
Part A – Definitions

ADC: Active Demand Control.

ADC Operating Procedure: Procedure document maintained by Nova Scotia Power System Operator (NSPSO) that describes the operation and usage of ADC for the NSPSO for Current Hour, Operating Hour 1 & Operating Hour 2.

CBL: Customer Baseline Load.

CBL & ADC Benefit Calculation: Process maintained by Nova Scotia Power (NS Power) to calculate the CBL Energy Charge, forecasted ADC benefit and actual ADC benefit.

Current Hour: The current hour of operation, which is only dispatchable by NSPSO.

Dispatchable Hours: All hours beyond Hour 2, as described (hour 3, 4 and beyond) in Section 4.3.10 of the NS Market Rules that are open for redispatch by NS Power.

Excess Energy: Generation which is in excess of the needs of the electric system and which cannot be stored.

Force Majeure: Any event or circumstance or combination of events or circumstances (including major equipment failure) that materially and adversely affects either party in the performance of its obligations in accordance with the terms of this Protocol, but only if and to the extent such events and circumstances are not within the affected party's reasonable control, and which the party claiming Force Majeure could not have prevented through reasonable skill and care.

Hour 1: The next hour, as described (hour 1) in Section 4.3.10 of the NS Market Rules. Dispatchable by NSPSO, and NS Power by exception only.

Hour 2: The next hour +1, as described (hour 2) in Section 4.3.10 of the NS Market Rules. Dispatchable by NSPSO, and NS Power by exception only.

Intra-Day Demand Schedule (ADC Schedule 4): An hourly demand profile that includes all Dispatchable Hours for a consecutive 24-hour duration. This will be provided by NS Power as a forecast to Port Hawkesbury Paper LP (PHP) and NSPSO for the upcoming period. NSPSO will confirm the schedule and only change dispatch if required for a change in system conditions.

Monthly Demand Schedule (ADC Schedule 1): A monthly, indicative, demand profile that includes a maximum and minimum demand profile for all months of the year, or all remaining months of the year if a system rerun is required. These forecasts will be performed annually and updated as required

by NS Power. Refer to Part B. The results of these runs will be presented and shared with PHP as ADC Schedule 1.

NS Market Rules: Nova Scotia Wholesale and Renewable to Retail Electricity Market Rules.

NS OATT: Nova Scotia Power Incorporated Open Access Transmission Tariff including the Standards of Conduct (Attachment E).

NS Power: Nova Scotia Power Groups – Fuels, Energy and Risk Management (FERM), Portfolio Optimization, Customer Solutions and any other non-System Operator Nova Scotia Power function.
NSPSO: Any Nova Scotia Power System Operator function.

Operating Mode Characteristics Schedule: The schedule referenced in Part D of this Protocol.

PHP: Port Hawkesbury Paper LP.

Seven Day Demand Schedule (ADC Schedule 3): An hourly demand profile produced and co-optimized as part of the system by NS Power each business day. The Seven Day Demand Schedule includes all Dispatchable Hours, starting 00:00 for the upcoming business day, for a 168-hour duration.

Tariff: The Extra Large Industrial Active Demand Control Tariff.

Weekly Demand Schedule (ADC Schedule 2): An annual, indicative, demand profile that includes a maximum and minimum demand profile for each week of the year or all remaining weeks of the year, if a system rerun is required. This will inform the development of the Seven Day Demand Schedule. These forecasts will be performed annually and updated as required by NS Power.

Part B – Protocol Forecasting and Operation

- (1) Annually, no later than the seventh business day of November, NS Power will forecast the Monthly Demand Schedule, Weekly Demand Schedule, and monthly and weekly limits based on PHP's demand forecast for the upcoming year (January 1 to December 31). The results of these forecasts will be published to PHP and NSPSO in ADC Schedules 1 & 2. As and when required during the year, NS Power will reforecast the Monthly Demand Schedule and Weekly Demand Schedule and update ADC Schedules 1 & 2. The values in ADC Schedules 1 & 2 will bound the daily forecast runs used to create the Seven Day and Intra Day Demand Schedules.
- (2) On a daily basis (non-statutory holiday weekdays), NS Power will provide PHP and NSPSO with a Seven Day Demand Schedule that is optimized as part of the NS Power system day-ahead planning process. PHP's demand will be co-optimized as part of the full NS Power portfolio. As part of this co-optimization:

