

draft (7/25/2011) SLICE/BLOCK RESOURCE SUPPORT SERVICES TEMPLATE

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Reviewer's Note: *The following provisions are excerpts from the Regional Dialogue Slice/Block Master Template and are included for reference only.*

RSS Definitions from section 2 of the body of the Agreement (Slice/Block only)

- 2.19 "Balancing Authority" means the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports interconnection frequency in real time.
- 2.20 "Balancing Authority Area" means the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority.
Reviewer's Note: The BA and BA Area definitions are from NERC's "Glossary of Terms Used in Reliability Standards".
- 2.54 "Diurnal Flattening Service" or "DFS" means a service that makes a resource that is variable or intermittent, or that portion of such resource that is variable or intermittent, equivalent to a resource that is flat within each Monthly/Diurnal period, as defined in the TRM.
- 2.74 "Forced Outage Reserve Service" or "FORS" means a service that provides an agreed-to amount of capacity and energy to load during the forced outages of a qualifying resource.
- 2.132 "Resource Support Services" or "RSS" means the Diurnal Flattening Service and Forced Outage Reserve Service BPA provides to support resources that are renewable resources and are Specified Resources used to serve Total Retail Load after September 30, 2006, and may in the future include other related services that are priced in the applicable 7(i) Process consistent with the TRM.

**Exhibit D
ADDITIONAL PRODUCTS AND SPECIAL PROVISIONS**

- 1. CF/CT AND NEW LARGE SINGLE LOADS
- 2. RESOURCE SUPPORT SERVICES
 - 2.1 Placeholder: Language under revision in the Clean-Up Amendment process.
 - 2.2 Placeholder: Language under revision in the Clean-Up Amendment process.

Include for SLICE/BLOCK if customer purchases RSS:

Option 1: *Include the following version if customer purchases DFS.*

Reviewer's Note: *The DFS language and tables below have been drafted assuming DFS is provided on an individual resource basis. If after a future 7(i) process it is advantageous for a customer to use a "portfolio approach" for pricing DFS for multiple resources getting DFS, then the language below will need to be modified. Such modification will need to occur prior to September 30 of a Rate Case Year.*

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2.3 Diurnal Flattening Service (DFS)

From October 1, 20«XX» through September 30, 20«XX», BPA shall support «Customer Name»'s Specified Resources listed in section 2.3.6.1 below with DFS in accordance with section 2.3.1 below. «Customer Name» shall apply such resources to serve «Customer Name»'s Total Retail Load and provide BPA with any necessary information concerning such resources in accordance with sections 2.3.2, 2.3.3, and 2.3.4 below. BPA shall charge for DFS in accordance with section 2.3.5 below and shall update the tables in section 2.3.6 below. «Customer Name» shall schedule such resources, Block Product amounts and DFS Support Amounts in accordance with section 2.3.7 and section 6 of Exhibit F. Definitions that are specific to this section 2.3 are listed below in section 2.3.8.

2.3.1 DFS Obligations

To support variations in the generation of «Customer Name»'s Specified Renewable Resources listed in 2.3.6.1, BPA will make DFS available to «Customer Name» for such Specified Renewable Resources in months when «Customer Name»'s total Block Product amounts are equal to or greater than the combined Operating Maximums minus the total Planned Resource Amounts for such Specified Renewable Resources for such months. The total amount of DFS service provided to «Customer Name» for the month shall not exceed the total Block Product amount for that month.

Pursuant to section 4.5 of the body of this Agreement, sections 1.3 and 2.6 of Exhibit C, and section 2.3.1 of this exhibit, for each hour there is a combined DFS Excess Amount, «Customer Name» shall reduce «Customer Name»'s total Block Product amount by the combined DFS Excess Amount for each such hour. On each such hour, «Customer Name» shall calculate and schedule both the reduced total Block Product amount, and the combined generation of such Specified Renewable Resources, all to its Total Retail Load.

In the event that BPA proposes to adopt a rate schedule for a portfolio application of DFS to multiple «Customer Name» resources then BPA will, upon establishing such rate schedule, propose amendments to the necessary subsections of this exhibit as needed to implement the rate schedule.

In any election period where «Customer Name» has elected to purchase DFS, any yearly changes in the number of Specified Resources or change in «Customer Name»'s total Block Product amounts shall require changes to: (1) the Specified Resources listed in section 2.3.6.2; (2) the Specified Resource's, Operating Maximum, Planned Resource Amounts and DFS Support Amounts in section 2.3.6.1; and (3) charges shown in section 2.3.6.3 calculated in the previous rate case.

