>• Scope of Work complete with drawing and specification references. This includes a complete description of the work including a clear description of the beginning and end activities for each scope of work, and all interfaces with other scopes of work including any hand-offs required for receipt or delivery.</li> <li>• Technical Performance Requirements: Templates listing Code and supplementary requirements are available in Appendix C for services including NDE, material testing and calibration. Additional supplementary conditions may be added.</li> <li>• Requirements for a management system/quality assurance standard covering the service.</li> <li>• Jurisdictional and or regulatory requirements</li> <li>• Requirements for documentation submittals and schedule.</li> <li>• Requirements for an inspection and test plan or quality plan.</li> <li>• Requirements for documents and records.</li> <li>• Special approvals, qualifications and certification.</li> <li>• Insurance and WCB/WSIB/WHSCC requirements.</li> </ul>	Information

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No.	Action	Responsible Position
	<ul style="list-style-type: none"> <li>• Special Process Documentation.</li> <li>• Right of access to facilities including CCL, Regulators and the customer.</li> <li>• Provisions for extending requirements to sub-suppliers.</li> <li>• Procedure to report and disposition non-conformance's encountered during provision of service.</li> <li>• Required date for service.</li> <li>• All other detailed instructions prescribed from Passport.</li> </ul>	
3	For any service related to OPG facility work, the material requisition must be then presented to the Site Quality Manager or designate for review and acceptance.	Site Quality Manager
4	The requisition, along with all supporting documentation as referenced above, must be forwarded to the Project Manager or designate for approval.	Requestor/Procurement Coordinator
5	Review the requisition and sign off to approve the sourcing/tendering.	Project Manager
6	Submit completed requisitions to the Purchasing Agent for processing.	Project Manager, Site Quality Manager
7	Where the expected value of a subcontract for services will exceed \$50,000 the following additional steps are required. <ul style="list-style-type: none"> <li>• Received, signed and accepted WSIB/WCB &amp; liability insurance certificates.</li> <li>• Issue final subcontract document using CCA1</li> </ul>	VP Nuclear Darlington & Pickering or delegate; Purchasing agent
8	The review and approval process is as follows depending on the dollar value: <ul style="list-style-type: none"> <li>• &gt; \$50K ≤ \$500K review by Project Manager</li> <li>• &gt; \$500K ≤ 2M review by VP Nuclear – Darlington &amp; Pickering</li> <li>• &gt; \$2M review by President or delegate</li> </ul> <p>The president or delegate approves and signs all subcontracts for services &gt;\$50,000</p>	Project Manager, VP Nuclear Darlington & Pickering,  President or delegate
9	Review the requisition, complete with all required back up to ensure completeness and to identify potential Suppliers including: <ul style="list-style-type: none"> <li>• Review of the CCL and Client's list database of Approved Suppliers</li> <li>• Searching on-line to identify "new" Suppliers as required</li> <li>• Review of the Client's ASL to identify a new Supplier as required</li> <li>• If required, add a new Supplier to Comstock's ASL in accordance with Comstock's Nuclear Management System</li> </ul>	Purchasing Agent
10	Where deficiencies or anomalies are identified within the Requisition, it will be returned to the Requestor for follow-up, clarification and/or correction and re-submittal. This may include a Request for Information to be submitted to the customer / owner / engineering representative to detail additional quality requirements for material or services, including the issue of a revised specification package or design change notice.	Purchasing Agent, Project Manager
11	If the requisition is accepted, a Purchasing Agent or designate will develop a list of Bidders or sole source Supplier based on Comstock Approved Suppliers' List.	Purchasing Agent

### 6.2.2 Stage 2: Pre-Contract Award

The pre-contract award stage takes the information developed in Stage 1 and creates a package. It is then independently reviewed before it is issued to the Supplier for Tender. This stage includes both the tendering and the bid evaluation processes.

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### 6.2.2.1 Tendering

Purchasing Agent shall prepare a Request for Quotation / Request for Proposal (RFQ/RFP), which includes the requisition, and all associated back up documents including:

- a) Engineering specifications,
- b) Drawings,
- c) All other relevant information

Purchasing Agent shall prepare and include the appropriate “commercial” requirements including, as required:

- a) Comstock Terms & Conditions,
- b) Payment terms,
- c) Schedule requirements,
- d) Pricing structure/breakdown, etc,

This information will then be issued to the selected Suppliers.

### 6.2.2.2 Bid Evaluation

Quotations/proposals from selected Suppliers are received by the Purchasing Agent, Project Manager or designate and a bid comparison will be completed. This comparison will include a review of the following:

- a) Complete pricing
- b) Scope adherence
- c) Identify exceptions/alternates
- d) Identify schedule requirements
- e) Confirm Terms & Conditions and any “Points of Tender”

In the event that supplier clarifications are required regarding information provided in their bid, the Supplier would be requested to clarify the bid. Once all clarifications are received the Bid Comparison will be finalized.

Once completed the Bid Comparison will be presented by the Purchasing Agent, Requestor and Project Manager for review. The Project Manager is responsible for the final approval of the successful bidder.

Once a successful Bidder has been selected the Project Manager or Purchasing Agent will notify the Supplier. A subcontract or Purchase Order will then be issued to them.

Specialty service providers including NDE, material test and calibration services will be required to undergo a secondary Quality Program Assessment by Comstock’s Site Quality Manager or designate (in addition to the suppliers initial assessment completed to qualify them for inclusion on the Comstock ASL). This additional assessment will be based on the requirements of Z299.0 Table 6, and CSA N285.0 requirements. Based on this assessment these services providers will be provided with additional supplemental conditions to be included with their Purchase Order. In addition, this procedure will be updated (Appendix B) to identify additional quality requirements utilized to address any mitigation of gaps the suppliers Quality Programs.

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### 6.2.3 Stage 3: Contract Execution

This stage involves management of the awarded contract, and completing the scope of work described in that contract.

- a) The Purchasing Agent or Project Manager initiates the subcontract. Internal copies of all subcontracts must be issued to the field and the corporate office for filing in accordance with Comstock's Document Control Procedure.
- b) Inspection and Test Plans must be submitted by the customer for acceptance following the award of the contract and before applicable phases of work start.
- c) The Comstock Project Management Team monitors subcontract services. Where any non-conformances or contractual issues arise the non-conformance / issues must be formally noted and the subcontractor notified in accordance with Comstock's Nuclear Management System
- d) The Quality Department periodically performs an evaluation of purchased services using checklists.
  - 1) Checklists are to be developed for each service provided that might affect quality.
  - 2) Some of the more frequently used checklists are listed below in the Records section.
  - 3) The frequency of these evaluations is determined by the Site Quality Manager and is dependent on the complexity and performance of the supplier.

### 6.2.4 Stage 4: Closeout

This stage involves final review, evaluation, and closeout of the contract and all matters associated with that contract, upon final completion of the work. It includes ensuring that all contract conditions have been met; that final invoicing and payment are completed. .

The Site Quality Manager, Project Manager or designate shall confirm completion of the Supplier's work as defined by the contract.

The Project Manager or designate will review the contract for any outstanding issues and resolve completely, as required.

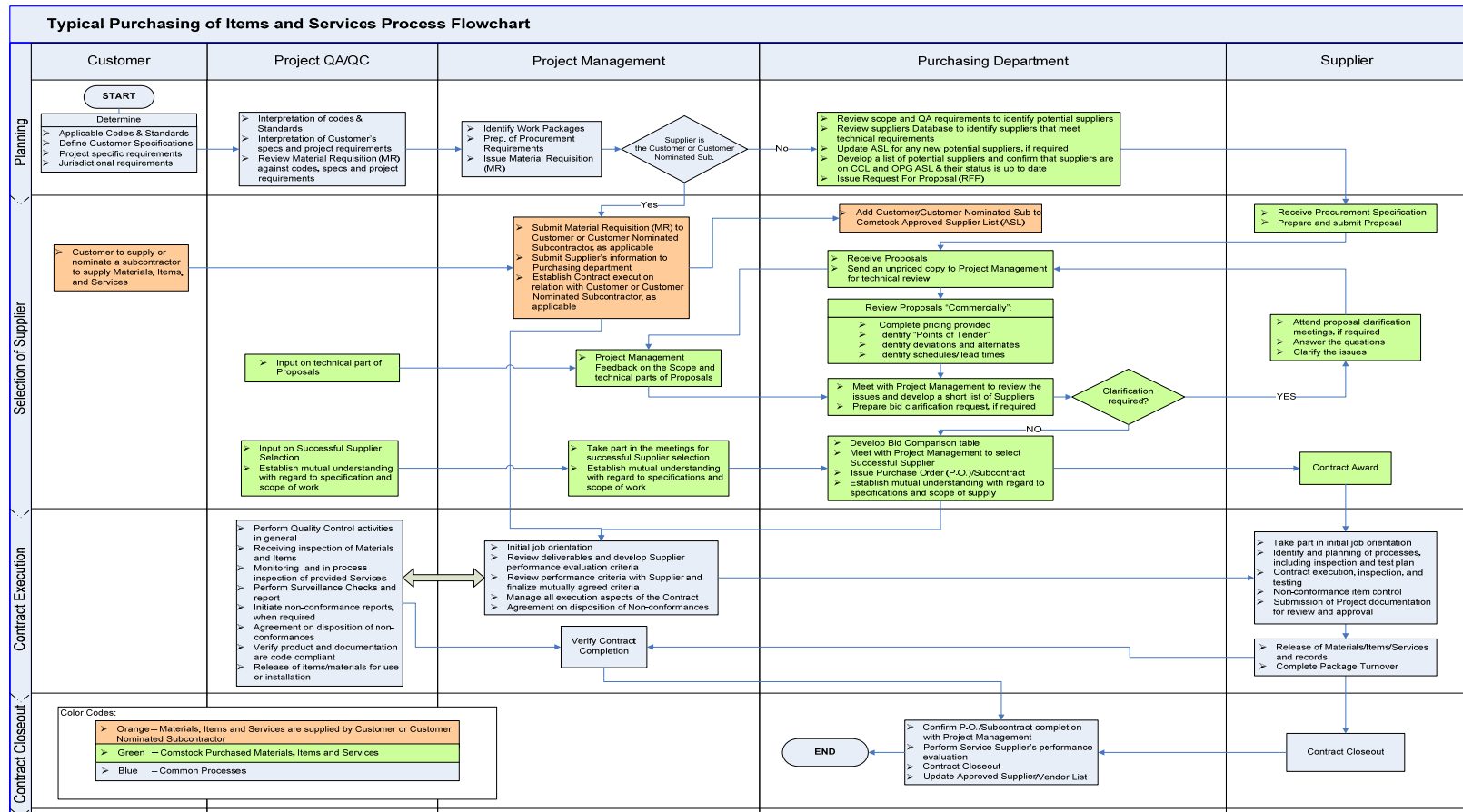
The final Supplier invoice will be approved by the Project Manager, indicating final completion and acceptance. The invoice is submitted for payment & the contract is closed.

## 7 RECORDS

- a) Form F-501N Material Requisition
- b) Form F-930 Purchase Order – Automatically generated by Jonas System
- c) Form P-016N Receiving – RT Checklist
- d) Form P-016AN Receiving – PT Service Checklist
- e) Form P-016CN Receiving – Calibration Service Checklist

# Appendix A

## Purchasing Of Services Flow Chart



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## Appendix B

**Table 2 - Pressure Boundary Suppliers' Quality Program Requirements**

<b>Supplier</b>	<b>Activities</b>	<b>Class of Items</b>	<b>Quality Program</b>
Engineering Service Provider WorleyParsons	General Engineering, Design, Safety Analysis	N/A	N286-05 Applicable Sections
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Class 1, 1C, 2, 2C, 3, 3C, or 4, system, component, and support	NCA-4000
Contractor	Fabrication	Class 1, 1C, 2, 2C, 3, 3C, or 4 supports or fittings without operations that change material property.	Same as Material Organization
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Unclassified and registered piping	CSA B51
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Class 6 piping	Section VIII, Division 1, Appendix 10
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Class 6 fittings, or instrumentation of Class 1, 1C, 2, 2C, 3, 3C, or 4, or 6 non-in-line instruments	CSA B51 Annex F, Z299.3 or ISO 9001
Material Organization	Manufacture or Supplier of Materials	Class 1, 1C, 2, 2C, 3, 3C, or 4 system or components (include welding consumable)	NCA-3800 Or Z299.3, or ISO 9001, plus meeting the additional requirements of NCA-3855.2, 3856, 3859.1 (e), 3860. For unqualified source material, NCA-3855.5 When welding is required in the repair of material or source material, NCA-3857.3
Calibration Service	Calibration Laboratories	Calibration of Measuring and Testing and Equipment	Accreditation by NVLAP, A2LA or other recognized body by NVLA and the accreditation is to ANSI/ISO/IEC 17025:2005

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## Appendix C

### Supplementary Conditions - RT & PT Examination

1. The Supplier provides RT and PT examination services for Comstock Canada Ltd at OPG site as per item description of this requisition.
2. References to related Codes including editions and addenda are provided in descriptions of the services.
  - The liquid penetrant (PT) examination shall be performed in accordance with a written procedure which shall as a minimum, contain the requirements listed in table T-621 Article 6 ASME Section V and demonstrated to TSSA inspector.
  - The radiographic (RT) examination shall be performed in accordance with a written procedure which shall as a minimum, contain requirements listed in clause T-221.1 Article 2 ASME Section V and demonstrated to TSSA inspector.
  - Demonstration of the density and IQI image requirements of the written radiographic procedure as per clauses T-282 & T-283 on production or technique radiographs shall be considered satisfactory evidence of compliance with that procedure.
3. Upon receiving the examination results will be reviewed and will be evaluated against these Supplementary Conditions and noted specs/codes/standards.
4. As per CAN/CSA N285.0 10.2.4; 10.4 Supplier's Quality Assurance Program shall be certified to CAN3-Z299.3/ISO 9001 and meet requirements of ASME Section III, Division 1 NCA 3855.2 ( c) – approved service supplier; NCA-3856 – identification and material control; NCA-3859 – internal audits; and NCA-3860-certification requirements. The quality assurance program requirements shall be incorporated in sub-tier vendor documents.
5. Supplier/subcontractor also shall have provisions for controlled distribution, retention, maintenance & disposition of quality assurance records.
6. Representative of the company, the AIA, the Owner, or the Participant, have the right of access to the supplier and any sub-supplier facility with regard to the scope of supply.
7. Valid Certificate of Registration, examination procedures with performance demonstration documentation shall be submitted for review during requisition process.
  - Examination Results shall be provided in accordance with documentation requirements of clauses T-690 Article 6 and T-290 Article 2.
  - The Examination Report shall reference the accepted quality system.
  - The Examination Results shall be reviewed for adequacy and approved for release by authorized personnel.
  - Radiographs (films) shall be submitted in marked envelopes. The marking shall contain following information: RT service provider and client names; job/WO #; P.O. #; job location; date of film evaluation, name of RT technicians, work package #, weld ##/details
8. The supplier shall have corrective action program/process effectively implemented.
9. Examination results along with NDE Request and Location form, radiographs/films and copy of this Supplementary Conditions shall be submitted to CCL QC Supervisor upon NDE completion.
10. All/any non-conformance(s) with regard to the scope of service shall be referred to Comstock Canada Ltd (CCL) for approval and disposition.

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## Supplementary Conditions - Material Upgrade Testing<sup>1</sup>

### Item Description

Item 1. Testing for Upgrade of Material made to SA 516 grade 70, fine grain, produced from coil. Test to be done as per ASME Section III, NB, 2007 Edition, 09 Addenda and ASME Section II Part A, 2007 Edition, 09 Addenda

Item 2. Sample and specimen preparation for testing described in Item 1 and specified in Supplementary Conditions of this PO. The rest of the plate with hard stamp heat marking to be sent back to Comstock Canada Ltd.

Attachment 1. 12" x 24" x ¼" plate SA 516-70 with heat number and rolling direction marked.

Attachment 2. MTR for 12" x 24" x ¼" plate SA 516 grade 70

### Supplementary Conditions

1. Cambridge Material Testing Ltd. will test plate coupon (Attachments 1 & 2) for Comstock Canada Ltd at OPG site as described in item 1.
2. References to related Codes including editions and addenda are provided in descriptions of item 1.
  - The Tension Test - tensile, yield strength and elongation criteria are provided in SA-516.
  - Material specifications including test methods are provided in SA-20. Yield strength determination, number of coupons, coupon orientation – transverse - as per sections 11 and 12 of SA-20. The tests shall be conducted in accordance with Test Methods and Definitions ASTM A370. Temperature media – room temperature.
  - Chemical analysis criteria – as per SA 516 clause 6.1, table 1 and SA-20 section 7, table 1. The test methods and practices as per SA-751 (ASTM A 751). Sampling and methods – as per SA-20 section 7
  - Upon receiving the test results will be reviewed and will be evaluated against these Supplementary Conditions and noted specs/codes/standards.
3. As per CAN/CSA N285.0 10.2.4; 10.4 and ASME Section III, Div 1 NCA – 3855.3 Supplier's Quality Assurance Program shall be ISO 9001 certified or/and accredited to ISO 17025:2005 and meet requirements ASME Sec III, Div 1 – NCA 3855.2 ( c) – approved service supplier; NCA-3856 – identification and material control; NCA-3859 – internal audits; and NCA-3860-certification requirements. The quality assurance program requirements shall be incorporated in sub-tier vendor documents.
4. Supplier/subcontractor shall have provisions for controlled distribution, retention, maintenance & disposition of quality assurance records.
5. Representative of the company, the AIA, the Owner, or the Participant, have the right of access to the supplier and any sub-supplier facility with regard to the scope of supply.
6. Valid Certificate of Accreditation shall be submitted for review during requisition process. Test Results shall be provided in accordance with Certification Requirements of sections NCA – 3861 and NCA - 3862.

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<sup>1</sup> Item Description and Conditions 1 & 2 are provided for particular material as an example.

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### **Supplementary Conditions - Calibration Service**

1. Scope of calibration includes all parts of the equipment to be calibrated as required by manufacturer's specification.
2. The published scope of accreditation for the calibration laboratory shall cover
  - the needed measurement parameters,
  - ranges, and
  - uncertainties

as per requirement of ASME 2007 Section III, Division 1 – NCA-3126 (b).

Note: The ASME edition will be matched with CSA N285.0 in effect at OPG facility

3. At receiving objective evidences will be reviewed for conformance to these Supplementary Conditions and noted specs/codes/standards as per requirement of ASME 2007 Section III, Division 1 – NCA-3126 (d).
4. Calibration laboratory shall be certified by NVLAP, A2LA or body recognized by NVLAP through ILAC MRA. The accreditation of the calibration laboratory shall be to ANSI/ISO/IEC 17025:2005, "General Requirements for the Competence of Testing and Calibration laboratories" as per requirement of ASME 2007 Section III, Division 1 – NCA-3126 (a). the program also shall meet requirements of ASME Section III, Division 1 NCA 3855.2 ( c) – approved service supplier; NCA-3856 – identification and material control; NCA-3859 – internal audits; and NCA-3860-certification requirements. The quality assurance program requirements shall be incorporated in sub-tier vendor documents.
5. Supplier/subcontractor shall have provisions for controlled distribution, retention, maintenance & disposition of quality assurance records.
6. The representative of the company, of the AIA, of the Owner, or the Participant, have the right of access to the supplier and any sub-supplier facility with regard to the scope of supply.
7. Valid Certificate of Authorization and Scope of Accreditation shall be submitted for review during requisition process.
  - Certificate of Calibration shall reference the accepted quality system.
  - The Calibration Results shall be reviewed for adequacy and approved for release by authorized personnel.
  - As per requirement of ASME 2007 Section III, Division 1 – NCA-3126 (c) Certificates of Calibration shall include
    - i. identification of the laboratory equipment/standards used and
    - ii. as-found and as-left data.
8. The supplier shall have corrective action program/process as per Sections 4.11 & 4.12 of ANSI/ISO/IEC 17025:2005 effectively implemented.
9. Certificates of Calibration along with copy of this Supplementary Conditions shall be submitted to CCL upon calibration completion.
10. All/any non-conformance(s) with regard to the scope of supply shall be referred to Comstock Canada Ltd (CCL) for approval and disposition. CCL shall be immediately notified about out-of-calibration results. The out-of calibration as-found data shall be submitted to CCL as soon as possible.
11. No substitution shall be made to the service requested without prior written approval of Comstock Canada Limited.

# Comstock

Document Title:

## Purchasing of Items

Document Number:

QP-005N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by

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Quality Manager, Nuclear

Reviewed by:

R.J. (Bob) Kilmartin  
VP Shared Services

Approved by:



Signature

28 SEP 2011

dd-mmm-yyyy



Signature

28 SEP 2011

dd-mmm-yyyy



Signature

28 SEP 2011

dd-mmm-yyyy

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	<b>REVISION HISTORY</b>	

## Revision History

Revision	Date	Author	Description of Changes
0	28-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

The purpose of this procedure is to provide consistent direction to the Purchasing and Project team that are required to work within the acquisition of goods and services processes.

This procedure details the entire life cycle of the acquisition of items and material, including:

- a) Preparation of specification/commercial conditions.
- b) Bid process and assessment of bids.
- c) Selection of Suppliers.
- d) Awarding of contracts.
- e) Management of contracts.
- f) Evaluation and closeout of contracts.

## 2 SCOPE

This procedure applies to the acquisition of contracts for the acquisition of items and materials for work performed under the direction of Comstock Canada Ltd. at OPG Nuclear facilities.

For Customer Supplied material, see QP-819N-OPG

### 2.1 Acquisition of Materials

The overall acquisition for materials has been divided into four stages

Stage 1: Planning and Specification

Stage 2: Procurement / Pre-Award

Stage 3: Post-Contract Award

Stage 4: Closeout

## 3 REFERENCE DOCUMENTS

- a) Comstock Canada Ltd. Nuclear Management System
- b) OPG N-PROC-MM-0021
- c) EPRI NP-6629 Guidelines for the procurement and receipt of items for nuclear power plants

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#### 4 ACRONYMS AND DEFINITIONS

Term	Definition
ASME	American Society of Mechanical Engineers
CAT ID	Catalogue ID
Contract	Purchase Order/subcontract defining the legally binding agreement between the parties.
EPRI	Electrical Power Research Institute
Material Requisition	A form that is used to define and request materials or services from a Supplier.
Passport	An Enterprise Software Program that manages Bruce Power databases. The information can be manually entered or, fed electronically from other databases
Points of Tender	Conditions or qualifications that are associated with a quotation or proposal
Procurement Coordinator	A designated individual who has the required subject matter expertise to help create the Material Requisition, defining contract technical requirements, in liaison with the Requestor or Purchasing Agent. May also act as an independent reviewer of procurement documents.
Purchasing Agent	An individual who has the required subject matter expertise to define commercial contract requirements and create the contract.
Quality Supervisor	An individual who has the required subject matter expertise to define contract quality requirements, in order to liaise with the Procurement Coordinator in preparation of the Material Requisition.
Quality Level (QL-1, QL-3)	Procurement classification is based on functional safety classification Safety Related (SR) with consideration whether a vendor Quality Assurance Program may be applied to the procurement of the item. The Quality Level classifications used (QL-1, 2,3,4) will be as per OPG N-PROC-MP-0098
Requestor	An individual who has the required subject matter expertise to define contract technical requirements, in order to liaise with the Procurement Coordinator in preparation of the Material Requisition.
Short List	A list of candidates for a PO/Contract that has been reduced from a longer (initial) list of candidates. The length of a short list varies based on a number of conditions.
Supplier	Any individual or organization that furnishes materials or services in accordance with a contract; includes consultants, agencies, distributors, etc.

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## **5 RESPONSIBILITIES**

### **5.1 Vice President, Shared Services**

- a) Has the overall responsibility for this procedure

### **5.2 Project Manager**

- a) Accountable to assemble the team with the required skills and expertise
- b) Accountable to manage all aspects of the contract process, including Supplier compliance with technical and quality requirements

### **5.3 Requestor**

- a) Generate the requisition
- b) Define the technical requirements of the requisition for materials.

### **5.4 Site Quality Manager**

- a) Ensure the quality requirements of the materials or items are met
- b) Monitor suppliers performance

### **5.5 Purchasing Agent**

- a) Identify, apply and manage the commercial and technical requirement aspects of the contract process.
- b) Transform technical requirements into a requisition

### **5.6 Procurement Coordinator**

- a) Provide assistance when preparing Material requests
- b) Independent review of procurement documentation

## **6 PROCEDURE**

### **6.1 General**

Purchasing activities of suppliers of items shall be planned, performed and document to ensure that the customer requirements are met.

Suppliers used for critical material, items, or services, including QL-1 and QL-3 categories shall be approved by the Company, prior to use. This process is described in QP-002N-OPG, Establishing and Maintaining an Approved Supplier List.

The purchasing of items process takes into account EPRI Guidelines regarding Counterfeit and Fraudulent Items and where appropriate CCL will apply anti-counterfeit measures.

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## 6.2 Acquisition of Items

This procedure describes the four stages of acquisition of items / materials: planning and specification, procurement/pre-award, post-award, and closeout. It requires a teamwork approach to ensure that appropriate skills, expertise and authority are applied to each Purchase Order (PO). As minimum, this would require the involvement of the following roles:

### 6.2.1 Stage 1: Planning and Specification

The planning and specification stage of the procedure defines the requirements for the material to be purchased (i.e., the what, when, where, and how much). The specification, along with appropriate commercial conditions, is the key to a successful Purchase Order and must be defined in complete detail to allow comprehensive bids or quotations to be generated.

The Quality Level requirements and schedule requirements for materials must be obtained by the Requestor or Purchasing Agent, and are typically defined through the customer's PassPort information system, DBOM, BOM, and DCN, specifications / Work Instruction. If this specification information is not available, the Requestor or Purchasing Agent must submit a Request for Information (or equivalent) through the customer's project contact or engineering representative.

The items purchased shall be on the approved procurement plan.

#### 6.2.1.1 Definition of Management System/Quality Assurance Program Requirements

The Requestor or Purchasing Agent shall determine the management system/quality assurance program requirements for item providers using Appendix B Quality Program Requirements and the Quality Assurance requirements for the item through the customer's passport information management system. The Site Quality Manager shall review this determination to ensure it is correct.

#### 6.2.1.2 Purchase Requisition Preparation

The Requestor shall initiate and submit a Requisition in accordance with the Table 1 below. Additional supplementary conditions may be added.

As a component of the requisition the Requestor shall prepare the required specification.


The requisition, along with all supporting documentation as referenced above, must be forwarded to the Purchasing Agent or Project Manager or designate.

**Table 1 – Requisition for Material or Items**

No.	Action	Responsible Position
1	For material requisitions, complete a material and items take off, based on the supplied and issued for construction drawings and specifications.	Requestor / Procurement agent
2	Prepare Form F-501N ,Material Requisition or an equivalent site specific form for Company purchased material or items required for the contract. The requisition must clearly identify the required material or item and those instructions noted in instruction numbers 3 to 6 (as applicable).	Requestor /
3	Typical material requisition instructions: <ul style="list-style-type: none"> <li>• Recommended supplier (if applicable)</li> <li>• Complete description of the material or item including applicable specification numbers and designation.</li> <li>• Required quantity.</li> </ul>	Requestor / Procurement agent

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No.	Action	Responsible Position
	<ul style="list-style-type: none"> <li>• Technical Performance Requirements.</li> <li>• Required traceability and documentation (i.e. mill test reports).</li> <li>• Shop drawing requirements.</li> <li>• Required tagging or identification.</li> <li>• Required Delivery date</li> <li>• Technical specifications and data pertaining to the supplied items.</li> <li>• The Quality levels for the materials required if part of the specification.</li> <li>• Requirements for a management system/quality assurance standard to cover manufacturing</li> <li>• Jurisdictional and/or regulatory requirements</li> <li>• Requirements for documentation submittals and schedule.</li> <li>• Requirements for an inspection and test plan or quality plan.</li> <li>• Requirements for documents and records.</li> <li>• Requirements for special approvals, qualifications and certifications.</li> <li>• Requirements for the documentation of special processes.</li> <li>• Procedure to disposition non-conformances encountered during manufacturing.</li> <li>• Right of access to facilities including CCL, regulators and the customer</li> <li>• Provision for extending requirements to sub-suppliers</li> <li>• Requirements for preservation, packaging and shipping instructions.</li> <li>• Instructions for shipment to a receiver other than the Company.</li> <li>• All other detailed instructions prescribed from Passport.</li> </ul>	
4	For any QL-1 or QL-3 material, the material requisition must be then presented to the Site Quality Manager or designate for independent review and acceptance.	Site Quality Manager
5	The requisition, along with all supporting documentation as referenced above, must be forwarded to the Project Manager or designate for approval.	Requestor/ Procurement agent
6	Review the requisition and sign off to approve the sourcing/tendering.	Project Manager
7	Submit completed requisitions to the Purchasing Agent for processing.	Project Manager, Site Quality Manager
8	Review the requisition, complete with all required back up to ensure completeness and to identify potential Suppliers including: <ul style="list-style-type: none"> <li>• Review of the OPG and CCL supplier database and Approved Suppliers List</li> <li>• Searching on-line to identify "new" Suppliers as required</li> <li>• Review of the Client's AVL to identify a new Supplier as required</li> <li>• If required, add a new Supplier to Comstock's AVL</li> </ul>	Purchasing Agent and Procurement Coordinator
9	Where deficiencies or anomalies are identified within the Requisition, it will be returned to the Requestor for follow-up, clarification and/or correction and re-submittal. This may include a Request for Information to be submitted to the customer / owner / engineering representative to detail additional quality requirements for material or Item including the issue of a revised specification package or design change notice.	Purchasing Agent, Project Manager
10	If the requisition is accepted a Purchasing Agent or designate will develop a list of Bidders or sole source Supplier based on Comstock Approved Supplier List.	Purchasing Agent or designate

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#### 6.2.1.3 Identification of Suppliers:

The Purchasing Agent will review the requisition, complete with all required back up documents to ensure completeness and to identify potential Suppliers including:

- a) Review of the supplier database & Approved Suppliers List
- b) Searching on-line to identify “new” Suppliers as required
- c) Review of the Client’s ASL to identify a Supplier on their ASL as required
- d) If required, add a new Supplier to Comstock’s ASL as per Comstock’s procedure.

Based on the above, develop a list of Bidders or sole source Supplier as required.

#### 6.2.2 Stage 2: Procurement / Pre-Award

The procurement/pre-award stage takes the information developed in Stage 1 and creates a package that is issued to the Supplier for Tender. This stage includes both the tendering and the bid evaluation processes.

##### 6.2.2.1 Tendering:

Purchasing Agent shall prepare an RFQ/RFP, which includes the requisition, and all associated back up documents including:

- a) Engineering specifications,
- b) Design Bill of Material
- c) Drawings,
- d) Passport (CAT ID) requirements.
- e) All other relevant information:

Purchasing Agent shall prepare and include the appropriate “*commercial*” requirements including, as required:

- a) Comstock Terms & Conditions,
- b) FOB terms,
- c) Payment terms,
- d) Lead-time requirements,
- e) Pricing structure/breakdown, etc.,

Have an independent review of the procurement documentation performed and if acceptable then submit the RFQ/RFP to the selected Suppliers.

##### 6.2.2.2 Bid Evaluation:

Quotations/proposals from selected Suppliers are received by the Purchasing Agent and a bid comparison will be completed as required. This comparison will include a review of the following:

- a) Complete pricing
- b) Scope adherence
- c) Identify exceptions/alternates
- d) Identify lead–time/delivery
- e) Confirm Terms & Conditions and any “Points of Tender”

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In the event that supplier clarifications are required regarding information provided in their bid, the Supplier would be requested to clarify the bid. Once all clarifications are received the Bid Comparison will be finalized.

Once completed the Bid Comparison will be presented by the Purchasing Agent, to the Requestor and Project Manager. The Project Manager is responsible for the final approval of the successful bidder.

### 6.2.3 Stage 3: Post-Award

This stage involves issuing the PO, preparation and delivery of the material by the Supplier, and receipt of materials described in the PO.

Process the purchase order in accordance with Comstock's Nuclear Management System using Form F-930, Purchase Order. This includes transferring all information from the Material Requisition to the Purchase order, including CAT ID's and Passport information.

The Purchasing Agent prints and signs the Purchase Order. For any QL-1 or QL-3 Item or material, the Purchase Order must be then presented to the Site Quality Manager or designate for review and signature. The purchase order is then issued to the Supplier to proceed. Internal copies of the Purchase Order must also be distributed for receipt inspection confirmation.

Inspection and Test Plans or quality plans must be submitted by the supplier for acceptance following the award of the contract and before applicable phases of work start. The ITP is reviewed to ensure specified requirements are met; CCL site Quality manager shall identify CCL witness and/or hold points if required to provide additional assurance that the requirements are met. The supplier shall be required to notify CCL prior to the witness/hold point.

The Comstock Project Management Team monitors suppliers of Items. Where any non-conformances or contractual issues arise the non-conformance / issues must be formally noted and the subcontractor notified in accordance with Comstock's Nuclear Management System. Dependent upon performance, the project team or the Quality manager, nuclear may impose additional surveillance on the supplier.

Item or Material are received and Inspected in accordance with Comstock's receipt inspection procedure. This includes the Purchasing Agent providing copies of the Purchase Order to Comstock's Quality Inspector Supervisor or Inspector to verify all requirements of the Purchase Order have been met prior to acceptance of the material.

### 6.2.4 Stage 4: Close-out

This stage involves final review, evaluation, and closeout of the PO and all matters associated with that PO, upon final acceptance of the Item. It includes ensuring that all PO conditions have been met and that final invoicing and payment are completed.

The Supplier's invoice will be paid upon the acceptance of the Item. Upon payment of the invoice, the PO is closed.

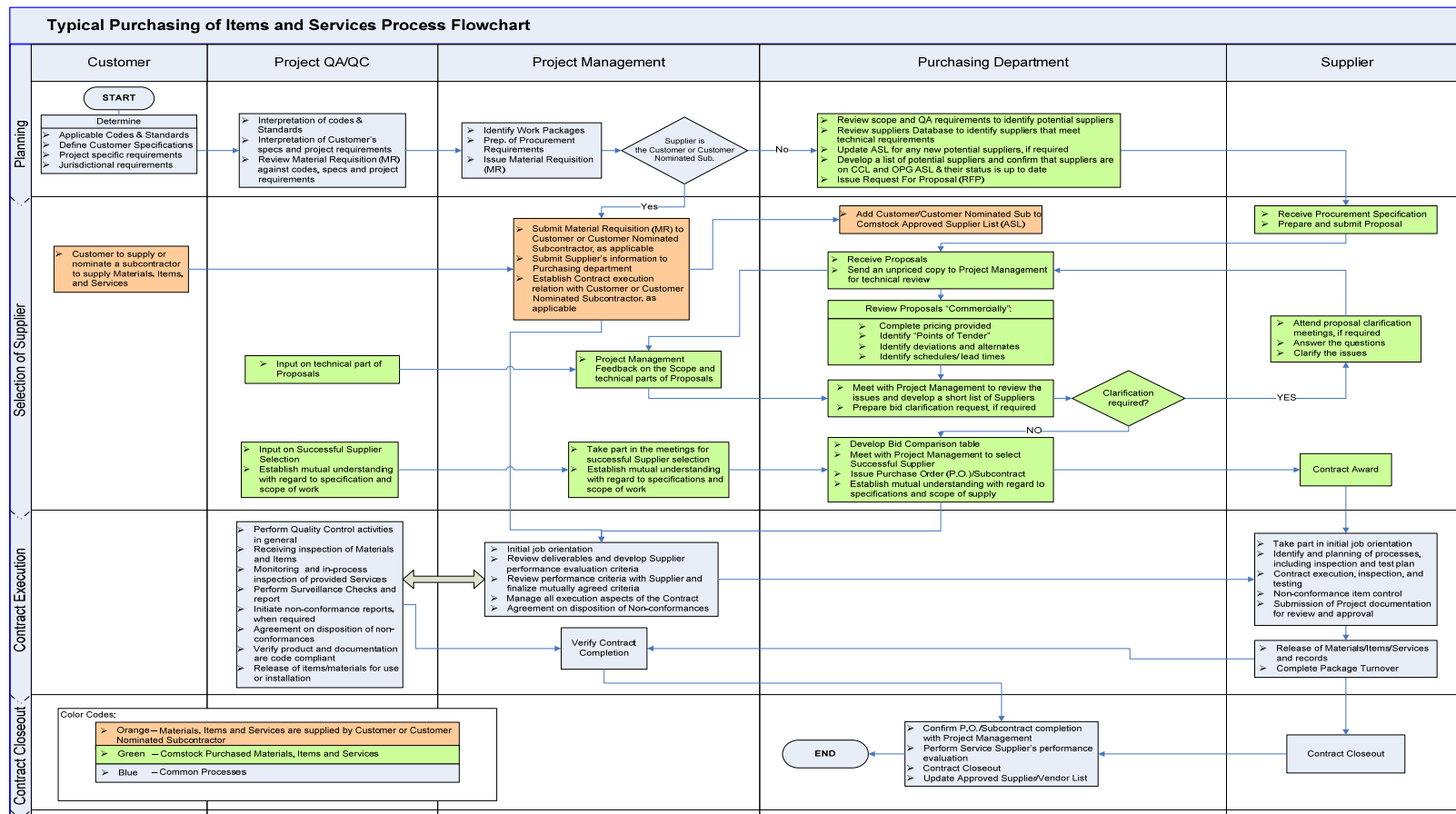
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**7 RECORDS:**

- a) Form F-501N Material Requisition
- b) Form F-930 Purchase Order
- c) Bid Evaluation Comparison Table

## Appendix A

### Process Flowchart



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## Appendix B

**Pressure Boundary Suppliers' Quality Program Requirements Table**

<b>Supplier</b>	<b>Activities</b>	<b>Class of Items</b>	<b>Quality Program</b>
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Class 1, 1C, 2, 2C, 3, 3C, or 4, system, component, and support	NCA-4000
Contractor	Fabrication	Class 1, 1C, 2, 2C, 3, 3C, or 4 supports or fittings without operations that change material property.	Same as Material Organization
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Unclassified and registered piping	CSA B51
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Class 6 piping	Section VIII, Division 1, Appendix 10
Contractor	Procurement, fabrication, installation, modification, replacement or repair.	Class 6 fittings, or instrumentation of Class 1, 1C, 2, 2C, 3, 3C, or 4, or 6 non-in-line instruments	CSA B51 Annex F, Z299.3 or ISO 9001
Material Organization	Manufacture or Supplier of Materials	Class 1, 1C, 2, 2C, 3, 3C, or 4 system or components (include welding consumable)	NCA-3800 Or Z299.3, or ISO 9001, plus meeting the additional requirements of NCA-3855.2, 3856, 3859.1 (e), 3860. For unqualified source material, NCA-3855.5 When welding is required in the repair of material or source material, NCA-3857.3

# Comstock

Document Title:

## Non-Conformance Procedure

Document Number:

QP-006N-OPG

Revision Number:

REV: 0

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30 Aug 2011  
dd-mmm-yyyy

30 Aug 2011  
dd-mmm-yyyy

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	REVISION HISTORY	

## Revision History

Revision	Date	Author	Description of Changes
0	30-Aug-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure describes the process used by Comstock Canada Ltd to identify, record, segregate, evaluate, disposition, correct and verify completion of disposition of problems.

## 2 SCOPE

This procedure applies to any problem identified with the implementation of the CCL Nuclear Management System as it pertains to OPG Nuclear projects, including but not limited to:

- a) Problems identified at any stage of repair, replacement, modification, maintenance, refurbishment, installation or fabrication.
- b) Problems identified with processes and services of CCL or their suppliers.

## 3 REFERENCE DOCUMENTS

- a) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- b) CCL-MAN-001, CSA N285.0 Quality Manual
- c) CSA N286-05, Management system requirements for nuclear power plants
- d) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- e) CSA B51, Boiler, Pressure Vessel, and Pressure Piping Code

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
AFC	As Found Condition - usually discovery work uncovered while performing Repair, Replacement or Modification activities.
ANI	Authorized Nuclear Inspector
CAR	Corrective Action Report
Construction	An all-inclusive term comprising materials, design, fabrication, examination, testing, inspection, and certification required in manufacture and installation of an item. (ASME NCA 9000)
CCL	Comstock Canada Ltd.
Disposition	Means an action to determine how a non-conformance is to be resolved
Items	An all-inclusive term used in place of the following: components, material, parts and piping subassemblies, and component and piping supports. ( CSA N285.0)
Modification	A physical change to the system pressure boundary, excluding repairs and replacements, or a change in system design requirements affecting pressure boundary. (CSA N285.0)
NCR	Non-conformance is defined as a deficiency in a characteristic, documentation, or procedure that renders an item unacceptable or indeterminate or not according to specified requirements.

