

ATTACHMENT Q-1

Dynamic Scheduling

This attachment contains the eligibility requirements and the terms and conditions for the provision of dynamic scheduling to Transmission Customers.

1. Definitions

- ~~(a) —“AGC” means Automatic Generation Control.~~
- ~~(b) —“Dynamic Scheduling Business Practices” means the Transmission Provider’s published Dynamic Scheduling Spinning Reserve, Dynamic Scheduling Contingency Reserve and Dynamic Scheduling Regulation Reserve business practices, as amended or replaced from time to time.~~
- (a) ~~(c)~~ —“Dynamic Schedule” means a telemetered reading or value time-varying energy transfer that is updated in real-time and is used as a included in the scheduled net Interchange term in the same manner as an Interchange schedule in the Transmission Provider’s AGC and Area Control Error equation. The integrated value is treated as a schedule for interchange accounting purposes affected Balancing Authorities’ area control error equations (or alternate control processes).
- ~~(d) —“Dynamic Scheduling Energy” means regulating energy or energy delivered from operating reserves.~~
- ~~(e) —“Dynamic Scheduling Transmission” means firm hourly transmission used for the real-time delivery of Dynamic Scheduling Energy to the Receiving Balancing Authority Area and consists of Dynamic Scheduling Spinning Reserve (DSSpinRes), Dynamic Scheduling Contingency Reserve (DSConRes) and Dynamic Scheduling Regulation Reserve (DSRegRes).~~

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- ~~(f)~~ ~~“EMS” means Energy Management System.~~
- ~~(b)~~ ~~(g)~~ ~~“Intermediary Balancing Authority Area” means any~~ “eTag” means an electronic documentation of an energy transaction on an electronic tagging system, as required by BC Hydro for the scheduling of energy transactions.
- ~~(c)~~ “Interchange” means energy transfers that cross Balancing Authority boundaries.
- ~~(d)~~ “Interchange Transaction” means an agreement to transfer energy from a seller to a buyer that crosses one or more Balancing Authority Area between boundaries.
- ~~(e)~~ “Intermediate Balancing Authority Area” means a Balancing Authority on the Host Balancing Authority Area and scheduling path of an Interchange Transaction other than the ~~Receiving~~ Sending Balancing Authority Area and Receiving Balancing Authority.
- ~~(h)~~ ~~Reserved~~
- ~~(i)~~ ~~“Receiving Balancing Authority Area” means the Balancing Authority Area which is to dynamically receive Dynamic Scheduling Energy schedules.~~
- ~~(f)~~ ~~(j)~~ ~~“Host Balancing Authority Area” means importing the Balancing Authority Area which is to send Dynamic Scheduling Energy schedules from system resources within its Balancing Authority Area~~ Interchange.
- ~~(k)~~ ~~“SCADA” means Supervisory Control and Data Acquisition.~~
- ~~(g)~~ ~~(l)~~ ~~“Sending Balancing Authority Area” means the Balancing Authority Area exporting the Interchange.~~
- ~~(a)~~ ~~(h)~~ “WECC” means the Western Electricity Coordinating Council, or any successor organization.

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2. Availability ~~of Dynamic Scheduling Transmission~~ and Limitations