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For the hours within each month in which BPA does not provide Diurnal Flattening Service «Customer Name» shall not be obligated to pay for Diurnal Flattening Service for those hours within such month and shall not revise in real-time its Block Product deliveries for those hours within such month.

DFS is a BPA Power Services product, and «Customer Name» shall be responsible for any non-Power Service obligations needed for DFS service and to meet its Total Retail Load, including but not limited to transmission, other reserves, and replacement power.

BPA shall on an hourly basis provide DFS Support Amounts for delivery to «Customer Name»'s Total Retail Load as follows:

2.3.1.1 The hourly individual DFS Support Amount for each Specified Renewable Resource listed in 2.3.6.1 shall be computed as follows:

- (1) for hours when the scheduled generation of such Specified Renewable Resource is equal to or greater than the Operating Minimum of such resource, the hourly individual DFS Support Amount shall be equal to the Planned Resource Amount minus the greater of the scheduled generation or the Operating Minimum for such Specified Renewable Resource.
- (2) for hours when the scheduled generation of such Specified Renewable Resource is less than the Operating Minimum, then the hourly individual DFS Support Amount for such Specified Renewable Resource shall be zero, and
- (3) for hours when the scheduled generation of such Specified Renewable Resource is greater than the Planned Resource Amount, then the hourly individual DFS Support Amount for each such Specified Renewable Resource shall be zero.

2.3.1.2 The hourly individual DFS Excess Amount for each Specified Renewable Resource listed in 2.3.6.1 shall be computed as follows:

- (1) for hours when the scheduled generation of such Specified Renewable Resource is greater than the Planned Resource Amount the hourly individual DFS Excess Amount shall be equal to the lesser of (A) the Operating Maximum, or (B) the scheduled generation minus the Planned Resource Amount for such Specified Renewable Resource; and

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- (2) for hours when the scheduled generation of such Specified Renewable Resource is greater than the Operating Maximum, then the hourly individual DFS Excess Amount shall be equal to Operating Maximum for such Specified Renewable Resource.

2.3.1.3 For any hours in the month when the total scheduled generation for such Specified Renewable Resources is less than the total Planned Resource Amount, then:

- (1) BPA shall provide a combined DFS Support Amount in hourly amounts equal to the greater of (A) zero; or (B) the sum of the hourly individual DFS Support Amount of each Specified Renewable Resource minus the hourly individual DFS Excess Amount of each Specified Renewable Resource;
- (2) the combined DFS Excess Amount shall be zero;
- (3) «Customer Name» shall not reduce its total Block Product amount; and
- (4) «Customer Name» shall calculate and schedule to its Total Retail Load: (A) the generation of each Specified Renewable Resource; (B) the combined DFS Support Amount; and (C) «Customer Name»'s total Block Product amount.

2.3.1.4. For any hours in the month when the total scheduled generation of such Specified Renewable Resource is equal to the total Planned Resource Amount, then:

- (1) BPA shall not provide a DFS Support Amount;
- (2) the combined DFS Excess Amount shall be zero;
- (3) «Customer Name» shall not reduce its total Block Product amount; and
- (4) «Customer Name» shall schedule to its Total Retail Load: (A) the generation of each Specified Renewable Resource; (B) no DFS Support Amount; and (C) «Customer Name»'s total Block Product amount.

2.3.1.5 For any hours in the month when the total scheduled generation for such Specified Renewable Resource is greater than the total Planned Resource Amount, then

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- (1) BPA shall not provide a DFS Support Amount;
- (2) «Customer Name» will reduce its total Block Product schedule by an amount equal to the greater of (A) zero, or (B) the sum of the hourly individual DFS Excess Amount of each Specified Renewable Resource minus the hourly individual DFS Support Amount of each Specified Renewable Resource;
- (3) «Customer Name» shall calculate and schedule to its Total Retail Load: (A) the generation of each Specified Renewable Resource up to its Operating Maximum amount; (B) no DFS Support Amount; and (C) «Customer Name»'s reduced Block Product amount; and
- (4) «Customer Name» shall also use or dispose of any scheduled generation above the combined Operating Maximum amount for the Specified Renewable Resources listed in section 2.3.6.1. BPA shall not pay or give a credit to «Customer Name» for any such used or disposed generation above the combined Operating Maximum amount.