Schedule 1: Active Demand Control Energy Supply Protocol

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- (a) With respect to forecast PHP annual capital shutdowns, PHP will provide a minimum of one month's advance notice of the timing and duration of the shutdowns; and
 - (b) With respect to forecast PHP regular maintenance shutdowns, PHP will provide a minimum of seven days advance notice of the timing and duration of the shutdowns.
- (3) From time to time, a request may be made to PHP to adjust their daily demand from the Seven Day Demand Schedule in anticipation of significant events. An example of this would be a weather event that is forecasted. Such requests must fall within the agreed Operating Mode Characteristics Schedule and the ADC Operating Procedure.
- (4) Intra-Day, no later than the start of Hour 1, NS Power will provide PHP and NSPSO with an updated Intra-Day Demand Schedule when a dispatch change is required. This request will supersede the previously submitted requests.
- (5) If, during the Current Hour, Hour 1 and/or Hour 2, system conditions change unexpectedly such that they have a material impact (positive or negative) on system costs, NSPSO will contact PHP with a schedule change (an increase or reduction in demand) provided such changes fall within: the agreed Operating Mode Characteristics Schedule, the final communicated PHP shutdowns, and the ADC Operating Procedure. Otherwise the most recent schedule submitted by NS Power will be set as the hourly demand. This will represent the final demand schedule with any deviations tracked as a schedule variance.
- (6) As noted in the Tariff, if, during the current year, NS Power determines that there are significant adverse differences between the CBL Energy Charge (as defined in the Tariff) and the incremental costs of service, NS Power, with approval of the NSUARB, can adjust the rate on a prospective basis as provided for in the Tariff. In such circumstances, NS Power shall also update and communicate its expected forecast of ADC benefit for the remainder of the year.
- (7) NS Power, NSPSO and PHP will exchange the following information on a confidential basis through the methods described below:
- 7.1. Intra-Day Demand Schedule (ADC Schedule 4) – NS Power;
 - 7.2. Seven Day Demand Schedule (ADC Schedule 3) – NS Power;
 - 7.3. Weekly Demand Schedule (ADC Schedule 2) – NS Power;
 - 7.4. Monthly Demand Schedule (ADC Schedule 1) – NS Power;
 - 7.5. Nova Scotia's Base load forecast – NSPSO;
 - 7.6. Nova Scotia's aggregate wind forecast – NSPSO;
 - 7.7. PHP pulp storage levels – PHP; and

7.8. PHP discrete line operation (i.e. what lines are in and out of service in a period) – PHP.

NS Power and PHP agree that, in order to (1) assist PHP to efficiently respond to any dispatch schedule changes that may be requested by NS Power and/or NSPSO in a manner that benefits the NS Power electric system, and (2) enhance collaboration between the parties when responding to unplanned system changes, NS Power will provide PHP with access to certain system information. On an automated basis, NS Power will provide PHP with information in respect of its system demand and the aggregation of generation types (specifically coal, gas, oil, combustion turbines, imports and hydro) as a snapshot of the current system condition. PHP agrees that such information is to be used exclusively for the foregoing purposes. During any period in which this data is unavailable due to technical issues, PHP will refer to the <https://www.nspower.ca/en/home/about-us/todayspower.asp> until NS Power is able to re-establish the provision of this data on a timeline that is reasonable, given NS Power's other business priorities. Any use of the data for purposes beyond operational preparedness can result in the suspension of the data sharing.

- (8) On an annual basis, NS Power will calculate the actual ADC benefit consistent with the CBL & ADC Benefit Calculation.