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Term	Definition
NDE	Non Destructive Examination
QC	Quality Control
Reject	A disposition assigned an item identified as nonconforming that may include scrapping the item.
Repair	The process of physically restoring an item to a condition such that the item complies with the registered design. (CSA N285.0)
Rework	See "Repair"
SCR	Station Condition Record
Use as is	A disposition assigned an item previously identified as nonconforming after reconciling design output documents with the items as built condition and verifying that the applicable requirements of the applicable codes and standards have been met.
USI	Universal system Index
UTC	Uniquely tracked commodity

## 5 RESPONSIBILITIES

### 5.1 Quality Manager, Nuclear

- a) The Quality Manager, Nuclear, shall ensure controls are in place to ensure that items, which do not conform to specified requirements, are controlled to prevent inadvertent installation or use.
- b) Quality Manager, Nuclear shall monitor that the handling of the non-conformance complies with this procedure and to determine if corrective action is required.
- c) The Quality Manager, Nuclear, shall initiate a Corrective Action Report (CAR) when recurring or serious problems (NCR) are reported that affect quality.
- d) Support the Site Quality Manager when needed to arrive at appropriate dispositions.

### 5.2 Site Quality Manager

- a) The Site Quality Manager under the direction of the Quality Manager, Nuclear, shall implement controls to identify, document, evaluate, and disposition non-conforming items or situations.
- b) The Site Quality Manager maintains the NCR log and issues an NCR sequential numbers as required.
- c) Control of all non-conformances including the submittal of Supplier Corrective Action Requests to the supplier shall be his responsibility.
- d) He shall ensure that all non-conformance reports are evaluated to determine the disposition of the item and the method by which the non-conforming attributes may be remedied.

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### 5.3 QC Inspectors and Supervisor

- a) Are the only individuals allowed to apply and remove non-conforming hold tags.
- b) The QC Supervisor shall make sure the NCR process and documentation is completed and followed.
- c) Initiate an NCR report when a non-conformance is reported to them.

### 5.4 All company personnel

- a) All Company personnel including those employed by subcontractors shall be responsible for promptly reporting non-conforming items to either the Site Quality Manager, their supervisor or a QC Inspector.

## 6 PROCEDURE

### 6.1 General

This procedure is worded to deal mainly with “items” related non-conformity but is intended be used for any non-conformance with CCL activities.

This procedure describes the methods employed by CCL to ensure non-conformance to the specified requirements is controlled to prevent their inadvertent installation or use.

Nonconforming items found during activities such as receiving inspection, work execution, in process and final inspections shall be reported.

All CCL personnel including those employed by subcontractors have the responsibility of reporting non-conformance or to notify their supervisor or QC Inspector who will initiate a Non-conformance Report.

This procedure, works in harmony with OPG Procedure N-PROC-RA-0022, Station Condition Records. OPG’s expectation is that problems related to OPG work are to be documented by CCL in the OPG SCR system.

Controls are provided for identification, documentation, segregation when practical, evaluation and disposition.

### 6.2 Quarantine Area Receiving

When received items fail to meet the requirements of the applicable Purchase Order, the QC Inspector will segregate and hold the non-conforming items.

A quarantine area shall be provided for storing non-conforming (rejected/non-conforming) items when a disposition is not readily identified for return, rework or scrap.

Purchasing personnel shall contact the vendor and attempt to resolve the problem. If not resolvable by the vendor or Owner (when owner supplied), disposition of the item shall be in accordance with this procedure.

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When Counterfeit or Fraudulent Items (CFI) is suspected at any stage the site quality manager shall be consulted, as there may be a need to preserve evidence.

No item is to be sent to the field until a satisfactory receiving inspection has been completed and documented.

### **6.3 Identification, Segregation and Reporting**

As soon as practical identify the Non-conforming item with a tag and place in a quarantine area.

The NCR tag and report shall bear a unique NCR number obtained from the Site Quality Manager or delegate maintaining the NCR log or an automatically generated number by electronic document management system. Marking or tagging which does not adversely affect the end use of the item shall identify the nonconforming items. The identification shall be legible and easily recognizable.

The initiator of the NCR shall clearly describe the non-conformance with detailed identification of the items, for example, the unit number, USI, equipment identifier or item number, work order and Task or work package number and associated ITP or PITP.

Where identification of individual items is not practical, the items shall be placed in a container and the container shall be tagged and identified as non-conforming.

As far as practical, non-conforming items shall be physically segregated from acceptable items by placing them in a segregated and controlled storage area (quarantine). When segregation is not practical due to physical size of the item or due to lack of appropriate storage area, the item shall be clearly identified by marking or tagging. Further processing, delivery or use of the nonconforming items are not allowed prior to acceptance of the disposition.

NCR hold tags may only be placed on and removed from material/items by QC inspection personnel.

Procedure QP-818N-OPG for field As Found Conditions (AFC) must be followed. The AFC procedure may identify changes to be made or change the scope of work but not necessarily lead to a non-conformance.

### **6.4 Logging and tracking**

The QC Inspector Supervisor shall ensure non-conforming attributes discovered during receiving or any stage of construction is clearly documented using a "Non-Conformance Report" Form No. Q-010N and those non-conformance reports are entered on a "Non-Conformance Log" Form No. Q-011N or on an electronic data file.

The owner may require a specific process to be used such as SCR and action tracking to be followed. If an owner contractually requests that a NCR process be linked to theirs (i.e. OPG SCR) then the Quality Manager, Nuclear shall review, evaluate and approve the method by which CCL's control procedure is linked and meets the original intent.

Once the NCR is closed or cancelled the NCR Log shall be updated.

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## 6.5 Disposition

### 6.5.1 Evaluation and support

The Site Quality Manager or his delegate is authorized to evaluate or coordinate the proper disposition of Nonconforming items. The Site Quality Manager shall ensure that the personnel or parties performing the evaluation and disposition have demonstrated competence in the area under evaluation, with adequate understanding of requirements, and have access to pertinent background information.

The Site Quality Manager may seek input from other involved parties to ensure adequate understanding of the requirements. The Site Quality Manager shall have access to all pertinent background information.

The applicable drawings and/or specifications pertinent to the nonconforming item shall be retrieved as necessary to review the condition and the possible corrections.

In each case, the responsible person for the disposition may choose a course of action, or consultation between any parties that may be required to arrive at the decision.

### 6.5.2 Design deviations or changes

If required, either CCL or the assigned engineering owner's representative will record the accepted deviations resulting from the non-conformance on the as-built documentation.

All design deviation dispositions shall be documented prior to use on a specific job. The proposed disposition shall be recorded on the non-conformance report.

Engineering input from the owner's representative shall be sought for technical justification of nonconforming items so that the non-conformance to design requirements is subject to design control commensurate to the original design.

The Owner's representative shall evaluate the non-conformance and the proposed disposition to determine if design control measures commensurate with those applied to the original design are required. The Owner's representative shall sign off the NCR report to indicate acceptance of the disposition.

The result of a review by the designer or Responsible Engineer could also result in a decision to change the design requirements, thus rendering the nonconforming condition acceptable.

### 6.5.3 Disagreement resolution

In case of disagreement the Quality Manager, Nuclear has the final authority to accept a proposed disposition and makes decisions regarding the non-conforming item, including development of repair instructions, if required.

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#### 6.5.4 Disposition “Use As Is” or “Repair”

The Owners representative shall provide or acknowledge the technical justification for all “use-as-is” or “repair” dispositions and it shall be noted on the NCR form.

Repair instructions shall specify a review and acceptance of the repair results upon completion of the repairs. Repaired items shall be re-examined in accordance with the same procedures and acceptance criteria, unless alternative disposition has been established on the NCR.

All repairs must follow an approved ITP with commensurate repair instructions. A provision shall be made for acceptance of all repair results prior to releasing the Item for the next operation by sign off on the ITP.

Site QC Inspector shall perform the review and acceptance and if Hold Points are involved, by the ANI, they shall be documented on the applicable NCR and ITP.

Non-conformance disposition documentation for “use as is” or “repair” shall be made available to ANI for his acceptance. The Authorized Nuclear Inspector shall be notified of proposed repairs for materials and items intended for Code Use. Provision shall be made for the ANI to insert any required inspection hold points in the approved disposition.

In all cases, repaired/reworked items shall comply with applicable requirements of the Code and customer specifications.

When non-conforming items have discrepancies which do not violate Code and standards (design or manufacturing) requirements, and which would appear to be acceptable for their intended use (although the condition may not meet other customer/specification requirements), and it is not feasible or advisable to invoke any repair/rework instructions to correct the non-conforming condition, the decision may be to “use as is” provided a formal documented deviation approval is obtained from the owner. (Owner’s engineering appointed representative)

#### 6.5.5 Returned Non-Conforming Items to the owner

Items returned to the owner may require specific documentation and traceability markings to be maintained until it is accepted back into their stores. Site-specific procedure or instructions meeting OPG requirements are to be in place if any items are to be re-stocked by OPG.

#### 6.5.6 Re-Examination for Acceptance

Repaired items shall be re-examined in accordance with the original acceptance criteria unless otherwise specified in the disposition of the nonconforming items.

The QC Supervisor shall ensure that dispositioned items are re-examined to ensure compliance with applicable procedures and with original acceptance criteria unless the approved disposition has established alternate acceptance criteria.

On completion of the re-examination, the results shall be recorded on the non-conformance report, or an attached document, and providing the results are acceptable, the hold tag shall be removed.

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## 6.6 Corrective Action for Significant and/or Repeated Non-Conformance

Systemic or serious or repetitive non-conformance shall be evaluated for the root cause and eliminated. The extent of the root cause analysis shall be based on the significance or extent of the problem. For OPG work, CCL has adopted the same criteria for determining the need for and the extent of root cause analysis. Reference OPG N-PROC-RA-0022.

A corrective action plan for disposition of nonconforming items and preventive measures to preclude recurrence where applicable will be developed the responsible manager.

The QA Manager, Nuclear may decide to issue directives to appropriate parties to institute preventive actions to prevent recurrence of the type problem at issue, if there appears to be a need for such actions. Such actions shall be documented on a Corrective Action Report form Q-013N.

## 6.7 Lesson Transfer and Trending

As identified in QP-008N-OPG, Use of Experience Procedure, the Quality Manager, Nuclear, shall have access to all non-conformance logs from all Nuclear Sites, so that a non-conformance that occurred at one site can be used as input to lessons learned or management review, and shared with other nuclear projects.

The Quality Manager, Nuclear or delegate shall perform trend analysis to identify repetitive problems or repetitive causes

## 6.8 Problems Related to CCL Suppliers

CCL shall document problems that they identify with their suppliers. These may come to light during audits, performance monitoring, surveillance, inspection, etc. Problems identified with CCL suppliers are documented and controlled by way of a Corrective Action Request form Q-013AN. This includes:

- a) Identification and transmission of the Corrective Action Request to the Supplier
- b) Ensuring that the corrective action plan is appropriate
- c) Monitoring the status of the corrective action, and
- d) Confirming that the corrective action was taken to resolve the problem.

OPG shall be notified of CAR's raised on CCL suppliers.

CCL also requires, as part of its contractual requirements, notification of supplier identified non-conformances and their disposition.

## 6.9 Post installation reporting

The Quality Manager, Nuclear, shall report defect or non-conformance that are discovered after installation as per OPG requirement.

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## **7 RECORDS:**

1. The original generated documentation shall be maintained in the project quality file.
2. Nuclear Pressure Boundary work related Non-conformance documentation shall be filed in the project quality file as permanent records and shall be made available to the ANI.
3. All records shall be made available for OPG, CNSC or ANI upon request.
4. Completed NCR, and associated information shall be filed as records, including:
  - a) Form Q-010N, Non-Conformance Report
  - b) Form Q-011N, Non-Conformance Log
  - c) Form Q-013AN, Supplier Corrective Action Request
  - d) Form Q-013N, Corrective Action Report
  - e) Investigation Report, if required

# Comstock

Document Title:

## Use of Experience Procedure

Document Number:

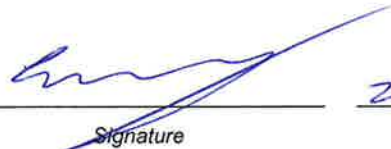
QP-008N-OPG

Revision Number:

REV : 0

Gilles Lemay  
QA Specialist

Prepared by

  
Signature

29 SEPT, 2011  
dd-mmm-yyyy

Mike Krone  
Quality Manager, Nuclear

Reviewed by:

  
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29 SEP 2011  
dd-mmm-yyyy

<b>Comstock</b>	FOR INTERNAL USE ONLY	REV: 0
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## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

The purpose of this procedure is to describe the process for identifying, evaluating and integrating the relevant experience into the Comstock nuclear management system to support continual improvement.

## 2 SCOPE:

The scope of this procedure is the application of the Nuclear Management System as it pertains to OPG projects.

### 2.1 Use of Experience Process

The use of experience process is comprised of the following.

- a) Obtaining internal experience
- b) Obtaining external experience
- c) Evaluating the experience for applicability to Comstock
- d) Sharing Comstock experience with others

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio


## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 Quality Manager, Nuclear

The Quality Manager, Nuclear is the owner for this process and is responsible for its definition, implementation and improvement.

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## **6 PROCEDURE**

### **6.1 Internal Experience**

Each Project Manager of projects with a dollar value equal to or greater than \$250k or with labour hours of 2500 or more shall obtain input from the OPG single point of contact for the project on the performance of the project and project team.

Each Project Manager for projects with a dollar value equal to or greater than \$100k or with labour hours of 1000 or more shall schedule a Lessons Learned meeting at the conclusion of the project, or at a frequency of at least once every six months to identify and evaluate lessons learned that may be relevant for future work. The Project Manager will present the feedback from OPG for discussion and consideration by the team. Attendees should include but not be limited to all direct reports to the Project Manager. The relevant lessons learned are documented in meeting minutes including rationale and recommendations and forwarded to the Experience Coordinator.

The Experience Coordinator reviews the OPG CCL SCR database and the Comstock NCR database at least once every six months to identify and evaluate issues that may be relevant for improvement to future work.

### **6.2 External Experience**

The Comstock Experience Coordinator will participate in the OPG Operating Experience (OPEX) process to identify external experience relevant to Comstock. In addition they will participate in the OPG media process and be included on the distribution for media articles relevant to nuclear.

The Experience Coordinator will also review:

- a) Construction Industry Institute bulletins and reports
- b) Independent Project Analysis Inc. bulletins and reports
- c) Issues identified from nuclear new builds, nuclear refurbishments and non-nuclear projects occurring globally – from bulletins, public reports, websites
- d) Issues resulting from other industry experience information such as peer meetings, communities of practice, conferences and workshops.

### **6.3 Evaluation of Experience Information**

Experience information judged to be applicable to Comstock by the Experience Coordinator will be saved to the shared drive “Use of Experience” folder and the details emailed to the appropriate Manager for classification for action.

The Manager (or delegate) determines if action is required for issues related to their area of accountability. If action is not required the Manager emails the decision to the Experience Coordinator and the information is removed from the shared drive folder.

For issues the Manager (or delegate) deems require action, they are identified as problems and documented in accordance with QP-006N-OPG, Non-Conformance Procedure. Problem titles shall commence with “Experience”.

If the Manager (or delegate) requires additional information to make a determination a request is made to the Experience Coordinator by email.

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#### **6.4 Sharing Comstock Experience**

The Experience Coordinator will identify Comstock experience that may be relevant to external industry to the Quality Manager, Nuclear. For issues the Manager deems are relevant the Experience Coordinator will interface with the OPG Nuclear Performance Improvement Department (PID) to ensure all relevant Comstock experience is shared with OPG and relayed to other industry experience databases, such as CANDU Owners Group (COG), Institute of Nuclear Operators (INPO) and World Association of Nuclear Operators (WANO). The Experience Coordinator will initiate an OPG SCR in accordance with N-PROC-AS-0022, Station Condition Record with the approval of OPG PID. SCR titles shall commence with "OPEX".

#### **7 RECORDS**

- a) Comstock NCR Report titled "Experience"
- b) OPG CCL SCR titled "OPEX"

# Comstock

Document Title:

## Discrimination, Harassment and Workplace Violence

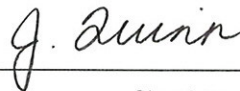
Document Number:

QP-009N-OPG

Revision Number:

REV : 0

Jacqueline Quinn  
Lead Auditor (ISO)



28-Sep-2011

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dd-mmm-yyyy

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28-SEP-2011

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28-Sep-2011

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dd-mmm-yyyy

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## Revision History

Revision	Date	Author	Description of Changes
0	28-Sep-2011	Jacqueline Quinn	New Release

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## 1 PURPOSE

This procedure describes the process for identifying, reporting, investigating and resolving discrimination, harassment and workplace violence issues and eliminating these occurrences.

## 2 SCOPE

This procedure applies to all Comstock employees working at OPG nuclear facilities. All employees have the right to be treated fairly in the workplace and to pursue their career goals unhindered by discrimination, harassment or violence of any kind.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio


## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
OPG	Ontario Power Generation
Worker	Someone who performs an occupational duty

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

The Vice President, Shared Services is the owner for this process and is responsible for its definition, implementation and improvement.

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## **6 PROCEDURE**

### **6.1 COMMUNICATION OF EXPECTATION**

Managers are responsible for making their workers aware of the Comstock values, specifically “Commitment to our Employees” and the expectations for behaviour. The following actions and behaviours shall apply to the workplace and be communicated:

- a) Managers shall ensure that all workers are aware of this procedure prohibiting discrimination, harassment and workplace violence
- b) No worker shall discriminate against or harass another worker, customer workers or visitor
- c) Any and all acts of discrimination or harassment or violence are to be reported immediately to the Supervisor and Manager
- d) Managers shall conduct an immediate investigation of the incident and report the incident and findings to the Human Resources Department
- e) Appropriate action up to and including termination of employment will be taken against any worker found in violation of the Discrimination, Harassment and Workplace Violence procedure

### **6.2 DISCRIMINATION AND HARASSMENT**

Discrimination will not be tolerated. Discrimination includes any conduct which is directly or indirectly be perceived by an employee as placing a condition on the employee’s employment, promotion, or wages, or creates undesirable working conditions because of any of the following attributes:

- |                              |                                |
|------------------------------|--------------------------------|
| a) Race or Colour            | j) Family Status               |
| b) Religion or Creed         | k) Political Belief            |
| c) Age                       | l) Based on Association        |
| d) Sex                       | m) Pardoned Conviction         |
| e) Martial Status            | n) Record of Criminal Activity |
| f) Language                  | o) Physical Handicap           |
| g) Sexual Orientation        | p) Mental Handicap             |
| h) Social Condition/Origin   | q) Assignment/Seizure of pay   |
| i) National or ethnic origin | r) Dependency on alcohol/drugs |

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Harassment is considered a form of discrimination and will not be tolerated. Harassment includes any comment or action that is known or ought reasonably to be known to be unwelcome such as:

- a) Verbal abuse or threats
- b) Unwelcome remarks, jokes, innuendo or taunting about a person's body, attire, age, sexual orientation, marital status, ethnic or national origin, religion or political belief
- c) Displaying pornographic, racist, or other offensive or derogatory pictures
- d) Practical jokes that cause awkwardness or embarrassment
- e) Unwelcome invitations or requests, whether indirect or explicit, or intimidation
- f) Leering or other gestures
- g) Unnecessary physical contact such as touching, patting, pinching or punching
- h) Physical assault

Under no circumstances will these or similar actions be tolerated by the Company, regardless of whether such acts are perpetuated or condoned by managerial or non-managerial employees, or occur with suppliers and customers in the course of doing business with the Company.

It is the policy of the Company that all managers / supervisors are expected to take all actions within their control to ensure that those persons who work in the Company are free from harassment and discrimination.


In the case of alleged harassment or discrimination, employees will have the opportunity to seek proper relief for any complaints they may have pertaining to their treatment. A procedure for such complaints is outlined below:

Where an employee feels they have been harassed, they should:

- a) Immediately ask the harasser to stop, inform him or her that their behaviour is unwelcome and against Company policy. A simple conversation may resolve the problem. If the employee is uncomfortable speaking with the person, they should proceed to item outlined below.
- b) If the harassment does not stop, the employee should speak to their supervisor and confirm the conversation in a letter or note. If the supervisor is the harasser, the employee should contact the supervisor's manager or where the employee is uncomfortable in discussing harassment with immediate management, the employee should contact Human Resources or Corporate Safety.
- c) No employee will be penalized for complaining, in good faith, about alleged discrimination or harassment or co-operating in an investigation of an alleged incident of harassment.
- d) The harassed employee should keep a written record of dates, times, behaviour and witnesses.

If it is found that a violation of this policy has occurred, Comstock will take immediate and appropriate corrective action, up to and including the discharge of those persons in violation.

Harassment or failure to respond appropriately to harassment may be cause for termination of employment without notice or any payment in lieu of notice.

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### 6.3 WORKPLACE VIOLENCE

Workplace violence between employees or from or upon a contractor, customer, client or visitor will not be tolerated. Workplace violence will include any act of:

- a) Physical force by a person against a worker, in the workplace, that causes or could cause physical injury;
- b) Any attempt to exercise physical force against a worker in the workplace that could cause physical injury; and/or
- c) Any statement or behaviour that it is reasonable for a person to interpret as a threat to exercise physical force against them in the workplace, that could cause physical injury to the worker. This will include:
  - a. Abusive Statements- Insulting, derogatory, demeaning, racist or sexist statements directed at a specific person are considered abuse.
  - b. Threats- A statement or action expressing intent to cause physical harm or the destruction of company property is considered a threat.
  - c. Intimidation - is a statement or action, other than a direct or indirect threat, that makes you afraid for your own or another person's safety.

Any incident involving violence, abuse, intimidation or threats towards another employee, contractor, customer, client or visitor on company or project site shall be considered a contravention of this policy and will be subject to disciplinary action up to and including discharge.

Any physical force intending to cause harm to another employee will result in immediate discharge.

All incidents involving violence shall be reported to your supervisor immediately. No employee can be penalized, reprimanded or in any way criticized when acting in good faith while reporting situations involving workplace violence.

Upon notification of incident, the supervisor is required to conduct an investigation and report all findings to the Human Resources or Corporate Safety. All information collected shall be of first person experience and should not include hearsay.

If involved in a violent situation, remove yourself from situation as soon as possible and directly notify your supervisor or a manager. Retaliation will be considered an act of violence and will result in disciplinary action. If possible, make a note of the exact words that were stated and any one present at the time.

If the violent act resulted in injury seek medical attention immediately and notify supervisor as soon as possible. If you observe violence against a fellow co-worker notify your supervisor or your Branch Manager immediately.

If you have a history of violence or have been charged for violent behaviour, this information should be disclosed to the Company and if you feel you are digressing or in an intolerable situation, leave the area and immediately notify your supervisor or Safety.

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### 6.3.1 Precautionary Measures for Workplace Violence

Company Sites / Projects shall, if feasible, have restricted entrances and only employees shall be free to enter and exit. Such sites shall designate an entrance for visitors or contractors to sign in / out.

Each location shall assess the safety of the reception the designated entrance for potential violence and shall come up with a site specific emergency response plan for disturbed personnel.

Domestic violence can endanger you and your co-workers. Notify your manager if personal issues are likely to impact you at work. While some disclosure of personal information may be necessary, it will be limited to what is reasonably necessary to protect a worker from physical injury. Each employee should immediately inform the Company of their knowledge of any "restraining" order, its content and terms and the identity of the individual being restrained. When a situation involves restraining orders or other protective orders if an individual contravenes their order the local enforcement authority shall be notified.

Employees should always be aware of signs of aggression and remove themselves when possible from the situation. Report any concerns you may have to your supervisor.

Employees can utilize their right for refusal if their direct contact with an employee with a history of violent behaviour jeopardizes their safety, or if an employee perceives their work environment provides opportunity for external sources of violent behaviour and jeopardized their safety.

## 6.4 SUPERVISOR GUIDELINES

On being advised of discrimination, harassment or violence or actually witnessing such behaviour, the supervisor shall take immediate action and the following is a guide:

- a) If the worker is not comfortable enough to discuss the problem/concern with the supervisor then the supervisor shall assist to worker in contacting the Human Resources Department.
- b) Assure the worker making a complaint, that their complaint has been taken seriously and ask them in a confidential manner to please set out the details of the complaint in order that this can be dealt with. Under all circumstance assure the worker that it was the right thing to do in coming forward with the complaint.
- c) Once a complaint is received a copy of the Discrimination, Harassment and Workplace Violence Procedure shall be reviewed and ensure that a copy is given to the affected worker.
- d) To the best of your ability, let the person know the avenues that are open to them for follow-up
- e) Reassure the worker that your discussion and any comments will be kept strictly confidential both now and when it is being followed up for investigation. However, it has to be known that at some time, if charges are laid, some segments of the incident may become known to the public

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The Company will follow up and investigate and where it applies, initiate an investigation. When documenting events, both the supervisor and the complainant should ensure the following basics are noted in the documentation:

- a) the time and place of the incident(s);
- b) names and addresses of any witness or witnesses;
- c) what the offender did and said (word for word if possible); and
- d) along with what they said, what were their feelings at the time and the manner in which it was said or done

Every effort is to be made to direct the affected worker to groups or other persons who can provide emotional support or counselling to them. In some cases, the worker may need to take time off or file a Worker's Compensation claim. If requested and where possible, a temporary work re-assignment may be made in order that the worker can be removed from the environment of the harassment.

After discussing the above with the worker, make sure that you obtain help to facilitate the process as quickly as possible.

## **7 RECORDS**

As determined by Vice President, Shared Services on a case by case basis.

# Comstock

Document Title:

## Organizational Design Change Control

Document Number:

QP-010N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)

Prepared by

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VP Shared Services

Reviewed by:

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VP Shared Services

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28-Sep-2011

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28-Sep-2011

dd-mmm-yyyy



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28-Sep-2011

dd-mmm-yyyy

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## Revision History

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## 1 PURPOSE

This procedure describes the process for managing organizational design change of the approved organizational structure and the associated position documents.

## 2 SCOPE

The OPG projects organizational design is documented in the CCL nuclear management system for OPG projects, specifically QP-027N-OPG, CCL Organization for OPG Portfolio. Change control of the approved organization design is comprised of the following:

- a) Maintenance of approved organization charts
- b) Maintenance of position descriptions
- c) Creation, modification, or elimination of positions or organizational units
- d) Transfer of work and positions from one organization to another.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Limited
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

The Vice President, Shared Services is the owner for this process and is responsible for its definition, implementation and improvement.

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## **6 PROCEDURE**

### **6.1 Criteria**


In order to ensure organizational design changes are controlled, changes shall meet the following criteria:

- a) Will not negatively impact project work being completed safely, on-schedule and within budget.
- b) Supports achievement of project objectives.
- c) Will not negatively impact meeting requirements of applicable laws, regulatory requirements, collective agreements and customer requirements.
- d) Consistent with CCL human resource practice in areas such as labour relations.
- e) Consistent with approved accountabilities for positions documented in QP-027N-OPG, CCL Organization for OPG Portfolio.

### **6.2 Prerequisites**

Project Manager shall:

- a) Ensure the proposed organization change aligns with the nuclear management system for OPG projects. Identify impacted management system documents. Determine if proposed organization change requires notification to OPG and other stakeholders.
- b) Ensure the proposed organization change is aligned with the approved accountabilities for positions outlined in QP-027N-OPG, CCL Organization for OPG Portfolio.
- c) Consult with applicable Project management to ensure alignment and clarity of responsibilities, accountabilities, authorities and interfaces.
- d) Consult with Vice President, Shared Services to identify and address impacts such as labour relations concerns including need for contact with unions, position level and pay.
- e) Consult with the Project Controller to confirm funds available within approved project budget.
- f) Consult with Site Safety Manager and Site Quality Manager to confirm no reduction to safety margin.
- g) Review and incorporate lessons learned from previous organizational changes.

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### 6.3 Preparation of Change Request

Manager shall comply with the following organizational change documentation and approval requirements to ensure that configuration control is maintained.

- a) Complete Q-044N, Organizational Design Change Request Form
- b) Mark-up the existing approved organization chart, showing the following:
  - a. Change to positions.
  - b. Reporting relationships and indicating staff numbers.
  - c. Effective dates for implementation of roles and reporting changes.
- c) Review QP-027N-OPG, CCL Organization for OPG Portfolio, and identify required revisions.
- d) Revise existing position description or prepare draft new position description including education, skills, capability and experience requirements and position accountabilities, responsibilities, authorities and interfaces.
- e) Document nuclear management system documents that are affected by the proposed change.
- f) Prepare draft communication to OPG (if required) and other stakeholders such as union representatives.

### 6.4 Approval

Manager shall obtain the following concurrences and approval:

- Concurrence from:
  - Project Controller
  - Project Safety Manager and Project Quality Manager
- Approval from:
  - Vice President, Shared Services

### 6.5 Implementation

Manager shall implement the change consistent with the implementation plan. Effectiveness of change shall be evaluated using the self-assessment process within 6-12 months of completion of implementation.

## 7 RECORDS

- a) Form Q-044N, Organizational Design Change Request Form

# Comstock

Document Title:

## Recruitment and Hiring

Document Number:

QP-011N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)



28-Sep-2011

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28-Sep-2011

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28-Sep-2011

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*dd-mmm-yyyy*

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## 1 PURPOSE

This procedure describes the recruitment and hiring process that when effectively implemented ensures that competent workers are assigned to work tasks.

## 2 SCOPE

This procedure addresses the recruiting and hiring of salaried, Union workers in staff positions (i.e. non- field) and contract workers.

Whenever possible, and mutually beneficial to the worker and the Company, workers will be promoted or transferred to fill vacant or new salaried positions. New workers will only be hired when there is no one qualified or suitably available within the Company to fill a salaried position.

This procedure also addresses hiring of Union workers in field positions but is limited to hiring from Union Halls who provide workers that meet specified qualification requirements.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
SAF	Staffing Approval Form
SICF	Staff Information Change Form
Worker	Someone who performs an occupational duty

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

The Vice President, Shared Services is the owner for this process and is responsible for its definition, implementation and improvement.

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## 6 PROCEDURE

### 6.1 Recruiting (non-union workers)

When a new or vacant position occurs, the Manager must first obtain authorization on the Staffing Approval Form (SAF) to recruit for the vacant position before taking any action to commence the recruitment for the position.

The authorizations to recruit are determined by:

- a) the salary for the position; and
- b) whether the position has been included in the budget and are as follows:

<b>RECRUITING APPROVAL</b>	
<b>Condition</b>	<b>Authorization By</b>
\$75,000 and under <u>and</u> budgeted	VP Nuclear – Darlington & Pickering
Over \$75,000 <u>or</u> not budgeted	VP Nuclear – Darlington & Pickering and President

A Manager may proceed to commence recruitment only when Part A of the SAF has been completed and signed according to the foregoing

Any addition or changes to the approved annual operating budget must be authorized by the President and Vice President and Chief Financial Officer relating to approved salaries.

#### 6.1.1 Position Openings and Advertisements

No job shall be posted until “Authorization to Recruit” on the SAF has been fully approved.

All new and vacant positions should be reviewed with the Human Resources Department to determine if there are any current Comstock employees that are qualified and/or interested in the position that should be considered as candidates. At the discretion of the President, external resources may be explored concurrent with or after internal candidates are considered. This could include advertisements, the use of recruiters, or any other proven methods. The Human Resources Department will assist with the exploration of external resources.

Any individual wishing to transfer to another division or project must make an approach through his immediate supervisor who will be responsible for ensuring the request is passed up to the President. The request must be in memo form clearly stating the reasons for requesting a transfer, an assessment of present and past performance with Comstock by the VP – Darlington & Pickering together with his recommendation regarding future capabilities.

All jobs will be filled in accordance with qualifications and suitability for the vacant position.

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**6.1.2 Re-Hiring Of Former Workers**

Former non-union workers cannot be re-hired without the approval of the VP Nuclear – Darlington & Pickering and the President.

**6.1.3 References Required For Employment**

Applications must provide pertinent business references within the last five year period, and these must be checked and proven satisfactory before an offer of employment can be given.

**6.2 Hiring (non-union workers)**

Successful candidates will be selected according to their qualifications and suitability for the posted position.

When a candidate has been identified on the SAF for the vacant position, a Manager must obtain an authorization to hire the individual before making an offer of employment to the candidate.

The authorizations required to hire the candidate are determined by the salary for the position as follows:

<b>HIRING APPROVAL</b>	
<b>Salary</b>	<b>Authorized By</b>
\$75,000 and under	VP Nuclear – Darlington & Pickering
Over \$75,000	VP Nuclear – Darlington & Pickering and President

Authorization to hire is accomplished when Part B of the SAF has been completed and signed according to the foregoing.

The SAF with Part A and B completed is to be sent to the Human Resources Department for the generation of the appropriate hiring documents.

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6.2.1 Employment Letters, Confidentiality and Non Competition Agreements

Upon receipt of a completed and duly authorized SAF from the Manager for all new hires (except for contract workers, the Human Resources Department will prepare:

- a) Employment Letter; and
- b) Confidentiality or, where applicable, Non-competition/Confidentiality Agreements

The signatories to the Employment Letter will be determined by the salary of the position and are as follows:

<b>EMPLOYMENT LETTER</b>	
<b>Salary</b>	<b>Signatories</b>
\$75,000 and under	VP Nuclear – Darlington & Pickering
Over \$75,000	VP Nuclear – Darlington & Pickering

Human Resources shall review the Employment Letter with the VP Nuclear – Darlington & Pickering and it will then be forwarded to the respective Manager for signatures by the new worker.

All new workers at the Division Manager level and above will be required to complete a Non-Competition/Confidentiality Agreement.

All new below Division Manager shall be required to sign a Confidentiality Agreement.

The appropriate Agreement will be identified by the Human Resources Department and attached to the Employment Letter going to the worker.

The new worker shall return one signed copy of the Employment Letter and one signed copy of the Confidentiality or Non-Competition/ Confidentiality Agreement to the Manager.

After being signed by the new worker, Confidentiality and Non-Competition Agreements must be authorized as follows:

<b>CONFIDENTIALITY/NON-COMPETITION AGREEMENT</b>	
<b>Salary</b>	<b>Signatories</b>
\$75,000 and under	Project Controller/Manager Administration
Over \$75,000	President

The signed Employment Letter and signed and authorized Confidentiality or Non-Competition/Confidentiality Agreements shall be forwarded to the Human Resources Department for inclusion on the file of the new worker.

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### 6.2.2 Employment Contracts

Upon receipt of a completed and duly authorized SAF from the Manager for all new contract workers, the Human Resources Department will prepare the Employment Contract. Confidentiality provisions will be included in the Agreement.

The signatories to the Employment Contract letter will be determined as follows:

<b>EMPLOYMENT CONTRACT</b>	
<b>Salary</b>	<b>Signatories</b>
\$75,000 and under	VP Nuclear – Darlington & Pickering
Over \$75,000	VP Nuclear – Darlington & Pickering

The Contract will be forwarded to the respective Manager for signatures by the new worker.

### 6.2.3 Appointment Announcements

When a key position vacancy has been filled (whether by promotion or new-hire) a written appointment announcement can be distributed detailing the appointment only after the SAF has been fully signed.

The announcement may include the following information:

- a) Worker name
- b) Department
- c) Position Title
- d) Reports to
- e) Start Date
- f) A brief (one sentence) description of what the worker will be doing if something new has been added to the job description.

Announcements will be prepared by the VP Nuclear – Darlington & Pickering or designate and approved by the President and returned for distribution, with a copy to the Human Resources Department.

Upon promotion or hire, all employees should be introduced to working teams by their Supervisor or other members of the team.

### 6.2.4 Maximum Salary for New Workers

The maximum salary that can be offered for any position without further approval is that which has been authorized in the budget. If necessary, a request to change the budget must be approved by the President and Chief Financial Officer.

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### 6.2.5 Probationary Period

All new workers to the Company shall serve a probationary or trial period, which allows the Manager to confirm the effectiveness and suitability of the new worker for the job as well as giving the new worker an opportunity to confirm his desire to do the particular job.

All new workers at the level of Manager and above shall serve a probationary period of 6 months.

All new workers below the level of Manager shall be subject to a probationary period of 3 months.

Throughout the probationary period, the Manager shall provide regular feedback to the new worker about his/her performance.

Prior to the completion of the probationary period, at a time determined by the Manager, the Manager will review the performance of the new worker and complete the Probationary Employment Appraisal Form.

Where the new worker is approved for continuing employment, a copy of the completed Probationary Employment Appraisal Form shall be forwarded to the Human Resources Department.

Where the new worker is not successful in completing the probationary period, the Manager shall discuss with the Human Resource Department, the termination of the worker prior to the completion of the probationary period and complete and forward a copy of the Probationary Employment Appraisal Form to Human Resources who will, in turn, complete the appropriate documentation confirming the termination of employment.

Workers promoted to or transferred to another position within the Company will serve a trial period of 3 months.

Where it is determined by the Manager that either the worker is not satisfactory in this new role or the worker does not wish to remain in the position, the Manager will take steps to return the worker to his/her former position, where possible. In the event this is not possible, the worker may be subject to layoff or termination.

In any event where the worker is returned to a former or comparable position, the Manager shall advise Human Resources in advance of the return and work with Human Resources to effect a satisfactory resolution to the issue.

### 6.2.6 Employment of Relatives

The intent of this policy is to protect both Comstock Canada Ltd. ("the Company") and individual workers from:

- a) Situations in which one relative can directly influence the employment of another; and
- b) Conflict of interest situations in a manner which is consistent with the provisions of the Human Rights Code of Ontario.

The Company will not knowingly employ relatives in a direct supervisory relationship in which one relative has direct influence over a relative's employment through decisions, recommendations or judgments related to such matters as appointment, assessment of performance, salary, career growth and discipline.

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The Company will not employ relatives in situations when it can be demonstrated that a conflict of interest may arise, for example:

- a) Wife is employed as a buyer and her husband is employed as a receiver.
- c) A woman is employed as Chief Internal Auditor and her sister is employed as Chief Financial Officer.

The merit of each individual for the position will be the over-riding consideration in the judgment of all cases which fall outside the conditions described above.

This policy and procedure applies primarily to salaried Workers. However, there may be occasions when other members of the Company, such as members of a bargaining unit, who do not normally fall within the jurisdiction of this policy, are affected by its application. For example, a Project Controller may be denied permission to appoint a relative as his/her assistant.

### **6.3 Hiring from Union Halls**

Union workers in field positions are retained from Union Halls.

Manager shall specify the skills and qualification requirements.

Managers shall confirm that workers retained from the Union Halls have the specified qualification requirements.

### **6.4 Worker Information Change**

#### **6.4.1 Employment Status Changes**

All changes to the employment status of a worker must be properly documented and duly authorized through the completion of a SICF by the Manager of the worker.

The following are examples of the type of changes in the employment of a worker that must be reported on the SICF:

- a) All changes to Division, Position, Department, Location, Status, Salary, Car Allowance, Benefits, Job Titles.
- b) All Promotions, Transfers, Demotions, Job Reclassifications, Leaves of Absence

When the employment status change has been documented and authorized, the Manager shall forward the completed SICF to the Human Resources Department.

## **7 RECORDS**

- a) Form F-104N, Staffing Approval Form
- b) Form F-105N, Staff Information Change Form
- c) Form F-106N, Probationary Employment Appraisal Form

# Comstock

Document Title:

## Worker Appraisal

Document Number:

QP-012N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)

Prepared by

R.J. (Bob) Kilmartin  
VP Shared Services

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Approved by:



Signature



Signature



Signature

28-Sep-2011

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28-Sep-2011

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28-Sep-2011

dd-mmm-yyyy

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0	28-Sep-2011	Jacqueline Quinn	New Release

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## 1 PURPOSE

This procedure describes the process for worker performance evaluation, succession planning and progressive discipline.

## 2 SCOPE

This procedure applies to all workers working at OPG Nuclear facilities.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
Staff Worker	Salaried worker, union worker in staff position (i.e. non-field worker) and contract worker in staff position
Worker	Someone who performs an occupational duty

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

The Vice President, Shared Services is the owner for this process and is responsible for its definition, implementation and improvement.

## 6 PROCEDURE

### 6.1 Worker Performance Evaluation

#### 6.1.1 Ongoing Evaluation

Worker performance evaluation should be an ongoing activity throughout the year. Feedback about good performance encourages the continuation of such behaviour while clearly identifying and communicating unacceptable behaviour to the worker gives the worker an opportunity to improve sooner than later. As well, ongoing feedback to workers makes for easier, more effective, less confrontational annual evaluations for workers who receive annual evaluations. For all of the foregoing reasons, Managers shall provide ongoing feedback to all workers about their job performance throughout the year. Ongoing evaluation shall be performed using the observation and coaching process, QP-026N-OPG, Observation and Coaching. Observation results are reported on form Q-045N, Observation and Coaching Report. In addition, feedback is provided by ongoing supervisor/worker interface.

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### 6.1.2 Annual Evaluation for Staff Workers

In addition to the ongoing feedback, all staff workers shall receive a written annual performance evaluation in the eleventh month of employment and annually thereafter. Such evaluation shall be conducted by the Manager of the worker. Each Manager is responsible for identifying the actual date on which the evaluation is to occur and for completing the evaluation using form F-110N, Performance Appraisal & Development Form. Completed forms are to be forwarded to the Human Resources Department for inclusion in the worker's file.

A properly completed evaluation consists of:

- a) An interview with the worker to discuss past performance and future expectations,
- b) Completion of F-110N, Performance Appraisal & Development Form.