2.3.2 Operational Requirements

«Customer Name» shall apply the output from the Specified Resources listed in section 2.3.6.1 below, as such output is generated, to serve «Customer Name»'s Total Retail Load. If for any hour the output generated by each individual Specified Resource is less than Operating Minimum for that individual Specified Resource, then: (1) the individual DFS Support Amount for such Specified Resource shall be zero; and (2) the individual DFS Excess Amount for such Specified Resource shall be zero.

2.3.3 Information Requirements

«Customer Name» shall provide BPA with hourly meter data from the Specified Resources listed in section 2.3.6.1 below in accordance with section 17.3 of the body of this Agreement. If «Customer Name» installs or upgrades a meter to meet such requirement, then «Customer Name» shall pay for any costs or related services attributable to the new or upgraded meters. «Customer Name» shall provide hourly generation forecast data and schedule data to BPA for such resources in accordance with Exhibit F.

By October 31 of each Rate Case Year, «Customer Name» shall also provide BPA (in a format determined by BPA) with the resource information, including historical and forecast resource data, that BPA determines is necessary to provide DFS.

***Sub-Option 1:** Include the following language if customer is NOT served by Transfer Service:*

2.3.4 **Delivery Requirements**

«Customer Name» shall deliver power associated with the Specified Resources listed below in section 2.3.6.1 on non-firm or firm transmission, regardless of whether the resource is located inside or outside BPA's Balancing Authority Area. BPA shall have no obligation for any costs or related services attributable to «Customer Name»'s acquisition of such firm or non-firm transmission. If «Customer Name»'s use of non-firm transmission results in an Unauthorized Increase Charge, then BPA shall assess «Customer Name» such Unauthorized Increase Charge.

End Sub-Option 1.

***Sub-Option 2:** Include the following language if customer is served entirely by Transfer Service:*

***Reviewer's Note:** An agreed-upon plan of service is a required condition prior to March 31 of the year following the customer's election to purchase DFS. Although this provision will be out-of-date by the time the exhibit revision is signed (since by then the plan of service will be in place) it needs to be included since it is a term of the agreement the customer will commit to on September 30. (See section 2.1 and 2.2 of this exhibit for details.) The March 31, 2012 date will be revised for future notice opportunities and purchase periods.*

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2.3.4 **Delivery Requirements**

For each Specified Resource listed in section 2.3.6.1 below, Power Services and «Customer Name» agree to develop by March 31, 2012, a plan of service to enable delivery of power to load that best fits the challenges of each Specified Resource. Such challenges include but are not limited to the existing circumstances of transmission constraints. If the Parties do not develop a plan by March 31, 2012, and cannot mutually agree to a revised deadline for completion of the plan of service, then BPA's obligation to sell and «Customer Name»'s obligation to purchase DFS will expire. Once the plan of service is established, the Parties may periodically reevaluate what constitutes the best plan of service and revise it accordingly. In any such plan of service, the power from the Specified Resources shall be delivered on firm transmission.

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End Sub-Option 2.

***Sub-Option 3:** Include the following language if customer has load served by Transfer Service AND directly connected load.*

***Reviewer's Note:** An agreed-upon plan of service is a required condition prior to March 31 of the year following the customer's election to purchase DFS if that DFS to a resource serving load served by Transfer Service. Although this provision will be out-of-date by the time the exhibit revision is signed (since by then the plan of service will be in place) it needs to be included since it is a term of the agreement*

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the customer will commit to on September 30. (See section 2.1 and 2.2 of this exhibit for details.) The March 31, 2012 date will be revised for future notice opportunities and purchase periods.

2.3.4 **Delivery Requirements**

For purposes of this section, the delivery requirements for each Specified Resource listed in section 2.3.6.1 depend on whether or not the resource serves load for which BPA provides Transfer Service. The load that each resource serves is identified in the table in section «x.x» of this exhibit, Baseline Delivery Percentages and Amounts.

2.3.4.1 Delivery Requirements for Resources Serving Directly Connected Load

For each Specified Resource that will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service, «Customer Name» shall deliver power associated with the DFS for such resource in accordance with sections 2.3.4.1.1 and 2.3.4.1.2 below. BPA shall have no obligation for any costs or related services attributable to «Customer Name»'s acquisition of such firm or non-firm transmission. For all subsections under this section, if «Customer Name»'s use of non-firm transmission results in an Unauthorized Increase Charge, then BPA shall assess «Customer Name» such Unauthorized Increase Charge.

