

Memorandum



Date: June 5, 2014
To: IRP Intervenors
From: NS Power
Subject: 2014 IRP – Analysis Plan Update and June 25 Technical Conference

In the spirit of the IRP's consultative goals, the Company would like to take the opportunity to provide a status update on the work that has taken place since the last correspondence, provide a draft agenda for the upcoming Technical Conference on June 25 and discuss progress on items raised in Intervenor submissions.

Introduction

On March 7, 2014, NS Power hosted a Technical Conference for participants at which it reviewed initial draft assumptions and discussed its preliminary thoughts on the analysis plan for the 2014 Integrated Resource Plan (IRP) to obtain feedback from participants.

On March 14, 2014, NS Power circulated draft basic assumptions for feedback. The Company also circulated additional assumptions details in response to requests from Larry Hughes, PhD., the Industrial Group and the Nova Scotia Department of Energy. The March 14 material included a memo describing the 5 steps NS Power suggested for the Analysis Plan.

On April 11, 2014, NS Power supplied Intervenors with the final assumptions for the 2014 IRP developed in collaboration with UARB Staff and their consultants. In addition, the Company provided detailed feedback on Intervenor comments on the assumptions with its April 11th submission. Intervenors were also given the opportunity to comment on final assumptions not provided with the April 11th package (capacity value of wind and variable generation integration costs). The April 11 memo included a brief discussion of NS Power's proposed approach to completing the Analysis Plan, specifically to model a limited number of candidate resource plans, sensitivities and worlds that bound the wide range of possible permutations and combinations that have been suggested.

A record of IRP communications to date can be found at the following link:

<http://www.nspower.ca/en/home/about-us/electricity-rates-and-regulations/regulatory->

Analysis Plan Update

In the March 14 memo NS Power proposed completing the Analysis Plan in 5 steps – Candidate Resource Plans, Candidate Resource Plan Evaluation, Scenario Testing (“Worlds” development), Evaluation and Optimization and Preferred Resource Plan Development.

Analysis Plan step 1 - Candidate Resource Plans

Slide 113 of the Final Assumptions dated April 11 gave an outline of the 3 major tasks required to complete Step 1 of the analysis plan. Those three tasks and their status as of May 30 are as follows:

- i. identify a broad range of draft resource plans – completed,
- ii. evaluate draft resource plans under a Reference World – in progress,
- iii. narrow draft resource plans down to a set of candidate resource plans - in progress .

Task i, draft resource plans - completed

In collaboration with UARB Staff and consultants, NS Power identified 30 draft resource plans. NS Power developed each draft resource plan based upon a general “theme” and on the existing resources and resource commitments in effect at the start of that plan.

The draft resource plans reflect different input assumptions for four key components

- DSM levels
- Coal plant retirement dates
- Target levels of wind generation assets
- Potential for a large Power Purchase Agreement (PPA)

Attachment 1 illustrates the 30 draft resource plans.

Tasks ii and iii - evaluate draft resource plans under a Reference World and narrow draft resource plans down to a set of candidate resource plans – in progress

In collaboration with UARB Staff and consultants, NS Power identified 5 of the 30 draft resource plans as candidate resource plans for initial modeling in Strategist under a

Reference World. The inputs to the Strategist modeling of a specific candidate resource plan include the existing resources and resource commitments in effect at the start of that candidate resource plan. Strategist then identifies the optimal resource additions and retirements under that candidate resource plan (i.e. types, quantities, timing of resource additions and retirements).

The 5 candidate resource plans, indicated in Attachment 1, are as follows:

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|----------------------------|--|
| Candidate Resource plan 1. | Low DSM, coal retirements over 60 years, base wind |
| Candidate Resource plan 2. | Base DSM, coal retirements over 60 years, base wind |
| Candidate Resource plan 3. | Base DSM, coal retirements over 60 years, high wind (up to 900 MW) |
| Candidate Resource plan 4. | Base DSM, coal retirements over 50 years, base wind |
| Candidate Resource plan 5. | High DSM, coal retirements over 60 years, base wind |

The Reference World is characterized by the following key assumptions from the April 11 set - base load forecast, Scenario A emission constraints, 40% RES requirement in 2020 and Maritime Link+ economy energy purchases.

It is expected that the examination of Candidate Resource Plans will be an iterative process and that additional candidate resource plans will be examined based on the results of the 5 initial candidate resource plans. The results from modeling those 5 initial candidate resource plans under the Reference World will help NS Power determine what additional candidate resource plans need to be analyzed to ensure a broad breadth of candidate resource plans and a robust modelling process. The Company expects to discuss preliminary results with Stakeholders at the June 25th technical conference. NS Power will circulate draft materials in advance of the conference for consideration by the group.

Analysis Plan steps 2 to 4.

Once a broad set of Candidate Resource Plans have been selected, NS Power and the UARB's consultants will proceed with steps 2 to 4 of the Analysis Plan, i.e., Candidate Resource Plan Evaluation, Scenario Testing ("Worlds" development), Evaluation and Optimization. In these steps NS Power will test the candidate resource plans against a variety of different "worlds" and sensitivities such as (list not exhaustive):

- Variable loads (high or low)

- Different environmental constraints
- Various fuel prices

Through this process the Candidate Resource Plans will be examined and, as appropriate, additional Candidate Resource Plans will be identified for further screening to ensure that the IRP has examined the Candidate Resource Plans under the full breadth of potential scenarios (Worlds) that may unfold in the future in Nova Scotia.

June 25 Technical Conference

NS Power will be releasing preliminary draft results of a subset of the Candidate Resource Plans prior to June 25 for stakeholder review and for discussion at the Technical Conference.

On June 25, 2014 the Company will host a technical conference. The draft agenda is:

- Discussion of 5 candidate resource plans being tested in Strategist, and results to date
- Discussion of other candidate resource plans of potential interest
- Discussion of sensitivity analysis to be conducted
- Discussion of other “Worlds” to be developed
- Discussion of framework of Action Plan

The Company will respond to stakeholder comments and questions at the Technical Conference.

Progress on items raised in Intervenor submissions

Please refer to Attachment 2.

NS Power would like to thank the working group and participants for their feedback.