- (a) Dynamic ~~Scheduling Transmissions~~ scheduling is only available ~~as follows~~:
- (a) while ~~such~~ Dynamic ~~Scheduling Transmission is~~ Schedules are technically feasible and consistent with all applicable reliability standards adopted by the ~~BCUC~~ Commission and WECC criteria and policies;
- (b) ~~if the Transmission Provider's Balancing Authority Area is the Host Balancing Authority Area:~~
- (i) ~~while (ii)~~ while the Transmission Provider has the necessary arrangements in place with applicable Intermediary any Sending, Receiving, or Intermediate Balancing Authority Areas, as required, for the delivery, receipt, and facilitation ~~by each such Intermediary Balancing Authority Area~~ of Dynamic ~~Scheduling Energy~~ Schedules, as ~~appropriate, and~~ applicable.
- (iii) while the Transmission Provider ~~has arrangements in place with the and~~ any Sending, Receiving, or Intermediate Balancing Authority ~~Area Areas~~, as required, have the necessary systems in place for the delivery, receipt, and facilitation of Dynamic Schedules, as applicable.
- (b) Dynamic scheduling will be limited, reduced or suspended as a result of constraints, including, but not limited to: an emergency or other condition that threatens to impair or degrade the reliability of the Transmission System; resource constraints declared by the resource owner; insufficient Transmission Service over the Transmission System is procured for Dynamic Schedules; and any constraints imposed by the Sending Balancing Authority Area, Receiving Balancing Authority Area of Dynamic Scheduling Energy, as appropriate; and or any Intermediate Balancing Authority Areas on the scheduling path.

Dynamic Schedules will be limited by the Transmission Provider's cut-off times, and by the Transmission Provider's reasonable assessment of its capabilities to process Dynamic Schedules. ~~(c) — if the Transmission Provider's Balancing Authority Area is an Intermediary Balancing Authority Area, while the Transmission Provider has arrangements in place with the Host Balancing Authority Area, Receiving Balancing Authority Area, and any other Intermediary Balancing Authority Area for the delivery, receipt, and facilitation of Dynamic Scheduling Energy, as appropriate.~~

(c) Dynamic Schedules will be processed on a first-come, first-received basis, up to the limit of the number of Dynamic Schedules that may be concurrently delivered and the total volume of energy that may be delivered through Dynamic Schedules.

3. Eligibility Requirements

To be eligible to designate Dynamic Scheduling Transmission ~~use transmission for dynamic schedules~~, a Transmission Customer must satisfy the following eligibility requirements.

~~(a) — The Transmission Customer must satisfy the requirements of the Receiving Balancing Authority Area with respect to the delivery of Dynamic Scheduling Energy into the Receiving Balancing Authority Area.~~

~~(b) — The Transmission Customer must satisfy the requirements of Intermediary Balancing Authority Area(s) with respect to Dynamic Scheduling Energy and arrangement of appropriate transmission services through the Intermediary Balancing Authority Area.~~

(a) ~~(c) —~~ The Transmission Customer must satisfy the requirements and standards of the Transmission Provider with respect to dynamic scheduling from the Transmission Provider's Balancing Authority Area, as those requirements and

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standards are described ~~from time to time~~ in this Attachment Q-1 and the ~~Dynamic Scheduling Business Practices~~ Transmission Provider's business practices.

~~(b)~~ (d) — If the Transmission Provider's Balancing Authority Area is the Sending Balancing Authority Area, the Transmission Customer must satisfy the requirements of the Receiving Balancing Authority Area with respect to the delivery of energy through a Dynamic Schedule into the Receiving Balancing Authority Area.

(c) If the Transmission Provider's Balancing Authority Area is the Receiving Balancing Authority Area, the Transmission Customer must satisfy the requirements of the Sending Balancing Authority Area with respect to the delivery of energy through a Dynamic Schedule from the Sending Balancing Authority Area.

(d) The Transmission Customer must satisfy the requirements of Intermediate Balancing Authority Area(s) with respect to Dynamic Schedules and the arrangement of appropriate transmission services through the Intermediate Balancing Authority Area(s).

~~(b)~~ (e) The Transmission Customer shall be responsible for all costs related to its own systems and equipment required to dynamically schedule, such as communications equipment, communication circuits and facility upgrades.

~~(f)~~ (e) — The Transmission Customer must ~~have ensure~~ are sufficient resources are available that are: of the appropriate type ~~available and;~~ ready to be delivered in the scheduled period ~~from a resource or resources for dynamic scheduling that are;~~ electrically located within the ~~Transmission Provider's Sending~~ Sending Balancing Authority Area ~~must be; and~~ responsive to control signals issued by the Sending Balancing Authority.