2.3.4.1.1 Resources Located Inside BPA's Balancing Authority Area

If any of the Specified Resources listed in section 2.3.6.1 are located inside of BPA's Balancing Authority Area and will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service, then «Customer Name» shall deliver power from such resources to «Customer Name»'s Total Retail Load on non-firm or firm transmission.

2.3.4.1.2 Resources Located Outside BPA's Balancing Authority Area

If any of the Specified Resources listed in section 2.3.6.1 are biogas, biomass, geothermal, small hydro (nameplate capability less than or equal to ten megawatts), landfill gas, ocean, solar, or wind resources, and if they are located outside of BPA's Balancing Authority Area and will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service, then «Customer Name» shall deliver power from such resources to

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«Customer Name»'s Total Retail Load on non-firm or firm transmission. Power from other Specified Resources listed in section 2.3.6.1 that are located outside of BPA's Balancing Authority Area and will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service shall be delivered to «Customer Name»'s Total Retail Load on firm transmission.

2.3.4.2 Delivery Requirements for Resources Serving Transfer Service Load

For each Specified Resource listed in section 2.3.6.1 that will serve load for which Power Services provides Transfer Service, Power Services and «Customer Name» agree to develop by March 31, 2012 a plan of service to enable delivery of power to load that best fits the challenges of each Specified Resource. Such challenges include but are not limited to the existing circumstances of transmission constraints. If the Parties do not develop a plan by March 31, 2012, and cannot mutually agree to a revised deadline for completion of the plan of service, then BPA's obligation to sell and «Customer Name»'s obligation to purchase DFS will expire and «Customer Name» shall meet its Above-RHWM Load with power in both a Flat Annual Shape and Flat Within-Month Shape or an alternative approach mutually agreed to by the Parties. Once the plan of service is established, the Parties may periodically reevaluate what constitutes the best plan of service and revise it accordingly. Any such plan of service shall address the following obligation: the power from the Specified Resources listed in section 2.3.6.1 that serves load for which Power Services provides Transfer Service shall be delivered on firm transmission.

End Sub-Option 3.

2.3.5 DFS Rates and Charges

BPA shall charge «Customer Name» for DFS on «Customer Name»'s monthly bill sent in accordance with section 16 of this Agreement, as follows:

2.3.5.1 DFS Capacity Charge

Each month «Customer Name» shall be assessed a charge for the capacity associated with DFS. BPA shall calculate such monthly charge by: (1) using hourly data from each of the resources listed in section 2.3.6.1 below, and (2) BPA's Demand Rate as established in BPA's Wholesale Power Rate Schedules and GRSPs, and the associated methodology established in the 7(i) Process. Such monthly capacity charge shall be listed in section 2.3.6.3 below.

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2.3.5.2 **DFS Energy Rate**

Each month «Customer Name» shall be assessed a charge for the energy associated with DFS as established in BPA's Wholesale Power Rate Schedules and GRSPs. Such DFS energy rate shall be listed in section 2.3.6.3 below.

2.3.5.3 **Resource Shaping Charge and Adjustment**

Each month «Customer Name» shall be charged the Resource Shaping Charge and the Resource Shaping Charge Adjustment as established in BPA's Wholesale Power Rate Schedules and GRSPs.

Reviewer's Notes: (All Reviewer's Notes are not part of the contract and included for information only.) See BP-12 GRSPs for information on possible DFS pricing methodology.

2.3.6 **Applicable Resources, Amounts, and Charges**

2.3.6.1 **List of Specified Resources**

Drafter's Note: Add a row to the table below for each resource.

Resource Name	Resource Balancing Authority Area Location	Resource Transmission

2.3.6.2 **Resource Amounts**

In consultation with «Customer Name» BPA shall determine the monthly and Diurnal Operating Minimums, Operating Maximums, Planned Resource Amounts, and Maximum DFS Support Amounts for each of the resources listed above in section 2.3.6.1, using resource specific information including equipment specifications, fuel type, fuel availability, resource location, and age of equipment. By September 30 of each Rate Case Year, BPA shall update such resource amounts in the tables below.

Drafter's Note: Include the Operating Minimum, Operating Maximum, Planned Resource Amount, and Maximum DFS Support Amount tables below for each resource listed in section 2.3.6.1 above.