The annual evaluation shall focus on:

- a) Feedback to the worker about the worker's performance since the last evaluation; and
- b) Identification of performance objectives for the future including interest in other positions within the company and training

To be optimally effective, the performance evaluation process should emphasize and deal with specific, objective job performance behaviours relative to the requirements of the job as outlined in the position description.

Where a worker transfers or is promoted into a position within three months of their performance evaluation date, the worker shall receive a performance evaluation from the Department Manager of the department they are leaving before joining their new department. Subsequent performance evaluations shall be completed annually thereafter.

## 6.2 SUCCESSION PLANNING

Succession planning is the process whereby the organization identifies how key positions will be filled should they become vacant. Properly completed succession plans are a critical step in ensuring that the organization is prepared to meet its future human resource requirements.

Managers shall be responsible for completion of form F-909N, Succession Planning Chart for each management position that reports to them. The charts shall be reviewed by the respective Manager on at least an annual basis or sooner where necessitated by changes in the status of workers on the chart or within the organization (such as promotion, demotion, retirement, resignation, dismissal, illness or disability). Copies of completed and revised charts are to be forwarded by the Manager to the Human Resources Department.

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### 6.2.1 Guidelines for Completing Succession Planning Chart

Succession Planning Charts shall be completed in accordance with the following:

- a) Identify the key position(s) and when the position is likely to become vacant. Complete the "Position Status" section of the chart with the appropriate code.
- a) Determine which workers have interest in the key position.
- b) Identify the performance level of each interested worker using the scale provided. This is an evaluation of the performance in their current job.
- c) Identify the potential of each interested worker using the scale provided.
- d) Based on the determination of the performance level and potential of each interested worker, identify and order the top 3 candidates for the position.
- e) Where interested workers require additional training, identify the specific training needed.
- f) Forward a copy of the completed form F-909N, Succession Planning Chart to the Human Resources Department.
- g) Review F-909N, Succession Planning Chart at least annually or sooner if change in availability of any candidate or position occurs and revise as required.

### 6.3 PROGRESSIVE DISCIPLINE

Comstock has a four stage progressive discipline process for infractions that includes:

- |                   |   |
|-------------------|---|
| 1. FIRST OFFENCE  | Verbal Warning (Recorded)               |
| 2. SECOND OFFENCE | Written Notice and Interview            |
| 3. THIRD OFFENCE  | Written Notice and Three-Day Suspension |
| 4. FOURTH OFFENCE | Written Notice and Dismissal            |

Actions that shall be cause for progressive discipline include:

- a) Excessive absenteeism or Habitual Lateness
- b) Health, safety or environmental violations
- c) Discrimination, harassment or workplace violence
- d) Carelessness
- e) Horseplay
- f) Unsatisfactory Work Performance
- g) Insubordination
- h) Disruptive Behaviour

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- i) Wilful damage to property, tools or equipment
- j) Alcohol or non-prescription drug consumption/intoxication
- k) Failure to report an unsafe act or condition
- l) Theft, or misrepresentation of records

The worker's immediate Supervisor shall be involved in the incident as soon as possible to discuss the matter with the worker. The Supervisor and the Site Management will review the corrective action to eliminate future violations with the worker.

Depending on the seriousness of the violation, the process may not include all three steps. The following actions may be cause for immediate termination on the first offence:

- a) Possession, sale or consumption of alcohol or drugs on Comstock or OPG property.
- b) Fighting on Comstock or OPG property
- c) Unauthorized possession of Comstock or OPG property
- d) Any violent acts causing damage/destruction of person or Comstock or OPG property

Additional disciplinary action can be taken against a worker as may be deemed necessary by the VP Nuclear – Darlington & Pickering and must be approved by the Vice President of Business Development and Labour Relations for unionized workers or the Vice President of Shared Services for all non-unionized workers.

All terminations shall be reviewed by Vice President of Business Development and Labour Relations for unionized workers or the Vice President of Shared Services for all non-unionized workers.

## **7 RECORDS**

- a) Form Q-045N, Observation and Coaching Report
- b) Form F-110N, Performance Appraisal & Development Form.
- c) Form F-909N, Succession Planning Chart

# Comstock

Document Title:

## Cessation of Employment

Document Number:

QP-013N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)

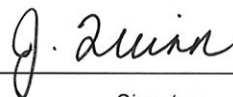
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28-Sep-2011

dd-mmm-yyyy



Signature

28-Sep-2011

dd-mmm-yyyy



Signature

28-Sep-2011

dd-mmm-yyyy

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	REVISION HISTORY	

## Revision History

Revision	Date	Author	Description of Changes
0	28-Sep-2011	Jacqueline Quinn	New Release

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## 1 PURPOSE

This procedure describes the process for cessation of employment, exit interviews and post-employment reference.

## 2 SCOPE

This procedure applies to salaried, Union workers in staff positions (i.e. non- field) and contract workers working at OPG nuclear facilities.

Union workers in field position are released and returned to the Union Hall.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
SICF	Staff Information Change Form
Worker	Someone who performs an occupational duty

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

The Vice President, Shared Services is the owner for this process and is responsible for its definition, implementation and improvement.

## 6 PROCEDURE

### 6.1 Cessation of Employment

Cessation of Employment includes resignation, dismissal and retirement.

#### 6.1.1 Resignation

In the event of the resignation of a worker, the Manager shall ask the worker to confirm the resignation in writing including the last day to be worked.

The Manager shall complete the "Termination of Employment" section of the Staff Information Change Form (SICF) and obtain the necessary signatures.

On the last day of employment, the Manager will complete the Employment Cessation Checklist document for the terminating employee.

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Immediately thereafter, the Manager will forward the following documents to the Human Resources Department so that the correct payroll processes can be completed:

- a) A copy of the letter of resignation
- b) Completed and signed SICF
- c) Completed Employment Cessation Checklist

#### 6.1.2 Dismissal

In the event that a Manager wishes to dismiss a worker, the Manager will discuss the matter with his appropriate superiors and the Human Resources Department prior to finalizing any decision. Once the decision has been confirmed to dismiss the worker, a letter of dismissal for the worker will be prepared by the Human Resources Department in conjunction with the Legal Department and forwarded to the Manager for presentation to the worker.

The Manager will complete the "Termination of Employment" section of Form F-105N, Staff Information Change Form, including the signatures of the Manager or Vice President and the President as well as Form F-107N, Employment Cessation Checklist.

Immediately thereafter, the Manager will forward the following documents to the Human Resources Department so that the correct payroll processes can be completed:

- a) Copy of the letter of dismissal
- b) Completed and signed SICF (HR to sign SICF)
- c) Completed Employment Cessation Checklist

#### 6.1.3 Retirement

When a worker advises Manager of their intent to retire, the Manager shall ask the worker to confirm their intent to retire in writing including the last day to be worked and inform Human Resources Department.

Sixty days prior to the last day to be worked or normal retirement date, the Manager will confirm with the worker their last day of work.

One week before the termination date, the Manager will complete the "Termination of Employment" section of the SICF including the necessary signatures and forward the form to Human Resources so that the correct payroll process can be completed.

On the last day of employment, the Manager will complete the Employment Cessation Checklist and forward it to Human Resources.

Immediately thereafter, the Manager will forward the following documents to the Human Resources Department so that the correct payroll processes can be completed:

- a) Copy of the letter of intent to retire
- b) Completed and signed SICF
- c) Completed Employment Cessation Checklist

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## 6.2 Exit Interview

Exit interviews can provide a great deal of beneficial information to a Company. Through an exit interview, one can confirm the kinds of Company practices, policies and procedures that are particularly effective and should be continued or even expanded upon. As well, an exit interview can also identify areas of management and/or operation that are effective or in need of some change.

For all of the foregoing reasons, exit interviews shall be conducted with all workers leaving the Company through resignation or retirement. Exit interviews should be conducted on the last day of employment where possible by an appropriate member of management.

The exit interview shall be documented on Form F-112N, Exit Interview Form, which is to be signed by the interviewer and returned to the Human Resources Department.

## 6.3 Post-Employment Reference

All requests for employment references by former workers shall be directed to and answered by the Human Resources Department in collaboration with the Manager.

## 7 RECORDS

- a) Copy of Letter Of Resignation
- b) Copy of Letter Of Dismissal
- c) Copy of Letter Of Intent To Retire
- d) Form F-105N, Staff Information Change Form (SICF)
- e) Form F-107N, Employment Cessation Checklist
- f) Form F-112N, Exit Interview Form

# Comstock

Document Title:

## Orientation and Training

Document Number:

QP-014N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)



28-Sep-2011

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dd-mmm-yyyy

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0	28-Sep-2011	Jacqueline Quinn	New Release

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## 1 PURPOSE

This procedure describes the process for worker orientation and training that when effectively implemented ensures that competent workers are assigned to work tasks.

## 2 SCOPE

This procedure applies to all CCL employees engaged in work at OPG nuclear facilities.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) N-PROC-TR-0021, Training and Qualification Description Development and Approval Process

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Limited
Competence	Qualified and capable
Mentoring	Includes on-the-job training and coaching
OPG	Ontario Power Generation
Worker	Someone who performs an occupational duty

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

The Vice President, Shared Services is the owner for this process and is responsible for its definition, implementation and improvement.

## 6 PROCEDURE

### 6.1 General

All workers will be competent to perform the work assigned to them. Worker competence is attained through the following process:

- a) Selection of workers that have the competence or the ability to obtain the competence to fulfil the requirements of the position for salaried, Union workers in staff positions (non-field) and contract workers.
- b) Retention of workers who are competent, as determined by the Union Hall, for Union workers in field positions.

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- c) Orientation of workers to Comstock, the management expectations, the management system and position requirements for all workers.
- d) Training to obtain identified qualification requirements.
- e) Evaluation of worker's performance against the position requirements and management's expectation including feedback to workers.

Workers shall have completed the required orientation and be qualified prior to assignment of work. Workers who have not completed all orientation or are not qualified may be assigned to assist another qualified worker. However the qualified worker is responsible for the work and shall check assignments and sign-off on all work performed.

The process for identifying position requirements is described in procedure QP-010N-OPG, Organizational Design Change Control.

The process for assessing worker competence is described in procedure QP-012N-OPG, Worker Appraisal.

## **6.2 Worker Orientation**

Worker orientation shall include orientation to:

- a) Comstock including vision, values and objectives
- b) Management's expectations
- c) The nuclear management system for OPG projects with emphasis on how the requirements for health, safety, environment, quality, security and economics are met
- d) Position responsibilities, accountabilities, authorities and interfaces
- e) Applicable procedures

Worker orientation may be completed for a group of workers, on a one on one basis or a combination of the two methods.

Worker orientation shall be completed within one month of the worker's start date and attendance at orientation shall be documented and retained.

The supervisor shall complete form F-908N, New Worker Checklist to record the orientation completed, sign-off on the checklist and submit for filing

Prior to commencing assigned work, the worker shall review and sign off that they have read the procedures that are applicable to their assigned work.

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### 6.3 Training

#### 6.3.1 Determination of Training Applicable to all Positions

The VP Nuclear – Darlington & Pickering and their direct reports shall determine the training requirements for positions as follows:

- a) Reviewing the training requirements identified by the customer as common to all positions,
- b) Specification of any additional training that the team deems to be beneficial for all positions that was not identified by the customer.

#### 6.3.2 Determination of Position Specific Training

Each manager shall determine the training and qualification requirements for their worker, as follows:

- a) Identify the types of work that will be performed by the position.
- b) Clearly state the objective and expectation for worker performance of the work.
- c) Develop a list of tasks which need to be carried out to perform this work. The list should be kept at a high level, typically three to five tasks.
- d) Analyse each task to identify the knowledge, skills, and abilities that the worker would require to carry the task, including assessment of task difficulty, importance and frequency. It is important to not only consider technical skills, but also the human performance, such as attention to detail and behavioural skills such as verbal and written communication, and interpersonal skills.
- e) For each knowledge/skill/ability determine if it is:
  - I. Addressed by the minimum requirements in the position description, or
  - II. Training to be provided
- f) Identify learning objectives for those areas where training is required.
- g) Determine how the training will be provided:
  - I. On the job training or mentoring by a competent worker
  - II. Courses currently provided by OPG or CCL
  - III. Courses to be developed by CCL, or
  - IV. Courses to be purchased from a supplier

OPG requires CCL to use their Training Information Management System (TIMS) which requires compliance to OPG procedure N-PROC-TR-0021, Training and Qualification Description Development and Approval Process.

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### 6.3.3 Training Courses

Existing OPG or CCL or supplier training courses shall be the preferred choice. However courses used shall include:

- a) Stated learning objectives
- b) References to approved documentation containing the required material to address the objectives
- c) A test document or process to confirm that the trainee has completed the objectives, or a practical evaluation to confirm that the skills are formally demonstrated.

### 6.3.4 Implementation of Training

The supervisor shall assess worker education, skills, and experience against the position training and qualification description and identify any required training. The supervisor shall notify the training coordinator of required training for workers.

The training coordinator will interface with OPG training organization to roster Comstock workers for training delivered by OPG or schedule training for courses delivered by Comstock or suppliers to Comstock.

## 6.4 Company Paid Education/Training

Comstock supports worker education and training initiatives that are related to the worker's position and career plan within Comstock.

Workers may be required by Comstock to complete specific courses as a means of maintaining and/or upgrading their skill level to optimize on the job effectiveness and efficiency. In such cases, Comstock will pay 100% of the cost of the tuition and reasonable out of pocket expenses, supported by receipts, incurred by the worker in successfully completing the course.

Recognizing that education and training costs represent a significant investment on the part of Comstock, workers taking such courses and who have less than 10 years service by the date of the commencement of the course, will be obliged to reimburse Comstock the total cost of the tuition fees in the event the worker terminates employment with Comstock prior to the completion of two years of service commencing from the date of successful completion of the course. This reimbursement shall apply to all courses with tuition of \$1,000.00 or more. The worker will be required to provide full reimbursement of the tuition fees to Comstock within thirty (30) calendar days of the last day worked.

Workers shall be required to confirm such commitment and agreement to reimburse Comstock by signing form F-907N, Education Reimbursement Agreement.

Where the education program is offered at more than one location, the worker shall select the location that is closest and of the lowest cost to attend.

## 7 RECORDS

- a) Form F-907N, Education Reimbursement Agreement
- b) Form F-908N, New Worker Checklist
- c) Training and Qualification Descriptions

# Comstock

Document Title:

## Project Planning and Controls

Document Number:

QP-015N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)



29-Sep-2011

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dd-mmm-yyyy

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29-SEP-2011

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dd-mmm-yyyy

Ron Brown  
Acting VP Nuclear – Darlington & Pickering



29 SEP 2011

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dd-mmm-yyyy

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## 1 PURPOSE

OPG has entered into an agreement with CCL to undertake delivery of capital and OM&A projects for their nuclear facilities. CCL will be accountable for managing the project lifecycle including engineering, supply chain, construction, and support for the commissioning and subsequent turnover of the project to the client's Operations Department.

This procedure defines the requirements for project planning and control. The procedure is supported by certain reference documents that expand on related topics. The overall purpose of this procedure is work that is executed on time and within budget.

## 2 SCOPE

This procedure is applicable to all OPG nuclear work requests.

## 3 REFERENCE DOCUMENTS


- a) CSA N286-05, Management System Requirements for Nuclear Power Plants
- b) CCL-NMS-001-OPG, Nuclear Management System for Ontario Power Generation Portfolio
- c) CAN3-Z299.1-85 Quality Assurance Program – Category 1
- d) AACE International Recommended Practice No. 34R-05 (Basis of Estimate)
- e) AACE Recommended Practice No. 18R-97 (Cost Estimate Classification System)
- f) PMI Practice Standard for Earned Value Management (March 2005)

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
AACE	The Association for the Advancement of Cost Engineering
AC	Actual Cost of Work Performed (ACWP) - includes actual costs plus any accrued costs for an item or items.
BAC	Budget at Completion - BAC is equal to the sum of all Planned Value (PV) in the Performance Measurement Baseline (PMB).
Baseline	An approved plan for estimate or schedule that serves as a metric against which actual performance is measured during the course of project execution. Estimate and Schedule baselines are combined to form the PMB for Earned Value Management.
CA	Control Account – Intersection of a WBS and OBS item on the RAM.
CCL	Comstock Canada Ltd.
CD	Critical Decision - A formal determination made at a specific point in a project that allows the project to proceed. CDs occur during the course of a project. Example CDs are prior to commencement of pre-conceptual design, commencement of execution, and turnover.
Change Management	A documented process applying technical and management review and approval of changes to technical, schedule, and cost baselines.

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Term	Definition
CNSC	Canadian Nuclear Safety Commission
Cost Estimate	A prediction of quantities, cost, and/or price of resources required by the scope of an asset investment option, activity, or project. As a prediction, an estimate must address risks and uncertainties. Estimates are used primarily as inputs for budgeting, cost or value analysis, decision making in business, asset and project planning, or for project cost and schedule control processes. Cost estimates are determined using experience and calculating and forecasting the future cost of resources, methods, and management within a scheduled time frame.
CPI	Cost Performance Index - the ratio of Earned Value (EV) to Actual Costs incurred (AC). A CPI of 1.0 indicates perfect performance, greater than 1.0 indicates exceptional performance, and less than 1.0 indicates poor performance.
CSA	Canadian Standards Association
CV	Cost Variance – The difference between Earned Value (EV) and Actual Cost (AC).
EAC	Estimate at Completion – A forecast of the likely final cost of a project or package determined either manually or by mathematic calculation such as $AC+(BAC-PV)/(CPI*SPI)$
Escalation	The provision in actual or estimated costs for an increase in the cost of equipment, material, labour, etc., over that specified in the estimate, purchase order or contract due to continuing price level changes over time. Inflation may be a component of escalation, but non-monetary policy influences, such as supply and demand are often components.
EV	Earned Value or Budgeted Cost of Work Performed (BCWP)
Float	The amount of time an activity can be delayed from its early start or finish dates before it impacts other activities.
Life cycle	Project inception through completion and handover.
Milestones	Timeline sequence of significant interim goals and delivery deadlines that guide the progress of a project. A milestone is an important or critical event with no duration, required for achieving project objective(s).
OBS	Organization Breakdown Structure - The project's hierarchal organization
OM&A	Operating, Maintenance & Administration
OPG	Ontario Power Generation Inc.
PCG	Project Controls Group – Project Controls Manager and staff
PMB	Performance Measurement Baseline – The time phased project budget used in Earned Value Management. It represents the integration of the estimating and scheduling baselines.
PMI	Project Management Institute
Primavera P6	Project Management software marketed by Oracle and used for scheduling , and project management and risk management.
Project	A unique effort that supports a program mission, having defined start and end points, undertaken to create a product, facility, or system, and containing interdependent activities planned to meet a common objective or mission. Project types include planning and execution of construction, renovation, modification, line items for maintenance and repair and large capital projects.

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Term	Definition
Project Manager	Site Manager (or his designate responsible for a particularly large and/or complex Work Request)
Project Risk	A factor, element, constraint, or course of action on a project that introduces an uncertainty of outcome and the possibility of technical deficiencies, inadequate performance, schedule delays, or cost overruns that could impact a project. In the evaluation of project risk, the potential negative or positive impacts and the probability of occurrence must be considered.
PV	Planned Value or Budgeted Cost of Work Scheduled (BCWS)
RAM	Responsibility Assignment Matrix – Documents WBS, OBS, and CAs
SPI	Schedule Performance Index - The ratio of Earned Value (EV) to Planned Value (PV). A SPI of 1.0 indicates perfect performance, greater than 1.0 indicates exceptional performance, and less than 1.0 indicates poor performance.
SV	Schedule Variance - The difference between the Earned Value (EV) and Planned Value (PV)
WBS	Work Breakdown Structure - The WBS is a hierarchical decomposition of the work required to complete the project.

## 5 RESPONSIBILITIES:

The Project Controls Group (PCG) is responsible for the definition, implementation and continual improvement of this process. Primary responsibility for the PCG rests with the Project Controls Manager, who may delegate limited, specific authority to a staff member.


## 6 PROCEDURE:

### 6.1 Project Planning and Control

The objective of Project Planning and Control is to enable a project to be completed within the required time and cost constraints. To this end, the Project Controls Group will develop and maintain a Project Controls System governed by a Project Controls Plan to conduct Project Controls Operations for CCL's OPG projects.

The Project Controls Plan defines how the project's scope, cost, and schedule will be managed throughout the project's lifecycle. It shall set the format and standards by which the project is structured, measured, reported and controlled. It shall:

- a) Address the systems and tools to be used
- b) Identify who is responsible for implementing the controls
- c) Indicate the level of detail at which the controls will be implemented
- d) Identify who has the authority to approve change
- e) Outline how performance is quantitatively measured and reported upon
- f) Outline report formats, frequency and audience
- g) Set requirements for project closeout and the capture of historical data

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The primary components of the Project Controls System shall be the integrated combination of Oracle's P6 Project Management/Contract Management project/scheduling/risk software, Hard Dollar's (or equivalent) Project Cost Management estimating and cost tracking software, and Earned Value Management standards and metrics. Realistic cost and schedule parameters will be established and agreed upon with project stakeholders at the outset, and the project will be tracked with the maximum reasonable precision. This system will give project stakeholders insight into the most current project status, thereby assisting in the forecasting of cost/time performance, and as such, enhance their ability to control the project by making timely and informed decisions. The Project Controls system will encompass:

- a) Maintaining the integrity of the Earned Value Management System.
- b) Establishing realistic baselines and performance metrics.
- c) Influencing the factors that affect the baseline and performance goals.
- d) Ensuring that project change is properly captured
- e) Preventing unapproved changes from being included in the work
- f) Effective integration and management of approved changes
- g) Developing a robust risk management plan
- h) Monitoring performance to isolate, limit, and understand variances
- i) Taking appropriate action to correct variance
- j) Monitoring performance against cost
- k) Keeping appropriate stakeholders informed of status on a regular basis
- l) Developing a process for capturing historic data and lessons learned

## **6.2 Project Controls Plan**

### **6.2.1 Introduction**

As project teams are formed for specific projects, planners, estimators and schedulers will be assigned to the project team to provide the necessary resources to plan, monitor and control the project. The assigned personnel are directly accountable, on a functional basis, to the Project Manager, but operate under the authority of the Project Controls Group.

The Project Controls Group (PCG) will provide support to the project team in the form of supplemental personnel, technical resources, systems maintenance and procedure development. The PCG shall also monitor projects to ensure that the established systems and procedures are followed, and capture information and ideas (lessons learned) for systems improvement. The Project Controls Group will also participate in the planning sessions for individual projects.

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The Project Manager has ultimate responsibility for managing and reporting on a project's 'health' throughout its lifecycle. He/she is responsible for the accounting of cost/time deviations and presenting the OPG's Project Representative with options for getting the project back to baseline. Should such deviations require a change to the baseline, the Project Manager will use the Change Management System to solicit approval from OPG. The Project Manager shall meet with management to present and review the project's cost and schedule performance for the preceding month in a Monthly Project Status meeting, and provide input to the monthly Master Status Report to OPG. The Project Manager will be fully supported by the Project Controls team in all of the above activities.

#### 6.2.2 Work Breakdown Structure (WBS)

The Work Breakdown Structure (WBS) is the key element of organization across the Project Controls System. The WBS is a multi-level hierarchal framework that breaks the overall project down into continually smaller deliverable components. Each descending level represents an increasingly detailed definition of a project deliverable with the individual work packages and/or component tasks typically being the lowest reportable level. A high level WBS is developed early in the conceptual stage of the project, with more detail added as the project definition is refined. The final size of the WBS is a function of the size of the project and the balance between complexity, risk, and the need for control. Each WBS element is assigned a unique WBS number that incrementally builds upon the number of the parent element. IE: 1, 1.1, 1.1.1. Each item in the WBS is accompanied by a WBS dictionary entry that describes the scope, resources, and deliverables of each element. The WBS and WBS dictionary change along with approved project change.

#### 6.2.3 Responsibility Assignment Matrix (RAM) and Organization Breakdown Structure (OBS)

The Responsibility Matrix is established to correlate the relationship between the project's scope and the organizational element responsible for managing and controlling that scope. When fully populated, all project work is accounted for and assigned to the appropriate manager. Further, the requisite authority and responsibility have been assigned to ensure the necessary continuity and seamless flow through the various stages of the project lifecycle. The RAM lists organizational elements vertically and WBS elements horizontally with the dollar amounts of scope listed in the intersections. These intersections are known as Control Accounts.

#### 6.2.4 Control Accounts (CA)

Control Accounts (CA) establish management control points where work performance can be measured and reported via Earned Value Management Methods, and are typically established at the higher levels of the WBS framework. A CA charges a single organizational element with planning, managing, and reporting the work scope that is assigned to the account on the Responsibility Assignment Matrix. Each CA will be broken down into one or more work packages, planning packages, or WBS levels.

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The Control Account Manager (CAM) shall be responsible for planning, controlling, and reporting on the resources and tasks of the CA, and will be held responsible for account performance. The CAM will develop a Control Account Plan (CAP) for the execution of the work and management tasks that identifies the resources required, and the estimate and schedule for the work of the account. This may be developed by project control resources assigned directly to the account, or reported up to a level that contains those resources. Individual Control Accounts report up through the Responsibility Assignment Matrix structure to the Project Manager with overall responsibility for the project.

### 6.2.5 Scope of Work

CCL will develop a Project Scope of Work where required for the managed work that is undertaken by CCL if requested by Ontario Power Generation, or operate from a Scope of Work provided by Ontario Power Generation

Scope of Work is a description of the work in whole, or a piece thereof, the intent of which is to define the parameters and inclusions, so as to convey understanding to the reader as to content. Scopes of Work may be developed for projects, processes, procedures, or contracts.

The Scope of Work should be developed with the direct participation from the stakeholders to ensure organizational needs and desires are understood and integrated into the scope. The Scope of Work is developed in the project initiation phase to support CD-0, included in the business case, and refined and developed in each phase of the project. It is approved as the project evolves through the different financial control gates of the Contractor/Owner Interface Process Flow Diagram (Appendix A to N-DAI-00150-10000).

### 6.2.6 Estimate Development

The Project Controls Group shall establish the fundamental requirements for proper development, review and approval of all estimates. CCL estimating functions will conform to the AACE (The Association for the Advancement of Cost Engineering) recommended practices referenced herein. Estimates will be structured around the Project's WBS, and will be entered into Hard Dollar (or equivalent) Project Cost Management.

CCL will offer and produce the following types of estimates:

- Class 5 – Order of Magnitude Estimate
- Class 4 – Conceptual Estimate
- Class 3 – Preliminary Estimate
- Class 2 – Definitive Estimate
- Class 1 – Engineers/Bid Estimate

All of these documents will be comprehensive in substance and will address the various required components, such as direct project costs, indirect project costs, allowances, contingencies, escalations, etc., as needed to provide adequate estimate deliverables.

Estimating methodologies will be consistent with the Class of Estimate being produced, and will be utilized correspondingly to address the different financial control gates as mandated by OPG.

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A 'Basis of Estimate' (BOE) document will accompany each estimate that is produced. The BOE is the one document that defines the scope of the estimate and ultimately becomes the initial basis for change management. The estimator (team) shall compile the 'Basis of Estimate' during the estimating process.

The BOE will:

- Document the overall project scope
- Communicate the estimator's (team) knowledge of the project by demonstrating an understanding of scope and schedule as it relates to cost.
- Alert the project team to potential cost risks and opportunities.
- Provide a record of key communications made during estimate preparation.
- Provide a record of all documents used to prepare the estimate.
- Act as a source of support during dispute resolutions.
- Establish the initial baseline for scope, quantities and cost for use in cost trending throughout the project.
- Provide the historical relationships between estimates throughout the project lifecycle.
- Facilitate the review and validation of the cost estimate.

The level of detail in the basis of estimate document is determined by the dynamics of the preparation process. Several factors may influence the level of detail that needs to be presented in the BOE. Ultimately it is the judgement of the estimator (team) that will decide the appropriate level of detail to be included. The major factors contributing to the basis of estimate detail are:

- Level of Project Definition
- Cost Value of the Project
- Type of Project
- Other Factors

The BOE should contain the appropriate level of detail such that the estimate can be reviewed by those that have not been part of the estimate preparation process. The BOE provides a definition of the scope of the project as estimated, and should establish the basis for change management subsequent to publication of the estimate. The five levels of estimates and the BOE Document, as outlined above, are discussed in greater detail in the ) AACE recommended practices referenced herein..

#### 6.2.6.1 Estimate Baseline

Once approved by Project Stakeholders, the estimate will be memorialized as the project's estimate baseline. All further cost data will be compared to this baseline and it will provide the values for the Performance Measurement Baseline (PMB) required for Earned Value Management Analysis. Changes to this baseline will be minimized and must be approved by the Project Controls Manager.

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### 6.2.7 Contingency

CCL will routinely perform Contingency analyses as a component of the CCL estimating functions. Contingency is an amount added to an estimate to allow for items, conditions, or events for which the state, occurrence, or effect is uncertain and that experience shows will likely result, in aggregate, in additional costs. Contingency is typically estimated using statistical analysis or judgement based on past asset or project experience. Contingency calculations must take the Risk Management data into consideration.

Contingency usually excludes:

- Major scope changes such as changes in end product specification, capacities, building sizes, and location of the asset or project;
- Extraordinary events such as major strikes and natural disasters;
- Management reserves
- Escalation and currency effects.

Some of the items, conditions, or events for which the state, occurrence, and/or effect is uncertain include, but are not limited to, planning and estimating errors and omissions, minor price fluctuations (other than general escalation), design developments and changes within the scope, and variations in market and environmental conditions. Contingency is generally included in most estimates, and is expected to be expended.

### 6.2.8 Escalation

CCL will routinely perform escalation calculations as a component of the estimating function. Escalation is the provision in actual or estimated costs for an increase in the cost of equipment, material, labour, etc., over that specified in the estimate, purchase order or contract due to continuing price level changes over time. Inflation may be a component of escalation, but non-monetary policy influences, such as supply and demand are often components.

### 6.2.9 Schedule Development

The Project Controls Group shall establish the fundamental requirements for proper development, review and approval of all schedules. The schedule shall be built and maintained in P6 Project Management and aligned with the Hard Dollar (or equivalent) estimate so that it reflects the same WBS, cost, hours, and scope of the estimate at stakeholder approval.

Schedule Development is an iterative process that begins at project inception and continues through project completion. Starting as a series of milestones with a limited WBS framework (Level 1), the schedule is built up to a fully integrated projected schedule (Level 5) as the preconstruction phase progresses. This fully integrated project schedule provides a time-phased, logical sequence of interdependent activities, activity relationships, and milestones as defined by Project Scope. It is structured around a WBS identical to that of the estimate, integrates the entire work scope, and reflects the full content of the estimate, including: estimate items, resources, costs, and hours. Activity relationships and sequencing describe the constraints and decision points that reflect a critical path through the project, and enable float analysis.

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CCL will produce the following levels of schedule during the preconstruction phase.

- Level 1: Milestone Schedule
- Level 2: Conceptual Schedule
- Level 3: Preliminary Schedule
- Level 4: Detailed Schedule
- Level 5: Fully Integrated Schedule

#### 6.2.9.1 Schedule Baseline

Once approved by Project Stakeholders, the schedule will be memorialized as the project's schedule baseline. All further schedule data will be compared to this baseline, and it will provide the dates for the Performance Measurement Baseline (PMB) required for Earned Value Management Analysis. Changes to this baseline will be minimized and must be approved by the Project Controls Manager.

#### 6.2.10 Earned Value Management System (EVMS)

Earned Value Management (EVM) is the focus for measuring, controlling and reporting on a project's health. It is a standardized method of performance measurement that integrates project scope, cost, and schedule into a Performance Measurement Baseline (PMB) against which project performance can be measured using standardized metrics.


##### 6.2.10.1 Performance Measurement Baseline (PMB)

The PMB is best described as the project's potential total cost spread over the available time for project completion and represents the integration of the estimate baseline and schedule baseline. The PMB must be fully reviewed and approved by the project stakeholders, including, but not limited to: the Project Controls Manager, the Project Manager, individual Control Account Managers, and the OPG's Project Representative. Changes to the PMB shall be limited, shall be documented by Change Order, and must be approved by the Project Controls Manager.

##### 6.2.10.2 Key Values in EVMS

There are three key values in the EVMS that all other metrics are derived from:

1. Planned Value (PV), also known as the Budgeted Cost of Work Scheduled (BCWS) is the authorized value assigned to the work to be accomplished. The sum of the planned values represents the Budget at Completion (BAC)
2. Earned Value (EV), also known as the Budgeted Cost of Work Performed (BCWP) is the value of work performed expressed in terms of the authorized value.
3. Actual Cost (AC), also known as the Actual Cost of Work Performed (ACWP) which is the total cost actually incurred for the work.

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### 6.2.10.3 Performance Metrics

Of the numerous Earned Value Metrics that can be calculated, the following will be mandatory on all projects for weekly reporting to the Project Controls Group (period and cumulative). At a minimum, these metrics will be analysed at the Control Account (CA), and Project Levels.

- a) Schedule Variance (SV)
- b) Cost Variance (CV)
- c) Schedule Performance Index (SPI)
- d) Cost Performance Index (CPI)
- e) Composite Estimate at Completion (EAC<sub>composite</sub>)

**Schedule Variance (SV)** measures the difference between a project's Earned Value (EV) and Planned Value (PV). It is calculated by subtracting PV from EV. If SV is zero, then the project is meeting the baseline schedule. If SV is greater than zero, the project is outperforming the baseline schedule, and if it is less than zero the project is underperforming the baseline schedule.

**Cost Variance (CV)** measures the difference between a project's Earned Value (EV) and Actual Cost (AC). It is calculated by subtracting AC from EV. If CV is zero, then the project is meeting the baseline budget. If CV is greater than zero, the project is out performing the baseline budget, and if it is less than zero the project is underperforming the baseline budget.


**Schedule Performance Index (SPI)** measures schedule efficiency by calculating the ratio between Earned Value (EV) and Planned Value (PV). It is calculated by dividing EV by PV. A SPI of 1 indicates a schedule trend that is performing exactly as planned in the baseline. A SPI of greater than 1 indicates a schedule trending favourably above the baseline, and a SPI less than 1 indicates a schedule trending behind the baseline.

**Cost Performance Index (CPI)** measures cost efficiency by calculating the ratio between Earned Value (EV) and Actual Cost (AC). It is calculated by dividing EV by AC. A CPI of 1 indicates a cost trend that is performing exactly as planned in the baseline. A CPI of greater than 1 indicates costs trending favourably under the baseline, and a CPI less than 1 indicates costs trending over the baseline.

**Estimate at Completion Composite (EACComposite)** forecasts the final cost of the project given the current cost and schedule performance trends. It is calculated by dividing the difference between the BAC and the EV by the CPI and adding that number to the AC.

### 6.2.10.4 Earned Value Management System Auditing

In order to ensure the legitimacy of the Earned Value Management reporting, each project will also be randomly audited not less than once a year by the Project Controls Group. The audit will consist of a series of yes/no questions that test the project against the intent of the EVMS, with space set aside for recommended remedial action.

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### 6.2.11 Forecasting

In addition to calculating the EAC<sub>composite</sub>, the Project Manager and Project Controls Team will regularly develop an Estimate at Completion Forecast based on actual costs incurred to date, plus a forecasted estimate of the cost to complete. While still an estimate, forecasting allows for the introduction of project specific knowledge and experiences. As such, predictions of conditions and events in the project's future can be more accurately assessed. Forecasts will be generated, updated and reissued based on work performance information provided as the project continues. Various risk scenarios may dictate that a range of EACs be calculated for the Project Manager's consideration.

### 6.2.12 Cost Control

Project costs will be tracked, analyzed, and reported by Project Controls personnel and individual Control Account Managers up through the organizational hierarchy to the Project Manager, who has ultimate responsibility for project cost and cost reporting. Actual cost data, including: labour, material, equipment, and other costs will be entered into Hard Dollar (or equivalent) Project Cost Management, where it will be tracked against the estimate budget in the WBS framework. Cost Reports will be generated in Hard Dollar(or equivalent) to compare current project costs to the budgeted costs of the project weekly. Updated WBS aggregate costs will be loaded into Primavera Contract Management.

### 6.2.13 Change Management

All potential changes to a project's scope, cost, or schedule will be entered into Oracle's Contract Management software in the form of a Change Management Record to ensure their visibility to the project team. The impact of a given change will vary greatly, depending on the time at which it is issued and magnitude of the scope. Each Change Management item will be evaluated for validity and will have cost and schedule impact estimated to a level of detail in-line with the items priority, and will be stepped through the Change Management process for submission to OPG. Each week the Change Management Log will be reviewed by the PM/CAMs, submitted to OPG, and discussed at the weekly meeting.

The Project Controls personnel will be responsible for the day-to-day work of the Change Management process. Change estimates and what-if schedules will not occur in the active or baseline software files, but will occur in stand-alone files for import after an approved change order. The Project Manager shall approve all Change Order Requests before they are submitted to OPG for Change Order consideration.

The Change Order (CO) is a formal instruction issued to CCL by OPG, which alters the Contract Documents and formally authorizes an update to the Performance Measurement Baseline (PMB). Change Orders will not occur via an oral instruction, corrections to shop drawings, clarification, or by way of sketches handed to the CCL or it's field personnel, unless the situation qualifies as an emergency as defined in the Contract Documents.

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The Contract Management Change Management process consists of a Change Management document, and three stages of change, that are defined below.

1. Quoted (PCO)
2. Negotiated (COR)
3. Final (CO)

The Change Management (CM) Document can be thought of as a file folder that contains the other documents. A change is tracked by CM number regardless of stage, until it becomes a Change Order. Ideally, a Change Management item will step through all 3 stages as the information and documentation is gathered and developed, but it is acceptable to start at any stage other than Final (CO) if the appropriate level of detail is at hand. CM will pre-populate each new Change Management stage with information from the prior stage upon new stage initiation. The Change Management Log should be reviewed at each weekly project status meeting, and a Change Management Report shall be submitted to the Project Controls Group Weekly, by the Project Manager.

#### Potential Change (PCO)

When a project team member identifies a potential or actual variation to the scope of work, cost or schedule, he/she will notify the Project Controls personnel who will open a Change Management number (CM#) in Contract Management. Thereafter, any documentation related to the issue will be collected, labelled with the Project and CM#, and stored in the CM file. The Project Controls personnel will then enter any information relevant to the issue into the Contract Management PCO document including a Class 3/2 Estimate. The potential change is now recorded into the system, and the general level of exposure has been evaluated. The next CM phase expands the detail and readies the change for submission.

#### Change Order Request (COR)

If the PM/CAM elects to proceed to the COR stage, the Project Controls personnel will initiate the Contract Management COR document which will be populated with the existing information from the PCO document, an estimate further developed to level 1, and any other documentation or information that can be gathered by the Project Team. If approved by the Project Manager, the COR document will be submitted to the OPG to formally request a Change Order via transmittal in accordance with the Document Control Process.

#### Change Order (CO)

A Change Order is created by the OPG's Supply Chain when a Change Order request is approved by the CCL and OPG Project Managers. The Change Order document should include the full contents of the COR submission, including any mutually agreed upon revisions, all of which should be submitted to the OPG PM via transmittal in accordance with the Document Control Process. Change Order does not take affect until it is approved by the authorized parties. It is then entered into CCL's Contract Management system.

# Comstock

Document Title:

## Worker Rights and Benefits

Document Number:

QP-016N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)

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28-Sep-2011

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28-Sep-2011

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28-Sep-2011

dd-mmm-yyyy

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Revision	Date	Author	Description of Changes
0	28-Sep-2011	Jacqueline Quinn	New Release

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## 1 PURPOSE

This procedure describes the process for protection and management of worker personal information and the benefit process.

## 2 SCOPE

This procedure applies to all Comstock workers at OPG nuclear facilities for protection and management of worker personal information.

This procedure applies to salaried workers at OPG nuclear facilities for benefits.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
Personal information	Any personally identifiable information
Worker	Someone who performs an occupational duty

## 5 RESPONSIBILITIES

### 5.1 Vice President, Shared Services

The Vice President, Shared Services is the owner for this process and is responsible for its definition, implementation and improvement.

## 6 PROCEDURE

### 6.1 WORKPLACE PRIVACY

Comstock is committed to respecting worker privacy, when applicable, and recognizes workers' right for appropriate protection and management of any personally identifiable information ("personal information") that is provided to and/or shared with Comstock.

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### 6.1.1 Collection, Use and Disclosure of Personal Information

All workers of Comstock are responsible for the protection of worker personal information and the fair handling of it at all times, throughout the organization and in dealings with third parties such as pre-qualifications, bids, insurance companies, payroll and benefit providers. Care in collecting, using and disclosing personal information is essential to continued worker confidence and good will.

