

1 Q. From discussions with Nalcor, it is understood that some recent algorithms and  
2 custom indices have been developed to escalate the converter and other  
3 equipment costs. Please provide information on the methodologies that were used  
4 to derive these.

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7 A. In developing an escalation model for the Project, standard indices available from  
8 Global Insight – Nalcor Energy’s economic forecasting agency - were the primary  
9 source of escalation indices. Project costs were broken down into categories and  
10 matched to the best available indices. For certain specialty items and other cost  
11 categories, it was deemed necessary to use other sources or to develop custom  
12 indices that better reflected the markets for the identified items, which included:

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- 14 • Subsea cables
- 15 • Turbines and generators
- 16 • Transformers
- 17 • Diesel fuel
- 18 • Labour
- 19 • Insulators
- 20 • Converter Stations

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22 Subsea cables - Because existing indices are not representative of the market for  
23 the submarine cables required for the NE-LCP, a custom index was developed for  
24 the escalation model. This index was based on market intelligence gathered from

1 suppliers as to what commodities and other cost items they would include in a cost  
2 escalation formula for submarine cables.

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4 Turbines and Generators - There is no published forward looking price index that  
5 can be used to forecast the future price of large T/G sets such as those required for  
6 the Lower Churchill Project. While indices do exist for T/G sets, they are largely  
7 practical for wind and other smaller generation needs, which are significantly  
8 different than the category in which NE-LCP's needs fall. The index for T/G sets for  
9 the NE-LCP escalation model was derived from correspondence with T/G set  
10 suppliers.

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12 Transformers - The index used for the transformers was obtained from Power  
13 Advocate. Power Advocate is an economic forecasting service that specializes in  
14 the electricity industry. They forecast price increases for commodities and have  
15 proprietary formulae for providing escalation forecasts for built items such as  
16 transformers.

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18 Diesel Fuel - The source of the price forecast for diesel fuel was PIRA. For  
19 consistency with Nalcor's corporate cost assumptions, the PIRA index for diesel fuel  
20 was used.

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22 Labour - To forecast cost escalation in labour costs, the annual average percentage  
23 increases from the Vale Inco Long Harbour labour agreement were used. It was  
24 determined that this agreement provided a good reflection of local labour market  
25 conditions.

1 Insulators - The insulator index was obtained from Power Advocate. Similar to the  
2 transformer index, the insulator index is a built-up index based on various  
3 commodities used in the manufacture of the item.

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5 Converter Stations - There was no custom index used for converter stations.  
6 Rather, the cost breakdown from the estimate was allocated to the various cost  
7 categories and the indices were applied as was done for all other cost types.