Part C – Conditions

- (9) Subject only to reasons of health, safety, environmental, system reliability, and Force Majeure events, PHP must not deviate from the NS Power/NSPSO final demand schedule. NS Power/NSPSO must comply with the weekly demand requirements as determined by the Weekly Demand Schedule. In the situation where the Weekly Demand Schedule requirements are not complied with, NSP/NSPSO will work collaboratively with PHP to address the discrepancy.
- (10) Following any health, safety, environmental, system reliability, or Force Majeure event, PHP and NS Power will use commercially reasonable efforts to restore their applicable operation to normal as soon as possible and without undue delay. In such circumstances, PHP will advise NS Power as soon as possible of any change in availability of PHP's operating modes to allow NS Power to adjust its dispatch schedules accordingly. PHP and NS Power will maintain, as a minimum, hourly contact with each other in the hours following Force Majeure events to keep each other aware of the other's status.
- (11) In the case of NS Power or PHP's inability to follow the dispatch plan that triggers one of the circumstances as set out in Appendix 1, the timing, magnitude, and reason for the deviation will be tracked and noted by NS Power/NSPSO. This Appendix may be updated by agreement between NS Power and PHP if other circumstances arise that require variances from the scheduled dispatch to be tracked. Updates to this Appendix will be filed with the NSUARB.

- (12) Subject to available generation or load, as the case may be, efforts will be made to reconcile variances in a timely manner, including by NS Power and PHP mutually agreeing to deviate from the previously agreed Operating Mode Characteristics Schedule, with the goal of achieving similar system costs and service to the Mill as would have been achieved if the original dispatch had been followed.
- (13) The overall impact on system costs (if any) for the tracked deviations will be initially estimated on a quarterly basis, and assessed at the end of the year by NS Power. If a cost is determined, the ADC credit payment to PHP will be adjusted accordingly.
- (14) PHP, NS Power and NSPSO shall maintain a scheduling and/or operations team available to each other on a continuous 24 hour, 7 days a week basis.
- (15) PHP's scheduling and operations team shall be empowered with the authority to acknowledge and adjust PHP's demand on behalf of PHP for the supplied Demand Schedule.
- (16) This Protocol does not supersede any requirement or obligation as defined in both the NS OATT (including the Standards of Conduct) and NS Market Rules. If a change to either NS OATT and/or NS Market Rules occurs, this Protocol will be updated to reflect any changes, if applicable.
- (17) For the purposes of planning, PHP will provide NS Power and NSPSO with its expected annual capital outage timing. This data will be provided in a timely manner, to be included in the NS Power/NSPSO annual planning process. The parties will work collaboratively to co-optimize the timing of PHP outages to provide the best fit for the system while respecting PHP's limitations and requirements consistent with Part B, section 2.
- (18) All energy dispatch decisions as they relate to system demand will be performed at the sole discretion of NS Power and/or NSPSO. This includes, but is not limited to, generation dispatch levels, unit commitments, outage planning and/or import/export energy.
- (19) The dispatch of PHP demand level will be performed by NS Power and/or NSPSO and must fall within the agreed Operating Mode Characteristics Schedule and the ADC Operating Procedure.

Part D – Operating Mode Characteristics Schedule

For the purpose of planning, dispatch and forecasting, PHP's loading levels will be separated into 9 distinctive operating modes. Only one mode will be able to operate at any given time.

The Operating Mode Characteristics Schedule will include (i) maximum and minimum, up and down time of each operating level, (ii) mill ramp rates, (iii) mill outages planning, (iv) pulp storage levels, and (v) individual line operating modes. This Schedule will be used in the preparation of the demand schedules, the calculation of the CBL incremental cost and the overall ADC benefit achieved as a result of the dispatch of PHP's load. NS Power and NSPSO will be required to dispatch PHP's load consistent with the Operating Mode Characteristics Schedule, including the maximum and minimum limits in ADC Schedules 1 & 2.

This schedule will also contain the maximum and minimum amounts of Annual, Monthly and Weekly energy requirements.

The Operating Mode Characteristics Schedule will be initially developed by PHP in consultation with NS Power and can be changed from time to time by agreement of PHP and NS Power.

Appendix 1

Circumstances in which Variances from Scheduled Dispatch Will Be Tracked

The variance from the scheduled dispatch results in:

- A change in NS Power unit commitment(s)
- A need for NS Power to rebalance a fuel position
- The redispatching of generation from Wreck Cove
- A reduction in the value of an NS Power export or import opportunity
- A condition of Excess Energy
- NS Power/NSPSO is forced to dispatch PHP outside the Operating Mode Characteristics Schedule