Personal information is generally any information about an identifiable worker. The type of personal information Comstock collects, uses, and discloses may include:

- a) Age
- b) Residential mailing address and phone number
- c) Personal email address
- d) Personal history (including financial history, credit information, donations, billing history, personal family and relationship matters, penal or criminal information)
- e) Educational history
- f) Personal information related to corporate involvements
- g) Employment history (past and present)
- h) Income and other benefits
- i) Medical information
- j) Tax records
- k) Security clearances
- l) Name, address and phone number for parent, guardian, spouse or next of kin.
- m) Educational history includes course grades, grade point average, academic status, graduation status, previous institutions attended, admission status, course schedule and course registration status.
- n) Financial history includes information about beneficiaries, insurance, benefits and debts.
- o) Employment history includes personal recommendations or evaluations, character references or personnel evaluations, letters of discipline and reprimand and reasons for termination.
- p) Medical information includes health care history relating to medical, disability, psychiatric or psychological diagnosis, condition, treatment or evaluation.
- q) Personal information does not include name, business title, business address, or business telephone number in your capacity as a worker of Comstock.

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### 6.1.2 Collection of Personal Information

Comstock will collect personal information about workers involved in Comstock's operations, ensuring at all times that it uses an appropriate notice and method of collection. Such personal information will be collected with the knowledge and consent of the worker, except where otherwise inappropriate.

Comstock will limit the collection and use of personal data to that which is needed for valid business purposes or to comply with legal obligations and any such data will be obtained only by lawful and fair means.

Comstock shall make a reasonable effort to ensure that the worker is advised of the purposes for which the personal information is being collected at or before the time of collection.

Comstock will make every reasonable effort to ensure that the personal information it uses is accurate and complete. In order to help the Company maintain and ensure that personal information is accurate and up-to-date, workers must inform the Human Resources Department of any change in the information they provided to us.

Comstock will collect personal information by making reasonable security arrangements to prevent the risk of unauthorized collection, access, use, disclosure or disposal of personal information.

Comstock will utilize, disclose or retain personal information for as long as necessary to fulfill the purposes for which it was collected and as required or otherwise permitted by law. Thereafter Comstock will dispose of personal information only upon the approval from the Vice President, Shared Services.

Comstock may collect information about a worker from the following sources (this list is not exhaustive):

- a) information from the worker on applications or other forms;
- b) information from a consumer reporting agency or other reference organization such as past workers or education institutions;
- c) medical, health or disability related information for accommodation, leaves, WSIB/WCB, benefits or insurance purposes;
- d) information from court documents and government agencies, such as garnishment orders.

### 6.1.3 Use and Disclosure of Personal Information

Comstock will use and disclose personal information only:

- a) For the purpose for which that information was obtained or compiled;
- b) For a use consistent with that purpose;
- c) With the consent of the worker; or
- d) As required or otherwise permitted by applicable law

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#### 6.1.4 Obtaining Consent

Except when otherwise permitted by law, Comstock will obtain the requisite consent prior to collecting, using or disclosing personal information for any purpose. A worker may provide either express or implied consent. Express consent may be given orally, electronically or in writing. Implied consent is consent that may be inferred from a worker's choice of action.

In cases where the worker has already provided personal information to the Company and the worker maintains an employment relationship with the Company, this will be construed as implied consent to continue to collect, use and disclose personal information only for the purpose for which the information was obtained or compiled.

When consent is required, a worker can withdraw consent at any time (unless withdrawing the consent would frustrate the performance of legal obligations), and upon providing Comstock with a 30-day notice. However, the withdrawal of consent may impact on the Company's ability to serve the worker and to maintain the relationship.

#### 6.1.5 Ensuring Privacy of Personal Information

The Company will exercise its best efforts to ensure it remains responsible for all personal information communicated to third parties for processing. As such, Comstock uses reasonable efforts to ensure that third parties which are engaged to perform services on its behalf and are provided with personal information, are required to observe the intent of this procedure by having comparable levels of security protection or, when required, by ensuring Comstock (through a confidentiality agreement) that they will not use or disclose the personal information for any other purpose than for which the personal information was communicated.


#### 6.1.6 Access of Information by Worker

Comstock supports a worker's right of access to, and the right to request correction of their personal information. Comstock will correct or complete any personal information determined to be inaccurate or incomplete. For any unresolved differences relating to the accuracy and completeness of the personal information, an appropriate notation shall be made in the worker's file.

For informal requests, access will be provided according to those procedures used in the department or office that has custody of the personal information. For formal requests, access will be provided according to those procedures coordinated by the Vice President, Shared Services. In either case, the request for personal information will be signed for and recorded by Comstock when removed from the file.

The right to access does not extend to personal information excepted from disclosure under the applicable privacy legislation and this procedure, but if that information can reasonably be severed from a record a worker has the right of access to the remainder of the record.

The right of access to a record may be subject to the payment of any reasonable fees required according to Comstock policy or practice for informal access requests and for a formal access request pursuant to the applicable privacy legislation.

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Worker access to personal information where Comstock has custody or control of the personal information will be limited as much as possible to those workers where access to such personal information is necessary for the performance of their job duties. Access will be administered according to those specific policies and procedures, which may be established from time to time by Comstock to apply to the personal information of specific groups of workers.

#### 6.1.7 Access by Third Party to Personal Information about Workers

Access to the following worker personal information is provided routinely to third parties for valid business purposes and to comply with legal obligations. Requests will be handled by the Vice President, Shared Services and any other person designated by Comstock, regarding workers:

- a) Position
- b) Functions
- c) Remunerations

Comstock regularly provides personal information to third parties as legally required such as the Workers Compensation Board, Service Canada, Revenue Canada, Ministry of Finance, etc. Third party access to personal information such as payroll or employment history, where Comstock has custody or control of that information, will be allowed if the personal information is necessary.

#### 6.1.8 Comstock/Worker Responsibilities

Management and workers are responsible for maintaining the confidentiality of general and personal information according to this procedure and are required to ensure that personal information is maintained in a secure environment. Violations of this procedure may result in disciplinary action.

Workers should consult, as needed, the Vice President, Shared Services about the collection, use and disclosure of personal information, including information being released pursuant to applicable privacy legislation.

All questions, complaints or other inquiries regarding your personal information, the Comstock procedure or practices, should be forwarded to the Vice President, Shared Services.

### 6.2 BENEFITS FOR SALARIED WORKERS

#### 6.2.1 Vacation

Vacations are determined by the length of service at June 30 and are to be taken in a calendar year, January 1 to December 31. In the event that a worker terminates between July 1 and June 30, the worker's vacation benefits shall be pro-rated according to the number of months worked during the above period. In the event that a worker takes a vacation between January 1 and June 30 and terminates prior to June 30, an adjustment may be made on final settlement to reflect the true vacation entitlement owing. The vacation entitlement set out here is subject to compliance with applicable legislation.

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Vacation entitlement is determined as follows:

- a) Less than one year of service by June 30 - One day for each full month of service prior to June 30, maximum 10 vacation days.
- b) Ten full months but less than four complete years of service by June 30 - two weeks (10 days) vacation.
- c) Four years but less than ten complete years of service by June 30 - three weeks (15 days) vacation.
- d) Ten years but less than 25 complete years of service by June 30 - four weeks (20 days) vacation.
- e) Twenty-five complete years of service or more by June 30 - five weeks (25 days) vacation

In some instances, as determined at the start of employment, employees may choose to accumulate a predetermined vacation pay percentage and are paid this accumulated amount when a request is made to payroll. These employees are not paid while on vacation.

The approvals required and their administration is the responsibility of the worker's respective Manager and shall be based on the following:

- a) If a holiday observed by Comstock falls during a worker's vacation period, such vacation period will be extended by one day.
- b) The vacation period selected and vacations in excess of three weeks are subject to approval.
- c) Vacations earned for particular calendar year and not taken cannot be carried forward to the following year without approval from the President, but in no case can they be carried forward to subsequent years.
- d) Comstock does not approve of additional remuneration in lieu of vacation.
- e) If conflicting vacation periods are selected by two or more workers who cannot take vacations at the same time, seniority will normally govern.
- f) Salaried workers will be paid their regular salary during vacation periods. If they so request, they may obtain their vacation pay on the day before their vacation begins.
- g) If a field worker becomes a salaried worker, for the purpose of vacation, years of continuous service with Comstock will be determined from the commencement date of coming on staff. Any departure from this requires written approval.
- h) If a worker is re-hired, for the purpose of vacation, years of service shall commence with the worker's most recent employment date.

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It is the responsibility of the VP Nuclear – Darlington & Pickering to approve the vacation schedule and to ensure that:

- a) Vacation schedules are circulated to salaried workers in the first week of January each year and are completed and returned by January 31.
- b) Vacation schedules are thoroughly and objectively reviewed. Wherever possible, workers will be permitted to choose their own vacation period but vacations must be arranged to provide for the proper operation of OPG Projects.
- c) Provision is made so that when a worker is on vacation, the essential functions of their position are carried out by other competent workers and that essential services are maintained.
- d) A copy of the approved vacation schedule is forwarded to the Project Controller for purposes of normal payroll procedures and verification of vacation periods.
- e) The VP Nuclear – Darlington & Pickering and Project Controller must be advised of the vacation period selected by each Project Manager and Support Manager by January 31, of each year.
- f) The President and Secretary / Controller shall receive the vacation schedule to Department Manager level, with updates as required.

#### 6.2.2 Leave of Absence

Leave of absence requires special approval by the President. The effect of the leaves of absence on vacations, benefits and seniority will be determined at the time approval is given.

#### 6.2.3 Health and Pension

Worker enrolment in the Comstock health benefit plans will commence the first day of the month following the month in which employment commences.

Full time permanent workers will be eligible to participate in the Group Registered Retirement Saving Plan upon the completion of one year of employment.

Workers who are members of a union and request that Comstock maintain contributions to a union benefit plan on their behalf, will be paid their annual budgeted salary less the Comstock contribution to such union welfare or pension plans. This practice has been established to ensure that in the case of certain workers, Comstock is not contributing towards the cost of two groups of benefit plans, Comstock and union.

## 7 RECORDS

- a) Approved vacation schedule

# Comstock

Document Title:

## Review and Acceptance of Engineering Products

Document Number:

QP-017N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by



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29 SEP 2011

dd-mmm-yyyy

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29 SEP 2011

dd-mmm-yyyy

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## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure describes the process used to conduct a structured and standardized review of Engineering Products from CCL Engineering services Suppliers. The purpose of the engineering review is to ensure that CCL is compliant with regulatory and customer requirements.

## 2 SCOPE

This scope is for the review of engineering services or products from CCL suppliers, such as WorleyParsons Canada Services Ltd.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05 Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear Management System for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
ASME	American Society of Mechanical Engineers
CCL	Comstock Canada Limited
CNSC	Canadian Nuclear Safety Commission
OPG	Ontario Power Generation
EPC	Engineer Procurement and Construction

## 5 RESPONSIBILITIES

### 5.1 Resident Engineer

The resident engineer is responsible and accountable for this process and ensuring that the required reviews/verification are completed by qualified staff.

## 6 PROCEDURE

### 6.1 General

The arrangement between OPG and CCL is an Engineering, Procurement and Construction approach, where CCL is the lead contractor. CCL contracts the performance of engineering work including general engineering, procurement engineering, design, and safety analysis to a supplier. OPG requires CCL to perform oversight of its engineering supplier(s). This procedure describes how CCL reviews the products of the engineering supplier, and how comments are resolved.

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## 6.2 Review of Engineering Products

The Resident Engineer (or delegate) shall ensure CCL supplier engineering products are reviewed:

To determine the extent of the review, the following criteria shall be considered:

- a) Impact of the on the project objectives.
- b) Complexity.
- c) Past experience.
- d) Impact on customer requirements.
- e) Compliance with Regulatory Codes and Standards as applicable to nuclear power plants.
- f) Need for possible Constructability Review by CCL.

Form P-020N, Engineering Product Review Checklist and comments, has been created to aid in performing engineering product reviews.

CCL staff designated to conduct Engineering reviews shall do so using the checklist as a starting point and indicate their acceptance on form P-020N

The reviewer shall record the results of the review as accepted or rejected. An answer of no, on any question on the checklist shall result in a rejection.

Normally the review process permits ten working days to complete this review.

## 6.3 Comment Resolution

Any rejected engineering products shall be corrected by the supplier and shall be re-submitted, then the process described in clause 6.2 repeated.

Products that are accepted or accepted with comments do not require re-submission.

## 7 RECORDS

- a) Form P-020N, Engineering Product Review Checklist

# Comstock

Document Title:

## Review of Work Request and Project Estimating

Document Number:

QP-018N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)

*Prepared by*

Mike Krone  
Quality Manager, Nuclear

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Ron Brown  
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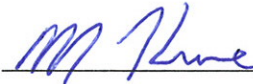
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26-Sep-2011

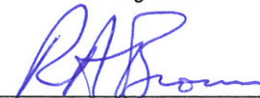
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0	26-Sep-2011	Jacqueline Quinn	New Release

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## 1 PURPOSE

This procedure provides the process for to the review of work requests that are to be considered by the Company as potential projects to ensure the requirements are clear and the work is within CCL's capacity to perform and authorization to bid is obtained. This procedure also ensures that a comprehensive estimate is prepared and approved by management prior to submission.

## 2 SCOPE

This procedure is applicable to all OPG nuclear work requests.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) Z299.1 – Quality Assurance Program – Category 1

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
OPG	Ontario Power Generation
RFP	Request for Proposal
RFQ	Request for Quote

## 5 RESPONSIBILITIES

### 5.1 Project Controls Manager

- a) Overall responsibility for the bidding process.
- b) Assign the bid package to an estimator
- c) Approve Authorization to Bid
- d) Ensure Terms and Conditions that cannot be qualified are reviewed to ensure they do not contain unacceptable clauses
- e) Approve Bid Information Summary

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## **5.2 VP Nuclear – Darlington & Pickering**

- a) Review OPG work requests and determine if CCL will bid on the project
- b) Approve Authorization to Bid
- c) Approved Bid Information Summary

## **5.3 Estimator**

- a) Prepare the estimate package
- b) Complete/prepare the estimate

## **6 PROCEDURE**

### **6.1 Review of OPG Work Request (Tender)**

Upon receipt of a work request, request for quotation (RFQ) or request for proposal (RFP), the bid document will be reviewed by VP Nuclear – Darlington & Pickering or delegate to determine if the Company will bid on the project. This review will ensure that;

- a) The requirements are defined and documented;
- b) CCL’s resources and capability are adequate to meet the requirements to ensure that the work is a fit with services offered by the Company and is within the scope of available resources,
- c) Any special controls, production processes, measuring and test equipment and skills required to assure product of service quality are identified, and,
- d) The work request is reviewed by the applicable groups within CCL;

If the decision to reject the bid opportunity is made, the customer may be notified that the Company will not be bidding.

### **6.2 Estimating**

If the bid is accepted by the VP Nuclear – Darlington & Pickering, the bid information will be stamped “For Bid Purposes Only” (or equivalent) and the date received on the bid package contents. The bid package is forwarded to the Project Controls Manager for assignment to an estimator(s).

The assigned Estimator will prepare the estimate package and prepare Form F-670N, Authorization to Bid, and submit it for approval to the Project Controls Manager and then to the VP Nuclear – Darlington & Pickering. President approval is required if the estimate is >\$4MM.

If the bid opportunity is accepted, the OPG Terms and Conditions will be reviewed and the Qualifications and Clarifications to Comstock’s bid will be prepared.

The Project Controls Manager will ensure that the Terms and Conditions of all bid packages that cannot be qualified are reviewed to ensure they do not contain unacceptable clauses. For bids over four million dollars, the review will be performed by Comstock’s Legal Council or authorized designate.

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The estimator will complete/prepare the estimate and Form F-671, Bid Information Summary and submit it, along with any Qualifications and Clarifications for approval to the Project Controls Manager and then to the Vice President Nuclear – Darlington & Pickering. President approval is required if the estimate is >\$4MM.

If the bid opportunity is accepted the bid package proposal is submitted to the Customer.

## **7 RECORDS**

- a) Form F-670N - Authorization to Bid
- b) Form F-671 - Bid Information Summary

# Comstock

Document Title:

## Surveillance, Witness and Hold Points

Document Number:

QP-019N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by

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29 SEPT, 2011

dd-mmm-yyyy



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29 SEP 2011

dd-mmm-yyyy



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## Revision History

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0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure describes the processes for surveillance, witness and hold that when effectively implemented provides assurance that the performance of work of CCL and their suppliers meets requirements

## 2 SCOPE

This procedure applies to OPG work requests at OPG Nuclear Facilities.

## 3 REFERENCE DOCUMENTS

- a) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- b) CCL-MAN-001, CSA N285.0 Quality Manual
- c) CSA N286-05, Management system requirements for nuclear power plants
- d) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- e) CAN3-Z299.1-85 Quality Assurance Program – Category 1

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd
ITP	Inspection and Test Plan
OPG	Ontario Power Generation
SCR	Station Condition Report

## 5 RESPONSIBILITIES

### 5.1 Manager Quality, Nuclear

The Manager Quality, Nuclear is responsible for the definition and implementation of this procedure.

### 5.2 Site Quality Manager

The Site Quality Manager is responsible to oversee the activities of quality personnel in relation with this procedure and to hold periodic meetings with the local management representative.

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## **6 PROCEDURE**

### **6.1 General**

Surveillance, witness and hold activities shall be conducted to assist management in determining that CCL and their suppliers of products and services meet requirements. Workers performing surveillance, witness and hold activities shall have neither performed nor verified the work being assessed. Results shall be communicated to the level of management having sufficient breadth of responsibility to resolve any identified problems.

Collectively, the surveillance, witness and hold process provide CCL with a comprehensive view of the effectiveness of the management system. This process and the audit process are interlinked. The surveillance, witness and hold process provides input to the audit process. This process may stimulate the need for an audit, or the need to perform audits at an augmented frequency. Audit results may stimulate focus areas for surveillance, or augment the requested number of witness or holds.

### **6.2 Surveillance**

Surveillance is short real time observation of work including product realization, project management and condition of the site, facilities and structures, systems and components. Surveillance is directed towards the CCL and their suppliers.

Surveillance activities are unscheduled. The concept being that the Quality Department workers, may independently observe any activities without formal notice.

Surveillance activities are normally performed by one worker (surveyor) from the quality department. If necessary, subject matter experts from CCL, or the customer may accompany the surveyor. The Site Quality Manager assigns the surveyor.

#### **6.2.1 Planning**

The quality assurance department develops the scope of surveillance activities with input from line management.

A surveillance plan shall be prepared based on the following inputs;

- a) information in the project schedule
- b) discussion at relevant meetings such as planning meetings,
- c) line management issues,
- d) changes,
- e) corrective and preventative action resulting from previous surveillance, witness, hold or audit, and
- f) anything that the surveyor believes would add value.

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### 6.2.2 Notification

The quality assurance department is an integral part of the success of CCL and operates within CCL values; therefore, no formal written notification is required for a surveillance performed. They shall verbally keep the local CCL staff aware of their activities.

For surveillance of suppliers; sufficient time to arrange for sponsorship is provided, this is normally 5 working days.

### 6.2.3 Conduct of Surveillance

Surveillance activities shall be performed in accordance with the plan but the surveyor may deviate based on their professional judgment. Deviations and the rationale shall be documented in the report.

There are three basic forms of information gathering during surveillance. They are:

- a) Documentation Reviews - A systematic review of relevant records and documents, including electronic databases;
- b) Direct Observation - First-hand observation of the performance of work. This may include attending relevant meetings or training sessions as an observer, field walk down or direct observation of the performance of a work task;
- c) Interviews – Interviews with relevant workers should be used to either identify issues to be further investigated or to validate issues that were identified from documentation review or direct observation. Conclusions should not be drawn from a single interview.

Information gathered from interviews shall be depersonalized in the report. Supplier information shall not be removed from the supplier's location without the supplier's permission. The surveyor is accountable for determining the factual accuracy and validity of the information gathered.

Any problem identified of an emergent or immediate safety concern or a significant business effect shall be communicated to the manager accountable for the activity as soon as possible before leaving for the day.

Surveyors are expected to become aware of the local requirements and strictly comply.

The CCL or supplier representative shall be kept aware of any identified problems. If surveillance identifies a problem it shall be reported to the Site Quality Manager and accountable CCL Manager, and an SCR shall be raised.

### 6.2.4 Documentation of results

Documentation of observations shall provide a brief description of what was observed, and any problems noted, it is permitted, to group surveillances performed in to periodic surveillance report. For Suppliers, an individual report is required for each surveillance.

Documentation of problems shall be in accordance with QP-006N-OPG, Non-Conformance Procedure, and the reference documents.

The problem NCR, CAR or SCR numbers and titles and other observations shall be reported in Q-907N-OPG, Surveillance Report and submitted to the Site Quality Manager and the Project Manager for acceptance.

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### 6.2.5 Communication of Results

Regular meetings shall be held between Site Quality Manager and the local management system representative (OPG) to review surveillance results. Formal meetings will be held periodically. Minutes will record any actions from these meetings.

For suppliers the results of the surveillance shall be prepared prior to leaving the supplier's location.

### 6.3 Witness and Holds

Witness and hold points are planned observation or inspections of work including product realization, project management or condition of the site, facilities and structures, systems and components.

Witness and holds points are identified in the Inspection and Test Plans, of either CCL or the supplier.

For suppliers, CCL identifies during the review of the suppliers ITP any witness or hold points that it requires. Witness points should be the preferred process and holds should be used infrequently and only for high risks. The contractual document shall identify the need for the supplier to notify CCL at least 5 days prior to a witness and hold point.

For CCL work witness and hold point observation and inspection proceeds in accordance with the ITP.

The process for planning, resourcing and communicating the results for witness and hold points shall be as defined for surveillance above.

For suppliers, conduct of witness and hold point activities shall be in accordance with the suppliers ITP and documented in the surveillance reports. Problems shall be identified in accordance with the requirements of QP-006N-OPG Non-conformance Procedure.

## 7 RECORDS

- a) Q-010N, Non-conformance Report
- b) Q-907N-OPG, Surveillance Report

# Comstock

Document Title:

## Project Start-up Activities

Document Number:

QP-021N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)



26-SEP-2011

*Prepared by*

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26 SEPT 2011

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Ron Brown  
Acting VP Nuclear – Darlington & Pickering



27 SEP 2011

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*dd-mmm-yyyy*

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## Revision History

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## 1 PURPOSE

This procedure defines the process to facilitate the transfer of information regarding the project between those responsible for estimating and securing the project, those who will provide support to the project and those who will be responsible for the execution of the project.

## 2 SCOPE

This procedure is applicable to all OPG nuclear work requests.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) Z299.1 – Quality Assurance Program – Category 1

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Limited
LMS	Labour Monitoring System
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 VP Nuclear – Darlington & Pickering

VP Nuclear – Darlington & Pickering is responsible for the definition, implementation and continual improvement of this procedure.

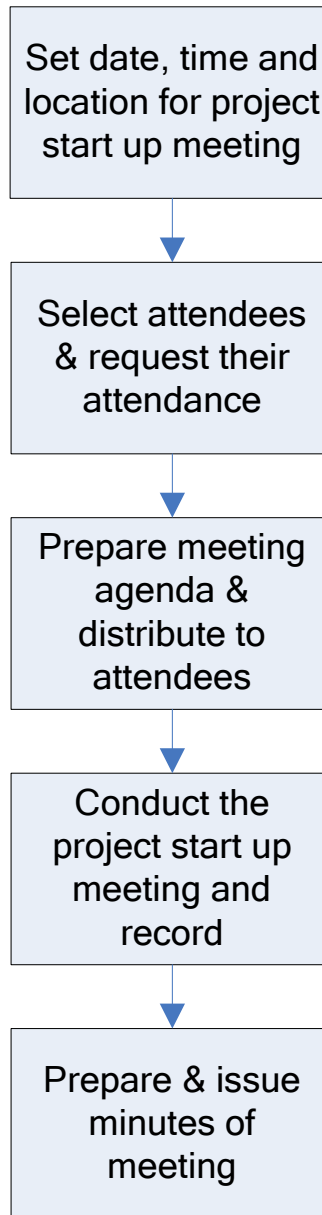
## 6 PROCEDURE

The Project Start up meeting is required when the estimated value of the contract is equal to or greater than \$100,000.00 or with a labour content of 1,000 man-hours or more.

The requirements of this procedure will be satisfied by implementing each applicable step of the following flowchart:

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**Flowchart 1, Project Start-up Meeting**



The attendees at the project start-up meeting are determined on a case by case basis and shall include those responsible for estimating and securing the project, those who will provide support to the project and those who will be responsible for the execution of the project.

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Table 1 provides typical agenda items for the start-up meeting.

**Table 1 – Typical Agenda Items**

Commercial	<ul style="list-style-type: none"> <li>• Bonding requirements</li> <li>• Billing details &amp; breakdown</li> <li>• Cash allowances Dispensation</li> </ul>	<ul style="list-style-type: none"> <li>• Special insurance coverage</li> <li>• Tax payments &amp; recovery</li> <li>• Payment terms</li> </ul>
Staffing	<ul style="list-style-type: none"> <li>• Organization chart</li> </ul>	
Contractual	<ul style="list-style-type: none"> <li>• Special/general condition clauses</li> <li>• Consulting Engineering profile evaluation</li> <li>• QA/QC requirements</li> <li>• Contract identification</li> <li>• Dispute resolution</li> </ul>	<ul style="list-style-type: none"> <li>• Client profile evaluation</li> <li>• Drawing requirements &amp; control</li> <li>• Letter of Intent</li> <li>• Starting Notice</li> </ul>
Estimate/scope review	<ul style="list-style-type: none"> <li>• Estimate recap</li> <li>• Review Bid Set Documents/Addendums</li> <li>• Review expense items</li> <li>• Review installation strategies</li> <li>• Alternate equipment &amp; special materials</li> <li>• Special agreements, written</li> </ul>	<ul style="list-style-type: none"> <li>• Review unique features</li> <li>• Redesign possibilities</li> <li>• Review subcontracts</li> <li>• Estimate disclosure &amp; discussions</li> <li>• Tender correspondence</li> </ul>
Engineering	<ul style="list-style-type: none"> <li>• Define Engineering Needs</li> </ul>	<ul style="list-style-type: none"> <li>• Contracting Strategy</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>• Accountabilities for Procurement Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Procurement Strategy</li> </ul>
Prefabrication	<ul style="list-style-type: none"> <li>• Arrangements</li> </ul>	<ul style="list-style-type: none"> <li>• Detailing</li> </ul>
Schedule	<ul style="list-style-type: none"> <li>• Duration</li> <li>• Milestones</li> </ul>	<ul style="list-style-type: none"> <li>• Delays</li> <li>• Notice provision</li> </ul>
Materials & equipment	<ul style="list-style-type: none"> <li>• Specialty item &amp; material re-estimates</li> <li>• Hoisting &amp; access details</li> <li>• Shipping &amp; delivery details/schedule</li> <li>• Special purchase arrangements</li> </ul>	<ul style="list-style-type: none"> <li>• Procurement</li> <li>• Handling plan</li> <li>• Storage facilities</li> <li>• Clean up containers</li> </ul>
Labour/HR	<ul style="list-style-type: none"> <li>• Mark-up meeting</li> <li>• Supervision</li> <li>• Labour hiring strategy</li> <li>• Testing &amp; commissioning</li> </ul>	<ul style="list-style-type: none"> <li>• Labour plan &amp; LMS</li> <li>• Installation techniques Review</li> <li>• Labour rates</li> <li>• Labour expenses (e.g. travel)</li> </ul>
Job site facilities	<ul style="list-style-type: none"> <li>• Office trailers</li> <li>• Temporary services, heat, light &amp; power</li> </ul>	<ul style="list-style-type: none"> <li>• Communication requirements</li> <li>• Computers</li> </ul>
Construction tool & equipment	<ul style="list-style-type: none"> <li>• Rental budget</li> <li>• Tool trailer &amp; crib</li> </ul>	<ul style="list-style-type: none"> <li>• Special tooling</li> </ul>
Safety & Environment	<ul style="list-style-type: none"> <li>• Project Safety &amp; Environmental Plan</li> <li>• JSEA requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Employee training</li> <li>• Safety Equipment</li> </ul>
Subcontractors	<ul style="list-style-type: none"> <li>• Letters of Intent</li> <li>• Subcontracts</li> <li>• QA/QC</li> </ul>	<ul style="list-style-type: none"> <li>• Schedule</li> <li>• Bonds/insurance</li> <li>• Safety</li> </ul>

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QA/QC	<ul style="list-style-type: none"> <li>• Project Quality/Execution Plan</li> <li>• Document control</li> <li>• Testing and commissioning</li> </ul>	<ul style="list-style-type: none"> <li>• QC requirements</li> <li>• Special procedures</li> </ul>
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## 7 RECORDS

- a) Meeting minutes

# Comstock

Document Title:

## Special Processes

Document Number:

QP-022N-OPG

Revision Number:

REV: 0

Gilles Lemay  
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## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure details the requirements for the control of special processes. Special processes include welding, heat-treating, cleaning, protective coating, concrete work, soldering, non-destructive examination, and leak testing.

## 2 SCOPE

The following procedure applies to the use of Special Processes at OPG Nuclear facilities.

## 3 REFERENCE DOCUMENTS

- a) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- b) CCL-MAN-001, CSA N285.0 Quality Manual
- c) CSA N286-05, Management system requirements for nuclear power plants
- d) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- e) CAN3-Z299.1-85 Quality Assurance Program – Category 1

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
ASME	American Society of Mechanical Engineers
BPS	Brazing Procedure Specification
CCL	Comstock Canada Ltd.
CWB	Canadian Welding Bureau
ITP	Inspection and Test Plan
NDE	Non – Destructive Examination
QC	Quality Control
WPS	Welding Procedure Specification

## 5 RESPONSIBILITIES

### 5.1 Project Manager

The Project Manager shall ensure that all personnel, procedures, and equipment used for special processes are qualified in accordance with the applicable codes and standards.

### 5.2 Site Quality Manager

The Site Quality Manager shall make arrangements for surveillance during the execution of special processes as necessary.

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## 6 PROCEDURE

Special processes are those functions that the results of which cannot be examined directly, or in which evidence generated during the process must be used to verify conformance. Typically, the validity of the results is dependent on the use of correct techniques and interpretation results. A production process is a special process when subsequent inspections required to establish conformance are either impossible or undesired. Special processes include welding, heat-treating, cleaning, protective coating, concrete work non-destructive examination, and leak testing.

Measures shall be established and documented to assure that special processes are accomplished under controlled conditions. Personnel, procedures, and equipment shall be qualified in accordance with the applicable codes and standards or customer requirements. These qualifications shall be documented.

### 6.1 Welding and Brazing

Welding of structural components shall meet the applicable requirements of Canadian Welding Bureau (CWB) Standard W47.1.

Welding and brazing of pressure boundary items and systems shall meet the applicable requirements of ASME Section IX and the applicable Code of Construction.

The Project Manager or the Welding Supervisor ensures that welding and brazing is performed by qualified welders/welding operators and brazers/brazing operators using an approved Welding Procedure Specification (WPS) or Brazing Procedure Specification (BPS) to ensure welding and brazing is performed to Code, and engineering requirements.

Control of welding and brazing focuses on using qualified welding/brazing procedures, qualified personnel, and using qualified and controlled equipment and materials.

Defective welded and brazed joints are reworked in accordance with an approved welding or brazing repair procedure. Welded joints or brazed joints that cannot be repaired without changing the repair procedure, or when base materials are to be replaced shall be dispositioned in accordance with the CCL QP-006N-OPG, Non-Conformance Procedure,.

### 6.2 Heat Treating

CCL does not perform heat treatment; when it is required, a qualified sub-contractor will perform the heat treatment for CCL on site with a localized electrical resistance stress relieve unit or off site in a furnace.

The Welding Supervisor or a delegate based on direction from Engineering will complete a heat treatment instruction. It serves as technical instruction to the supplier to provide details of the requested service. This instruction could be provided to the supplier together with the procurement document or prior to the start of the contracted work.

The Site Quality Manager reviews the subcontractor's procedures and personnel qualification records and final heat treatment records and may request quality surveillance be performed to verify activities: Heat treatment is performed and documented by qualified operators using calibrated heating and temperature recording equipment.

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Temperature recording charts and other temperature recording media are identified to the weld or item and or to the controlling ITP. Calibration identification number of the chart recorder and its calibration status are also identified on the chart.

### **6.3 Non-Destructive Examination**

NDE methods include: Radiography, Ultrasonic, Magnetic Particle, Liquid Penetrant, Eddy Current, and Visual Examination.

Qualified QC personnel using approved procedures perform visual Examination activities conducted by CCL.

Except visual examination, all other required NDE services are procured in accordance with CCL QP-004N-OPG, Purchasing of Services.

The Site Quality Manager ensures the contractor submits their NDE Procedures, NDE technique sheets, and personnel qualifications for acceptance prior to start of work, in accordance with the purchase order requirements. NDE procedures are qualified in accordance with the requirements of the ASME Code Section V or alternate acceptable procedures.

CCL Site Quality Manager schedules the necessary quality surveillance to verify:

- a) NDE Technicians performing non-destructive examination are certified, at a minimum to level II in accordance with the requirements of the Canadian General Standards Board (CGSB) standard 48.9712.
- b) Non-destructive examination procedures and technique sheets used to verify quality are developed to meet the requirements of the Code. Only a level III technician shall approve the procedures or technique sheets.
- c) NDE equipment is maintained and is within its current calibration period and is of the type qualified and specified in the NDE procedures.
- d) NDE Inspection Report satisfies the requirements of ASME Section V and the applicable Code of Construction. NDE reports shall show the examination results and cross-reference to the weld number, ITP, or Work Package, as applicable.

Records of non-destructive examination shall be prepared by the technician performing the work, shall be evaluated by a level II or level III technician, and shall be forwarded to the site Quality Function for review and acceptance.

Certified records of non-destructive examination including NDE technician's name and copy of certification record, examination results, and final radiographs, shall be provided to CCL.

### **6.4 Cleaning**

Cleaning shall be accomplished using qualified, personnel, procedures and equipment in accordance with the applicable codes, standards or customer requirements. The qualification of personnel, procedures, or equipment as necessary shall be defined, implemented, and documented. Measures shall be established to assure that cleaning is accomplished under controlled conditions.

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## **6.5 Concrete Work**

Concrete work shall be accomplished using qualified, personnel, procedures and equipment in accordance with the applicable codes, standards or customer requirements. The qualification of personnel, procedures, or equipment as necessary shall be defined, implemented, and documented. Measures shall be to assure that concrete work is accomplished under controlled conditions.

## **6.6 Leak Testing**

Leak testing shall be accomplished using qualified, personnel, procedures and equipment in accordance with the applicable codes, standards or customer requirements. The qualification of personnel, procedures, or equipment as necessary shall be defined, implemented, and documented. Measures shall be established to assure that leak testing is accomplished under controlled conditions

## **6.7 Protective Coating**

Protective coating shall be accomplished using qualified, personnel, procedures and equipment in accordance with the applicable codes, standards or customer requirements. The qualification of personnel, procedures, or equipment as necessary shall be defined, implemented, and documented. Measures shall be established to assure application of protective coatings is accomplished under controlled conditions

## **6.8 Soldering**

Soldering shall be accomplished using qualified, personnel, procedures and equipment in accordance with the applicable codes, standards or customer requirements. The qualification of personnel, procedures, or equipment as necessary shall be defined, implemented, and documented. Measures shall be established to assure soldering is accomplished under controlled conditions

## **7 RECORDS**

- a) NDE Reports
- b) Heat Treatment Charts
- c) Special Processes Sub Contractor Inspection Reports

# Comstock

Document Title:

## Identification and Traceability of Items

Document Number:

QP-023N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

*Prepared by*

Mike Krone  
Quality Manager, Nuclear

*Reviewed by:*

Mike Krone  
Quality Manager, Nuclear

*Approved by:*



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29 SEPT, 2011

dd-mmm-yyyy



Signature

29 SEP 2011

dd-mmm-yyyy



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29 SEP 2011

dd-mmm-yyyy

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0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

Provide assurance that only correct and accepted Items (product or service) are used or installed. All items with any quality requirement must be traceable to the supporting applicable drawing, specification, or other technical document, from receipt inspection to final installation.

This is accomplished by clearly identifying, maintaining, controlling and as required transferring markings until final use or installation

## 2 SCOPE

This procedure applies to Items procured or used in an OPG nuclear facility

This procedure also applies specifically to all pressure boundary Items (material, fittings, components etc.) from the receiving inspection to the final acceptance of the system or activity.

## 3 REFERENCE DOCUMENTS

- a) ASME NX 2000
- b) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- c) CCL-MAN-001, CSA N285.0 Quality Manual
- d) CSA N286-05, Management system requirements for nuclear power plants
- e) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
ASME	American Society of Mechanical Engineers
C of C	Certificate of compliance
CMTR	Certified Material Test Report
CSA	Canadian Standards Association
Items	An all inclusive term used in place of the following: components, material, parts and piping subassemblies, and components and piping supports. The definition also extends to product or services in the context of this procedure.
ITP	Inspection and Test Plan
MR	Material Request
PB	Pressure Boundary
PO#	Purchase Order
Cat ID	Catalog Identification
UTC	Uniquely Tracked Commodity

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## **5 RESPONSIBILITIES**

### **5.1 Project Manager**

- a) Shall have in place a system to maintain identification and traceability of items.

### **5.2 Site Quality Manager**

- a) Will insure that this procedure is followed when identification, control and traceability of items is required by code or customer requirements.

### **5.3 Trade Supervisor**

- a) Will supervise the transfer of markings on subdivided material. He will also insure that the markings are not obliterated during the installation or manufacturing process.

### **5.4 QC Supervisor/QC Inspector**

- a) Will witness and verify that the markings have been transferred properly to any subdivided items at the designated sequence on the ITP.

## **6 PROCEDURE**

### **6.1 General**

Physical identification shall be used to the maximum extent possible. Where physical identification on the item is either impractical or insufficient, physical separation or other appropriate means shall be employed.

Use only approved paint and felt markers approved by the licensee for the item. Particular care should be taken when marking Austenitic Stainless steel items as they cannot tolerate markers with high halogen and sulphur content.

Identification markings when used shall be applied using materials and methods which provide a clear and legible identification and do not detrimentally affect the function or service life of the item.

QP-004N-OPG, Purchasing of Services, covers the services aspect of this procedure at OPG nuclear facilities.

### **6.2 Pressure Boundary Items/Material**

Identification or traceability of items – ASME codes normally specify identification or traceability to an applicable material specification and grade; heat, batch, lot, part, or serial number.

Identification marking shall be transferred to all pieces when material or source material is divided. The markings shall not be obliterated or hidden by surface treatment or coatings unless other means of identification are substituted.

Limited shelf life items are to have a marking showing the do not use after date or identified in a manner specified by the client such that they will not to be used past their expiry date.

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### 6.3 Nuclear Small Products

This is described in ASME NCA-3856.3 (f): “Except as required by the material specification, bolts and nuts 1 in. (25 mm) nominal diameter and smaller and other products where the largest space available for marking is less than 1 in. (25 mm) in any one direction need not be individually marked, provided they are packed in packages or containers that shall be clearly identified by legible marking to ensure positive identification of the material. The markings on the containers shall identify the material with the Certificate of Compliance or Certified Material Test Report, as applicable.”

### 6.4 Welding and Brazing Materials Identification

This shall be per ASME NCA-3856.4: Welding and brazing materials shall be clearly identified by legible marking on the package or container to ensure positive identification of the material. The marking shall include the heat or lot number as applicable, a control marking code that identifies the material with the Certified Material Test Report, and other information such as specification, grade, and classification number, Material Organization’s name, and trade designation.”

### 6.5 Certificate of Compliance

This is described in ASME NCA-3862.1 (g) and (h): “A Certificate of Compliance with the material specification, grade, class, and heat treated condition, as applicable, may be provided in lieu of a Certified Material Test Report for material NPS ¾ (DN 20) and less (pipe, fittings, flanges, materials for valves and tubes except heat exchanger tubes), bolting 1 in. (25 mm) and less, as applicable. Material identification shall be described in the Certified Material Test Report or Certificate of Compliance, as applicable. Heat or lot traceability to the Certificate of Compliance is not required.”

Licensees make extensive use of Cat ID labels with UTC’s. Traceability using these labels shall be used to the maximum extent possible to align with the Client’s identification and traceability system.

### 6.6 Maintaining Identification of Stored Items

The Project Manager shall make provisions for the control of item identification consistent with the planned duration and condition of storage, such as:

- a) provisions for maintenance or replacement of markings and identification records due to damage during handling or aging;
- b) protection of identifications on items subject to excessive deterioration due to environmental exposure;
- c) provisions for updating existing plant records

### 6.7 Non-conformances

Non-conformances are to be handled as per QP-006N-OPG, Non-conformance Procedure

## 7 RECORDS

- a) Q-009N Inspection Report (if required)

# Comstock

Document Title:

## Preparation, Use and Control of Technical Procedures

Document Number:

QP-024N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by

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29 SEPT, 2011  
dd-mmm-yyyy

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dd-mmm-yyyy

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## Revision History

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0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

The purpose of this procedure is to document the steps and process to follow when a technical procedure is required or a change to such procedures is required.

## 2 SCOPE

Applies to all OPG nuclear facilities technical procedures used in conjunction with the nuclear management system.

