

**David.Nichols**

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**Sent:** Thursday, March 1, 2018 3:45 PM  
**To:** Harrington, Tim  
**Cc:** Mike.Buckle; James.Parmiter-PTR; Farrell, Dan  
**Subject:** [EXTERNAL]  
**Attachments:** Cahill Ganotec MF Change Order Compensation R0.pdf

Gents:

See draft summary of the argument as to why we should get a fee on top of the CO direct costs for trade and material.

The goal of this document is present a compelling case to senior Nalcor management. (Note: if it is in a spreadsheet format it must be right!)

Comments/Ideas/Suggestions welcome.

Regards

John J.

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## 1 Introduction:

The MF BOP Contract allows for Nalcor to prepare a Change Order (Article 26) and instruct CG to do the work. Once issued CG has the obligation to do the work. The CO is priced as per Article 26 and 27 and if the quantum of the CO is not agreed CG has the right to put the quantum to dispute under Article 39.

Article 26.10 and 26.11 specify what costs can be included in a CO. Article 26.10 would allow for additional staff and site installation costs however, Article 26.11 identifies restrictions on what costs can be claimed. Article 26.11 is not consistent with industry practice as additional staff and other costs related to the CO work appear to be excluded.

Nalcor are indicating in Sponsor meetings that they are willing to discuss and consider these costs but in practice are refusing to allow them to be added to the CO and have issued a series of letters stating clearly that staff and site installation costs are not allowed on COs. CG needs to get this issue resolve either by agreement at the Project level or through the dispute mechanism.

## 2 Contract Compensation

The BOP contract is a hybrid compensation contract consisting of:

### **Trade Costs:**

Reimbursable based on an agreed set of rates that include an allowance for Overhead and Profit. Trade costs include union labour, government benefits, small tools and consumables, and overhead and profit.

### **Unit Rates:**

Unit rates are used for the installation of equipment and bulks based on a very detailed breakdown. The unit rates include an amount for material costs and the required construction equipment for the activity.

### **Lump Sum:**

Project staff costs, mobilization/demobilization, letter of credit and site installation costs are included in the contract as lump sum amounts.

### **Other Costs:**

Trade travel costs are reimbursable at cost.

### 3 Change Orders:

Change orders are handled by Article 26 & 27 in the GT&Cs and by Article 6 in Exhibit 2 Compensation. Article 26 explains the CO process and Article 27 details what is allowed to be included in the CO.

It is interesting to note that Article 6 only covers reimbursable change orders; it does not address unit prices or lump sum items. Article 26 is not restricted to reimbursable COs thus work completed on a unit price basis is presumably paid under Article 5. For this type of CO it is reasonable to argue that the LS and Unit Price components of the base contract apply to the work and the most logical approach is to add a factor to the unit prices.

#### 3.1 Staff Costs:

A client initiated change order typically requires a Contractor to incur any and/or all of the following staff costs:

- Estimating
  - Prepare an estimate
  - Negotiate the final amount
- Document preparation and handling
  - Handle new IFC drawings and/or specs
  - Handle transmittals and correspondence
  - Process the change order in the project documents.
  - Handle shop drawings etc.
  - Handle check sheets, NDE, ITPs, etc.
- Procurement
  - Issue RFPs for materials and/or equipment
  - Evaluate proposals and negotiate terms
  - Issue Purchase Order
  - Track PO and compliance with T&Cs
  - Hire sub-contractors – as required
- Material Receiving & Handling
  - Receive material/equipment and track it
  - Transport it to site
  - Store it on site until ready to be installed.
- Invoicing and payment.
  - Issue Client pre-invoices, invoices and payment certificates
  - Process material supplier invoices
- Project Management
  - Negotiate and approve change order
  - Oversee the inclusion into the construction sequence.
  - Ensure that the work is completed on time and budget.
- Planning/Scheduling

