Memorandum

Date: **April 11, 2014**
To: **IRP Intervenors**
From: **NS Power**
Subject: **2014 Responses to Stakeholder Input on Basic Assumptions**

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. A record of these communications can be found at the following link:

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

Participants provided written comments on the assumptions and analysis plan on March 26. Comments were received from:

1. Small Business Advocate
2. Consumer Advocate
3. The Industrial Group
4. Port Hawkesbury Paper
5. Ecology Action Centre
6. Efficiency Nova Scotia Corporation
7. Environment Northeast
8. Natural Forces
9. Scotian Windfields
10. NS Department of Environment
11. NS Department of Energy

NS Power and the Board staff and Board staff consultants reviewed the input received. In consideration of comments received, NS Power has made changes to the assumptions which will be modeled in the IRP. The Final Assumptions are provided at Appendix A. For responses to comments, questions and recommendations, please refer to the attached table provided at Appendix B.

Context for Responses

There were several issues raised across the stakeholder group. In some cases opposing views were presented. To provide context for some of the responses below, NS Power provides the following comments respecting integrated resource planning including references to the Terms of Reference approved by the NSUARB.

An IRP is a long-term (25 year) planning exercise that integrates supply and demand-side options to develop a long-term Preferred Resource Plan for the utility. The IRP is not an attempt to identify a Preferred Resource Plan that will meet those goals under a single particular future (e.g. a "world" with tight emission constraints, high gas prices, high load, low financing etc.) Instead, the purpose of the IRP is to identify the Preferred Resource Plan which will provide NS Power with sufficient flexibility to effectively accommodate a range of future uncertainties. As such, the Preferred Resource Plan and the Action Plan chosen to implement it must be robust, flexible, economic and sustainable. In the "Analysis Plan" stage of the IRP, NS Power will identify a Preferred Resource Plan that meets those goals in a balanced manner by evaluating a range of candidate resource plans across a range of worlds/scenarios and assumption values. NS Power will accomplish this by using its planning models to evaluate a reasonable, but not unlimited, number of candidate resource plans under a reasonable, but not unlimited, range of sensitivity analyses (i.e. resource assumption values) and worlds/scenarios (i.e., requirement / constraint assumption values).

Analysis Plan

As part of the Analysis Plan NS Power, in collaboration with Board Staff and Board Staff consultants, will identify the candidate resource plans, sensitivity analyses and worlds/scenarios for modelling and optimization. In order to complete its evaluations within the timeline approved by the NSUARB, NS Power expects that it will have to model a limited number of sensitivities and worlds that "bound" or "bookend" the wide range of possible permutations and combinations that have been suggested, including

those suggested by intervenors. NS Power would be happy to meet with interested parties during the IRP process to discuss the Analysis Plan and modelling phase. In addition, NS Power will provide periodic reports to all stakeholders during the Analysis Plan stage.

Demand Side Management and Demand Response

As part of its development and evaluation of candidate resource plans NS Power will consider the High, Base and 50% of the Low levels of DSM in the Potential Study dated January 7, 2014 that ENSC filed with the UARB on January 14, 2014. NS Power will use the UARB-approved Total Resource Cost Test for input to these figures. NS Power also has committed to providing revenue requirement information without the customer cost component of DSM for stakeholder information. This will provide the information needed for discussion of the selection of the Preferred Resource Plan.

On April 7, 2014, the Province of Nova Scotia introduced Bill No. 41, Electricity Efficiency and Conservation Restructuring (2014) Act.[1] The Act, when passed, and the Regulations to be made thereunder, represent a significant shift in the approach to DSM in the Province. Just as the IRP is not a regulatory process that determines NS Power's capital spend or revenue requirements, the IRP is not a regulatory process to determine a DSM supplier's level, programs or evaluation tests. The proposed legislation requires NS Power to undertake cost-effective electricity efficiency and conservation activities that are reasonably available in an effort to reduce costs for its customers.[2] It provides that in order to meet this obligation NS Power must contract with the government's approved franchise holder for the supply of efficiency and conservation programs, and that such agreement must be approved by the UARB.[3] The Board shall approve NS Power's agreement with the franchise holder if it is satisfied that the conservation and efficiency activities that are the subject of the agreement are in the best interests of customers.[4] The Board's assessment of the proposed electricity efficiency and conservation activities for the purpose of the approval must take into account their

[1] Bill 41, *Electricity Efficiency and Conservation Restructuring (2014) Act*, 1st Sess., 62nd General Assembly, Nova Scotia, 2014 (First Reading: April 7, 2014).
[2] Ibid, s. 79(I)(1).
[3] Ibid, s. 79(I)(2)(a)
[4] Ibid, 79(L)(8).