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Deleted: (1) DFS CAPACITY CHARGE: BPA plans on calculating the DFS Capacity Charge as follows (subject to each 7(i) Process): BPA shall calculate the DFS Capacity Charge by looking at the monthly capacity needs of each resource. The monthly look involves multiplying the monthly Demand Rates by the calculated difference between planned average HLH energy amounts listed in section 2.3.6.2 below for each month and the HLH Operating Minimum amounts in section 2.3.6.2 below of the resource(s) for that particular month. This is a set charge because it applied regardless of actual generation. ¶

(2) DFS ENERGY RATE: BPA plans on calculating the DFS Energy Charge as follows (subject to each 7(i) Process): ¶ BPA shall calculate the DFS Energy Charge by first calculating a DFS Energy Rate (either as a separate rate for each year of the rate period or a single rate for the rate period). BPA does so by first summing the MWhs of the historical hourly resource generation (historical data from the resource or similar resource hourly data if no history exists) that is above the planned average diurnal energy amounts listed in section 2.3.6.2 below. This would be calculated separately for each Monthly/Diurnal period of the year. Second, BPA would multiply these MWh amounts by 25 percent and then again by the applicable Resource Shaping Rates. Third, BPA would sum the Monthly/Diurnal dollar amounts resulting from the calculation done in step two and divide it by the annual planned aMW energy amounts listed in section 2.3.6.2 below, converted to MWhs by multiplying by the number of hours in the year. The quotient of the calculation done in step three would be the dollar per MWh rate that is applied each month to either the amounts measured by the meters, as listed in Exhibit E, for the resources listed in section 2.3.6.1 below, or if such resources are scheduled then, the scheduled amounts, as provided to BPA in accordance with section 2.3.4.2 above to arrive at the monthly DFS Energy Charge. ... [1]

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«RESOURCE NAME»'S OPERATING MINIMUMS												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Rate Period Year 1												
HLH MW												
LLH MW												
Rate Period Year 2												
HLH MW												
LLH MW												
Note: For this table only, the amounts in the table above shall be rounded down to the nearest whole megawatt.												

«RESOURCE NAME»'S OPERATING MAXIMUMS												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Rate Period Year 1												
HLH MW												
LLH MW												
Rate Period Year 2												
HLH MW												
LLH MW												
Note: The amounts in the table above shall be rounded to a whole megawatt value.												

«RESOURCE NAME»'S PLANNED RESOURCE AMOUNTS													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	annual aMW
Rate Period Year 1													
HLH aMW													
LLH aMW													
Total aMW													
Rate Period Year 2													
HLH aMW													
LLH aMW													
Total aMW													
Note: The amounts in the table above shall be rounded to three decimal places.													

«RESOURCE NAME»'S MAXIMUM DFS SUPPORT AMOUNTS												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Rate Period Year 1												
HLH MW												
LLH MW												
Rate Period Year 2												
HLH MW												
LLH MW												
Note: The amounts in the table above shall be rounded to a whole megawatt value.												

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2.3.6.3 **DFS Charges and Rates**

By September 30 of each Rate Case Year, BPA shall update the tables below with the DFS capacity charge and energy rate, as established in each rate case and in accordance with sections 2.3.5.1 and 2.3.5.2 above, for the upcoming Rate Period.

Drafter's Note: Include one DFS Capacity Charge table and one DFS Energy Rate table if the resources are priced together in a portfolio. Otherwise include a DFS Capacity Charge table and DFS Energy Rate table for each resource listed in section 2.3.6.1 above. If listing tables by resource, then also add the name of the resource to the title of the table (use the tables in section 2.3.6.2 as an example.)

DFS CAPACITY CHARGE	
Rate Period	\$/month
2012 – 2013	
2014 – 2015	
2016 – 2017	
2018 – 2019	
2020 – 2021	
2022 – 2023	
2024 – 2025	
2026 – 2027	
2028	

DFS ENERGY RATE	
Rate Period	\$/MWh
2012 – 2013	
2014 – 2015	
2016 – 2017	
2018 – 2019	
2020 – 2021	
2022 – 2023	
2024 – 2025	
2026 – 2027	
2028	

2.3.7 **Scheduling Requirements**

«Customer Name» shall schedule the generation of each Specified Renewable Resource listed in section 2.3.6.1 and described in

section 2.3.3 (up to the resources' combined Operating Maximum amount) to its Total Retail Load. For scheduling purposes, the Planned Resource Amounts in the table in section 2.3.6.2 shall be rounded to a whole megawatt value.