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~~(e)(g)~~ (g) The Transmission Customer must have an executed Service Agreement with the Transmission ~~Provider's EMS~~Provider under the Tariff.

~~(f)~~ — The Transmission Customer must have a Firm Point to Point Transmission Service reservation that is of equal or greater duration and capacity than the duration and capacity designated by the Transmission Customer as Dynamic Scheduling Transmission.

~~(d)(h)~~ (g) — The Transmission Customer must comply with applicable reliability standards adopted by the BCUC Commission and WECC criteria and policies.

~~(h)~~ — If, at any time, a Transmission Customer fails to meet any of the eligibility requirements in this section ~~3~~, the Transmission Provider may immediately suspend the Transmission Customer's eligibility for dynamic scheduling.

4. Relationship Between Approval and Use of Dynamic Scheduling Transmission and Dynamic Scheduling Energy

The Transmission Customer may reserve Dynamic Scheduling Transmission only up to its reasonably expected share of the total capacity of Dynamic Scheduling commitments to the Receiving Balancing Authority Area. The procedures for scheduling Dynamic Scheduling Energy shall be as set out from time to time in the Dynamic Scheduling Business Practices.

5. Resale and Reassignment of Unused Dynamic Scheduling Transmission

~~(a)~~ — Transmission Customers cannot resell or reassign any reserved transmission capacity during the time, and to the extent, that it is designated for Dynamic Scheduling Transmission.

~~(b)~~ — The Transmission Provider will not resell any reserved transmission capacity that has been designated for Dynamic Scheduling Transmission.

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6. ~~Official Dispatch Signal~~

~~The Transmission Provider, as the Host Balancing Authority Area, is responsible for issuing~~Eligible Transmission Customers may not submit Dynamic Schedules prior to approval by the Transmission Provider. Eligible Transmission Customers may submit a request to the Transmission Provider for approval of dynamic scheduling. The Transmission Provider will approve such a request based on its reasonable assessment of the availability and limitations of dynamic scheduling between and through specific Balancing Authority Areas as may be required to accommodate the request. The Transmission Provider will make reasonable efforts to enter into the necessary arrangements with other Balancing Authority Areas to accommodate requests for dynamic scheduling.

Once a request for dynamic scheduling is approved by the Transmission Provider, the Eligible Customer may submit Dynamic Schedules for Point-To-Point Transmission Service or Network Integration Transmission Service by submitting eTags to the Transmission Provider following the procedures set out in the Transmission Provider's business practices.

5. Official Dispatch Signal

The Sending and Receiving Balancing Authority Areas will coordinate and respond to the official dispatch signal for any dynamically scheduled resources~~located within its Balancing Authority Area.~~

76. Dispatch Instruction Data

~~(a) When acting as the Host Balancing Authority Area, the Transmission Provider will automatically dispatch Dynamic Scheduling Energy upon receiving the Receiving Balancing Authority Area's dispatch instruction data, based on the value of the dispatch instruction data, up to any existing constraints that might be in place at the time of dispatch and subject to the limitations described in section~~

~~8 of this Attachment Q-1. Receiving Balancing Authority Area's dispatch instruction data will govern provided that there are no constraints.~~

~~(b) — For the purpose of this section, the following are deemed to be constraints:~~

~~(i) — the reliability of the Transmission System is threatened;~~

~~(ii) — resource constraints declared by the resource owner;~~

~~(iii) — insufficient firm transmission reservations for Dynamic Scheduling purposes; and~~

~~(iv) — any constraints imposed by the Receiving Balancing Authority Area or any Intermediary Balancing Authority Areas on the scheduling path.~~

~~(c) —~~ The Transmission Customer is responsible for resolving with the Receiving Balancing Authority Area any discrepancy in data between the Receiving Balancing Authority Area's dispatch instruction data and the Transmission Customer's eTag. The Transmission Customer is responsible for ensuring the accuracy and resolving any discrepancies in eTag information related to the ~~Intermediary~~Intermediate Balancing Authority ~~Areas~~Area.