- Add activities to schedule and link to project milestones.
- Assess impact on critical path.
- Add quantities etc into the earned value progress measurement system.
- Track the work in the plan.
- **Cost Control & Play of the Day reporting**
  - Assign cost codes and adjust budgets
  - Add into OPS progress reporting
  - Add into the Play of the Day planning system
  - Track costs and include in reporting cycles.
- **Safety**
  - Monitor the work force doing the work
  - Develop risk analysis and other field risk assessments
- **Quality Control**
  - Inspect the work
  - Modify the ITP as necessary
  - Monitor the use of check sheets etc. to document the work
  - Oversee NDE or other 3<sup>rd</sup> party inspection requirements.
- **Mechanical Completion**
  - Add equipment/bulk check sheets in completion system
  - Add completion routines if necessary in Completion system
  - Do final checks on the equipment & bulks
- **Trade Supervision – above the role of GF**
  - Oversee the implementation of the new scope
  - Hire the additional trades as required.
  - Ensure the work is done to spec, properly documented and implemented in the correct sequence.
- **Field Engineering support**
  - Advise construction on any technical requirements/interpretations.
  - Create RFIs as necessary and handle with Client
  - Measure progress in the field.
- **Engineering – if required**
  - Develop the specifications
  - Design the system
  - CAD design, add to the project drawing record
  - IDC checking
  - Design calculations
  - Submittal to Client for review, approval to Code 1.

CG included the above activities in our lump sum cost for staff based on a known scope. The person hours that form the basis of our LS staff price did not include an allowance for COs as this would prejudice our bid price.

It is reasonable and fair that CG is paid for the above additional costs related to a CO.

### 3.2 Site Installation:

CG carried certain costs for site installation as a lump sum in the proposal. These costs include:

- Office Related:
  - Office complex including furniture
  - Site telephones, site radios
  - Computers, printers, office equipment
  - Office supplies
- Material Related:
  - Warehouse complex including heat, lights etc
  - Warehouse shelving
  - Warehouse maintenance
  - Material tracking system
  - Material handling supplies.
- Trade Related:
  - Lunch rooms including furniture
  - Wash cars – including supplies and pump-out
  - Safety boards in Powerhouse
  - Scaffolding
  - Material containers
  - Large tool boxes
- General costs:
  - Insurance – typically based on value of contract
  - Snow removal
  - Garbage removal
  - Temporary power

Many of the above items are correlated to the amount of trade and material activity on site. Thus it is reasonable that as the scope is increased by a CO that CG incurs additional site installation costs.

## 4 Proposed Way Forward:

The following table summarizes the costs carried in the bid by category and shows the % of each category to the contract total. The analysis then proposes a percentage of the various categories that should be included in a CO as a factor on the direct trade and material costs. The selection of the “CO% Adder” is based on the description of the activities in Section 3.

Based on this analysis an additional factor of 16.8% appears reasonable on the direct costs determined for a CO.

Change Order Staff and Site Installation Factor Analysis					
Category	\$ Value	% of Contract Value	% of Original to Include in COs	CO % Adder	Comments
Contract Value	\$192,843,148.06	100%	0%	0.0%	
Staff	\$34,202,483.60	17.74%	75%	13.3%	Allows for Some staff not directly involved in COs.
Mob/Demob	\$2,807,127.17	1.46%	10%	0.1%	COs have small effect on this category
Site Installation	\$4,091,564.88	2.12%	70%	1.5%	More trade hours on site more wear & tear on temporary facilities. Office support costs should be allocated over total hours worked on site
Engineering Design	\$232,708.91	0.12%	0%	0.0%	Add to CO at rates only if part of Scope
Letters of Credit	\$3,549,260.49	1.84%	100%	1.8%	LOCs will apply to final contract value
Letters of Credit - Warranty	\$851,882.49	Not in Total on Exhibit 2 sheet			Need to understand why not in total in Exhibit 2??
Trade Travel - Estimate	\$4,975,871.23	2.58%	0%	0.0%	Reimbursable at cost. Ignore
Unit Price Total	\$142,984,131.78	74.15%	0%	0.0%	Unit Price Based.
			Total CO Staff and Site		<b>16.8%</b>

The current trend in COs to-date is shown below:

Change Order Staff and Site Installation Factor Analysis		
	CO Trend	Comment
Contract Value	\$192,843,148	
CO Values To-Date	\$1,900,000	
% Project Complete To-Date	6.00%	
Forecast Value CO at Completion	\$31,666,667	
% of Total Contract Value	16.42%	
CO Adder %	16.77%	
<b>CO Staff and Site Installation Potential Value</b>	<b>\$5,311,507.49</b>	<b>Possible additional Revenue</b>

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