## 3 REFERENCE DOCUMENTS

- a) N-PROC-AS-0028 Development, review and approval of technical procedures
- b) CSA N286-05, Management system requirements for nuclear power plants
- c) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Limited
NCR	Non-Conformance Report
OPEX	Operating Experience
OPG	Ontario Power Generation
SCR	Station Condition Report
SME	Subject Matter Expert
SPOC	Single Point of Contact
Technical procedure	Provides instructions for the maintenance, repair, modification or testing of a system, structure or component
TPAR	Technical Procedure Action Request


## 5 RESPONSIBILITIES

### 5.1 Quality Manager, Nuclear

- a) Has the overall responsibility to develop and modify as required all technical procedures required at nuclear facilities.

### 5.2 Site Quality Manager

- a) Provide assistance and support for the revision and implementation of technical procedures.
- b) Identify training needs, if any, related to any new or revised technical procedure.

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## **6 PROCEDURE**

### **6.1 General**

Technical procedures are normally prepared in advance of site activities, with the contractual requirements clearly established.

Once a procedure is in use it may require to be changed following:

- a) A condition adverse to quality has been identified through NCR or SCR process
- b) A request for revision submitted by personnel using the procedure

The Site Quality Manager will review requests for new or changes to an existing procedure. He shall take the necessary steps to accommodate or advise the requestor if the change request is not accepted.

### **6.2 Engineering Support**

The Site Quality Manager shall identify and submit procedures requiring Engineering support when necessary.

The CCL Engineering partner may be asked to prepare technical procedures or review procedures for technical acceptability for any contemplated changes. The Site Quality Manager is their Single Point of Contact (SPOC).

### **6.3 OPG TPAR**


OPG normally uses Technical Procedure Action Request (TPAR) to document and obtain concurrence for their technical procedures. If contractually required CCL will align its technical procedures development, review and approval process with OPG and its engineering requirements as required.

### **6.4 Technical Procedure Content**

Only individuals with the necessary experience and knowledge of the subject are to prepare or review technical procedures

The Owner of the procedure along with the Quality Manager, Nuclear will determine the appropriate minimum content commensurate with the complexity of the task to be performed.

A package with supporting documentation (SCR, correspondence, OPEX reports, etc) shall be included with the technical procedure to support the revision prior to submitting for review and approval.

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### **6.5 Training and Roll Out Requirements**

The Site Quality Manager will also evaluate the appropriate level of training required and or relevant to the procedure or changes.

The Site Quality Manager will arrange a review and discussion with affected support staff of any new or revised technical procedure as necessary prior to being used on plant equipment.

The Site Quality Manager shall verify that the procedure meets the intended function and is usable by a qualified individual. To do so he may consult with SME and have discussions with staff involved in the actual use or implementation.

He shall acknowledge this verification with the Quality Manager, Nuclear by e-mail.

### **6.6 Safety and Safety Related Systems**

No procedure that may affect the plant operation or safety of a safety related system would be implemented without OPG's acceptance.

### **6.7 Process for Verification and Approval**

The Quality Manager, Nuclear may elect to have an independent revision by a SME if the procedure complexity warrants.

The Quality Manager, Nuclear shall be the final approver of all technical procedures that are to be used at OPG nuclear facilities.

Once approved, the latest revision of the technical procedure will be posted on CCL electronic library. Notification will follow this posting.

### **6.8 Minor Revisions**

All revisions other than typographical errors or clearly insignificant changes must be reviewed and approved by the same level as the original document.

## **7 RECORDS**

- a) Procedure template

# Comstock

Document Title:

## Work Request Closeout

Document Number:

QP-025N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by

Mike Krone  
Quality Manager, Nuclear

Reviewed by:

Ron Brown  
Acting VP Nuclear – Darlington & Pickering

Approved by:



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29 SEPT, 2011

dd-mmm-yyyy



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29 SEP 2011

dd-mmm-yyyy



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29 SEP 2011

dd-mmm-yyyy

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## 1 PURPOSE

This procedure defines the process of determining the final outcome of the project and to evaluate what significant factors contributed to the outcome that could be applied to other projects.

## 2 SCOPE

This procedure is applicable to all OPG nuclear work requests.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) Z299.1-Quality Assurance Program-Category 1
- d) OPG Contractor/Owner Interface Agreement, N-DAI-00150-10000

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 Vice President, Nuclear Darlington and Pickering

The Vice President Nuclear Darlington and Pickering is responsible for the definition, implementation and continual improvement of this procedure.

## 6 PROCEDURE

Project Close Out activities per OPG Contractor/Owner Interface Agreement N-DAI-00150-10000 include but are not limited to:

- Conduct AFS (Available for Service Meeting)
- Resolve issues raised during AFS Meeting
- Prepare, Review and Approve for OPG acceptance of AFS Meeting
- Passport AEL (Affected Equipment List) Launch
- Approve ADL (Affected Document List) Final Documents
- Address AFS Meeting open items

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- Submit documentation to OPG for Closeout
- Close Design and Project EC ( Engineering Changes)
- If last unit, Close Master EC
- Conduct Use of Experience Meeting as described below:

The Use of Experience meeting is scheduled is when the estimated value of the contract is equal to or greater than \$100,000.00 or with a labour content of 1,000 man-hours or more.

Each Site Manager of projects with a dollar value equal to or greater than \$250,000.00 or with labour content of 2500 or more shall obtain input from the OPG single point of contact for the project on the performance of the project and project team.

Each Project Manager shall schedule a Use of Experience meeting at the conclusion of the project, or at a frequency of at least once every six months to identify and evaluate lessons learned that may be relevant for future work. This Use of Experience meeting shall be conducted in accordance with the CCL Use of Experience Procedure QP-008N-OPG

## **7 RECORDS**

- a) Comstock NCR Report titled "Experience"

# Comstock

Document Title:

## Observation and Coaching

Document Number:

QP-026N-OPG

Revision Number:

REV: 0

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QA Specialist

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29 SEPT, 2011  
dd-mmm-yyyy

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dd-mmm-yyyy

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29 SEP 2011  
dd-mmm-yyyy

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## 1 PURPOSE

This procedure provides the process for Observation and Coaching that confirms that the performance expectations for work has been understood by workers and is being met.

## 2 SCOPE

This procedure is applicable to all OPG nuclear work requests.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) Z299.1 – Quality Assurance Program – Category 1

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
NCR	Non-Conformance Record
O&C	Observation and Coaching
OPG	Ontario Power Generation
SCR	Station Condition Report

## 5 RESPONSIBILITIES:


### 5.1 Quality Manager, Nuclear

The Quality Manager, Nuclear, is responsible for the definition, implementation and continual improvement of this procedure.

## 6 PROCEDURE:

### 6.1 Observation and Coaching

Observation and coaching provides Comstock the ability to confirm that the workforce understands and is meeting requirements and the work area/environment meets requirements. Behaviours of personnel are directly observed. Observations can be positive or negative dependent upon the behaviour noted against the standard. Comstock's program will consistently identify "procedural drift" (where adherence to procedures is less than expected) and leading indicators, which identify less than adequate control by personnel.

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Coaching is provided and behaviours or work conditions observed that are negative or undesirable need to be recorded and evaluated using the problem identification and resolution processes (SCR or NCR).

To ensure compliance to customer expectations, Comstock Canada Limited has set out expectations of all employees on the site regarding frequency of observation and coaching. Workers in supervisory position will perform O&C at least monthly.

## **6.2 Observation and Coaching - Types:**

### **6.2.1 Individual Observations**

Observations focusing on an area of work performed by an individual and are completed by the individual. These individual observations are focused, noted and important observations are shared with the company to identify strong positive characteristics and to identify areas of improvement (at risk behaviours) during staff meetings.

### **6.2.2 Paired Observations**

Observations focusing on an area of work performed by a site manager and a site line supervisor (e.g. Foreman, General Foreman and/or Superintendent) completed by the pair. These paired observations are focused, recorded and shared with the company to identify strong positive characteristics and to identify areas of improvement ("at risk" behaviours). Corporate managers visiting site are required to participate in a paired observation with a site manager

## **6.3 Observation and Coaching – The Process:**

### **6.3.1 Preparation**

The process requires some preparation by the participants. The observer is required to know what the expectations are before they can perform an observation and coaching (paired or individual). Preparation should include:

- a) Reviewing the customer's human performance website for areas of focused observation and coaching.
- b) Research the support material that applies to the observation and coaching.
- c) Personnel must know or read the procedure(s) that apply to the Site generated weekly observation and coaching.
- d) The observer(s) understand what they are going to measure.

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### 6.3.2 Conduct

For individual and paired observations, observer(s) will determine what group they will observe. Once determined, the observer(s) shall perform the following

- a) Attend the pre-job and inform the group they are performing an observation and coaching.
- b) Observers will observe the performers (those doing the work) to see if they exceed, meet or perform below expectations.
- c) Observers may interview the personnel to see what their understanding of the requirements and behaviours for the task being performed.
- d) The observer(s) are obligated to ensure that at no time are participants at risk of performing a task unsafely. If staff is working unsafely, the task must be stopped immediately, the proper notifications made and corrective action taken prior to work resuming.
- e) Feedback and coaching is provided orally to workers. The feedback should re-enforce the CCL expectations, behaviours and values.
- f) Any corrective actions, at risk behaviours or immediate attention items will be communicated to the appropriate line personnel and the required problem identification and resolution form shall be prepared.

## 7 RECORDS

Form Q-045N- Observation and Coaching Report.

# Comstock

Document Title:

## CCL Organization for OPG Portfolio

Document Number:

QP-027N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by

  
Signature

30 SEPT, 2011  
dd-mmm-yyyy

Mike Krone  
Quality Manager, Nuclear

Reviewed by:

  
Signature

30 SEP 2011  
dd-mmm-yyyy

Ron Brown  
Acting VP Nuclear – Darlington & Pickering

Approved by:

  
Signature

30 SEP 2011  
dd-mmm-yyyy

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## Revision History

Revision	Date	Author	Description of Changes
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## 1 DIRECTION

This document is a high level abstract of the responsibilities and authorities of the management positions for the CCL Nuclear Management System for Ontario Power Generation (OPG) portfolio. The organization chart is in Appendix A – Organization Chart.

## 2 REFERENCE DOCUMENTS

- a) CSA N286-05 - Management System Requirements for Nuclear Plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) CAN3-Z299.1-85 – Quality Assurance Program – Category 1.


## 3 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd
COO	Chief Operating Officer
NMS	Nuclear Management System
OPG	Ontario Power Generation

## 4 ROLES AND RESPONSIBILITIES

### 4.1 President and Chief Operating Officer

- a) Responsible for overall operation of CCL;
- b) Ensure the continual adequacy and effectiveness of the Overall CCL Management Systems in meeting the requirements of CCL Policies and Objectives, and required applicable Standards and Codes;
- c) Establish and seek advice of the management oversight group to ensure that CCL meets OPG expectations;
- d) Interface with the client's senior management to ensure that contractual requirements are understood and are being complied with;
- e) Resolve matters brought to his attention by the Quality Manager, Nuclear or the Management Oversight Group.

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#### **4.2 Vice President, Shared Services**

- a) Responsibility as the process owner for nuclear procurement to ensure that procurement activities are planned and executed in accordance with requirements;
- b) Responsibility to maintain the Approved Suppliers List to ensure that only accepted suppliers are retained;
- c) Responsibility as the process owner for nuclear human resources to ensure that human resources activities are planned and executed in accordance with requirements;
- d) Oversee Information Technology function, and ensure that CCL information system is maintained and information is provided to personnel on a need to know basis and essential information and data in CCL electronic library is backed up.

#### **4.3 Quality Manager Nuclear**

- a) Functionally reporting to President and COO, this position has been assigned the responsibility, authority, and organizational freedom to independently assess the implementation and effectiveness of the Nuclear Management System;
- b) Authority to stop work at their sole discretion when requirements are not met.

#### **4.4 Management Oversight Group**

- a) Provide the President and COO and the Vice President Nuclear, Darlington & Pickering with specialized advice and guidance for the CCL Nuclear business;
- b) Provide advice and guidance for the continual improvement of Nuclear Management System;
- c) Review business performance against plan, the results of independent assessments and other business inputs;
- d) Provide advice and guidance on resolving strategic problems.

#### **4.5 VP Nuclear –Darlington and Pickering (VP)**

- a) Establishes and continually improves the Nuclear Management System for OPG portfolio and ensure that the workers comply;
- b) Establish the organization and business plan and acts as the MSA Representative for OPG portfolio;
- c) Assign competent workers to manage, perform and verify the work;
- d) Ensure the satisfactory performance of the portfolio with respect to financial, quality, health, safety, environment, security and client expectations;
- e) Perform the management system review at least annually and report the results to President and COO;
- f) Fulfills the accountability of the Management Representative as described in Z299.1-85 and the authority and responsibility to resolve any problem including quality matters.

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#### **4.6 Darlington/Pickering Site Manager (sometimes referred to as Project Manager)**

- a) Direct and manage project development from beginning to end including developing project control plans and associated documents;
- b) Manage the planning and execution of the work within the approved project control plan safely, on-time and within budget and report on performance;
- c) Ensure use and adherence to the nuclear management system at site;
- d) Manage expectations of workers, customer and other stakeholders;
- e) Proactively manage changes in project scope, identify potential crises, and devise contingency plans;
- f) Conduct project lessons learned and report in order to identify successful and unsuccessful project elements.

#### **4.7 Procurement Manager**

- a) Functionally reporting to the VP, Shared Services;
- b) Responsible for ensuring that procurement activities across OPG portfolio are planned and executed in accordance with requirements;
- c) Manage the contracts of all suppliers involved in the portfolio, ensuring that only approved suppliers are utilized in the project;
- d) Apply the appropriate terms and conditions in the creation of contracts for services and/or materials;
- e) Obtain Client pre-approval of expenditures, where required;
- f) Performs logistics and warehousing activities.

#### **4.8 Engineering Project Manager (Resident Engineer)**

- a) Responsible for the review and acceptance of engineering products process ;
- b) Performs oversight of engineering work performed by suppliers;
- c) Provides liaison with OPG engineering management and obtains required approvals;
- d) Ensures construction and maintenance activities are consistent with approved engineering documents and field changes are approved and documented in keeping with project schedule;
- e) Accountable to ensure constructability, operability, maintainability and safety reviews and available for service reviews satisfy engineering requirements ;
- f) Authority to stop work at their sole discretion when engineering requirements are not met;
- g) Responsibility for review and acceptance of the results of product realization, related to the procurement, construction and commissioning.

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#### **4.9 Quality Manager (sometimes referred to as Site Quality Manager)**

- a) Confirms use and adherence of the nuclear management system on behalf of the VP;
- b) Review of contract documents to ensure that management system and quality requirements are adequately specified;
- c) Performs audits, surveillance and inspection and test as required and ensure problems are identified and resolved;
- d) Conduct and/or participate in meetings with project workers, clients and suppliers;
- e) Participate in the process of evaluation to maintain the Approved Suppliers List (ASL).

#### **4.10 Finance Manager**

- a) Supports the VP with preparation of the business plan for the OPG portfolio and ensuring financial accuracy of the plan;
- b) Responsible for all project billing, payables, receivables, analysis, reporting, and financial controls;
- c) Provides accounting service for OPG portfolio;
- d) Monitor and report on financial performance including analysis of project cash flow, tracking overhead costs, supporting pricing and cost savings initiatives and performing monthly cost and billings reconciliations;
- e) Oversee the compliance of the organization with respect to the CCL corporate internal controls framework;
- f) Project compliance with prime contract administration of financial terms and conditions and assist project management on communication to clients on such matters;
- g) Monitor purchase orders and committed costs; prepare client billings in accordance with contractual and commercial terms and in a timely manner.

#### **4.11 Safety Manager**

- a) Functionally reporting to the President & COO;
- b) Responsibility as the process owner for the health and safety program;
- c) Support the VP with safe work planning, including communication and training on safety requirements to the workforce;
- d) Ensure compliance with health and safety requirements;
- e) Perform periodical safety inspection and ensuring identified problems are resolved;
- f) Supporting management with required reporting to client and regulators.

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#### **4.12 HR Manager**

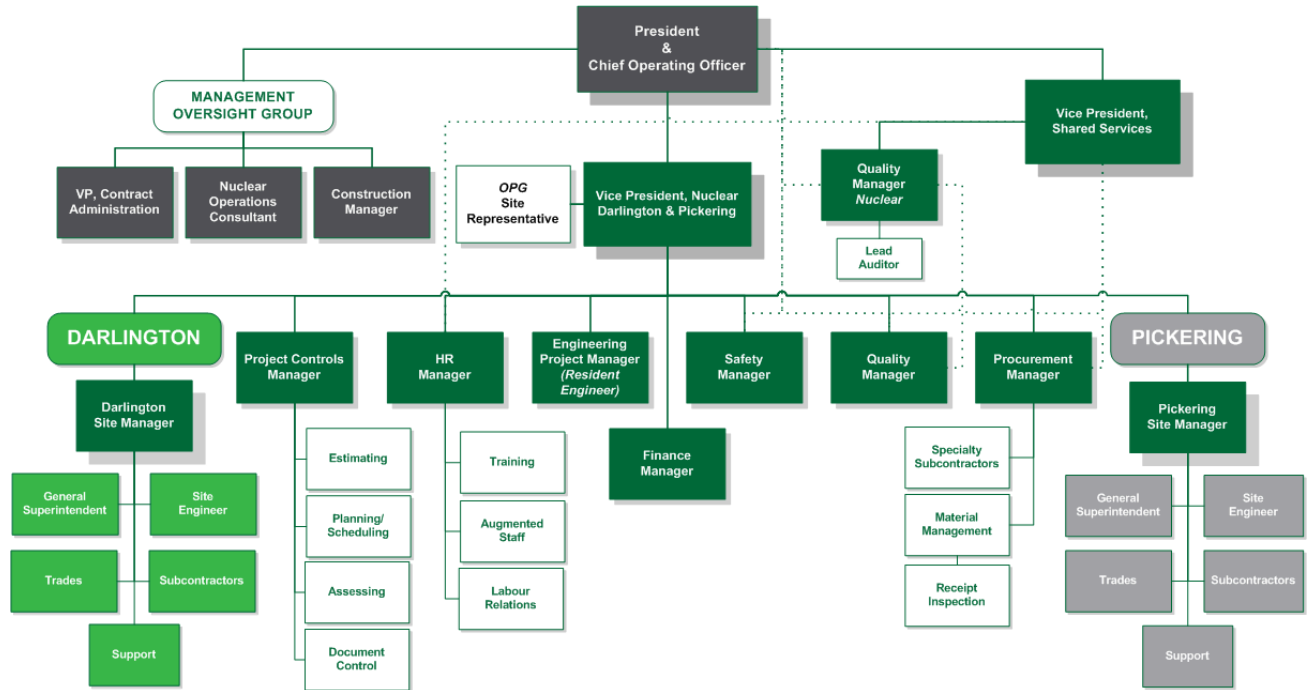
- a) Functionally reporting to the VP, Shared Services;
- b) Responsible for ensuring that human resources activities across OPG portfolio are planned and executed in accordance with requirements;
- c) Responsibility to support the VP in staffing strategies, acquiring and developing workers and defining and fostering the expected culture;
- d) Responsibility to support the VP in labour relations.

#### **4.13 Project Controls Manager**

- a) Responsibility as the process owner for project planning and controls process;
- b) Support the project management team with estimating resource hours and task durations;
- c) Support the project management team with development of project controls plan, including risk management, development of work breakdown structure, project schedule, including resource levelling and critical path analysis, and establish project baselines;
- d) Responsible for reporting the status of project activities;
- e) Responsible for OPG portfolio document and records;
- f) Responsible for the task planning and assessing for inclusion in Comprehensive Work Packages (CWP).

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**5 APPENDIX A – ORGANIZATION CHART**



# Comstock

Document Title:

## Generation and Control of an Inspection and Test Plan (ITP)

Document Number:

QP-100N-OPG

Revision Number:

REV : 0

Gilles Lemay  
QA Specialist

*Prepared by*

Mike Krone  
Quality Manager, Nuclear

*Reviewed by:*

Mike Krone  
Quality Manager, Nuclear

*Approved by:*



Signature

29 SEPT, 2011

dd-mmm-yyyy



Signature

29 SEP 2011

dd-mmm-yyyy



Signature

29 SEP 2011

dd-mmm-yyyy

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0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure details the requirements for the generation of an Inspection and Test Plan to identify inspection, test and verification for the product or service points to ensure that quality is achieved.

## 2 SCOPE

This procedure shall apply to projects at OPG nuclear facilities where Comstock, the customer (OPG), or the regulatory authority specify that an ITP is required to ensure that required inspection and testing of an item or service is carried out in conjunction with any step of construction, fabrication and installation processes that may affect final quality.

## 3 REFERENCE DOCUMENTS

- a) NQA-1, Quality assurance requirements for nuclear facility applications
- b) Z299.1-85, Quality Assurance Program –Category 1
- c) CSA N286-05, Management system requirements for nuclear power plants
- d) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio


## 4 ACRONYMS AND DEFINITIONS

Term	Definition
AI / ANI	Authorized Inspector / Authorized Nuclear Inspector
CCL	Comstock Canada Ltd
Hold point	Mandatory inspection hold point beyond which work shall not proceed without specific consent of the designated representative.
ITP	Inspection and Test Plan
M&TE	Measuring and Testing Equipment
OPG	Ontario Power Generation
QC	Quality Control

## 5 RESPONSIBILITIES

### 5.1 Project Manager

- a) The Project Manager shall be responsible to ensure that quality planning is completed for all phases of the work request and that an ITP is generated when required.
- b) He shall submit the plan and any subsequent revisions to the client for acceptance before the applicable phase starts.
- c) Submit to the client the referenced inspection and test procedures with the plan if so required by the contract.

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## 5.2 Site Quality Manager

- a) The Site Quality Manager is responsible for the review and approval of the ITP.
- b) Provides qualified inspection personnel to do the inspection and test specified in the ITP.
- c) Ensures that any subcontracted service supplier is on the approved suppliers list and current in their qualification for the task to be performed.

## 6 PROCEDURE

### 6.1 General

The ITP preparer must be familiar with the critical tasks and activities and their potential impact on safety and reliability of nuclear facilities.

The ITP and verification steps are planned prior to the work being performed. It shall identify prerequisites, inspection, tests, hold and witness points, acceptance criteria and documentation requirements. Form Q-002LN, Inspection and Test Plan, is normally used but may be replaced with a similar site specific form acceptable to OPG.

The method and extent of verification shall be determined and be dependent on:

- a) The complexity of the work and their potential impact on equipment performance and plant safety.
- b) Skill and attention of the worker
- c) Critical parameters and characteristics important for the success of the work
- d) Degree of testing possible to show satisfactory performance or that requirements were met
- e) History of problems or failures
- f) Work is novel or routine
- g) Multiple groups, shifts or trades involved

The ITP lays out step by step the work that is to be completed in a sequential order and indicates the inspection, testing or verification activities associated with the work being performed.


The ITP shall reference controlling documentation such as drawings, specifications, procedures etc. and shall identify documentation that is to be generated to verify that quality has been measured and is acceptable.

Groups of similar operations such as cutting, preparing, fitting, tack welding and finish welding may be grouped together, as may groups of related verification activities.

Consent to waive a hold point shall be recorded prior to continuation of work beyond the designated hold point.

### 6.2 Subcontracted Items or Services

The procurement group shall be contacted if any item or service is to be subcontracted. The quality assurance programs, surveillance or audit requirements must be specifically addressed to meet OPG and CCL contractual requirements.

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### 6.3 ITP Content

Each plan shall have a unique identifying number. OPG normally uses Unit, USI, and equipment number with the work order and task as a unique identifier.

The ITP generated will indicate hold and inspection points during the execution of critical tasks to ensure quality standards are met.

The following identified columns on the ITP shall contain information as shown below.

- a) Sequence Number;  
This is an operation identifier mainly used for reference. The objective as far as is possible is to list the operations sequentially as they are planned to occur.
- b) Performed by;  
The upper block identifies the group that have responsibility to perform the work, fabrication, Construction, Sub (Name), etc. The lower block is usually labelled "Quality Check"
- c) Operation;  
The upper box of this column should identify, in point form, the sequence of work operations. In the lower box it should identify, in point form, the inspection or tests required verifying the quality of the performed work. Instructions as to what documentation needs to be generated should also be included in this column.
- d) Control Document;  
Reference documents that control the work and/or inspection and test operations should be listed in this column. This is normally the document that would identify any acceptance criteria
- e) History Document;  
Documentation that flows from the listed operations should be identified in this column; it also identifies the documents that will make up the turnover package.
- f) Comstock, OPG, AI/ANI, (Blank supplier);  
In these columns, the identified party has space to indicate the quality verification operations they wish to perform. A legend on the bottom of the form indicates the appropriate code letters. These boxes may also be used to initial and date any completed operations.
- g) Section box;  
For a multiple task ITP, each section may be numbered as an identifier.
- h) (Blank box);  
A description of the overall task can be entered in this box.
- i) Page box;  
A multiple page ITP can have the page number and total number of pages identified.
- j) Approval boxes:  
These appear on page one only and are sign off boxes for Comstock and if required any regulatory acceptance of the plan.

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A supplier may add any additional inspection or test for his own quality requirements and CCL would indicate N/A in the applicable step.

Records of inspections and tests where used shall include the identifiers required to trace used M&TE to calibration documentation.

Separate procedures are used to cover receiving inspection and if required a site-specific procedure shall be developed for acceptance of special production techniques, statistical process control techniques, lots and batches.

Should the need arise, QP-006N-OPG, Non-Conformance Procedure, shall be used in conjunction with this procedure.

Special processes shall be handled using QP-022N-OPG, Special Processes.

When necessary approvals have been obtained, copies of the plan shall be distributed and a list of plan holders shall be maintained.

The original plan shall be identified as Revision 0 with subsequent revisions being numbered 01, 02, 03, etc.

The revision to the plan shall be approved by a person with the same level of authority as the original. The revised ITP shall be subject to the same review and approval process.

All non-conformances identified by prior inspections must be reviewed and resolved prior to the final inspection.

On completion of the work request covered by the ITP, the person assigned to supervise the site quality effort shall review the plan and associated documents for completeness and shall sign off the plan as evidence of the completed review. The Project Manager will then submit the ITP that meets all specified requirements to the Client's representative for acceptance.

## **7 RECORDS**

- a) Form Q-002LN, Inspection Test Plan

# Comstock

Document Title:

## Generation and Control of a Piping Inspection and Test Plan (PITP)

Document Number:

QP-102N-OPG

Revision Number:

REV : 0

Gilles Lemay  
QA Specialist

*Prepared by*



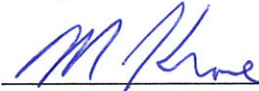
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29 SEPT, 2011

*dd-mmm-yyyy*

Mike Krone  
Quality Manager, Nuclear

*Reviewed by:*



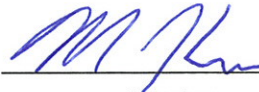
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29 SEP 2011

*dd-mmm-yyyy*

Mike Krone  
Quality Manager, Nuclear

*Approved by:*



*Signature*

29 SEP 2011

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## 1 PURPOSE

This procedure details the requirements for the generation and control of a Piping Inspection and Test Plan (PITP) to identify inspection, test and verification points to ensure that quality is achieved.

## 2 SCOPE

This procedure applies only to pressure boundary work on Class 6, or unclassified but registered systems on projects at OPG nuclear facilities.

The client may request an equivalent electronic process to be followed when acceptable to the jurisdiction. CCL will then provide site instructions to meet the codes and standards applicable and the client's requirements.

## 3 REFERENCE DOCUMENTS

- a) CSA B51 Boiler, Pressure Vessel, and Pressure Piping Code
- b) CSA N286-05, Management system requirements for nuclear power plants
- c) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
AI / ANI	Authorized Inspector / Authorized Nuclear Inspector
CCL	Comstock Canada Ltd
CSA	Canadian Standards Association
Hold point	Mandatory inspections hold point beyond which work shall not proceed without specific consent of the designated representative.
ITP	Inspection and Test Plan
Item	An all-inclusive term used in place of the following: components, material, parts and piping subassemblies and components and piping supports. (CSA N285.0)
M&TE	Measuring and Testing Equipment
OPG	Ontario Power Generation
PITP	Piping Inspection and Test Plan
Witness	An inspection point where the group identifying the step in the process to be witnessed is provided with adequate notification ahead of the activity. Work may proceed if the notified party does not attend or waives the inspection. This is noted on the PITP as such.
QC	Quality Control

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## **5 RESPONSIBILITIES**

### **5.1 Project Manager**

- a) The Project Manager shall be responsible to ensure that quality planning is completed for all phases of the work request and that PITP is generated as required.
- b) Provide qualified personnel to do the assessing of PITP's
- c) He shall submit the PITP template to the client and TSSA for acceptance before the applicable phase starts.
- d) Submit to the client the referenced procedures in the PITP template for acceptance.

### **5.2 Site Quality Manager**

- a) The Site Quality Manager is responsible for the review and approval of the PITP.
- b) Provides qualified inspection personnel to do the inspection and test specified in the PITP.
- c) Ensures that any subcontracted service supplier is on the approved suppliers list and current in their qualification for the task to be performed.

### **5.3 QC Inspector**

- a) Perform activities indicated on the PITP.

## **6 PROCEDURE**

### **6.1 General**

The PITP is a template created to accommodate the most often encountered routine pressure piping repair or replacement activities. The lay out simplifies the selection of possible pre-approved procedures, inspection and test points associated with the work being performed.

The PITP assessors and preparers must be familiar with the critical tasks and activities and their potential impact on safety and reliability of nuclear facilities.

The PITP template shall reference controlling documentation such as drawings, specifications, procedures etc. and shall identify documentation that is to be generated to verify that quality has been measured and is acceptable.

The Site Quality Manager may choose to use an ITP if the customer requests it or the scope and complexity of the task requires it.

The PITP and verification steps are planned prior to the work being performed. It shall identify prerequisites, inspection, tests, hold and witness points, acceptance criteria and documentation requirements. Form Q-020N-OPG, Piping Inspection and Test Plan (PITP), is normally used but may be replaced with a similar site-specific form acceptable to OPG and TSSA.

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The method and extent of verification shall be determined and be dependent on:

- a) The complexity of the work and their potential impact on equipment performance and plant safety.
- b) Skill and attention of the worker
- c) Critical parameters and characteristics important for the success of the work
- d) Degree of testing possible to show satisfactory performance or that requirements were met
- e) History of problems or failures
- f) Work is novel or routine
- g) Multiple groups, shifts or trades involved

Consent to waive a hold or witness point shall be recorded prior to continuation of work beyond the designated point.

## **6.2 Subcontracted Items or Services**

The procurement group shall be contacted if any item or service is to be subcontracted. The quality assurance programs, surveillance or audit requirements must be specifically addressed to meet OPG and CCL contractual requirements.

## **6.3 PITP Content**


Each PITP shall have a unique identifying number. OPG normally uses Unit, USI, and equipment number with the work order and task as a unique identifier.

The PITP generated will indicate hold and inspection points during the execution of all tasks to ensure quality standards are met.

The form is basically self-explanatory with the work package repair or replacement steps information or documentation required filled in by the assessors.

- a) Description;  
Gives a general description of the task to be performed.
- b) Approval and acceptance boxes;  
These appear on page one only and are signed off by Comstock, OPG and TSSA.
- c) History Docket;  
Documentation that flows from the listed operations is identified in this column; it also identifies the documents that will make up the turnover package.
- d) Installer/Supervisor, QC, Customer, TSSA;

In these columns, the identified party has space to indicate the quality verification operations they wish to perform. A legend on the bottom of the form indicates the appropriate code letters. These boxes are also to be used to initial and date any completed operations.

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- e) Initial in service test;  
The work order and task must be identified if this step is to be performed by OPG or any contractor other than CCL.

Should the need arise, QP-006N-OPG, Non-Conformance Procedure, shall be used in conjunction with this procedure.

All non-conformances identified by prior inspections must be reviewed and resolved prior to the final inspection.

Records of inspections and tests where used shall include the identifiers (ie Serial number or UTC) required to trace the M&TE used to the calibration documentation.

When all necessary approvals and acceptance have been obtained, the PITP shall be issued to the field when required.

#### **6.4 Revisions**

All revised PITP's shall be subject to the same review and approval process as the original.

#### **6.5 Final review and acceptance on completion**

On completion of the work covered by the PITP, the person assigned to supervise the site quality effort shall review the PITP and associated documents for completeness and shall sign off the PITP as evidence of the completed review.

The Site Quality Manager is responsible to verify that all activities and documentation meet the client's expectations and are accepted by the client representative.

The package is then scanned and sent to the Customer's Document Management office.

### **7 RECORDS**

- a) Form Q-020N-OPG, Pressure Piping Inspection and Test Plan

# Comstock

Document Title:

## Contract and Construction Document Review

Document Number:

QP-103N-OPG

Revision Number:

REV: 0

Jacqueline Quinn  
Lead Auditor (ISO)



26-SEP-2011

Prepared by

Signature

dd-mmm-yyyy

Mike Krone  
Quality Manager, Nuclear



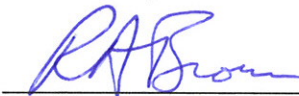
26 SEPT 2011

Reviewed by:

Signature

dd-mmm-yyyy

Ron Brown  
Acting VP Nuclear – Darlington & Pickering



27 SEP 2011

Approved by:

Signature

dd-mmm-yyyy

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## Revision History

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0	26-Sep-2011	Jacqueline Quinn	New Release

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## 1 PURPOSE

This procedure provides the procedure for the review of a contract and contract documents to ensure the customer's contract requirements are reviewed and understood, are the same as Comstock's tender and contract documents prior to final acceptance and project startup.

## 2 SCOPE

This procedure is applicable to all OPG nuclear work requests.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) Z299.1 – Quality Assurance Program – Category 1

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Limited
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 VP Nuclear – Darlington & Pickering

VP Nuclear – Darlington & Pickering is responsible for the definition, implementation and continual improvement of this procedure.

### 5.2 Project Controls Manager or designate

Project Controls Manager or a designate is responsible to conduct the contract review.

## 6 PROCEDURE

Upon receipt of the tentative acceptance of Comstock's bid from the customer, the contract documentation is stamped with the "**RECEIVED**" stamp, which includes the date received, then forwarded to the VP Nuclear – Darlington & Pickering.

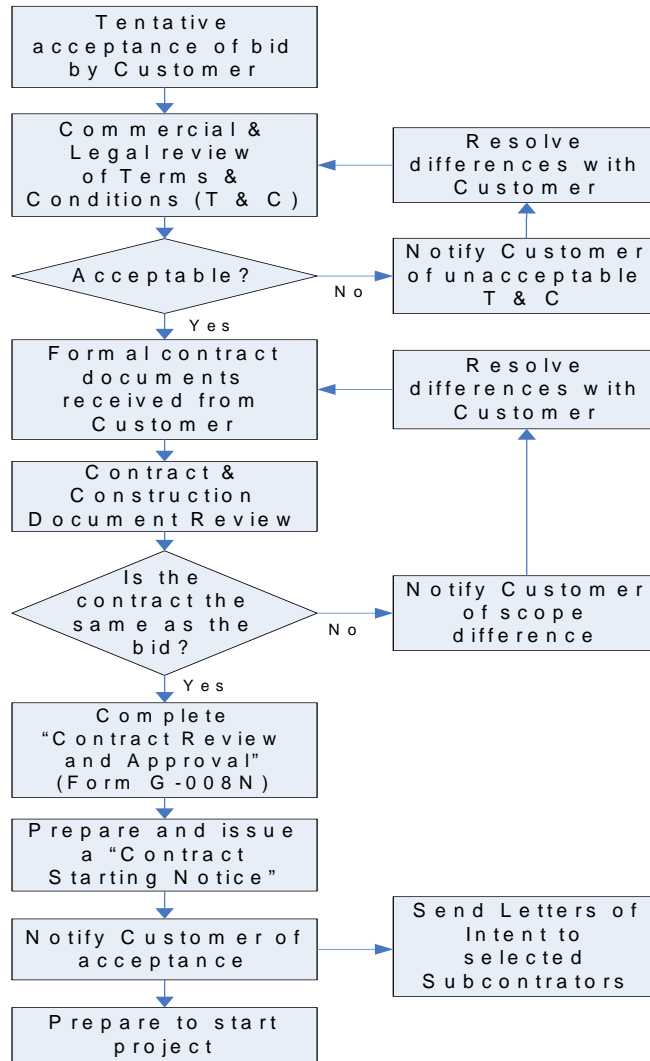
Drawings accepted in the review process will be stamped "**CONSTRUCTION DRAWING**" prior to issue to the project.

In the event of a formal request to change the initial scope of work or terms of the tender, the request will be reviewed and accepted based on their potential impact. Any cost changes must be approved by the VP Nuclear – Darlington and Pickering.

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The requirements of this procedure will be satisfied by implementing each applicable step of the following flowchart

**Flowchart 1 – Contract and Construction Documents Review**



**7 RECORDS**

- a) The contract
- b) Form G-008N, Contract Review and Approval

# Comstock

Document Title:

## Preparation of Work Package

Document Number:

QP-107N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by

Mike Krone  
Quality Manager, Nuclear

Reviewed by:

Mike Krone  
Quality Manager, Nuclear

Approved by:



Signature

29 SEPT, 2011

dd-mmm-yyyy



Signature

29 SEP 2011

dd-mmm-yyyy



Signature

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dd-mmm-yyyy

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## 1 PURPOSE

The purpose of this procedure is to bring together the arrangements necessary to ensure that construction, installation or maintenance tasks are planned effectively. The procedure ensures that, prior to start of work, the required task planning is performed and work packages assembled to perform the construction, installation or maintenance work successfully.

**Note:** Generally CCL conducts task planning activities in a manner that follows the customer's work management processes, procedures, practices and information management tools (PassPort). This procedure serves as an overall description of the general procedural steps that CCL takes to meet customer requirements and integrate with the customer's work management processes for work planning and . The specific references to OPG procedures, instructions, forms and PassPort panels are not made in this procedure at this time, but will be included post award. Some of the terminology and Acronyms used in the procedure will vary from customer to customer. CCL planning workers are trained and qualified in accordance with the customers training qualification descriptions for work planning and work assessing to the same requirements as would an OPG worker performing planning work.

## 2 SCOPE


This procedure is applicable to all OPG nuclear work requests.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) Z299.1 – Quality Assurance Program – Category 1

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
FME	Foreign Material Exclusion
JSEA	Job Safety and Environmental Analysis
OPEX	Industry experience
OPG	Ontario Power Generation
PassPort	A commonly used enterprise information management system used in the nuclear industry
PB	Pressure Boundary
RFQ	Request for Quote
SCR	Station Condition Record

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## **5 RESPONSIBILITIES:**

### **5.1 Vice President – Darlington & Pickering**

The Vice President – Darlington & Pickering is responsible for definition, implementation and continual improvement of this process.

## **6 PROCEDURE:**

### **6.1 General**

The project management process breaks down the project into individual tasks, to be implemented. Field work associated with these tasks is assembled into field ready work packages for implementation.

This process begins with an approved need for work, as documented in a PASSPORT work request, where the requirements and constraints associated with the work have not been identified. The process ends with an assessed Work Order and associated task ready to be scheduled.

### **6.2 Work Order and Work Request**

CCL planning workers shall perform the work necessary to create a Work Order and Work Request in PassPort, in accordance with the customers work planning procedures,

### **6.3 Prerequisites**

CCL planning workers shall ensure that all of the prerequisites necessary to perform the work are completed, including but not limited to:

- a) materials and items required for the work are identified, selected and assembled in accordance with design specifications and applicable codes and standards;
- b) engineering and operational prerequisites are identified and met;
- c) qualification of individuals, organizations, and documents has been identified and completed in accordance with the requirements of applicable codes and standards;
- d) requirements have been identified and incorporated into procedures and instructions; and
- e) resources necessary to perform the work are identified and are available to perform the work activities.

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CCL planning workers shall ensure that the documents necessary to perform the construction, installation or maintenance work are identified and available, including but not limited to

- a) applicable approved drawings;
- b) construction specifications;
- c) manufacturer or designer information on installation procedures and work instructions, as applicable;
- d) documented release of items for installation, including documentary evidence of compliance by the manufacturer with the purchase requirements documentary evidence that non-conformances have been satisfactorily resolved.

#### **6.4 Work Planning**

CCL planning workers, shall conduct the planning work in accordance with the customer's work planning procedures, and forms, and shall make the required entries into PassPort. Activities performed include, not limited to the following as appropriate:

- a) Confirmation of scope, and identifying and processing any additional tasks that need to be performed,
- b) Completing the required customer forms and checklists:
- c) Performing walk-downs,
- d) If the work involves equipment replacement, best practice is to ensure that there is a one to one relationship between equipment being replaced and tasks entered.
- e) Ensure required task information is entered or updated on Passport.
- f) Identify pre-requisites and precautions.
- g) Identify High Hazard conventional, radiological and environmental protection concerns and note these in the work instructions as a caution statement. Identify requirement for a Job Safety and Environmental Analysis (JSEA) prior to starting the work.
- h) Identify special material handling considerations.
- i) Prepare work instructions and information including drawings, procedures, flowsheets, calibration records, photos and other relevant items as required.
- j) Identify waste removal requirements as required.
- k) Identify work requiring isolation. Submit a WP-1 form to the Controlling Authority.
- l) Identify Pressure Boundary (PB) requirements and supply PB packages in support of the work being planned.
- m) Identify Foreign Material Exclusion (FME) requirements.
- n) Identify Operating Experience (OPEX) information in the form of Just-In-Time briefs or identify the availability of additional information from the customers OPEX webpage.
- o) Identify additional Permits that may be required to perform the work. For example; Hot Work or Confined Space Permits, Radiation Exposure Plan, etc.