~~8.~~ Limitations

~~7~~Dynamic Schedules will be limited by the Transmission Provider's cut off times, and by the Transmission Provider's reasonable assessment of its capabilities to process Dynamic Schedules. Dynamic Schedules will be processed on a first-come, first-received basis, up to the limit of the number of Dynamic Schedules that may be concurrently delivered and the total volume of Dynamic Scheduling Energy that may be delivered.

9. Losses

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Any transmission losses attributed to the Dynamic Schedule on transmission systems external to the Transmission ~~Provider's Transmission~~ System will be the responsibility of the Transmission Customer.

~~108.~~ Settlement Data Discrepancy

~~(a) — The Transmission Provider will use its own time-integrated energy value for inter-Control Area check-out and for settlement and billing purposes.~~

~~(b) — The Transmission Customer is responsible for resolving, with the Receiving Balancing Authority Area and/or the Sending Balancing Authority Area, as applicable, any discrepancy between with the time-integrated energy value used by the Transmission Provider and the time-integrated energy value provided by the Receiving Balancing Authority Area prior to sending the value to the Transmission Provider for settlement purposes.~~

~~11.~~ Failure of Dynamic Transfer Signal or Official Dispatch Signal

~~(a) — If the Host Balancing Authority Area's or Receiving Balancing Authority Area's dynamic transfer signal fails, the Transmission Provider's obligation to comply with the Host Balancing Authority or Receiving Balancing Authority Area's request is automatically suspended.~~

~~(b) — If the Host Balancing Authority Area's or Receiving Balancing Authority Area's dynamic transfer signal fails or the official dispatch signal from the Transmission Provider fails, the last known value will be used for the remainder of the hour. If the Transmission Provider does not recover the signal by the end of the hour, the Transmission Provider will decrease the value to zero.~~

~~(c) — For the purposes of this section, a signal fails if both redundant communication paths fail.~~

~~12.~~ Suspension or Reduction in Dynamic Schedules

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~~In addition to the limitations and constraints described in sections 7 and 8, the Transmission Provider may suspend or reduce Dynamic Schedules out of its Balancing Authority Area if:~~

~~(a) — the reliability of the Transmission System is threatened; or~~

~~(b) — the Receiving Balancing Authority Area or an Intermediary Balancing Authority Area requests that Dynamic Schedules be limited or suspended.~~

139. Sharing of Information

The Transmission Provider may share with the HostSending Balancing Authority Area, Receiving Balancing Authority Area, IntermediaryIntermediate Balancing Authority Areas, ~~and~~ reliability coordinators and relevant market operators, whatever operational information directly related to dynamic scheduling is necessary or desirable to facilitate dynamic scheduling. The foregoing information shall include such information that may be required by applicable tariff provisions and business practices and standards of any of the HostSending Balancing Authority Area, Receiving Balancing Authority Area, IntermediaryIntermediate Balancing Authority Areas, and the Transmission Provider, and shall also include such information that may be required by each of the Sending Balancing Authority Area, Receiving Balancing Authority Area, IntermediaryIntermediate Balancing Authority Areas and the Transmission Provider to curtail dynamic schedules in accordance with its tariffTariff, business practices, standards and applicable service agreements.

1410. Charges for Dynamic Scheduling ~~(DS)~~

Dynamic Scheduling using Network Integration Transmission Service

~~(a) —~~ (a) — ~~DS Service designated from Short-Term Firm service~~ is charged in accordance with Part III and Rate Schedule 00 of the Tariff.

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~~(a)(b)~~ Dynamic Scheduling using Point-To-Point Transmission Service is charged in accordance with Part II and Rate Schedule 01 of ~~OATT~~the Tariff.

~~(b)~~ DS Service designated from Long-Term Firm service is charged in accordance with Rate Schedule 01 of OATT.

~~(b)(c)~~ ~~(c)~~ Charges for Scheduling, System Control and Dispatch Ancillary Services will be applied in accordance with Rate Schedules 03 through 09 of OATTthe Tariff, as applicable.

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