For the months when DFS is available, «Customer Name» shall on an hourly basis submit preschedules and then revise such schedules in real-time, according to sections 2.3.7.1 and 2.3.7.2, and as required for DFS pursuant to section 2.3 and section 6 of Exhibit F, by the amounts listed and described below:

- (1) the generation of each Specified Renewable Resource listed in section 2.3.6.1 and described in section 2.3.3;
- (2) the combined DFS Support Amount specified in section 2.3.1 of this exhibit for the combined Specified Renewable Resources listed above; and
- (3) the total Block Product amount specified in Exhibit C, or the reduced Block Product amounts described in section 2.3.1

2.3.7.1 Prescheduling

«Customer Name» is responsible for any calculation and submittal to BPA for preschedule of the following:

- (1) hourly generation schedules for each Specified Renewable Resource;
- (2) hourly combined DFS Support Amount for such Specified Renewable Resources; and
- (3) hourly total or reduced Block Product amount resulting from the computation of the combined DFS Excess Amount.

2.3.7.2 Real-Time Scheduling

«Customer Name» is responsible for any revised calculation and submittal to BPA on real-time for the following:

- (1) updated hourly generation schedules for each Specified Renewable Resource;
- (2) updated hourly combined DFS Support Amount schedules for such Specified Renewable Resources; and
- (3) updated hourly total or reduced Block Product amount schedules resulting from updated computation of the combined DFS Excess Amount.

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2.3.7.3 Scheduling Penalties

If «Customer Name» fails to schedule the hourly amounts specified in sections 2.3.7.1 and 2.3.7.2 of this exhibit, an Unauthorized Increase Charge under BPA's Wholesale Power and GRSPs will be assessed under BPA's Wholesale Power Rate Schedules and GRSPs for each such hour for the following conditions and in the following amounts:

- (1) when the amount by which the real-time updated total schedule, or reduced Block Product amount schedule is greater than the planned total Block Product amount;
- (2) when the amount by which (A) the real-time updated combined DFS Support Amount schedule is greater than (B) the combined DFS Support Amount computed pursuant to section 2.3.1 above;
- (3) when the amount by which (A) the sum of the real-time updated hourly individual generation schedules plus the updated combined DFS Support Amount schedule plus the updated total or reduced Block Product amount schedule is greater than the (B) the sum of the combined Planned Resource Amount plus the planned total Block Product amount;
- (4) when any amount of the scheduled combined DFS Support Amount is taken as a result of the individual scheduled generation of a Specified Resource being less than the Operating Minimum of such Specified Resource;
- (5) when any amount of the scheduled combined DFS Support Amount is taken as a result of any transmission curtailment; and
- (6) during any transmission curtailment, when the amount of any scheduled total Block Product amount is not reduced and it was required to be reduced, based upon the hourly updated generation schedules, and in the amount of the missed reduction in schedule.

2.3.8 Definitions

2.3.8.1 "DFS Excess Amount" means the amount by which the scheduled generation from a Specified Renewable Resource listed in section 2.3.6.1 for the applicable period is greater than the Planned Resource Amount of such Specified Renewable Resource, but is less than or equal to the Operating Maximum of such Specified Renewable Resource.

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- 2.3.8.2 “DFS Support Amount” means the amount of power BPA makes available to «Customer Name» to support the Planned Resource Amount from a Specified Renewable Resource listed in section 2.3.6.1.
- 2.3.8.3 “Operating Maximum” means the highest level of power generation for a Specified Renewable Resource that is established for the applicable period pursuant to section 2.3.6.2 as the maximum hourly power delivery amount when the Specified Renewable Resource is operating.
- 2.3.8.4 “Operating Minimum” means the lowest level of power generation for a Specified Renewable Resource that is established for the applicable period pursuant to section 2.3.6.2 as the minimum hourly power delivery amount when the Specified Renewable Resource is operating.
- 2.3.8.5 “Planned Resource Amount” means the expected level of power generation for a Specified Renewable Resource that is established for the applicable period pursuant to section 2.3.6.2 as the expected hourly power delivery amount when the Specified Renewable Resource is operating.
- 2.3.8.6 "Specified Renewable Resource" means a Specified Resource that has been established as renewable in the Northwest Power and Conservation Council's most recent Power Plan or other resources that the Parties agree is renewable, such as biogas, biomass, geothermal, small hydro (nameplate capability less than or equal to ten megawatts), landfill gas, ocean, solar or wind resources.