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- p) Identify material and requirements by completing material requests.
- q) Provide instructions on detecting fraudulent or counterfeit material.
- r) Identify post-work test requirements.
- s) Provide a resource estimate.
- t) Clear PassPort Holds.

### **6.5 Work Package Content**

CCL planning workers, shall assemble the work in accordance with the customer's work planning procedures, and forms, and shall make the required entries into PassPort. Activities performed include, not limited to the following as appropriate:

- a) Work Instructions, including sequence of activities,
- b) The Inspection and Test Plan
- c) Any applicable forms, references
- d) References to previous job information
- e) Any communication used to resolve holds
- f) Pictures
- g) Material Requests
- h) Special equipment requirements
- i) Approved Isolation Procedures
- j) Data Sheets
- k) Engineering information or packages
- l) Flow sheets
- m) Drawings
- n) Calibration Records or data records
- o) Traceability and identification requirements
- p) Procedures or Instructions
- q) Manufacturing data
- r) Additional information required to execute the Work Order
- s) EQ Maintenance Requirements
- t) Housekeeping requirements
- u) FME requirements

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## **6.6 Revision to Work Planning Documents**

Any revisions to work planning documents shall be controlled in accordance with the customer's work planning procedures and the PassPort entries updated as required.

## **6.7 Post Work Follow-up**

The customer will assess the quality of packages on an ongoing basis and report to CCL problems. Any problems identified shall be raised as SCR's or Non-Conformances.

## **7 RECORDS**

Work planning documents, resulting from this procedure, are retained in the customer's information system.

# Comstock

Document Title:

## Control of Documents and Records

Document Number:

QP-110N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist



29 SEP 2011

*Prepared by*

*Signature*

*dd-mmm-yyyy*

Mike Krone  
Quality Manager, Nuclear



29 SEP 2011

*Reviewed by:*

*Signature*

*dd-mmm-yyyy*

R.J. (Bob) Kilmartin  
VP Shared Services



29 SEP 2011

*Approved by:*

*Signature*

*dd-mmm-yyyy*

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## Revision History

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0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure describes the process for the control of documents and records to ensure that records in the custody or control of CCL are consistently managed, protected and accessible throughout their life cycle.

## 2 SCOPE

This process applies to work done at OPG nuclear facilities and is comprised of the following:


- a) Documents and records created by CCL workers related to the Nuclear Management System-Ontario Power Generation (NMS-OPG)
- b) Documents and records received by CCL workers related to the NMS-OPG
- c) Transfer of the NMS-OPG records to OPG at completion of projects and work package, i.e. history docket.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
Approved Information Management System	A system that serves as an official repository for records such as CCL NMS-OPG Library
CCL	Comstock Canada Limited
Controlled Document	A record with a managed and structured revision control process for the entire life cycle of the record in order to meet CCL objectives
Document	Recorded information that describes, specifies, reports, certifies, requires or provides annotation of results. Documents include paper copies (such as procedures, manuals, correspondence), electronic media (such as word processing files, computer databases), and any other source of information. It includes both current and working documents and historical information.
Document Custodian	An individual accountable for the custodianship of a record throughout its life cycle.
Document Owner	The individual responsible for the integrity (accuracy, completeness and consistency) of a document throughout its life cycle. Normally this is the owner of the process from which the document results (i.e. Procedure owner/Approver).
NMS-OPG	Nuclear Management System – Ontario Power Generation
OPG	Ontario Power Generation
Quality Assurance Record	A record that provide evidence of licensing, design, construction, operation, maintenance and modification of a nuclear facility

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Term	Definition
Record	A record is a document that has been declared (in an electronic system) or otherwise authenticated (i.e. signed, stamped, initialled, clearly identified, or endorsed electronically or otherwise). A record provides evidence of the performance of business activities and/or the achievement of results such as records required to maintain, rework, repair, replace, modify or decommission a SSC, to provide baseline data for periodic inspection, to determine the cause of an accident, malfunction or unscheduled occurrence.
SSC	Structure, System or Component

## 5 RESPONSIBILITIES

### 5.1 Project Controls Manager

The Project Controls Manager is the owner for this process and is responsible for its definition, implementation and improvement.

## 6 PROCEDURE

### 6.1 General

Records are company assets and shall be maintained in the approved records depository. This may be an approved information management system (e.g. CCL NMS-OPG Library) or for hard copy records, a Document Control Area.

A Document Custodian shall be assigned to each Site Manager of Pickering and Darlington to support the managers with documents and records control.

Documents with a structured revision control process are called controlled documents. Controlled documents, which qualify as records and shall be managed to ensure:


- a) The current revision is identified and available; and
- b) The use of superseded or obsolete versions is prevented whenever possible.

A new controlled document shall only be created after:

- a) It has been registered; and
- b) A unique number has been assigned to it.

The minimum requirements for records are:

- a) Legibility and accuracy.
- b) Completeness (all pages and attachments are included).
- c) The date.
- d) The title or subject.

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- e) A filing identifier for retrieval purposes so that the record can be tracked back to applicable items or activities. This may be comprised of:
  - i. The customer identification system, e.g. property number and system classification index (SCI) or universal classification index (USI)
  - ii. A CWP number or work order number
  - iii. A Purchase Order number
- f) A document number, if applicable
- g) A revision number, if applicable
- h) A classification, e.g. confidential, internal use only
 

**Note:** If no classification is applied, the default “Internal Use Only” will apply to the record.
- i) An approved retention period. For example:
  - i. “T” to indicate temporary retention with the retention period specified in years, e.g. T10
  - ii. “P” for permanent
- j) Declaration or another form of authentication, such as pen-to-paper signature

## 6.2 Expectations

All workers shall:

- a) Manage all records that they create or receive for CCL NMS-OPG in accordance with this procedure.
- b) Send records, when they are complete and ready to file, to the appropriate Document Custodian.
- c) Send external (i.e. non-CCL) documents to file if they qualify as records.
- d) Maintain proper access restrictions for records in accordance with their classification.
- e) Before leaving CCL permanently (e.g. because of termination or retirement) ensure that any records in your possession are sent to file.

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## 6.3 Records Life Cycle

### 6.3.1 Records Creation

The Document Owner shall:

- a) Identify and establish all records that are to be created maintained or supplied
- b) When drawing up contracts and agreements with suppliers, identify any records (e.g. drawings, manuals, reports) that are to be created as a result of the requirements of the contract or agreement. For those records ensure that a clear and concise ownership statement is applied to the record that is being delivered. For example:  

“CCL reserves the right to reproduce, publish, convert, or store this record in any data retrieval system, or transmit it in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) to meet its business needs or for any other purpose as it sees fit”
- c) Create records using applicable CCL templates.
- d) Request a document number from the Document Custodian to create a new controlled document
- e) Make sure that all electronic documents are created, managed and quality checked
- f) Be accountable for records under their jurisdiction for the entire life of those records

### 6.3.2 Records Classification


The Document Owner shall:

- a) Manage records in accordance with the classification
- b) Ensure that records have been declared or otherwise authenticated (e.g. pen-to-paper signature) and dated by the appropriate workers to serve as evidence of authorship, approval, agreement, acceptance, receipt or acknowledgement
- c) Verify that the minimum requirements for records are applied as listed in Section 6.1

### 6.3.3 Records Submission

The Document Owner shall:

- a) Once qualified document has been declared a record, authenticate it, and send it immediately to the Document Custodian
- b) Consult with the Document Custodian to verify that the medium containing record will meet the approved retention period for the record. For electronic media make sure that the record will be accessible and retrievable for its approved retention period
- c) Inform the Document Custodian of any special requirements, specified in relevant contracts. (i.e. RT film)

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d) For controlled documents:

- i. Provide distribution lists and updates for all controlled document collections, as appropriate. Limit the distribution of paper copies
- ii. Identify superseded or obsolete controlled documents
- iii. Send controlled documents to Document Custodian for issue and distribution.

#### 6.3.4 Records Processing


The Document Custodian shall:

- a) Receive records for filing
- b) Ensure that the minimum criteria for records have been applied as listed in Section 6.1
- c) Verify that all indexing information has been applied to the record correctly and that the record has been registered in CCL NMS-OPG Library. If a hard copy of the record is maintained, specify the physical location of the record in the CCL NMS-OPG Library. The Document Control Area is the recommended location for storage of hard copy records
- d) Ensure that records classified as Confidential are not stored in electronic format unless access is controlled.
- e) File the record as appropriate.

#### 6.3.5 Records Retrieval and Access Control

All workers shall:

- a) Access records electronically from the CCL NMS-OPG Library, whenever possible.
- b) Follow the steps below when borrowing hard copies of records
  1. Provide appropriate identification if requested
  2. Sign out all borrowed records by providing name, work location and the date that the record is being borrowed
  3. Ensure that the borrowed record is the current published version
  4. Ensure that the record is:
    - i. Maintained in good condition;
    - ii. Secured and managed in accordance with its classification;
    - iii. Protected against loss, unauthorized disclosure, use, changes or removal;
    - iv. Protected against premature or accidental destruction; and
    - v. Returned promptly to the Document Control Area for refilling when it is no longer required

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The Document Custodian shall:

- a) Control access to records
- b) Manage requests for access to archival records

For hard copy records, the Document Custodian shall:


- a) Check out records from Document Control Area to authorized workers only, after Borrower has been confirmed as a CCL worker. Request identification, as appropriate
- b) For quality assurance records provide a duplicate copy of the record only, unless it is not possible to do so (e.g. radiograph).
- c) For requests external to CCL ensure that the Project Controls Manager authorizes the request and keep the original record in the system and provide only a duplicate copy to the requester.

### 6.3.6 Revision or Correction to Records

All workers shall:

- a) Ensure that records are not changed after they have been authenticated. Changes to records include corrections, amendments, mark-ups, and supplements, because they would add or alter data, information or content in the record
 

**Note:** Changes to document numbers associated with records do not constitute changes to a record.
- b) Include annotations to records, as needed, to provide reference information or explanatory notes. Annotations do not constitute changes to records.
- c) Create a new record if changes to an existing, authenticated record are needed. Perform the following steps to create a revised or corrected record from an existing authenticated record:
  1. Hard Copy Records
    - i. Draw a line through any information to be revised or corrected, using a non-erasable medium such as a permanent pen or marker, so that the original information is still legible. Do **not** use correction tape, fluid, or any other process that will make the original information unreadable.
    - ii. Enter the revised or corrected information at a suitable place on the original record
    - iii. Date the change and mark your initials (i.e. identification of the worker making the change or annotation)
    - iv. Include any supplemental pages and take into account that pagination may have changed
    - v. Obtain the review and approval of representative of the organization that originally approved the record to show approval of the change.

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2. Electronic Records

- i. Revise or correct the record clearly identifying the change
- ii. Obtain the review and approval of representative of the organization that originally approved the record to show approval of the change.
- iii. Send the record to the Document Custodian and provide notification that the record has been revised or corrected

3. Controlled Documents

- i. To revise an existing controlled document, send a request to the Document Custodian, asking that the current approved version of the controlled document be checked out.
- ii. Revise the controlled document.
- iii. Assign a revision number
- iv. Obtain appropriate approval
- v. Send the revised controlled document to the Document Custodian for issue and distribution.

The Document Custodian shall:


- a) For a hard copy record, remove the original clean copy from active use and replace it either with the revised copy or an approved mark-up, once the changes are acceptable and approved.
- b) For an electronic copy, create a new record and replace the previous revision in the CCL NMS-OPG Library
- c) For a controlled document, check it out and publish (or issue) it in CCL NMS-OPG Library, securing both the approved controlled document as well as the native file (word version), if it is available. Distribute the controlled document according to the associated distribution list.

6.3.7 Transferring Records

The Document Owner shall advise the Document Custodian of transfer of records ownership within CCL or from CCL to the customer.

The Document Custodian shall:

- a) Transfer ownership or custodianship for records from one Document Control Area to another in a controlled manner, ensuring that the security and integrity of the record is not compromised.
- b) Initiate the transfer or change of location in the CCL-NMS-OPG Library.
- c) If required transfer inactive records to off-site storage facilities
- d) Transfer ownership or custodianship for records from CCL to the customer in accordance with customer requirements, ensuring that the security and integrity of the record is not compromised. Normally this is task-specific transfer of records to the customer in the format of a Comprehensive Work Package (CWP) upon completion of work.

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### 6.3.8 Records Disposition

The Document Custodian shall:

- a) Assist in the records disposition process by notifying the Project Controls Manager of records that have either expired or will expire before the next review period (e.g. annually).
- b) List the records with expired retention periods and the intention to destroy the records
- c) Send the list to the Project Controls Manager for concurrence.
- d) Destroy records that have exceeded their retention period and have been approved for destruction by the Project Controls Manager
- e) Remove all associated data for all records that are being destroyed from the CCL-NMS-OPG Library
- f) Revise retention period for all records that have been approved for an extension by the Project Controls Manager
- g) Clearly identify (e.g. stamp) superseded or obsoleted controlled documents and remove them from active use.

The Project Controls Manager shall:

- a) Approve the destruction of records.
 

**Note:** The Project Controls Manager may consult with the Document Owner as applicable. For correspondence files with multiple Document Owners, the Project Controls Manager shall act as the Document Owner.
- b) Approve revision of retention period, for expired records that the Document Owner has requested an extension of the retention period

### 6.3.9 Assessment

Annual assessment of the documents and records process should be performed by the Project Controls Manager and Document Custodian(s) to ensure that records in the custody or control of CCL are consistently managed, protected and accessible throughout their life cycle using QP-715N-OPG – Self Assessment.

# Comstock

Document Title:

## Control of Measuring and Testing Equipment

Document Number:

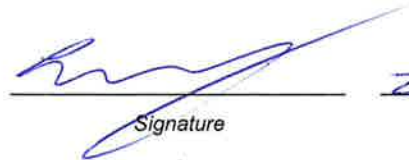
QP-200N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by



Signature

29 SEP 2011

dd-mmm-yyyy

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dd-mmm-yyyy

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## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure identifies the requirements for selecting, using, calibrating, and controlling measuring and test equipment (M&TE). Calibration of M&TE utilized by Comstock Canada must be done at specified periods to ensure that results of measurements and tests that are verified are accurate within necessary limits.

## 2 SCOPE

This procedure shall apply to all Measuring and Testing Equipment (M&TE), utilized by Comstock Canada Ltd for OPG Nuclear projects in fabrication, installation and construction processes that may affect final quality.

Commercial devices such as measuring tapes and rulers are excluded from this procedure if they provide adequate accuracy.

## 3 REFERENCE DOCUMENTS:

- a) ASME NQA-1, Quality Assurance Requirements for Nuclear Facility Applications
- b) CAN3-Z299.1-85, Quality Assurance Program- Category 1
- c) CSA N286-05, Management system requirements for nuclear power plants
- d) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio


## 4 ACRONYMS AND DEFINITIONS

Term	Definition
ASME	American Society of Mechanical Engineers
CCL	Comstock Canada Ltd.
M&TE	Measuring and Test Equipment
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 Warehouse Manager

- a) Shall be responsible to uniquely identify and maintain a detailed listing of all measuring and test equipment issued by the company.
- b) Establish a calibration frequency commensurate with the intended usage and manufacturers recommendation if not listed on Appendix A
- c) Provide adequate storage facilities for M&TE in order to prevent damage and maintain accuracy.

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## 5.2 Site Quality Manager

- a) Shall be responsible to ensure that only equipment in a valid state of calibration is issued for use on a project site.
- b) Shall establish a system for the recall and calibration of such equipment in a timely manner.
- c) Maintaining a file for each M&TE and their calibration record

## 5.3 Trade Foreman

- a) Shall be responsible to verify that measuring and test equipment that is utilized is in a valid state of calibration before and after use.
- b) Keep a list of jobs where the calibrated M&TE were used.
- c) Making sure that the proper M&TE is available and selected to meet the technical requirements

## 5.4 Personnel Operating Measuring and Test Equipment

- a) They are responsible to ensure that equipment is in a valid state of calibration prior to any use.
- b) They are further responsible to report to their supervisor any discrepancies or damage detected during use.
- c) Selecting the appropriate M&TE for the test or verification and to use it carefully while performing the verification or inspection task.

## 6 PROCEDURE

### 6.1 Selection of M&TE

The Trade supervisor shall select M&TE for proper range, accuracy and tolerance to accomplish the task to the specified requirements.

Give due consideration to temperature, rate of change of temperature, humidity, lighting, vibration, cleanliness, and any other factor affecting measurement.

### 6.2 Identification of Tools, Gauges and Instruments

Each item of measuring and test equipment shall be assigned a unique number. The number shall be marked on the equipment by engraving or stamping the number directly onto the item or on a securely attached tag or nameplate.

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### **6.3 Control of M&TE Calibration Status**

Each item of measuring and test equipment will be listed on a master tool list that will identify the equipment by type, by group, and by individual identification number. The list will identify the date the equipment was purchased, the date of the last successful calibration and the date the next scheduled calibration is due.

Each item of measuring and test equipment shall be calibrated prior to being issued and periodically thereafter. Failure to comply with this instruction will render the equipment out of calibration and it shall not be used until it is calibrated.

The frequency of calibration for equipment is listed in Appendix A

### **6.4 Storage of M&TE**

The Warehouse manager shall maintain appropriate storage areas for M&TE to prevent abuse, misuse, damage or change in dimensional or functional characteristics

### **6.5 Calibration Service Providers**

Only qualified Suppliers on CCL and OPG Approved Suppliers' list for that service shall perform equipment calibrations.

M&TE shall be calibrated, adjusted, and maintained at prescribed intervals or prior to use, against certified equipment having known valid relationships to nationally recognized standards.

When calibrating to a reference standard is not applicable then the basis for calibration shall documented.

The record of calibration must be kept in each M&TE file.

As far as practical, each item of measuring and test equipment shall on successful completion of calibration have a calibration sticker attached by the supplier. The sticker shall be marked with the equipment number, the date of the successful calibration, and the next scheduled calibration due date.

### **6.6 Damaged or Out of Calibration M&TE**

Equipment found to be out of calibration or damaged shall be tagged with a "DO NOT OPERATE" tag, and shall be reported to the Warehouse Manager .It shall be removed from service until it is repaired or adjusted and then re-calibrated successfully.

Equipment that has been used on projects and is found at the next calibration check, to be out of calibration shall be reported to the Site Quality Manager, who shall ensure that testing that was validated by the equipment, is reviewed to determine the impact of the discrepancy. The Non-Conformance Procedure, QP-006N-OPG, shall be followed to document the issue and disposition.

## **7 RECORDS**

- a) Calibration reports or certificates

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## Appendix A

### 7.1 Equipment Calibration Frequency Table

<b>EQUIPMENT TYPE</b>	<b>CALIBRATION BY</b>	<b>CALIBRATION FREQUENCY</b>
Micrometer –Inside	Qualified Supplier	12 months max
Micrometer – Outside	Qualified Supplier	12 months max
Micrometer – Depth	Qualified Supplier	12 months max
Vernier Gauge	Qualified Supplier	12 months max
Dial Indicator	Qualified Supplier	12 months max
Precision Level	Qualified Supplier	12 months max
Transit	Qualified Supplier	12 months max
Pressure Gauge used for Nuclear pressure test	Qualified Supplier	Immediately prior to test or 2 weeks max for a series of test as defined in applicable ASME Section III code
Pressure Gauge	Qualified Supplier	6 months max
Pressure Chart Recorder	Qualified Supplier	6 months max
Master Pressure Gauge (Warehouse)	Qualified Supplier	24 months max
Dead Weight Tester	Qualified Supplier	60 months max
Torque Wrench	Qualified Supplier	12 months max
Torque Wrench Tester (Warehouse)	Qualified Supplier	24 months max
Gauge Block	Qualified Supplier	72 months max

# Comstock

Document Title:

## Nuclear Management System Audit Procedure

Document Number:

QP-701N-OPG

Revision Number:

REV : 1

Gilles Lemay  
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Prepared by

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15 SEP 2011

dd-mmm-yyyy



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15 SEP 2011

dd-mmm-yyyy



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15 SEP 2011

dd-mmm-yyyy

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	<b>REVISION HISTORY</b>	


## Revision History

<b>Revision</b>	<b>Date</b>	<b>Author</b>	<b>Description of Changes</b>
0	04-Aug-2011	Gilles Lemay	New Release
1	15-Sep-2011	Gilles Lemay	Update formatting and titles Addition of procedure numbers and form numbers

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## 1 PURPOSE

This procedure describes the process for the performance of audit.

## 2 SCOPE

This procedure shall apply to internal audits of Comstock Canada Ltd and its suppliers, the nuclear management system for nuclear Ontario Power Generation projects and services, including supplier audits.

Audits shall confirm:

- a) The management system meets all specified requirements, and
- b) The management system is implemented effectively and continually improved.


This procedure addresses all activities of the management system including health, safety, environment, and quality. The procedure also addresses audits of pressure boundary.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management System requirements for Nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- c) CAN3-Z299.1-85, Quality Assurance Program – Category 1
- d) ISO 19011 (2002), Guidelines for Quality and/or Environmental Management Systems Audit (considered as an equivalent standard to CSA CAN3-Q395, Quality Audits)
- e) ASME NQA1-2008 Edition

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
ANI	Authorized Nuclear Inspector
ASL	Approved Suppliers List
ASME	American Society of Mechanical Engineers
CAR	Corrective Action Request
CCL	Comstock Canada Ltd.
CSA	Canadian Standards Association
ISO	International Organization for Standardization
NCR	Non Conformance Record
OPG	Ontario Power Generation
OFI	Opportunity for improvement
Work Request	In this context it could be any project that OPG contracts out to EPC provider

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## **5 RESPONSIBILITIES**

### **5.1 Quality Manager, Nuclear**

The Quality Manager, Nuclear is the owner for the process and is responsible for its definition, implementation and improvement. The Manager is also responsible for ensuring identified problems resulting from audits are resolved effectively.

## **6 PROCEDURE**

### **6.1 General**

Audits shall be performed to allow management to determine the effectiveness of the management system in achieving the planned results and objectives.

Workers performing audits shall not have performed or verified the work or have any direct responsibility for the work being audited. Workers performing audits shall have sufficient authority and organizational freedom to make the audit process meaningful and effective.

Audit results are documented and reported to the level of management having sufficient breadth of responsibility to resolve any identified problems and their cause.

The audit reports are made available to OPG or the Authorized Nuclear Inspector upon request. Follow-up action is taken where indicated.

### **6.2 Schedule**

The Quality Manager, Nuclear or delegate shall prepare an overall schedule as early in the life of the project as practicable. The audit schedule is reviewed periodically and revised as necessary to assure planned audits coverage is still adequate.

The schedule shall ensure that:

- a) All elements of the nuclear management system are audited at least once annually, and
- b) Supplier management systems are audited initially and at least each three years thereafter at a frequency commensurate with risk and their performance history and production schedule, which is reviewed annually.

In all cases, each active OPG work request shall be audited at least once in the duration, providing the duration is more than 3 months.

### **6.3 Audit Preparation**

#### **6.3.1 Audit Personnel Selection**

The Quality Manager, Nuclear assigns a qualified lead auditor to organize and direct the scheduled audit and they jointly select auditors

- a) Lead auditor and auditors shall meet the qualification requirements identified in Procedure QP-903N-OPG, Certification of Audit Personnel.

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### 6.3.2 Audit Planning

The lead auditor prepares an audit plan. The audit plan includes but is not limited to:

- a) Audit team;
- b) Audit scope and objective;
- c) Audit date, schedule and assignments;
- d) Criteria including applicable documents against which compliance will be measured;
- e) Areas or activities to be audited and organizations to be notified
- f) Requirements for conducting the audit, such as any access requirements to restricted or controlled areas;
- g) Distribution list for the audit report

Inputs to audit planning should include but are not limited to;

- a) Changes to the management system and contract documents
- b) Problems identified since the last audit including trends
- c) Previous audit results and corrective actions
- d) Product realization schedule so as to audit at the appropriate time
- e) Identification of the complete supply chain, including sub suppliers and the item manufacturer that may have to be included in the scope of the audit.
- f) Meetings with stakeholders
- g) Facility locations and travel arrangements and
- h) Political and cultural issues for foreign visits


### 6.3.3 Audit Checklist

A checklist shall be prepared to support the performance of the audit.

### 6.3.4 Notification

The organization/supplier to be audited shall be notified in advance of the audit. Normally two-week notice is provided. The notification of the audit can include the approved audit plan.

For supplier audits, a copy of the supplier's management system documents should be requested, and arrangements confirmed.

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## 6.4 Audit Performance

### 6.4.1 Opening Meeting

Lead auditor conducts a meeting with management and other representatives of the auditee at the start of the audit to ensure that details of the audit plan are understood. Attendance shall be recorded.

### 6.4.2 Conducting the Audit

Lead auditor and auditors perform the audit in accordance with the audit plan and the checklists.

The Lead auditor shall ensure that:

- a) Objective evidence is collected by the audit team as required through interviews, document reviews, and observation of activities to the depth necessary to determine if the management system meets the requirements and is implemented effectively.
- b) The auditor documents objective evidence of compliance and non-compliance on the audit checklist;
- c) Audit findings are documented by audit team and results are discussed with representatives of the audited organization during the course of the audit;
- d) During audit, if a condition requires prompt remedial action it shall be immediately reported to the appropriate management of auditee.

### 6.4.3 Closing Meeting


The Lead auditor conducts a post-audit meeting with management representatives and others of the audited organization as required immediately following the audit to review the results. Summary of the findings shall be presented to the auditee at the meeting. Attendance shall be recorded. Agreement shall be reached on the schedule for response to the audit findings.

### 6.4.4 Audit Reporting

The Lead Auditor assembles the information gathered during the audit into the final audit package and prepares an audit report on Form Q-012N, which includes, but is not limited to:

- a) Audit scope and objective;
- b) Organization audited and date of the audit;
- c) Names of the Lead Auditor and auditors, and any technical experts;
- d) For pressure boundary audits identification of individuals contacted during the audit;
- e) Summary of audit results, and a statement of the implementation effectiveness the management system;
- f) Description of each reported audit finding in sufficient detail to enable actions to be established and taken by the audited organization;

For **internal audits**, the Lead auditor or delegate shall prepare an Internal Audit Corrective Action report of the audit findings using Form Q-013BN, Internal Audit Corrective Action Report.

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Non-adverse audit findings may be identified as opportunities for improvement (OFI) and documented in the OFI plan.

For **supplier audits**, the Lead Auditor or delegate shall issue Form Q-013AN, Supplier Corrective Action Request, to request them to take proper actions to address the audit findings.

The audit report and associated documentation are issued to the Site Quality Manager, Quality Manager, Nuclear and Management of the Auditee.

For supplier audits, the audit report shall document the recommendation whether the management system is acceptable for the supplier to be included or retained in the Comstock ASL.

The audit report shall be distributed by the Quality Manager, Nuclear to the individuals identified on the distribution list following approval or acceptance.

#### 6.4.5 Audit Responses

Management of Auditee shall ensure a timely response for each NCR/CAR. An extension of the response due date may be granted by Quality Manager, Nuclear. Failure to respond on time will result in another NCR/CAR

Supplier's who do not respond to in a timely manner may be delisted from the Approved Supplier List.

The Lead Auditor shall determine adequacy of the response in accordance with QP-006N-OPG, Non-Conformance Procedure.

#### 6.4.6 Follow Up Action

The Site Quality Manager, in conjunction with project management follows-up to ensure corrective action accomplishment as scheduled. The manager is also responsible for ensuring identified problems resulting from audits are resolved effectively. The degree of follow-up actions is commensurate with the type and significance of the follow up action and includes one or more of the following:

- a) Review of documentation provided by the audited organization that clearly demonstrates activities are in compliance with the scheduled corrective action.
- b) Audit of the corrective action for field verification of the action implementations.

## 7 RECORDS

- a) Approved Audit Schedule
- b) Approved Audit Plan
- c) Form Q-012N, Audit Report
- d) Form Q-013AN, Supplier Corrective Action Request
- e) Form Q-013BN, Internal Audit Corrective Action Report

# Comstock

Document Title:

## Self-Assessment

Document Number:

QP-715N-OPG

Revision Number:

REV: 0

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QA Specialist

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29 SEPT, 2011

dd-mmm-yyyy



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29 SEP 2011

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29 SEP 2011

dd-mmm-yyyy

<b>Comstock</b>	FOR INTERNAL USE ONLY	REV : 0
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## Revision History

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0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

The purpose of this procedure is to describe the process for the performance of self-assessment that when effectively implemented ensures that management identify and resolve problems and identify opportunities for improvement within their area of accountability.

## 2 SCOPE

This procedure applies to work done at OPG Nuclear facilities.

Each Manager shall perform self-assessment of the performance work and the effectiveness of the management system in their area of accountability to evaluate:

- a) Adherence to management system documents
- b) Effectiveness of processes used for performance of work

Each Manager shall perform at least one self-assessment per year.

The VP Nuclear – Darlington & Pickering fulfils their requirement to perform self-assessment through the internal audit process described in QP-701N-OPG, Nuclear Management Systems Audit Procedure.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management system requirements for nuclear power plants
- b) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd.
OPG	Ontario Power Generation

## 5 RESPONSIBILITIES

### 5.1 Site Quality Manager

The Site Quality Manager is the owner for this process and is responsible for its definition, implementation and improvement.

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## **6 PROCEDURE**

### **6.1 Schedule**

Each Manager shall schedule self-assessment(s) early in the year. Inputs used to identify topics and schedule should include but not be limited to the following:

- a) Performance data, i.e. health, safety, environment, security, finance and quality
- b) Risks and controls
- c) Problems, non-conformances and trend analyses of problems and causes
- d) Changes
- e) Previous self-assessment results
- f) Audit results
- g) Worker feedback and suggestions
- h) Work schedule

### **6.2 Planning**

Each Manager shall prepare a plan for each self-assessment. The plan shall include:

- a) Bases for the self-assessment
- b) Objective
- c) Scope
- d) Criteria
- e) Worker, if not performed by the Manager
- f) Schedule

For self-assessments not performed directly by the Manager, the Manager shall assign a competent worker and ensure a common understanding of the bases, objective, scope, criteria and schedule through a review of the plan.

The Manager or assigned worker shall notify affected workers that a self-assessment will be performed, normally two weeks prior to commencement, through email or discussion during staff meetings.

The Manager or assigned worker shall review local requirements such as safety and security and strictly comply with these requirements during the performance of the self-assessment. They should also become aware of any risks they may encounter and the controls they should employ.

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### 6.3 Performance of Self Assessment

The self-assessment shall be performed using generally accepted assessment methodology including:

- a) Direct Observation – First-hand observation of the performance of work such as attending meetings or training sessions as an observer, field walk downs, or direct observation of a work task.
- b) Documentation Review – A systematic review of relevant documents and records including relevant IT systems and databases.
- c) Interviews – Interviews with relevant workers are held including workers that provide input, workers who perform the task and workers who receive outputs. Interviews are used to either identify issues to further investigate or to validate issues that were identified from direct observation or document review. Conclusions should not be drawn from a single interview.

Any problem identified of an immediate safety or significant business effect shall be directly communicated to the Manager accountable or their delegate as soon as practical but a least before leaving for the day.

The Manager or assigned worker shall ensure the factual accuracy and validity of the information gathered.

### 6.4 Reporting

The Manager or assigned worker groups the information gathered into common problem areas with a description of the fundamental overall problem, the supporting facts and recommendation. Problems may be non-compliance with requirements or opportunities for improvement.

With consideration of the problem(s) identified, the Manager or assigned worker develops a conclusion statement for the self-assessment that is aligned with the objective.

The Manager or assigned worker shall document the results of the self-assessment on Form Q-906N-OPG, Self-Assessment Report. This report shall include:

- a) Brief statement of objective, scope and criteria
- b) Whom performed the self-assessment and when
- c) Conclusion
- d) Problems and Recommendations

For self-assessments not performed by the Manager, the assigned worker shall review the results and obtain the Manager's acceptance of the report.

The Manager or assigned worker shall ensure identified problems are also documented in accordance with QP-006N-OPG, Non-Conformance Procedure. Problem titles shall commence with "Self-assessment".

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The Manager or assigned worker shall communicate the results of the self-assessment to the affected workers at a staff meeting.

Each Manager shall provide the Site Quality Manager and other relevant Managers with a copy of the self-assessment report.

## **7 RECORDS**

- a) Form Q-906N-OPG, Self-Assessment Report.

# Comstock

Document Title:

## Receiving, Handling and Storage of Items

Document Number:

QP-812N-OPG

Revision Number:

REV: 0

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2 SEPT 2011

dd-mmm-yyyy

<b>Comstock</b>	FOR INTERNAL USE ONLY	REV : 0
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## Revision History

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0	31-Aug-2011	Gilles Lemay	New Release

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## 1 PURPOSE

The purpose of this procedure is to document the processes required for the Receiving, Storage, and Handling of material and Items for Quality Level (–QL-1, QL-2 and QL-3).

Adherence to the processes described in this procedure will ensure that materials and items are received, handled, stored in a manner that will ensure freedom from damage and deterioration to both the item and packaging as applicable.

Adherence to the processes described in this procedure will ensure that any required identification and traceability marking of the materials and items is verified and maintained.

## 2 SCOPE

This procedure applies to the Receiving, Storage, and Handling of Materials and Items for OPG Nuclear projects.

This procedure applies to all materials and items required for construction, when procured by Comstock.

If a site-specific procedure exists for OPG Free Issued material such as QP-819N-OPG, then the site-specific procedure takes precedence.

## 3 REFERENCE DOCUMENTS

- a) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- b) CCL-MAN-001, CSA N285.0 Quality Manual
- c) CSA N286-05, Management system requirements for nuclear power plants
- d) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- e) Comstock Canada Ltd. CSA B51 Quality Manual
- f) OPG N-PROC-MM-0021
- g) EPRI NP-6629 Guidelines for the Procurement and Receipt of Items for nuclear Power Plants
- h) Owners receiving inspection requirements

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
CCL	Comstock Canada Ltd
CSA	Canadian Standards Association
CWP	Comprehensive Work Package
C of C	Certificate of Conformance
CMTR	Certified Material Test Report

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<b>Term</b>	<b>Definition</b>
NCR	Non-Conformance Report
OPG	Ontario Power Generation
QCI	Quality Control Inspector
QS	Quality Supervisor
UTC	Uniquely Tracked Commodity

## **5 RESPONSIBILITIES**

### **5.1 Procurement Manager**

- a) Notify customers in the event that counterfeit or fraudulent items were received or used in the manufacture or construction
- b) Has the responsibility to apply anti-counterfeit measures in existing processes and designates a person responsible for the review of industry experience

### **5.2 Warehouse Supervisor**

- a) Monitor the long term storage stock and facilities
- b) Is responsible to establish and monitor all requirements of this procedure
- c) Provide support for the disposition of NCR's

### **5.3 Quality Control Inspector**


- a) Perform the receiving inspection

## **6 PROCEDURE**

### **6.1 Receiving**

Material and Items procured by Comstock will be received into inventory to confirm that the item matches the purchase order. QL1 and QL3 items will also be subjected to receiving inspection. A P-018N, Receiving Inspection Checklist shall be used for all QL-1, and QL-3 material and items


Materials and items required for N285 class 1, 2, 3 and 4 will be received in accordance with the Company N285.0 Quality Manual and this procedure.

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## 6.2 Additional Receiving Inspection for Pressure Boundary Related Items

In addition to the requirements in 6.1, the following shall be performed.

- a) Material and items shall be examined on receipt by the QCI, and shall be compared to Code, Standard and requisition or purchase order requirements. The examination shall also ensure that they are free from damage or deterioration and that the identification marking corresponds with the vendor supplied documentation including certified material test reports (CMTR) or certificate of compliance (C of C) as required by the Code.
- b) Errors in identification or documentation shall be recorded on Form P-002N, Receiving Deviation Log, and if not resolved in a timely manner a non-conformance report shall be generated by the QCI and the report shall be forwarded to the vendor for disposition. The affected material shall be tagged with a hold tag and segregated in accordance with the non-conformance procedure.
- c) The QCI shall review supplied documentation to ensure compliance with applicable Code, Standard and purchase order requirements.
- d) The review shall ensure that documentation; including certified material test reports (CMTR) and certificates of compliance (C of C) as applicable clearly identify the material or equipment for which they were issued.
- e) Certified material test reports (CMTR) shall be reviewed by comparing the report to the requirement of the specification(s) to which the material or item was ordered. Care shall be taken to ensure that the recorded information complies fully with the specified requirements.
- f) Certificates of Conformance and/or Certified Material Test Reports shall be reviewed by utilizing P-009N, Receiving Material Certificate of Conformance Checklist and/or P-006N, Receiving Material / Certified Material Test Report Checklist to ensure that all recorded data has been reviewed. The certificate content shall as a minimum:
  - i. Clearly identify the purchased material, item, or equipment for which it was issued.
  - ii. Identify the specific procurement requirement met by the purchased material, item, or equipment, such as codes, standards, and other specifications. The certificate shall also identify any specific changes, waivers, or deviations that are applicable. Such changes, waivers, or deviations shall only be acceptable if they meet fully the requirements of ASME section III Division 1.
  - iii. Identify any procurement requirement that has not been met, with an explanation of the means utilized to resolve the non-conformance. Such resolution shall be in conformance with the requirements of ASME Section III division 1.
  - iv. Be signed or authenticated by a person who is responsible for the supplier's quality assurance function, a person whose function is described in the suppliers quality program.
  - v. The certification system, including the procedures followed in filling out the certificate and the administrative procedures for review and approval are described in the supplier's quality assurance program.

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- g) The Quality Manager, Nuclear shall verify the validity of the supplier's certificate of conformance, and the effectiveness of the certification system, by audit or by inspection or test of the material, item, or equipment. Such verification activities shall be commensurate with the suppliers past quality performance.
- h) On completion of the documentation review, the QCI shall indicate acceptance by stamping "ACCEPTED" then initialling and dating the documents, and as required the checklist.
- i) On completion of the receiving examination and documentation review, acceptance of the material, item, or equipment, shall be acknowledged by the assigned QCI stamping the issuing document or packing slip as "accepted" then dating and signing the document.
- j) The requirements of above paragraphs shall apply to all procured Code related items, whether Company purchased or Customer supplied.
- k) Materials required for N285.0 class 6 will be received in accordance with the Company B51 Quality Manual or as specified in a site addendum for owner supplied material.
- l) Other materials procured by Comstock for construction will be received in accordance with Customer requirements and Site-specific procedures.

### 6.3 Handling and Storage

#### 6.3.1 Handling and Storage of Items and Material

Handling of materials and items will be conducted as specified by the manufacturer and in accordance with the handling and storage requirements for the Cat ID in the OPG PassPort/SAP information system. In the absence of manufacturer's and customer instructions, handling will be conducted in a manner that will ensure freedom from damage to the goods and packaging.

The Warehouse Supervisor shall ensure that material and items are stored in locations that will allow easy retrieval for construction and will ensure freedom from damage or deterioration. Industry standard practices for storage of items will be followed.

The Warehouse Supervisor shall ensure that the storage locations are organized, orderly and clean to ensure the item is maintained.

**Note:** Storage and Handling is highly dependent upon the nature of the items stored, the customer requirements and the facility that they are stored in. Site-specific instructions shall be developed prior to using warehousing and storage facilities for work requests at OPG sites so as to integrate CCL processes with OPG Procedures and their information system, and be based on EPRI guidelines.

General Monitoring of long-term storage shall be planned by the warehouse supervisor and include verification of the following; as applicable:

- a) Items are properly identified;
- b) Items are located to prevent contamination, misuse, abuse, damage, deterioration or loss;
- c) Items are properly preserved;

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- d) Inspections shall be performed periodically and the results documented to ensure that storage areas and items are being maintained as required.
- e) In storage maintenance is applied in accordance with the requirements for the item as defined in PassPort.
- f) For items that require special handling or special tooling and equipment, appropriate instructions shall be prepared and implemented.
- g) Any other special requirements are being complied with;
- h) Inert gas pressures are being maintained in the range specified;
- i) Limited shelf life items are identified to make sure they are not issued past their expiry date;

The warehouse supervisor or delegate shall perform monthly warehouse walk downs. This shall be documented on a P-019N, Warehouse Inspection Report.

Return of items to the client for stock at OPG sites following OPG procedure requires as a minimum that;

- a) The item identification has been preserved
- b) The item is not damaged
- c) The documentation for the item is available
- d) The unique identifiers such as UTC, Heat numbers etc match the documentation

#### **6.4 Control of Non-Conforming items**

Non-Conforming items identified in receiving inspection or periodic inspection and maintenance, shall be identified and if practicable, shall be segregated to prevent their un-intended use. Procedure QP-006N-OPG shall be followed for non-conforming items in storage.