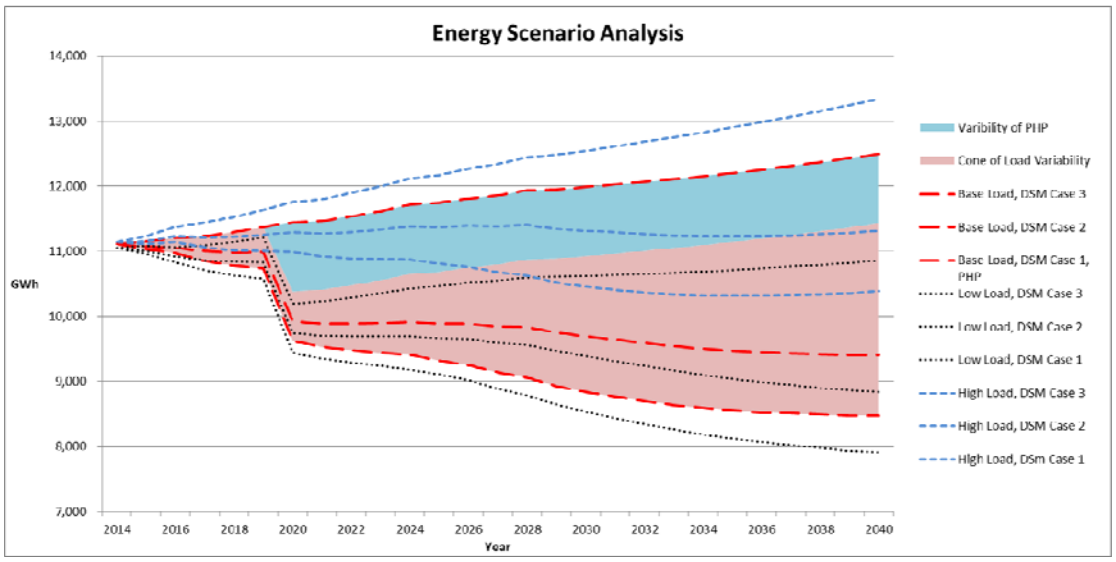
affordability to Nova Scotia Power Incorporated's customers, along with any other matters considered appropriate by the Board or as may be prescribed.[5]

Given the above, NS Power anticipates that the assessment of cost effective DSM potential will require evaluation as part of a regulatory process as part of or in anticipation of the proceedings to approve NS Power's agreements with the efficiency and conservation franchise holder in the future.

Load Forecast

Load variability has been relatively constant in Nova Scotia for a number of years. The past five years have seen industrial load decline and partial renewal as well as residential load growth. There is significant economic opportunity and challenge on the horizon for Nova Scotia that will have implications on the load that NS Power has to serve. The graph below shows the load forecast range that NS Power will model to consider this uncertainty within the IRP. Of note is that of the possible combinations and permutations of potential load and DSM, all but two outliers are considered within the range of load assumed for IRP purposes.

Please refer to page 77 to 93 in Appendix A (the Final Assumptions Deck).



[5] Ibid, 79(L)(9).

Emissions and RES targets

Scenario A of the IRP analysis represents emissions reductions that are aligned with the Province's white paper on future emissions scenarios. The emissions caps proposed in the assumptions are slightly more stringent. The Company recognizes that we are in a declining emissions scenario, however customer representatives have requested that the IRP test the cost of these policy decisions. Scenario B will accomplish this.

There is also the potential that as sectors turn to electricity for their energy needs (e.g. automotive, home heating, industrial) credits may become available as total emissions decline. The Company has also added a Scenario C which will contemplate GHG reductions to 2.25 MT by 2040 as well as the associated reductions in other emissions from co-benefits.

For Renewable Electricity Standard (RES) requirements the Company is testing supply side options (wind, solar, imports etc.) that may result in greater renewable penetration and will model a world where greater than 40 percent RES is contemplated.

As noted above, NS Power's Final Assumptions are attached as Appendix A. NS Power's detailed response to all stakeholder comments is provided in Appendix B.

The Company would like to thank the working group and participants for their feedback.