End Option 1.

Option 2: Include the following version if customer does NOT purchase DFS but DOES purchase FORS

- 2.3 **Diurnal Flattening Service (DFS)**
«Customer Name» has chosen not to purchase DFS.

Option 1: Include the following version if customer purchases FORS.

- 2.4 **Forced Outage Reserve Service (FORS)**
From October 1, 20«XX» through September 30, 20«XX», BPA shall provide power to serve «Customer Name»'s Total Retail Load during a Forced Outage of «Customer Name»'s Specified Resources, listed in section 2.4.5.1 below, in amounts in accordance with section 2.4.2 below. «Customer Name» shall deliver such resources in accordance with section 2.4.1 below and pay BPA for FORS in accordance with section 2.4.3. «Customer Name»'s request for FORS shall meet the conditions in section 2.4.4.

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Reviewer's Note: *Customers may have further refinements to their Forced Outage definition below based on their resources particular characteristics, the transmission arrangements to their points of integration, potential non-transmission assets, and whether the resource is within the customer's distribution system or scheduled to load.*

For purposes of this section 2.4, "Forced Outage" means loss of generation as a result of: (1) unit tripping, due to a failure to start or unplanned tripping; (2) failure on the generation integration facilities between the generator and the transmission system into which the generator is integrated; or (3) internal plant equipment problems.

Sub-Option 1: *Include the following language if customer is NOT served by Transfer Service:*

2.4.1 **Delivery Requirements**

«Customer Name» shall deliver power from the Specified Resources listed below in section 2.4.5.1 on non-firm or firm transmission, regardless of whether the resource is located inside or outside BPA's Balancing Authority Area. BPA shall have no obligation for any costs or related services attributable to «Customer Name»'s acquisition of such firm or non-firm transmission. For all subsections under this section, if «Customer Name»'s use of non-firm transmission results in an Unauthorized Increase Charge, then BPA shall assess «Customer Name» such Unauthorized Increase Charge.

End Sub-Option 1.

Sub-Option 2: *Include the following language if customer is served entirely by Transfer Service:*

Reviewer's Note: *An agreed-upon plan of service is a required condition prior to March 31 of the year following the customer's election to purchase FORS. Although this provision will be out-of-date by the time the exhibit revision is signed (since by then the plan of service will be in place) it needs to be included since it is a term of the agreement the customer will commit to on September 30. See section 2.1 and 2.2 of this exhibit for details. The March 31, 2012 date will be revised for future notice opportunities and purchase periods.*

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2.4.1 **Delivery Requirements**

For each Specified Resource listed in section 2.4.5.1 below, Power Services and «Customer Name» agree to develop by March 31, 2012, a plan of service to enable delivery of power to load that best fits the challenges of each Specified Resource. Such challenges include but are not limited to the existing circumstances of transmission constraints. If the Parties do not develop a plan by March 31, 2012, and cannot mutually agree to a revised deadline for completion of the plan of service, then BPA's obligation to sell and «Customer Name»'s obligation to purchase FORS will expire. Once the plan of service is established, the Parties may periodically reevaluate what constitutes the best plan of service and revise it accordingly. In any such plan of

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service, the power from the Specified Resource shall be delivered on firm transmission.

End Sub-Option 2.

Sub-Option 3: *Include the following language if customer is served by Transfer Service AND with directly connected load.*

Reviewer's Note: *An agreed-upon plan of service is a required condition prior to March 31 of the year following the customer's election to purchase FORS if that FORS to a resource serving load served by Transfer Service. Although this provision will be out-of-date by the time the exhibit revision is signed (since by then the plan of service will be in place) it needs to be included since it is a term of the agreement the customer will commit to on September 30. (See section 2.1 and 2.2 of this exhibit for details.) The March 31, 2012 date will be revised for future notice opportunities and purchase periods.*

2.4.1 **Delivery Requirements**

For purposes of this section, the delivery requirements for each Specified Resource depend on whether or not the resource serves load for which BPA provides Transfer Service. The load that each resource serves is identified in the table in section «x.x» of this exhibit, Baseline Delivery Percentages and Amounts.