#### **6.5 Traceability**

##### **6.5.1 Material and Items to be used for CSA N285 Class 1, 2, 3 or 4 work.**

Identification and traceability will be maintained to ensure that the material, whether in the original form or subdivided is clearly marked with full Code marking as required by ASME Section II. Furthermore the material or item shall be traceable to the OPG issue ticket and to all Code required documentation pertaining to the material or item.

##### **6.5.2 Material and Items to be used for CSA N285 Class 6 or CSA B51**

Identification shall consist of the heat number and any other marking that will ensure traceability to the OPG issue ticket information. The issue ticket has information such as UTC and trace number used to identify the documentation related to the item.

##### **6.5.3 For all other Material and Items**

When required, the material and items shall be traceable to Client Documentation and/or to the Comprehensive Work Package (CWP) for which it was issued, so as to be able to trace its end use.

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#### 6.5.4 Code Material or Items Not Identified or Traceable

A Non-Conformance Report (NCR) shall be raised and the procedure followed with regard to segregation and tagging of items or material that is not identified or traceable. The non-conforming items are not be used until the NCR is cleared and signed off.

## 7 RECORDS

- a) P-002N, Receiving Deviation Log
- b) P-006N, Receiving Material / CMTR Checklist
- c) P-009N, Receiving Material C of C Checklist
- d) P-018N, Receiving Inspection Checklist
- e) P-019N, Warehouse Inspection Report

# Comstock

Document Title:

## Foreign Material Exclusion (FME)

Document Number:

QP-815N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

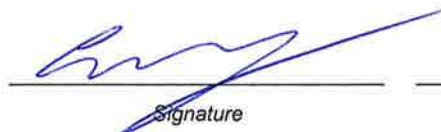
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29 SEPT, 2011

dd-mmm-yyyy



Signature

29 SEP 2011

dd-mmm-yyyy



Signature

29 SEP 2011

dd-mmm-yyyy

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	REVISION HISTORY	


## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

- a) This procedure shall outline the requirements for foreign material exclusion (FME) for plant systems and component(s), to be opened while performing work or Items in storage or transit at OPG Sites.
- b) This is a typical FME procedure used at a nuclear facility and a site specific procedure will address N-PROC-MA-0018, OPG Foreign Material Exclusion.

## 2 SCOPE


Foreign material that enters a system can cause severe damage, increase the potential for radiation exposure and permanently damage systems and/or components. The FME program emphasizes a preventative attitude for workers. This attitude requires that activities are planned prior to implementation, that proper FME barriers/ controls are used to prevent foreign material introduction, and that this procedure be adhered to when FME control is required. .

## 3 REFERENCE DOCUMENTS

- a) N-PROC-MA-0018, OPG, Foreign Material Exclusion
- b) CSA N286-05, Management system requirements for nuclear power plants
- c) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
As Found Inspection	Inspection performed to record the condition of the inside of a component, performed after the component is cut and/or disconnected, but prior to FME Barrier installation.
As Left Inspection	Inspection performed to record the condition of the inside of a component, it shall be the last task performed on a component prior to closure.
CCL	Comstock Canada Ltd.
Component	A vessel, concrete containment, pump, pressure relief valve, line valve, storage tank, piping system.
Dedicated FME Monitor	An employee whose only responsibility during a task is monitoring FME requirements.
Immediately Retrievable	Foreign Material that can be easily detected and retrieved.
ITP	Inspection and Test Plan
FME	Foreign Material Exclusion
FME Barrier	The physical barrier placed on the entry point to prevent foreign material from entering a system
FME Specialist	Foreign Material Exclusion Client Contact
FME SPOC	Foreign Material Exclusion Single Point of Contact

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Term	Definition
FMEZ	Foreign Material Exclusion Zone - The zone (area) that is partitioned using approved FMEZ boundary markers (fuchsia chain/FME barrier tape) and FME signs.
Foreign Material	Any material that is not a permanent part of the system or component as designed
FOSAR	Foreign Object Search and Retrieval
OPG	Ontario Power Generation


## 5 RESPONSIBILITIES

### 5.1 Project Manager or Designate

- a) To oversee the FME program
- b) To ensure that all CCL employees involved in work within FMEZ boundaries are fully trained in FME requirements.
- c) To assist with coordination of FOSAR plans.
- d) To ensure appropriate investigations of FME incidents are conducted.
- e) Ensure adequate resources are available to monitor and prevent foreign material intrusion to systems.

### 5.2 Field Supervisor

- a) To ensure that the person(s) assigned to work in an FMEZ are competent and fully trained in FME requirements and carry a Comstock FME qualification card.
- b) Review FME Plans to ensure they are appropriate to the task and current condition.
- c) To monitor FMEZ for compliance every working day.
- d) To perform Pre-job briefings specifying FME requirements.
- e) To ensure QA/QC is contacted for any FME ITP Hold points.
- f) To perform As found/As left inspections per FME Plan.
- g) Monitor housekeeping practices and rectify if not acceptable.
- h) To ensure FME requirements are satisfied before opening a system.
- i) To ensure all workers assigned to work in a FMEZ are on the list of FME trained personnel.
- j) To ensure that the Project Manager, Quality Supervisor, FME Specialist, FME Invigilator and the FME SPOC are notified upon loss of FME control.
- k) To ensure FOSAR is initiated if necessary to regain FME control.
- l) To verify that the FMEZ is set up and FME requirements are satisfied.

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### 5.3 Quality Supervisor or Designate


- a) To ensure that all Inspection and Test Plan (ITP) FME hold point inspections are completed and the applicable history documentation is verified complete.
- b) To monitor FMEZ for compliance.
- c) To review the requirements of this procedure with all personnel to be added to the list of FME trained personnel.
- d) To perform As found/As left inspections per FME Plan.
- e) To perform final FME QA/QC inspection with the Field Supervisor.

### 5.4 FME Specialist (Client)

- a) For review and final approval of the FME Control Procedure.
- b) Review and approve FME Control Level One Plans

### 5.5 FME Invigilator

- a) To ensure that the person(s) assigned to work in an FMEZ are competent and fully trained in FME requirements and carry a CCL FME qualification card.
- b) Generate FME Plans and ensure they are appropriate to the task and current condition.
- c) To Perform or cause to be performed by a competent person, daily inspections of all active barriers with the FME zones.
- d) To Perform or cause to be performed by a competent person, weekly inspections of all barriers within the inactive Control Level One and Control Level Two areas.
- e) To Perform or cause to be performed by a competent person, inspections of all other inactive zones and barriers every three weeks minimum.
- f) To ensure that all FME zone and barrier inspections performed are recorded on Form Q-306N, FME Zone and Barrier Inspections
- g) To maintain binders with all copies of completed Form Q-306N, FME Zone and Barrier Inspections
- h) To perform training as required per this procedure.
- i) To ensure QA/QC is contacted for any FME ITP Hold or Inspection points.
- j) Monitor housekeeping practices.
- k) To ensure FME requirements are satisfied before opening a system.

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## 5.6 FME Monitor

- a) To ensure that the person(s) assigned to work in an FMEZ are competent and fully trained in FME requirements and carry a Comstock FME qualification card.
- b) To ensure that the FME process is followed and that the applicable documentation is completed and accurate.
- c) To maintain all required FME Logs and forms.
- d) To ensure workers assigned to work in a FMEZ are on the list of FME trained personnel.
- e) To ensure integrity the tradesmen perform check of all tools entering the FMEZ.
- f) To monitor the FMEZ for good housekeeping and FME requirements.
- g) To immediately notify the Field Supervisor and/or the FME Invigilator in the event of FME loss of control.

## 5.7 FME Trained Tradesman

- a) To adhere to FME requirements and the requirements of this procedure.
- b) To always perform and maintain good house keeping practices in FMEZ.
- c) To assist in establishing or restoring FME controls.
- d) To immediately notify the Field Supervisor in the event of FME loss of control.
- e) To ensure and maintain the integrity of tools and equipment while in the FMEZ
- f) To ensure FME Training and Qualifications are current

## 6 FOREIGN MATERIAL CONTROL LEVELS

### 6.1 Control Level One

All systems that contain a high probability of foreign material intrusion, would cause extreme difficulty in retrieving foreign material and/or detecting foreign material shall be considered Control Level One.

Any work being performed inside a vessel shall be Control Level One.

Control Level One FMEZ shall contain the following:

- a) FME Plan (Form Q-301N)
- b) FMEZ boundary marker and FME signs.
- c) A Dedicated FME Monitor.
- d) Employee FME Personnel Log Sheet (Form Q-303N)
- e) Daily FME Tool/Equipment Log Sheet (Form Q-304N)
- f) Permanent or Long Term FME Tool/Equipment Log Sheet (Q-305N)
- g) All persons entering the FMEZ require a Comstock FME qualification card
- h) Pre-Job Briefing specifying FME requirements.

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- i) Daily inspections of FMEZ and barriers while being carried out.
- j) Weekly inspection of FMEZ and barriers when not in use.
- k) Review of this procedure.
- l) As found/As left inspections per FME Plan.
- m) Final FME QA/QC inspection
- n) Good house keeping practices

## **6.2 Control Level Two**

All systems that contain a high probability of foreign material intrusion, but where foreign material is easily detectable and is easily retrievable, shall be considered Control Level Two.

Control Level Two FMEZ shall contain the following:

- a) FME Plan (Form Q-301N)
- b) FMEZ boundary marker and FME signs.
- c) A FME Monitor.
- d) Employee FME In and Out Record (Form Q-302N)
- e) All persons entering the FMEZ require a Comstock FME qualification card.
- f) Pre-Job Briefing specifying FME requirements.
- g) Daily inspections of FMEZ and barriers when in use.
- h) Weekly inspection of FMEZ and barriers when not in use.
- i) Review of this procedure.
- j) As found/As left inspections per FME Plan.
- k) Final FME QA/QC inspection
- l) Good house keeping practices

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### 6.3 Control Level Three

Only systems where a high probability of foreign material intrusion is not anticipated and where foreign material can be easily retrievable and is easily detectable shall be considered Control Level Three.

Control Level Three FMEZ shall contain the following:

- a) FME Plan (Form Q-301N)
- b) A FME Monitor (for FME Control Level Three the Field Supervisor may be the FME Monitor)
- c) Pre-Job Briefing specifying FME requirements.
- d) Daily inspections of FMEZ and barriers when in use.
- e) Inspection of FMEZ and barriers every three weeks minimum when not in use.
- f) As found/As left inspections per FME Plan.
- g) Good house keeping practices

**Note:** Section 6.0 of this procedure lists the minimum requirements for the FME control levels; the Field Supervisor or FME Invigilator may add any of the omitted requirements from Control Levels One and Two.

## 7 PROCEDURE

The Field Supervisor and the Quality Manager/Inspector shall review Form Q-301N, FME Plan, and verify the control level is correct

After determination of the Control Level and prior to beginning work in an FMEZ the FME Invigilator along with the Field Supervisor shall ensure that all FME requirements are in place.

No work shall begin prior to approval of the FME Plan (Form Q-301N). If the plan designates FME Control Level One then OPG Approval is required.

Prior to the commencement of work FME controls shall be inspected by the Field Supervisor, FME Invigilator and, at his/her discretion, the FME SPOC.

Prior to cutting and/or opening any system the FMEZ will be established and all anticipated FME materials should be at the FMEZ. FME caps and/or covers shall be installed and identified, as an FME Barrier immediately after the as found inspection is complete.

The FME Invigilator is responsible for maintaining a binder with a copy of all FMEZ and barrier inspections recorded on Form Q-306N, FME Zone and Barrier Inspections

All as found conditions shall be detailed on Form Q-301N, FME Plan, and where possible the Quality Manager/Inspector shall photograph and/or video the condition.

All as found pictures/videos shall be given a unique ID and be listed on the FME Plan.

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Any of the following situations shall be reported immediately to the FME Monitor, Field Supervisor, Quality Manager, FME Specialist, FME Invigilator and the FME SPOC:

- a) Detection of foreign material,
- b) Evidence of damage and/or deterioration of caps or covers while the FMEZ is unattended.
- c) Material logged on Form Q-303N, Employee FME Personnel Log Sheet, Form Q-304N, Daily FME Tool/Equipment Log Sheet or Form Q-305N, Permanent or Long Term FME Tool/Equipment Log Sheet cannot be accounted for during FME log reviews.
- d) Material is found in a FME Control Level One Area that has not been properly logged.
- e) When FME Barriers fail or become damaged or missing while the foreign material area is unattended.
- f) When any component and/or tool, which is assembled or disassembled in a foreign material area, are found to be missing parts.

Any such conditions will be considered a loss of FME control shall result in a stop of work in the FMEZ and shall be recorded on a Non-conformance Report for client disposition.

If FME control is lost the Field Supervisor, FME Invigilator and FME SPOC shall refer to, or if required, generate the FOSAR Plan.

In all FME Control Level One Area's, the Dedicated FME Monitor shall ensure that all loose items (i.e. pens, pocket change, etc.) and/or items that can slip-off (i.e. jewellery, watches, etc.) are removed and stored outside the FMEZ by the Tradesmen prior to entering the area. Anything that cannot be easily removed must be taped (earrings, studs etc) and must be recorded on Form Q-303N, Employee FME Personnel Log Sheet.

Items such as tools and material that are required to complete the assigned task in FME Control Level One Area's shall be entered on Form Q-304N, Daily FME Tool/Equipment Log Sheet and must be checked for integrity before entering the FMEZ and removed at the end of the shift.

Items such as tools and material that are left for more than one shift in a FME Area shall be entered on Form Q-305N, Permanent or Long Term FME Tool/Equipment Log Sheet.

For Control Level One and Two FMEZ, only those on the FME trained personnel list shall be permitted access to the FMEZ. The FME Monitor shall report all unauthorized entries to the Field Supervisor, FME Invigilator and the Quality Supervisor and a NCR shall be generated requesting entrant to leave the level one area.

Non-trade personnel performing walk downs, ERT and/or green man functions may enter FMEZ's at the discretion of the FME Monitor provided they are accompanied by and FME Monitor trained individual.

When scaffolding or platforms are required inside a component all bolting, pins, clamps tubing, planking, etc. shall be given a unique number, and recorded on Form Q-304N, Daily FME Tool/Equipment Log Sheet and/or Q-305N, Permanent or Long Term FME Tool/Equipment Log Sheet prior to construction of the scaffolding or platform.

Upon removal, all parts entered on Form Q-304N, Daily FME Tool/Equipment Log Sheet and/or Form Q-305N, Permanent or Long Term FME Tool/Equipment Log Sheet must be accounted for and any items not accounted for, lost or not recorded will be considered loss of FME control and appropriate actions taken as per this procedure.

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The Following shall be considered acceptable material for FME Barriers.

- a) Fabricated metal or plastic covers.
- b) Covers provided by the manufacturer, provided they are not listed in the next paragraph
- c) Fuchsia coloured drawstring bags.
- d) Plastic flange covers
- e) Reinforced plastic sheet.
- f) Red tape on openings <1".
- g) Pipe dams and Bungs

The Following shall be considered unacceptable material for FME Barriers.

- a) Paper or cardboard to cover openings.
- b) Paper towels used to stuff or dam openings.
- c) Soluble Purge Dams.
- d) Tape to cover any opening >1".
- e) Masking tape.
- f) Any materials that can easily chip, splinter, break or disintegrate.
- g) Clear or translucent plastics.

FME Barriers (covers, tape, chains, etc.) shall be the colour fuchsia or identified with tags that are the fuchsia colour and identified as FME.

All blank flanges, plate material, etc. used to cover flanges or other large openings shall have a proper FME sticker on them.

All FME zone and barrier inspections shall be recorded on Form Q-306N, FME Zone and Barrier Inspections.

## **8 RECORDS**

- a) Form Q-301N FME Plan
- b) Form Q-302N Employee FME In and Out Record
- c) Form Q-303N Employee FME Personnel Log Sheet
- d) Form Q-304N Daily FME Tool/Equipment Log Sheet
- e) Form Q-305N Permanent or Long Term FME Tool/Equipment Log Sheet
- f) Form Q-306N FME Zone and Barrier Inspections

# Comstock

Document Title:

## As Found Condition & Work Order Revision Process

Document Number:

QP-818N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

Prepared by

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Approved by:



Signature

29 SEP, 2011

dd-mmm-yyyy



Signature

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## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure defines CCL requirements for handling an As Found Condition and performing Minor and Major Revisions to Comprehensive Work Packages (CWP), after the packages have been set to “Working” status in PassPort.

## 2 SCOPE


The following procedure applies to the work performed at OPG Nuclear facilities.

## 3 REFERENCE DOCUMENTS

- a) CSA N286-05, Management System Requirements for Nuclear Power Plants
- b) CCL-NMS-001-OPG, Nuclear Management System for Ontario Power Generation Portfolio
- c) OPG site specific requirements for reporting As Found Conditions

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
AFC	An As Found Condition is any issue found before or during replacement, rework, or repair of components, which requires any modification to CWP's and/or changes to the scope of work. Minor revisions may not be categorized as AFC.
AFC Team	As Found Condition Team usually consist of assigned OPG Field Engineering, Field Assessing and CCL Construction personnel. Their primary function is to identify a path forward with actions required.
CCL	Comstock Canada Ltd.
CWP	Comprehensive Work Package
ITP	Inspection and Test Plan
Major Revision	If changes do not fit the minor revision definition below then it is to be treated as a Major revision and must go through the regular approval process again.
Minor Revision	Minor Revision changes (single line, initial and dated on the document) are described documented and approved using a minor revisions sheet. All minor revisions to the work instructions need second party review initial and date on the minor revision sheet. Work order Minor revisions are: <ul style="list-style-type: none"> <li>• Typographical errors corrections</li> <li>• Units of measures conversions after engineering second party verification</li> <li>• Obvious work order steps designated as Not required or Not applicable.</li> <li>• Additions that subdivide or clarify work instructions</li> <li>• Additions that do not adversely affect work quality, increase scope of work, or testing</li> <li>• Editorial changes to correct the sequence of work steps</li> <li>• Addition of material within the scope of work</li> </ul>
PITP	Piping Inspection and Test Plan

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## **5 RESPONSIBILITIES**

### **5.1 AFC Team**

- a) The AFC team provides assistance to the field as required, reviewing the issues that have been brought up during CWP field execution, and hold necessary meetings if a change to the scope or a revision to CWP is required.
- b) The AFC Team shall also be responsible to determine when an AFC is required and the appropriate routing

### **5.2 CCL Quality Control**

- a) Address any inquiries for Pressure Boundary PITP/ITP issues.
- b) Ensure AFC dispositions have been properly addressed.
- c) Assist with Minor and Major Revisions.

### **5.3 Support Engineering:**

- a) Provide project engineering disposition of AFC's

## **6 PROCEDURE**

The discovery in the field of any issue affecting replacement, rework, or repair of Items, which requires any modification to CWP's and/or changes to the scope of work may trigger a Minor or Major revision of the CWP or a complete re-write.

The AFC team and CCL Quality Control are the initial point of contact for all PassPort "working" status CWP technical issues, AFC's and their resolution.

Assessing shall ensure the disposition is addressed within the CWP using the Minor or Major Revision process.

### **6.1 As Found Condition Status Determination**

- a) If AFC Team can resolve AFC condition, then the Revision to CWP can be approved and authorized using the site-specific Minor or Major Revision Sheet.
- b) Upon completion of AFC disposition by Support Engineering the AFC shall be transmitted to Assessing to remove the PassPort "engineering assessing Hold".
- c) If the AFC cannot be resolved by AFC Team in the field, then the task in PassPort shall be set to "returned" status. The AFC shall be documented on CCL Form Q-019N, As Found Condition Report, and transmitted through CCL Document Control to Support Engineering for disposition.

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## 6.2 Minor Revisions

- a) When it has been determined that a revision to CWP is required and if the scope of the revision meets the Minor revision definition outlined in predetermined OPG documentation then the revision shall be categorized as a "Minor Revision".
- b) The AFC Team will approve the disposition to a Minor issue and authorizes the Minor Revision to a CWP using the site-specific Minor Revision Sheet.
- c) CCL doc control shall incorporate the Minor Revision sheets in the CWP as work instruction to CCL Field Execution.

## 6.3 Major Revisions

- a) If the scope of the revision does not meet the criteria of a Minor Revision, as stated in the definition section, then the revision shall be classified as "Major Revision", and an AFC report shall be completed.
- b) The Work Package Major Revision Sheet, will be utilized when performing a Major Revision to a CWP.
- d) CCL Document Control shall incorporate the approved site-specific Major Revision Sheet in CWP as work instruction to CCL Field Execution.
- c) Major Revisions shall follow the original CWP routing process for approvals.
- e) CCL Quality Control shall review the CWP and sign the As Found Disposition approval on Form Q-019N, As Found Condition Report

## 7 RECORDS

- a) Form Q-019N, As Found Condition Report
- b) Site-specific Minor/Major Revision Sheets

# Comstock

Document Title:

## Control of Customer Supplied Material and Services

Document Number:

QP-819N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist

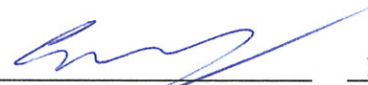
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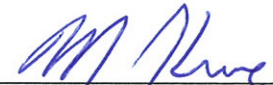
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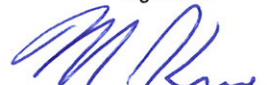
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## Revision History

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0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure details requirements for the control of customer supplied material and services.

This procedure identifies responsibilities and provides instruction on how the customer-supplied material and services are typically to be controlled.

## 2 SCOPE

This procedure applies to all classes of material and services used for construction supplied by OPG at Nuclear facilities.

## 3 REFERENCE DOCUMENTS

- a) Comstock Canada Ltd. CSA B51 Quality Manual
- b) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- c) CCL-MAN-001, CSA N285.0 Quality Manual
- d) CSA N286-05, Management system requirements for nuclear power plants
- e) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
C of C	Certificate of Conformance
Cat ID	Catalogue ID, a unique number assigned to an item.
CCL	Comstock Canada Ltd.
CMTR	Certified Material Test Report
C of A	Certificate of Authorization
CWP	Comprehensive Work Package
Issue Ticket	Issue Ticket is generated to issue the material and has the description, CAT ID, UTC, P.O and Trace, MR number and quantity of the item for a Material request.
Material	Used in this context as an all-inclusive term for vessel, pump, valve, parts, piping sub-assemblies, supports Etc.
MR #	Material Request Number
MTR	Material Test Report
P.O #	Purchase Order Number
QCI	Quality Control Inspector
SPOC	Single Point of Contact
UTC #	Uniquely Track Commodity Number
W/O #	Work Order Number

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## **5 RESPONSIBILITIES**

### **5.1 Project Manager**

- a) Shall ensure that adequate facilities are provided for the storage of customer- supplied items.
- b) Shall ensure that staff is adequately trained to follow code identification and control procedures
- c) Shall ensure that OPG provided services meet the requirements of CCL processes and procedures when necessary.
- d) Shall make provisions for the control of item identification consistent with the planned duration and conditions of storage.

### **5.2 Site Quality Manager**

- a) Ensure this procedure is followed and that identification and marking requirements are met.

### **5.3 Warehouse Supervisor**


- a) Ensure access to material storage areas are controlled
- b) Handling and storage of material shall be conducted as specified by the manufacturer. In the absence of manufacturer's instructions, handling will be conducted in a manner that will ensure freedom from damage to the material and packaging.
- c) Co-ordinate receipt inspection with QCI.
- d) Issue inspected material to field crews and log recipient's name.
- e) Document material returns.

### **5.4 Quality Control Inspector (QCI)**

- a) Perform material receipt inspection.
- b) Ensure required documentation is inserted into CWP.
- c) Monitor handling and storage practices.
- d) Perform field verification of materials.

### **5.5 Trades**

- a) Request material from material storage area.
- b) Handle material in a manner that prevents it from becoming damaged during installation.
- c) Return any unused material and documentation.

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## **6 PROCEDURE**

The project manager will designate a SPOC to deal with and control interfaces between CCL and OPG when OPG supplies material or services.

### **6.1 Access and Security**

The supervisor will only grant access to material storage areas to authorized personnel that are on the list posted at the entrance. The Project Manager or delegate will identify personnel to be included on the list.

Anyone not on the list that wishes to enter for work purposes must first request access. Upon access being granted by the supervisor the person will be escorted while in the material storage area.

### **6.2 Warehouse Handling and Storage**

Handling and storage shall be performed as per CCL QP-812N-OPG and Client requirements.

### **6.3 Quality Control Inspector (QCI)**

The QCI shall monitor the site storage areas to ensure that any requirements specified in the manufacturers instructions are being complied with, and that traceability of the material is being maintained.

### **6.4 Receipt Inspection**

Receipt inspection shall be performed as per CCL QP-812N-OPG.

### **6.5 Maintaining Positive Identification of Items**

Physical identification shall be used to the maximum extent possible. Where physical identification on the item is either impractical or insufficient, physical separation or other appropriate means shall be employed.

### **6.6 Pressure Boundary Material**

Identification or traceability of pressure boundary material is to be controlled at all times. OPG or a designated C of A holder normally supplies all the welding consumables to the contractors in order to reduce the possibility of mixing nuclear grade and conventional welding filler metal.

### **6.7 Field Installation Verification**

Prior to installation of items in the field the QCI or Trade Supervisor or Foreman will review the materials section of the CWP and verify the physical material is free from any damage and unique identifiers such as Cat ID and UTC match the supporting documents. The QCI or Trade Supervisor or Foreman will verify (and where applicable modify) the material quantity on the MR to confirm material used on the job by initialling and dating the MR.

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### **6.8 Return of Items by Trades**

When the Trades return material or items to the storage area, verification shall be documented on the Material Return Report, Form P-013N, which will then be inserted into the CWP by the QCI.

CCL Trades shall have the CWP with them when returning unused material to allow the Warehouse Personnel to complete the Material Return Report, Form P-013N, which will then be inserted into the CWP.

### **6.9 Return of Items to OPG**

OPG specifies the process and documentation required to accept excess material or items to put back in stock.

The warehouse supervisor will arrange for the storage and return of the material with the related documentation to OPG.

Any OPG property that is lost, damaged or otherwise found to be unsuitable for use shall be reported to OPG using the SCR process.

### **6.10 Customer Services**

All customer-supplied services will be handled in the same manner as if they were directly purchased by CCL. That would include having OPG on the ASL for the services to be provided, monitoring, surveillance or audits as required by CCL.

## **7 RECORDS**

- a) P-013N, Material Return Report

# Comstock

Document Title:

## CWP Review, Execution and Completion Assurance

Document Number:

QP-826N-OPG

Revision Number:

REV: 0

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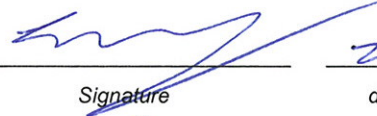
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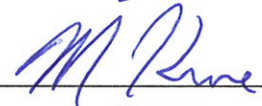
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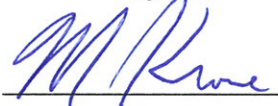
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	REVISION HISTORY	

## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure aims at providing a process used by CCL at OPG Nuclear facilities for work planning, execution, verification, installation completion and the documentation completion assurance, to ensure that the client accepts the physical work as well as the required records. Comprehensive Work Package (CWP) is used as work breakdown and a planning tool at site, all work related information is included in the CWP, from technical requirements, work instruction during planning to all records generated during construction, until they are reviewed and accepted by the client.

Since ITP review process is closely linked with CWP routing process, this procedure covers the handling and review of ITP as well. The review, handling and approval steps of ITP are embedded into the following three phases of CWP Routing. In the context of this document, ITP routing is the same as PITP, unless where it is specified.

This procedure intends to cover:

- a) Review and routing of CWP during planning phase;
- b) CWP work execution and records generation phase;
- c) Installation work completion including in-process inspection and final inspection, and
- d) CWP Completion Assurance phase and History Dockets.

This process interfaces with many external parties, for example, various departments of the client's, TSSA, etc. and is developed in line with client's requirements documented in Procedures for, Maintenance Work Assessment and Task Planning, Installation Completion Assurance, and Documentation Completion Assurance of Work Package and History Dockets. This procedure shall be reviewed for suitability when the referenced Customer procedures are revised to ensure customer's requirements are incorporated properly.

The external interfacing organizations and associated actions are also described only if it is directly related to CCL, even though the major focus is CCL's internal process.

## 2 SCOPE

This process applies to Documentation Control personnel, Field Construction personnel, QC personnel and QA personnel for CWP review, execution, closeout and completion assurance at OPG nuclear facilities.

CCL Project Manager is the owner of the process.


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### 3 REFERENCE DOCUMENTS

- a) Comstock Canada Ltd. CSA B51 Quality Manual
- b) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- c) CCL-MAN-001, CSA N285.0 Quality Manual
- d) CSA N286-05, Management system requirements for nuclear power plants
- e) CCL-NMS-001-OPG, Nuclear management system for Ontario Power Generation Portfolio
- f) Customer Procedure for Maintenance Work Assessment and Task Planning
- g) Customer Procedure for Installation Completion Assurance
- h) Customer Procedure for Documentation Completion Assurance of Work Package and History Dockets

### 4 ACRONYMS AND DEFINITIONS

Term	Definition
(D)BOM	(Design) Bill of Material
AFC	As-found Condition (Report)
ANI	Authorized Nuclear Inspector
CAT	Completion Assurance Team
CCL	Comstock Canada Ltd.
CMTR	Certified Material Test Report
CWP	Comprehensive Work Package, also known as Field Work Package (FWP), Work Package (WP)
DCN	Design Change Notice
EQ	Environmental Qualification
EWP	Electronic Work Package, which is created exclusively in the Database. The planner does not create a hard copy of the work package; it is to be printed by the work group prior to execution phase. It is to be used exclusively for non-pressure boundary.
FCN	Field Change Notice
HD	History Docket
ITP	Inspection and Test Plan
Major Revision	If the scope of the revision does not meet the criteria of a Minor Revision, it should be classified as a Major Revision.
Minor Revision (CWP )	<ul style="list-style-type: none"> <li>• Correct typographical errors</li> <li>• Make unit of measure conversions (e.g. change from 10 ft-lbs to 120 in-lbs of torque), See Engineering and /or QC for Second-party verification.</li> <li>• Designate as “not performed”/ “not required” steps which are obviously not necessary to properly complete the work.</li> <li>• Make additions that clarify or subdivide work instructions.</li> </ul>

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Term	Definition
	<ul style="list-style-type: none"> <li>• Make additions to work instructions that do not adversely affect work quality, increase work scope, or affect any specified testing.</li> <li>• Make editorial changes or changes within scope of work. (For changes that affect ITP's, Inspection or Tests, Customer and /or DWC QC concurrence is required).</li> </ul>
MR	Material Requisition
NCR	Non-conformance Report
PB	Pressure Boundary
PITP	Piping Inspection and Test Plan (Class 6)
OPG	Ontario Power Generation
QA	Quality Assurance
QC	Quality Control
SPOC	Single Point of Contact
TSSA	Technical Standards and Safety Authority

## **5 RESPONSIBILITIES**

### **5.1 CCL Project Manager**

- a) Overall implementation of this process;
- b) Provision of necessary resource for training, implementation and maintaining this process;
- c) Measuring and assessing the performance of the process.

### **5.2 Site Quality Manager**

- a) Ensure all subordinates dealing with CWP's have training on this procedure;
- b) Ensure the process and requirements in this procedure are adhered to;
- c) Identify necessary resource for training, implementation and maintaining this process.
- d) Review the procedure and revise it as necessary.

### **5.3 CCL Document Control**

- a) At various phases of the CWP review, execution and completion process, are responsible to take the actions identified in section 6 and create and maintain associated records.

### **5.4 CCL CWP QA/QC**

- a) At various phases of the CWP review, execution and completion process, are responsible to take the actions identified in section 6 and create and maintain associated records.

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## **5.5 Field Document Control, Field Supervision and Field QC Personnel**

- a) At various phases of the CWP review, execution and completion process, are responsible to take the actions identified in section 6 and create and maintain associated records.

## **6 PROCEDURE**

### **6.1 Requirements and Precautions**

Changes to CWP during work execution shall be controlled in accordance with the “minor revision” and “major revision” mark-up requirement specified in a Customer Procedure for, Maintenance Work Assessment and Task Planning.

Advanced submission is the preferred method of Customer QC/EQ attendance of the installation completion walk down. Every effort is to be made to provide advanced notification of 24 hours as minimum.

CCL employees involved in the process shall make all efforts to ensure that the Customer will accept CWP at the first cycle of review. The Customer may monitor CCL’s performance via CWP deficiencies trending. The deficiencies found during second cycle may warrant a Corrective Action Report to CCL.

CWP documents that are illegible or require significant correction shall be corrected by referencing the replacement document. Mark the original “Superseded” and retain both in the CWP/HD.


Changes to an accepted CWP are not permitted. If it is determined that there is a need for rework, there is an error or omission of scope that requires field work, a NCR shall be raised and a new CWP or an addendum to the CWP shall be created.

### **6.2 CWP Review, Execution and Completion Assurance**

This section provides CWP routing process in three phases:

- a) Phase A: CWP Planning and Review;
- b) Phase B: CWP Field Work Execution and Completion
- c) Phase C: CWP Closeout Review and Completion Assurance.

As explained in section 4, if the work package is an Electronic Work Package (EWP), no ITP is required. Hard copy of EWP will be printed and assembled prior to field execution, as described in Step B-3. The following process focuses on CWP routing, for EWP, all ITP associated steps are not applicable, neither all steps interfacing with TSSA. TSSA is not involved in the routing of EWP.

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### 6.2.1 Phase A: CWP Planning and Review

Phase A: CWP Planning and Review			
Steps	Responsible	Actions	Output
A-1	Assessor	Prepare the CWP Prepare and insert PITP into the CWP Forward the CWP to Assessing Clerk	CWP with PITP
A-2	Assessing Clerk	Receive CWP from Assessor Forward the CWP to CCL Doc. Control	
A-3	CCL Doc. Control	Receive CWP from Assessing Clerk Bar Code Scan CWP into Database Forward it to CCL QA/QC	Updated Database
A-4	CCL QA/QC	Review CWP and check if all required information to perform field installation work is complete and adequate to perform the required scope of work. Especially the associated design information and work instructions. Refer <i>Appendix A, CWP Content Review Guideline</i> for details. Insert applicable CCL procedures, instructions, if any. Check if there is any Engineering Directives from client applicable to the scope of work, if so, insert the directive into the CWP, or insert CCL work instruction prepared based on the directives. Is the CWP is complete? If answer is "yes", go to <b>Step A-5</b> ; If answer is "No", then goes back to <b>Step A-3, A-2, A-1</b>	
A-5	CCL QA/QC	Review PITP prepared by assessor. Prepare ITP in accordance with procedure <i>QP-100N, Generation and Control of Inspection &amp; Test Plan (ITP) and QP-102N Generation and Control of a Piping Inspection &amp; Test Plan</i> Determine if TSSA need to review the CWP and ITP. Forward the complete CWP back to CCL Doc. Control and inform if TSSA review is required.	Reviewed PITP / ITP Modified ITP to address TSSA comments.
A-6	CCL Doc. Control	Receive CWP from CCL QA/QC and Bar Code Scan it into database Insert CWP Content Index, Signature Log and any other CCL Forms, Forward only ITP to Customer Bar code scan out CWP (without ITP) and keep it separately	Updated Database Separate CWP without ITP from others Insert From Q-903N, and Q-002LCN
A-7	Customer QC	Review ITP Identify verification/inspection points in the ITP. Sign off ITP as acceptance Return it back to CCL Doc. Control ITP accepted? "No" go to Step A-8, "Yes", go to step <b>A-9</b>	Reviewed ITP Comments on ITP, if any
A-8	CCL Doc. Control	Receive ITP Forward ITP to QA/QC for corrections Receive corrected ITP	Updated Database

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Phase A: CWP Planning and Review			
Steps	Responsible	Actions	Output
		Forward it back to Customer <i>Note: Customer may directly communicate with CCL QA/QC regarding ITP corrections.</i>	
A-9	CCL Doc. Control	Receive ITP Put them back into CWP ANI acceptance is required? "Yes", go to the next step <b>A-10</b> ; "No", go to <b>Step A-12</b>	Updated Database Complete CWP with ITP
A-10	TSSA (ANI)	Review the CWP Review the ITP Identify TSSA verification point in the ITP Sign off ITP as acceptance ITP accepted? "No" go to <b>Step A-11</b> , "Yes", go to <b>Step A-12</b>	TSSA Verification Points in the ITP ITP acceptance Sign-off Reviewed CWP with ITP
A-11	CCL Doc. Control	Receive the CWP with ITP Forward CWP to QA/QC for correction Forward corrected ITP to TSSA. <i>Note: TSSA may directly communicate with CCL QA/QC regarding ITP corrections.</i>	Updated Database
A-12	CCL Doc. Control	Bar Code Scan out CWP from the database Forward CWP to Assessing Clerk.	Updated Database
A-13	Assessing Clerk	Bar Code Scan in the CWP Forward it to the Assessor	Updated Database Reviewed CWP
A-14	Assessor	Get appropriate Approvals Send the CWP back for execution	

### 6.2.2 Phase B: CWP Field Work Execution and Completion

Phase B: CWP Work Execution and Records Generation			
Steps	Responsible	Actions	Output
B-1	CCL Doc. Control	Receive the CWP from Assessing Bar Code Scan the CWP into Database and verify the "Ready" status of CWP Forward CWP to CCL Field Doc. Control, and Bar Code Scan it out from Database.	Updated Database
B-2	CCL Field Doc. Control	Receive the CWP from CCL Doc. Control Bar Code Scan the CWP into Database Log the CWP into CCL Database Notify construction the availability of CWP.	Updated Database Updated CCL Log Communication (Emails, or phone calls, etc.)

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Phase B: CWP Work Execution and Records Generation			
Steps	Responsible	Actions	Output
B-3	Field Supervisor	<p>Review CWP in accordance with <i>Appendix A, CWP Content Review Guideline</i></p> <p>Perform field walk-down as necessary</p> <p>Major change to CWP required?</p> <p>If answer is “yes”, then</p> <p>Return the CWP package to Assessing through Field Document Control, and CCL. Doc Control.</p> <p>If answer is “No”, then,</p> <p>Verify if all prerequisites ready and complete all preparation work and forms, for example, JSEA, FME Plan etc.</p> <p>Get or verify all work permits</p> <p>Get all materials and items ready in accordance with Procedure <i>QP-819N-OPG, Control of Customer Supplied Material and Services.</i></p>	<p>JSEA Form</p> <p>Pre-job Briefing</p> <p>Material Requisition</p> <p>Materials/item available</p> <p>Work Permits.</p> <p>FME plan</p>
B-4	Field Supervisor	<p>Perform the work in accordance with drawings, specifications, work instructions included in the CWP.</p> <p>Notify CCL QC when approaching the verification points.</p> <p>Maintain all required construction records as applicable to the type of work, and as required by associated drawings and work instructions.</p> <p>Sign off all associated forms, as the responsible performer of construction work and holder of the records.</p> <p>Construction work cannot progress beyond “hold” points without written consent from the party who established the hold point.</p> <p>Report the construction progress in accordance with client’s requirements.</p> <p>If there is any nonconformity found, issue NCR in accordance with CCL NCR Process described in CCL Quality Assurance Manuals.</p> <p>For As Found Condition or field installation change, follow procedure <i>QP-818N-OPG, As-Found Condition and Change Control.</i></p> <p>If above changes warrants revisions to CWP, return the CWP back to Field Doc. Control, go to <b>Step B-2, Step B-1.</b></p> <p>Return CWP back to CCL Field Doc. Control for custody at the end of each shift.</p>	<p>Physical Construction Work</p> <p>Construction records generated during construction, with proper sign-offs</p> <p>Health and Safety Related Records</p> <p>AFC</p> <p>NCR, if any</p> <p>Work Process Report in Restart Database</p> <p>Revised CWP, if any.</p>
B-5	CCL Field Doc Control	<p>Safely store the CWP at the end of each shift.</p> <p>Issue CWP to Field supervisor at the beginning of each shift.</p>	<p>Daily CWP Sign Out Log</p>

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Phase B: CWP Work Execution and Records Generation			
Steps	Responsible	Actions	Output
B-6	CCL Field QC (Including NDE Personnel)	<p>Perform verification activities as planned in ITP</p> <p>Coordinate with PMC QC or TSSA for witness of verification points or hold points</p> <p>Verify construction work in accordance with drawings, specifications and work instructions</p> <p>Evaluate the results against acceptance criteria (the requirements listed in above bullet or other applicable criteria)</p> <p>Prepare test and inspection report, i.e., Q-009N, Q-009AN; or NDE report, etc.</p> <p>Issue NCR, place NCR tags as applicable and follow up its disposition in accordance with <i>CCL Assurance Manuals</i>.</p> <p>Sign off inspection report or ITP as acceptance.</p>	<p>ITP Sign-off</p> <p>NDE Reports</p> <p>Inspection Reports, completed Form Q-009N</p> <p>Photographs, if any.</p> <p>Other Various Inspection and Test Reports, both internal and external.</p> <p>NCR Report.</p>
B-7	Customer QC	<p>Verify construction/installation field work</p> <p>Sign off ITP as acceptance, or</p> <p>Complete Customer FORM for, Field Execution Inspection/Surveillance Report.</p> <p>Give the original to CSDC for distribution.</p>	<p>ITP Sign-off (as applicable)</p> <p>Customer FORM sign-off</p>
B-8	TSSA	<p>Verify construction/installation field work</p> <p>Sign off ITP as acceptance</p> <p><b>Note:</b> This step is applicable for Nuclear PB work only.</p>	<p>Last ITP Sign-off</p>
B-9	Field Supervisor	<p>Perform a walk-down and self-check all physical work at site, including the cleanliness of work area, necessary protection of completed work or equipment.</p> <p>Self-check the completion and legibility of all records in the CWP;</p> <p>Sign-off all records in the CWP as Performer of the installation activities;</p> <p>Sign-off Installation Inspection Report Q-009AN as performer.</p> <p>Forward the CWP to CCL Site QC.</p>	<p>Signature as performer or supervisor on all applicable records.</p> <p>Sign off on form Q-009AN.</p> <p>Completed CWP with all records.</p>
B-10	CCL Site QC.	<p>Perform a final inspection of physical work at site;</p> <p>Review all records and ensure all places for Field QC inspector has been signed off;</p> <p>Review all NCR and AFC's associated with this CWP, ensure they have been closed.</p> <p>Sign-off as on Installation Inspection Report Q-009AN as verification personnel.</p> <p>Sign-off the last site work verification points on ITP, if any.</p> <p>*Upon completion of all field installation work, complete Customer Form for, Notification of Inspection/Test and distribute it to Customer Project Mgr via CCL Doc. Control.</p> <p>Coordinate with Field Supervisor, Customer, TSSA, EQ, if required to perform a joint walk-down.</p> <p><b>*Note:</b> The minimum notification time is 24 hours ahead of the scheduled inspection/test (walk-down).</p>	<p>Sign off on form Q-009AN.</p>

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Phase B: CWP Work Execution and Records Generation			
Steps	Responsible	Actions	Output
B-11	CCL Field Doc. Control	Bar Code Scan it into Database showing the fieldwork of the task has been finished. Log it into CCL CWP Log Forward the CWP to CCL Doc control for CWP Close Out and Completion Assurance.	Completed CWP Updated Database

### 6.2.3 Phase C: CWP Closeout Review and Completion Assurance

Phase C: CWP Close-out and Completion Assurance			
Steps	Responsible	Actions	Output
C-1	CCL Doc. Control	Receive the CWP from CCL Field Doc. Control Bar Code Scan the CWP into Database Forward it to CCL QA/QC for completion review	Updated Database
C-2	CCL QA/QC	Review the completed CWP in accordance with <i>Appendix A, CWP Content Review Guideline</i> Check if all records are legible, all signatures from performer and verification personnel are complete Check if all signatures throughout the CWP are captured in the Signature Log, Q-903N to maintain the traceability and legibility. Check if all inspection and test results have been assessed against acceptance criteria and accepted Check if all NCR's/AFC have been closed. Complete <i>Customer Form for, Contractor's Work Package Acceptance Form</i> and insert it into CWP. Complete <i>Customer Form for, Supplier History Docket Release</i> into Nuclear Class 1, 2, 3 and 4 and PB work package. Complete and insert <i>Customer FORM for, Pressure Boundary Documentation TSSA Submittal Request</i> into PB CWP. Complete and insert <i>Customer Form for, Verification of EQ Impact</i> if it is EQ CWP. Check if all records inserted during work execution are listed in the CWP/EWP Index Q-002LCN, update the index if necessary. Forward CWP back to CCL Doc. Control	Reviewed CWP <i>Customer Form Contractor's Work Package Acceptance form</i> and completion of applicable Parts Completed <i>Customer Form, Supplier History Docket Release</i> Completed Customer Form for, <i>Verification of EQ Impact</i> Completed <i>Customer Form for, Pressure Boundary Documentation TSSA Submittal Request</i>
C-3	CCL Doc. Control	Bar Code Scan out the CWP Forward/Deliver CWP to CAT SPOC with a transmittal	
C-4	CAT SPOC	Receive, record and process CWP to CAT Return CWP to CCL Doc. Control	

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Phase C: CWP Close-out and Completion Assurance			
Steps	Responsible	Actions	Output
C-5	CAT	Review the CWP Complete applicable Customer Form if CWP/HD acceptable. Complete appropriate for EQ CWP Provide comments on <i>Customer Comment and Disposition Sheet</i> when deficiencies are found.	
C-6	CAT SPOC	Return the CWP to CCL Doc Control	
C-7	CCL Doc.Control	CWP accepted? Check if Customer Comment and Disposition Sheet are inserted with CAT's comment? If CWP is not accepted forward CWP to CCL QA/QC- <b>Step C-8</b> If CWP is accepted, go to <b>Step C-9</b>	
C-8	CCL QA/QC	Address comments on Customers Comment and disposition Sheet; go back to <b>Step C-3</b> .	
C-9	CCL Doc Control	Scan the Completed CWP into electronic file and archive it for CCL in accordance with <i>QP-110N, Controlled Documents and Records</i> . Send the CWP original to PMC.	E-file of CWP

## 7 RECORDS

- a) Form Q-903N, Signature Log
- b) Form Q-002LCN, CWP Index
- c) Form Q-009N, Inspection Report
- d) Form Q-009AN, Installation Inspection Report
- e) NDE Reports
- f) Any other record generated and indexed such as AFC, JSEA, FME, and transmittals.

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## Appendix A

### CWP Review and Completion Assurance Review Guideline

CCL QA/QC or Doc. Control personnel shall review CWP at CWP review phases (Phase A) and after the fieldwork has been completed (Phase C), to ensure all required information for performing the required scope of the work is complete; the following can be used as reference checklists during the review.

It should be noted that not all documentation listed below would be in the CWP at Phase A, the focus of the review at this phase is to ensure that the CWP provides adequate information so that work could be performed and documented properly, and to confirm the required “documents” are included in CWP.

While at Phase C, after the work has been completed, the focus of the review is to confirm that all necessary “records” demonstrating the work has been performed and accepted in accordance with requirements are included in CWP. The information to be verified includes, but is not limited to the documents/records listed in the following table.

Ref #	Document Title	Criteria
1	General	Customer FORM-, Work Package Completion Assurance Acceptance Certification. Customer FORM-, History Docket Release when applicable. Customer FORM--, Verification of EQ Impact, as applicable. Customer FORM, Pressure Boundary Documentation TSSA Review Submittal Request, as applicable. Original and or Master copies are identified when required. Records are clear and legible. The revision utilized is current at the time the work is performed. Authorized and qualified persons perform tasks. No pencil (blue or black ink are preferred) No white out. All items are complete or NA with signature and date by authorized personnel
2	As-built drawings (mapping)	Verify the Performer ID, qualification, employee’s number, date, signature, ITP number, component and as-built document number. Verify that the drawing equates to the scope of work required. Verify that the drawing equates to the materials installed based on the materials trace documents provided (as applicable from a walk-down verification) Verify that the as-built drawings/mapping equates to the installation method supporting documents such as welding log. Verify the as-built is identified as record on the ITP.
3	Authorizations	Verify authorizations are obtained in all locations indicated by the ITP and support documents including but not limited to: change paper, drawings, concessions, reconciliation, DCN etc.

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Ref #	Document Title	Criteria
4	Data Report	<p>Cross-reference with the ITP title block, ensure scope, class, type including revisions etc. is accurate and complete.</p> <p>Pressure Test work order is provided and verified "planned" status in Passport Welders are stated and the details equates to the weld log, weld map, filler metal record, welders, welder per weld.</p> <p>Screwed fittings detail equates to the as-built.</p> <p>Support section is complete.</p> <p>Reconciliation statement is provided in the Work Package and is current, accurate and complete. The data report reference the reconciliation number</p> <p>Scope of ITP reflects reconciliation and any restrictions, hose pipe, tube Piping identified equates to the Scope, Material Trace records and installation documents.</p> <p>The data report is identified as a record on the ITP.</p>
5	DBOM/BOM	<p>Approved</p> <p>Equates to the design requirements for the scope of the work</p>
6	DCN	<p>DCN provided/referenced is the current revision (if referenced but not provided an electronic verification is required)</p>
7	Drawings	<p>Engineering drawing is provided at the current revision or referenced and available in Curator.</p> <p>Change papers are provided as applicable including EQ requirements.</p>
8	Calibration Record	<p>Current calibration at the time the work was performed.</p> <p>Contains all relevant details such as tool number, acceptance range, calibration date, etc.</p> <p>Evidence of gauge returning to 0 (Zero) post test provided.</p>
9	CMTR	<p>Verify CMTR's are provided when required by code and that the specification, statutory declaration and heat number matches those stated in the ITP, material trace documents and as applicable the as-built drawing and data report</p> <p>All Certified Material Receiving Reports and Certificates of Compliance or Certificates of Conformance are included in the CWP as required and conform to the EQ purchasing requirements.</p> <p>Identified as a record on the ITP.</p>
10	Concessions	<p>As applicable current</p> <p>Current with authorizations provided.</p> <p>Identified as a record on the ITP</p>
11	CORR Letter	<p>As applicable current</p> <p>Current with authorizations provided.</p> <p>Identified as a record on the ITP</p>
12	EQ Dossier	<p>Documents listed include EQ reference, e.g., EQ Dossiers, EQA's and other procedures as required.</p> <p>Relevant change paper drawings and specifications applicable to the installation are listed as reference in the change paper EQD.</p>

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Ref #	Document Title	Criteria
13	FCN	Verify authorizations are provided. Verify the FCN number is denoted in all relevant locations on the ITP Verify the FCN equates back to the scope of work performed. Identified by the ITP as record
14	Foreign Material Exclusion	FME; where required, is performed, and verification signed and dated
15	Issue Ticket	Totality equates with the installation requirements and quantity Equates with the (D) BOM, FCN, NCR, Revisions, weld report (consumables), MR and the return ticket.
16	ITP (All revisions)	Verify the ITP is the original latest revision (previous revisions provided). Superseded ITP's are provided. Title block is complete and accurate on all pages. All pages listed are provided by qualified and authorized persons. Permanent records listed i.e. Data Report, EQ Dossier, reconciliation statement, FCN, NCR, and DCN etc. Verify revisions are authorized, documented in all relevant locations on ITP. Temperature and Pressure matches the Registered Engineering Flow Diagram & Rev. Stated on the ITP Ensure °F, AND °C, kPa and MkPa, are correct. EQ installation standards are referenced and applied as applicable. Tagging requirements referenced and installation of tagging verified. The ITP reflects the total work scope with the supporting interface documents provided and reference i.e., FCN, FCA, NCR.
17	Materials List (May be a field within the ITP)	Verifications are provided from the appropriate authority prior to use/installation EQ Requirements are satisfied. Materials list can be logically equated to the installation and method of installation. Nameplates are accurate Verify material used equates to the scope of work including the (D) BOM, FCN, FCA, NCR (Materials shall not exceed materials quantity prescribed by the BOM, FCN, FCA). Equates to the as-built conditions per the as-built drawing Traceability is apparent Identified as a record on the ITP
18	Material Request	Equates with the installation requirements and quantity Equates with the (D) BOM, FCN, FCA, NCR, Revisions weld report (consumables) and the issue and return tickets.
19	Mechanical Joints/Threaded Assembly	Mechanical joints and Threaded assembly procedures are of a current revision at the time the work is performed. Only qualified personnel perform activities. The work performed equates to the scope of work required and mapping
20	Minor Revision Sheet	Provided when required to reflect changes. Provides FCA's, FCN's, Scope Change, DCN rev. Verify signatures for each entry. Verify signature for final acceptance

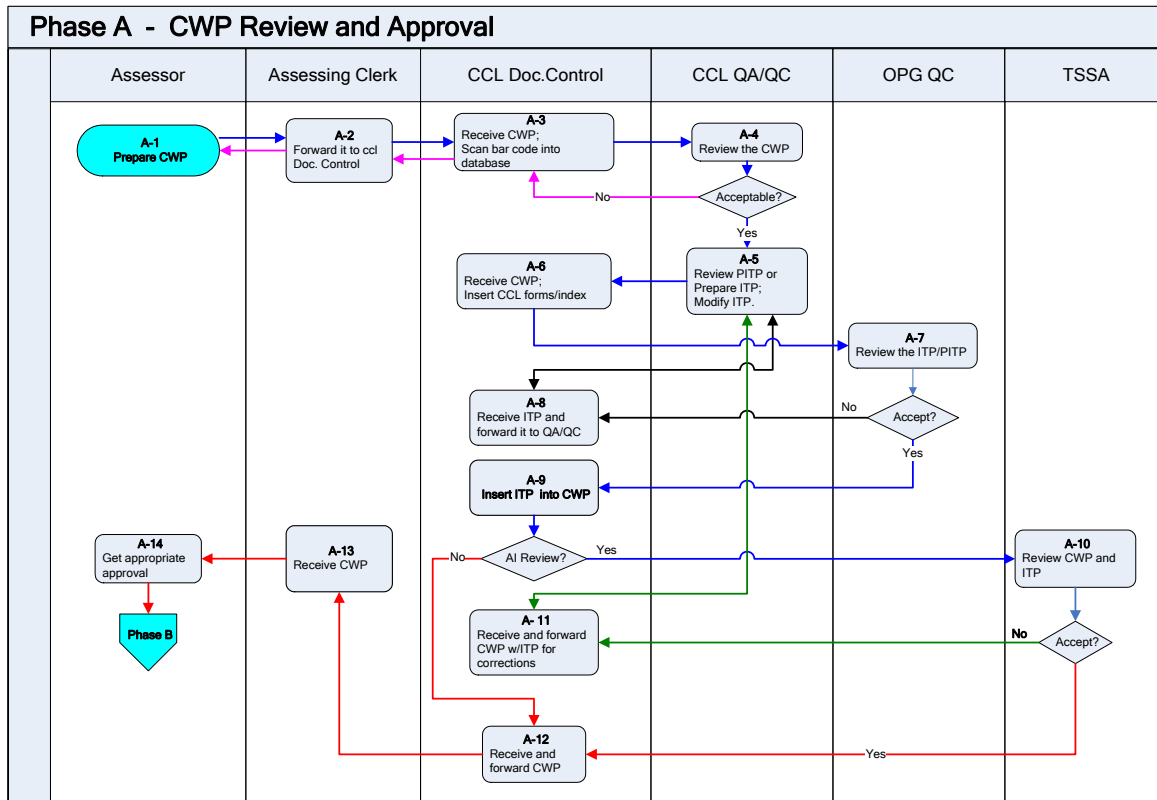
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Ref #	Document Title	Criteria
21	Nameplates	The appropriate Authorities verify restored nameplate marking, nameplate stamped before being reattached.
22	NCR(s) All applicable	NCR closed (with ANI concurrence when required). Referenced on the ITP index. Denoted on the ITP sequence applicable Support reference provided (e.g. materials return ticket)
23	NDE Reports; VT,PT, MT,UT,RT	Record provided and indicates acceptance The report captures all weld/weld repairs according to the weld map, report and log. Completed and verified by qualified technician at the appropriate level. The report is correct to the scope and class. Verify the NDE procedure was of the correct revision at the time the work was performed. Identified as a record on the ITP
24	PassPort	Status of activities, scope, materials, performers equate to the documents provided.
25	Pressure Test Report	Complete. Accepted by qualified and authorized persons. Identified as a record on the ITP.
26	Qualifications	Verified and included for welders and mechanical joint workers. Verified they are provided and denoted on the ITP for EQ equipment installation.
27	Return Ticket	Equates with the installation requirements quantity and to the NCR as applicable.
28	Scope	Activities performed equate to the original scope plus all FCN's, FCA's, NCR's, ITP revisions and minor/major revisions.
29	Signature Log CCL Form Q-903N	Provided and complete
30	Supports	Identified, mapped and equates to the welding performed and the scope including FCN, FCA, NCR, and ITP revision.
31	Reconciliation	Current Authorizations provided Identified as a record on the ITP
32	Table of Content Index, Valve Replacement CCL Form Q-002LCN	Provided and as applicable upgraded to identify documents as a result of FCN's, FCA's, NCR's, and ITP revisions. All permanent records identified. All non permanent records identified. All items listed are provided. All provided items are listed including Customer: Forms, as applicable

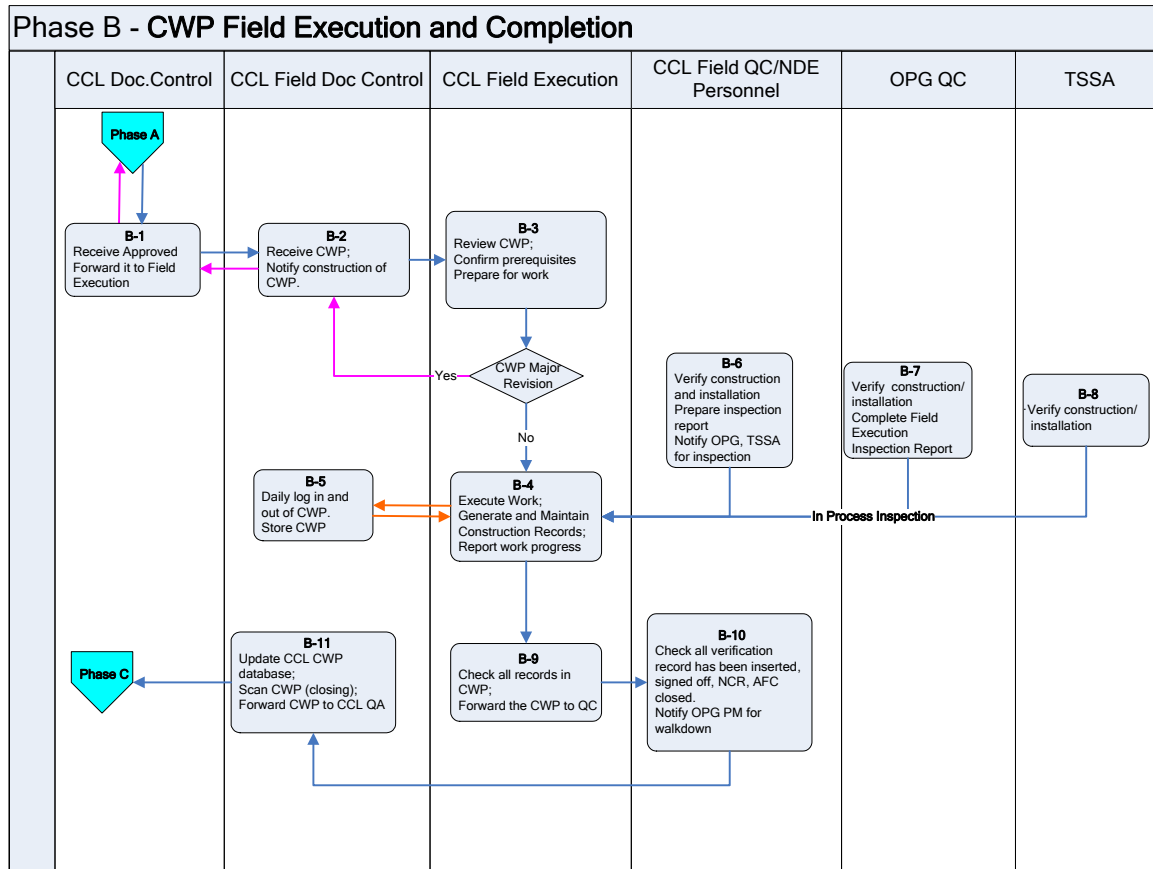
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<b>Ref #</b>	<b>Document Title</b>	<b>Criteria</b>
33	Welding Report Weld Log Weld Map Filler Metal Record	<p>Identified as a record on the ITP.</p> <p>Welding Report, weld log, Filler Metal Record, weld map and welder qualification details cross-reference equates.</p> <p>Complete and accurate to the scope of work required and performed.</p> <p>Welding; appropriate to the scope of work including revisions.</p> <p>Consumables are verified.</p> <p>WPS indicated is correct for the work performed.</p> <p>WPS is approved.</p> <p>Complete and accurate to the scope of work required and performed including FCN, FCA, NCR and revisions.</p> <p>Welder stated and qualified to perform WPS at the size performed.</p> <p>Consumables collate with the WPS.</p> <p>The WPS is approved.</p> <p>The work performed, the WPS and the ITP collate caution to FCN, FCA and NCR details.</p>
34	Safety Valve Removal and Reinstallation Form	<p>Contractor that removed the valve is identified</p> <p>Issues such as damaged piping identified and dispositioned.</p> <p>Customer Form for Safety Valve Removal/ Reinstallation is complete</p>

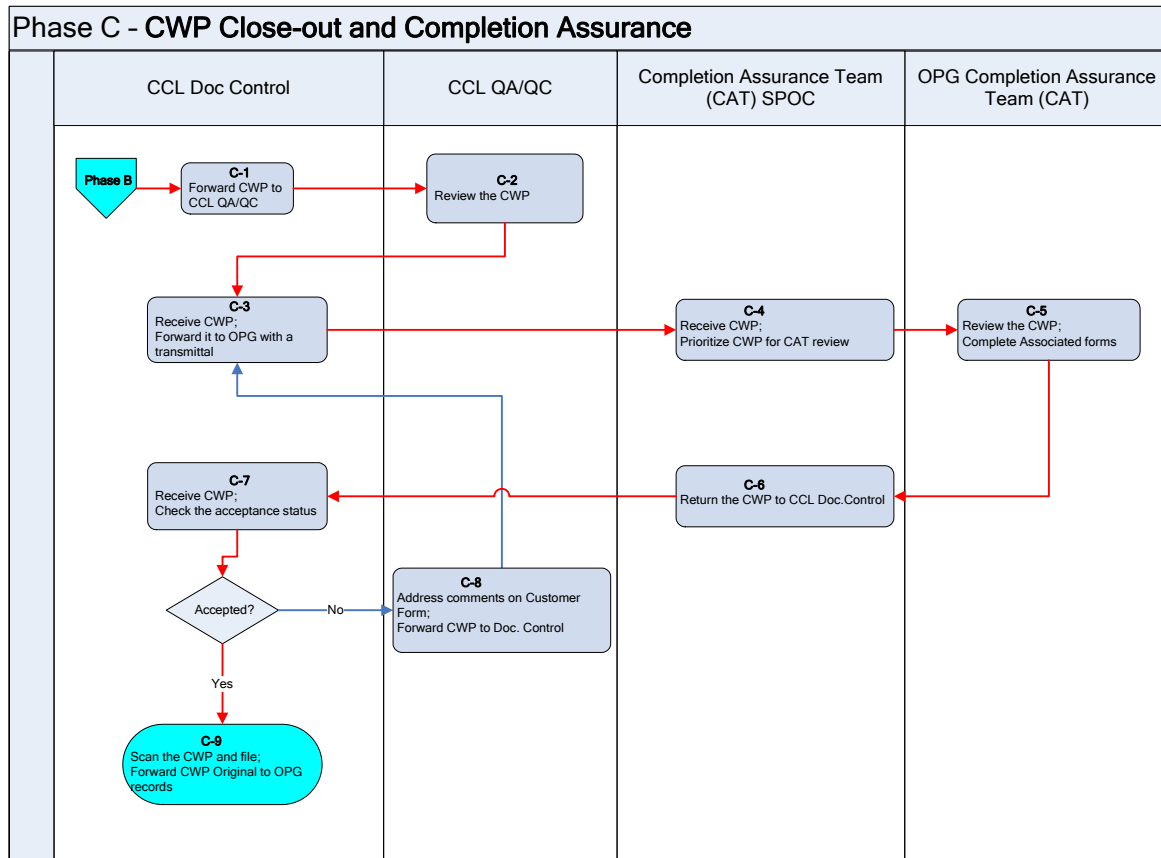
**Phase A- CWP Review and Approval Process Flowchart**



**Phase B- CWP Field Execution and Completion Flowchart**



**Phase C- CWP Close-Out and Completion Assurance Flowchart**



# Comstock

Document Title:

## Certification of QA / QC Personnel

Document Number:

QP-902N-OPG

Revision Number:

REV: 0

Gilles Lemay  
QA Specialist



29 SEPT, 2011

Prepared by

Signature

dd-mmm-yyyy

Mike Krone  
Quality Manager, Nuclear



29 SEP 2011

Reviewed by:

Signature

dd-mmm-yyyy

Mike Krone  
Quality Manager, Nuclear



29 SEP 2011

Approved by:

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dd-mmm-yyyy

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## Revision History

Revision	Date	Author	Description of Changes
0	29-Sep-2011	Gilles Lemay	New Release

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## 1 PURPOSE

This procedure details the requirements for the certification of personnel performing QA/QC functions other than audits and NDE, where NDE is defined as the Ultrasonic, Radiographic, Magnetic Particle, Liquid Penetrant and Eddy Current methods.

## 2 SCOPE

This procedure is applicable to personnel performing QA/QC functions other than audits and NDE at OPG nuclear facilities.

The system as described in this procedure shall be administered by the Quality Manager, Nuclear or the Site Quality Manager.

Personnel certified under the rules described in this procedure shall be employees of Comstock Canada Ltd. (the Company), or employees of companies providing sub-contract services to the Company.

Certification granted under the rules of this procedure shall only be in effect for the duration specified and as long as the person is performing work for the Company.

## 3 REFERENCE DOCUMENTS

- a) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- b) CCL-MAN-001, CSA N285.0 Quality Manual
- c) CSA B51, Boiler, pressure vessel, and pressure piping code

## 4 ACRONYMS AND DEFINITIONS

Term	Definition
ASME	American Society of Mechanical Engineers
ASNT	American Society for Non destructive Testing
AWS CWI	American Welding Society Certified Welding Inspector
CSA	Canadian Standards Association
NDE	Non destructive Examination
QA	Quality Assurance
QC	Quality Control
QS	Quality Supervisor

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## 5 RESPONSIBILITIES

### 5.1 Level I Certification

A level I person shall be capable of performing and documenting the results of QA/QC functions, such as visual and dimensional inspections, witnessing of tests and documentation review. These functions shall be performed in accordance with the referenced QA manuals and/or documented procedures and in accordance with industry practices. A level I person shall work under the direct supervision of a level II person.

### 5.2 Level II Certification

A level II person shall have all of the capabilities of a level I person. Additionally a level II person shall have capabilities in planning inspections, in supervising the work of a level I person, in evaluating the validity and acceptability of inspection results, and in preparing documented records.

## 6 PROCEDURE

### 6.1 Education, Training, & Experience Requirements

- a) Personnel considered for certification shall as a minimum meet one of the conditions for the experience-education requirements detailed in table 1.
- b) Personnel considered for certification shall receive training on all sections of the QA manuals, and on Inspection and Test Plans.
- c) Personnel considered for certification shall receive training on specific control procedures related to the function listed in Table 2.
- d) Personnel may be certified to one or more functions as indicated in Table 2.

**TABLE 1**

Condition	Level I	Level II
A	One year of experience in related QA/QC activities.	One year of satisfactory performance as a level I in related QA/QC activities.
B	High school graduation and six months of experience in related QA/QC activities.	High school graduation and two years of experience in related QA/QC activities.
C	Completion of a 2 year college program in a related discipline and three months of experience in related QA/QC activities	Completion of a 2-year college program in a related discipline and one year experience in related QA/QC activities.
D		Completion of a 4-year university program in engineering and three months of related experience in QA/QC activities.

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**TABLE 2**

Function No.	QA/QC Functions Certified
1	Receiving inspection
2	Documentation Review
3	Metrology
4	Visual weld inspection
5	Welding verification
6	General visual inspection
7	Pressure test witness
8	Data report preparation

## **6.2 Physical Requirements**

Candidates for certification to functions number 4, and 6 (Table 2) shall meet the following vision requirements when examined by an oculist, optometrist, or other professionally recognized person and complete Form G-010N, Eye Examination Report.

- a) Distant vision shall equal 20/30, or better in at least one eye, either corrected or uncorrected.
- b) Near vision shall permit reading J-1 letters on a standard Jaeger test type chart for near vision, or equivalent test type, in at least one eye either corrected or uncorrected.

The vision requirement shall be subject to annual renewal in order to maintain certification.

## **6.3 Certification**

To qualify for certification in a function, a candidate shall be trained and shall then demonstrate their capability by performing the function under normal working conditions. During the demonstration, the candidate shall be witnessed and evaluated by the Site Quality Manager or the Quality Supervisor, using a checklist that highlights the key operations of the function.

The candidate shall score in the capability demonstration, a minimum grade of 80%. The checklist shall receive a final evaluation and be signed off by the Quality Manager, Nuclear or the Site Quality Manager. A copy of the checklist shall be retained in the candidate's certification file.

The candidate shall also meet the education, training, and experience requirements detailed in Table 1, and as required, the physical requirement detailed in paragraph 6.2.

Evidence of a person's capability shall be documented on a (Form G-028N) certificate that states the function demonstrated and the level achieved. The Quality Manager, Nuclear or the Site Quality Manager shall certify the document.

Personnel who are certified to the requirements of CSA W178.2, Level 2 or AWS CWI may be certified as a Level II Inspector for functions 4, 5 and 6 (Table 2).

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#### **6.4 Re-Certification**

Persons certified according to the requirements of this procedure shall be subject to re-certification under the following conditions:

- a) A period of three years has elapsed since the original certification was awarded.
- b) The person has failed to provide annual evidence of meeting the vision requirement.
- c) The person has not been employed as QA/QC person for a continuous period of one year during the certification period.
- d) The person's performance is questioned by their supervisor, the client, or the Authorized Nuclear Inspector.

Re-certification shall be granted, either based on evidence of continued satisfactory performance or re-evaluation of capability in accordance with paragraph 6.3.

#### **7 RECORDS**

- a) Form G-010N, Eye Examination Report
- b) Form G-028N, Certification of Qualification QA / QC

# Comstock

Document Title:

## Certification of Audit Personnel

Document Number:

QP-903N-OPG

Revision Number:

REV : 0

Gilles Lemay  
QA Specialist

Prepared by


Mike Krone  
Quality Manager, Nuclear

Reviewed by:

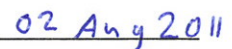
Mike Krone  
Quality Manager, Nuclear

Approved by:

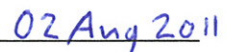
  
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	REVISION HISTORY	


## Revision History

Revision	Date	Author	Description of Changes
0	02-Aug-2011	Gilles Lemay	New Release

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**1 PURPOSE:**

This procedure defines the training and certification process for CCL staff performing audit activities to independently assess the effectiveness of *Management Systems*, and to identify opportunities for improvement

**2 SCOPE:**

This procedure applies to all auditors performing internal audits for Ontario Power Generation Nuclear projects, for both pressure boundary and non-pressure boundary Management System, of CCL.

This procedure applies to auditors performing external audits on CCL supplier's (product suppliers and service provider) Management Systems.

QA Manager-Nuclear is the owner of the process.

**3 REFERENCE DOCUMENTS:**

- a) ASME Section III, Division 1-NCA-4134.2
- b) CSA N285.0, General requirements for pressure-retaining systems and components in CANDU nuclear power plants
- c) CCL-MAN-001, CSA N285.0 Quality Manual
- d) CSA N286-05, Management system requirements for nuclear power plants
- e) CCL-NMS-001-OPG, Nuclear Management System for Ontario Power Generation Portfolio
- f) ISO 19011-02, Guideline for Quality and/or Environmental Management System Auditing

**4 ACRONYMS AND DEFINITIONS:**

Term	Definition
ASME	American Society of Mechanical Engineers
Auditee	Organization being audited. (ISO 9000:2005)
Auditor	Person with the demonstrated personal attributes and competence to conduct an audit. (ISO 9000:2005)
CCL	Comstock Canada Ltd
ISO	The International Organization for Standardization
Lead Auditor	An audit team leader, who organizes and directs audits, report audit findings, and evaluates corrective action (NQA-1 1994)
Management System (s)	Refers to Quality Management System (QMS), Environmental Management System, and Occupational Health and Safety Management System (OHS MS), or any integration of these systems.
QA	Quality Assurance

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## **5 RESPONSIBILITIES:**

### **5.1 QA Manager, Nuclear:**

- a) Ensuring that this Auditor/ Lead Auditor assessment and certification process is implemented;
- b) Performing or assigning qualified personnel to perform the evaluation;
- c) Approving the evaluation of Auditors and Lead Auditors in their respective areas of qualification.
- d) Ensuring the Lead Auditor examination and its administration conforms to established internal processes and the requirements of ASME, where applicable;
- e) Ensuring that all records generated in this process are maintained.

### **5.2 Auditing Personnel:**

- a) Be familiar with the qualification requirements in this procedure and attain required qualification;
- b) Maintain required proficiency via self-study, work experience in related area;
- c) Provide associated records for initial or annual evaluation.

## **6 PROCEDURE:**

Personnel participating in audits are selected based on their experience, training or knowledge commensurate with the scope, complexity, or special nature of the activities to be audited. The qualified candidates will be qualified and certified by CCL via the process described in this procedure.


### **6.1 Knowledge, Skills and Personal Attributes:**

#### **6.1.1 Generic Knowledge and Skills**

##### **6.1.1.1 Auditors**

Shall have the following knowledge and skills:

- a) Are familiar with audit principles, procedure and techniques, and are able to plan, organize and conduct audit within the time schedule, to prioritize and focus on matter of significance, to use work documents to record audit activities and to prepare audit report.
- b) Understand CCL management systems manual and reference documents, and are able to comprehend the scope of audit and apply audit criteria.
- c) Comprehend the organizational situations, understand organizational size, structure functions and relationship, general business processes and related terminology;
- d) Sound knowledge of applicable laws, regulations, codes and standards and contractual requirements relevant to the scope of audit.

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#### 6.1.1.2 Lead Auditors

Shall have additional knowledge and skills in audit leadership to facilitate the efficient and effective conduct of audit, a lead auditor shall be able:

- a) To plan the audit and make effective use of resources during the audit;
- b) To represent the audit team in communication with the audit client and auditee;
- c) To lead the audit team to reach audit conclusion;
- d) To prepare and complete the audit report.

#### 6.1.2 Specific Knowledge and skills of management system auditors

Auditors shall have specific knowledge of skills for the Management System being audited.

Specific Management System Auditor shall have knowledge and skills in the subject management system (quality, environmental or health and safety system) related methods and technique, are familiar with the specific terminology, management principle and their application, management tools (i.e. statistical process approach for quality management and environmental aspect evaluation etc.), sector-specific terminology (i.e. nuclear sector), and also the applicable regulatory requirement (i.e. Occupational Health and Safety Act).

#### 6.1.3 Personal Attributes

Auditors/Lead Auditors shall possess personal attributes and skills that would result in effective and efficient performance of an audit, such as (but not limited to) the following.

- a) Competence in clearly expressing concepts and ideas, both orally and in writing.
- b) Interpersonal skills, e.g., tact and the ability to listen.
- c) Ability to maintain independence and objectivity during audits.
- d) Personal planning and organizational skills.
- e) Ability to reach sound judgements based on objective evidence.

### 6.2 Education, Work Experience, Auditor Training and Audit Experience:

Auditors shall have the following education, work experience and audit experience

- a) They should have completed an education sufficient to acquire the knowledge and skills specified in section 6.1;
- b) They should have work experience that contributes to the knowledge and skills required by section 6.1. This work experience should be in a technical, managerial or professional position involving the exercise of judgement, problem solving and communication. Part of the experience should be in a position in developing or maintaining the specific management system being qualified to.
- c) They should have completed auditor training that contributes to the development of required knowledge and skills in Section 6.1.
- d) They should have audit experience gained under the direction and guidance of an auditor who is qualified as a Lead Auditor.

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### 6.2.1 Training and Qualification Requirements for Auditing Personnel

Table-1, Training and Qualification Requirements for Auditing Personnel provides a sample of basic qualification, training and experience for Auditors and Lead Auditors, with exclusion of N285 Lead Auditors, which is further discussed in section 6.2.2

The conditions provided in Table-1 are for reference only. At the discretion of QA Manager-Nuclear, education level or work experience may be higher or lower depending on the management system being certified, and also depending on the actual knowledge and skills that an individual possesses.

**Table-1: Training and Qualification Requirements for Auditing Personnel**

<b>Parameter</b>	<b>Auditor</b>	<b>Lead Auditor</b>
<b>Condition A</b>		
Education	Completion of a 4-year university program in engineering;	Completion of a 4-year university program in engineering;
Work Experience	3 years work experience contributing to the development of the required knowledge and skills	4 years work experience contributing to the development of the required knowledge and skills
Auditor Training	Successful completion of an approved auditor-training course that include a final exam.	Successful completion of an approved auditor-training or lead-auditor training course.
Audit Experience	2 audits on quality management systems or environmental management systems in past five years.	2 audits on quality management systems or environmental management system in past five years and one is CCL internal Audit.
<b>Condition B</b>		
Education	Completion of a college program in a related discipline;	Completion of a 2 year college or university program in a related discipline;
Work Experience	4 years work experience contributing to the development of the required knowledge and skills	5 years work experience contributing to the development of the required knowledge and skills
Auditor Training	Successful completion of an approved auditor-training course that include a final exam.	Successful completion of an approved auditor-training or lead-auditor training course.
Audit Experience	2 audits on quality management systems or environmental management systems in past five years.	2 audits on quality management systems or environmental management system in past five years and one is CCL internal Audit.

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## 6.2.2 Lead Auditors Requirements

### 6.2.2.1 Training

ASME Section III Lead Auditors shall receive training to the extent necessary to assure auditing competence including

- a) Knowledge and understanding of CSA N285 standards and ASME Section III NCA-4000, and other nuclear-related codes, standards, regulations, and regulatory guides as applicable
- b) General structure of quality assurance programs as a whole and applicable elements as defined in ASME QAI-1
- c) Auditing techniques of examining, questioning, evaluating and reporting; methods of identifying and following up on corrective action items, and closing out audit findings.
- d) Planning audits of activities affecting quality
- e) On the job training to include applicable elements of the audit program.

### 6.2.2.2 Audit Participation

- a) Participated in a minimum of five Quality Assurance management system audits under the direction of a qualified lead auditor within period of three years, and
- b) One audit of which shall be a nuclear quality assurance audit within the year prior to certification.

### 6.2.2.3 Examination

- a) The prospective lead auditor shall pass an examination that shall evaluate his/her comprehension of the ability to apply the body of knowledge identified above and ASME NQA-1.
- b) The examination shall be administered in accordance with NQA-1 requirements.


## 6.3 Evaluations and Certification of Auditing Personnel:

Quality Manager, Nuclear or delegate evaluates the knowledge and skills, training, work experience and training etc as specified in section 6.1 and 6.2.

The Evaluation methods employed include, but not limited to the following:

- a) Review of records (professional certificate, resume, training records, auditing experience etc.) to verify the background of the candidate;
- b) Interview;
- c) Observation;
- d) Testing;
- e) Feedback from peer group, etc.

Work experience, training, examination and audit participation gained while working for an organization other than CCL is also considered provided that the prospective auditing personnel could provide supporting records.

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The results of the assessment shall be documented in Form G-015N, Auditor Certification- Initial Evaluation.

### 6.3.1 Maintenance of Proficiency

Auditing personnel shall maintain their proficiency through continual professional development to improve knowledge, skills and personal attributes. This can be achieved through additional work experience, training, private study, attendance at seminars and conference or other related activities.

Auditors should also maintain and demonstrate their auditing ability through regular participation in audits of quality and/or environmental management systems.

Nuclear pressure boundary lead auditors shall maintain their proficiency through one or more of the following:

- a) Regular and active participation in the audit process;
- b) Review and study of codes, standards, procedures, instructions, and other documents related to quality assurance program and program auditing;
- c) Participation in training program.

### 6.4 Annual Evaluation:

Quality Manager, Nuclear or delegate shall evaluate the certified CCL Auditing Personnel annually in accordance with the requirements in section 6.3. Based on the evaluation, it could result in extending the qualification, requiring training, or requiring re-qualification. The result of annual evaluation shall be recorded on Form G-015AN, Auditor Certification –Annual Evaluation.

The qualification status of Auditors and Auditing personnel not passing the annual evaluation shall be updated.

Quality Manager, Nuclear may arrange for additional training, participation in audits for the auditor to maintain proficiency and maintain a pool of qualified auditors for CCL.

### 6.5 Re-qualification of ASME Section III Lead Auditor:

ASME Section III Lead Auditor who fails to maintain their proficiency in the means specified in Section 6.2 for a period of 2 years or more requires re-qualification as follows:

- a) Retraining and re-examination in accordance with the requirements in Table-1, and
- b) Participation as an auditor in at least one nuclear quality assurance audit.

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**7 RECORDS:**

- a) Completed form G-015N, Auditor Certification- Initial Evaluation, form G-015AN, Auditor Certification- Annual Evaluation shall be kept on auditing personnel's qualification file as records.
- b) Resume, Training Records, auditing participation records, associated certificates, letters etc., which have been reviewed as proof of the individual's qualifications, shall all be kept as records.
- c) Copies of the objective evidence regarding the type(s) and content of the examination shall be retained.
- d) Record of each auditor shall be maintained and updated annually.