2.4.1.1 **Delivery Requirements for Resources Serving Directly Connected Load**

For each Specified Resource listed in section 2.4.5.1 that will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service, «Customer Name» shall deliver power associated with the FORS for such resource in accordance with sections 2.4.1.1.2 and 2.4.1.1.2 below. BPA shall have no obligation for any costs or related services attributable to «Customer Name»'s acquisition of such firm or non-firm transmission. For all subsections under this section, if «Customer Name»'s use of non-firm transmission results in an Unauthorized Increase Charge, then BPA shall assess «Customer Name» such Unauthorized Increase Charge.

2.4.1.1.2 **Resources Located Inside BPA's Balancing Authority Area**

If any of the Specified Resources listed in section 2.4.5.1 are located inside of BPA's Balancing Authority Area and will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service, then «Customer Name» shall deliver power from such resources to «Customer Name»'s Total Retail Load on non-firm or firm transmission.

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2.4.1.1.2 Resources Located Outside BPA's Balancing Authority Area

If any of the Specified Resources listed in section 2.4.5.1 are biogas, biomass, geothermal, small hydro (nameplate capability less than or equal to ten megawatts), landfill gas, ocean, solar, or wind resources, and if they are located outside of BPA's Balancing Authority Area and will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service, then «Customer Name» shall deliver power from such resources to «Customer Name»'s Total Retail Load on non-firm or firm transmission. Power from other Specified Resources listed in section 2.4.5.1 that are located outside of BPA's Balancing Authority Area and will serve load that is directly connected to the BPA transmission system and for which Power Services does not provide Transfer Service shall be delivered to «Customer Name»'s Total Retail Load on firm transmission.

2.4.1.2 Delivery Requirements for Resources Serving Transfer Load

For each Specified Resource that will serve load for which Power Services provides Transfer Service and that is listed in section 2.4.5.1 below, Power Services and «Customer Name» agree to develop by March 31, 2012 a plan of service to enable delivery of power to load that best fits the challenges of each Specified Resource. Such challenges include but are not limited to the existing circumstances of transmission constraints. If the Parties do not develop a plan by March 31, 2012, and cannot mutually agree to a revised deadline for completion of the plan of service, then BPA's obligation to sell and «Customer Name»'s obligation to purchase FORS will expire and «Customer Name» shall meet its Above-RHWM Load with power in both a Flat Annual Shape and Flat Within-Month Shape or an alternative approach mutually agreed to by the Parties. Once the plan of service is established, the Parties may periodically reevaluate what constitutes the best plan of service and revise it accordingly. Any such plan of service shall address the following obligation: the power from the Specified Resources listed in section 2.4.5.1 that serves load for which Power Services provides Transfer Service shall be delivered on firm transmission.

End Sub-Option 3.

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2.4.2 Limits of Power Provided Under FORS

2.4.2.1 Hourly Limits

Subject to the limits in section 2.4.2.2, BPA shall provide power to «Customer Name»'s Total Retail Load during a Forced Outage of a Specified Resource listed below in section 2.4.5.1 equal to the lesser of: (1) the megawatt amounts «Customer Name» requests from BPA in accordance with section 2.4.4 below, or (2) the megawatt amounts listed in either: (A) section 2 of Exhibit A for the applicable resource and the applicable Diurnal period if the resource is not being supported with DFS from BPA, or (B) the planned amounts listed in section 2.3.6.2 of this Exhibit for the applicable resource and the applicable Diurnal period if the resource is being supported with DFS from BPA.

2.4.2.2 Annual and Purchase Period Limits

During any Fiscal Year, «Customer Name» shall be limited to a maximum of the megawatt-hour amounts of FORS listed in section 2.4.5.2 below for the applicable resource and Fiscal Year. During any Purchase Period, «Customer Name» shall be limited to the megawatt-hour amounts of FORS listed in section 2.4.5.2 for the applicable resource and Purchase Period.

2.4.2.3 Increasing Annual and Purchase Period Limits

«Customer Name» may request that BPA increase the amount of megawatt-hours of FORS provided during any given Fiscal Year or Purchase Period. BPA is not obligated to increase such amounts but shall evaluate «Customer Name»'s request and propose an adjustment to the fees in 2.4.5.3 for the request. If the proposed request is acceptable to BPA, and «Customer Name» agrees to the proposed fees, then the Parties shall revise the megawatt-hour limits and fees in section 2.4.5.2 within 15 Business Days of «Customer Name»'s request.

2.4.3 FORS Charges

«Customer Name» shall pay a capacity charge each month to BPA as established in BPA's Wholesale Power Rate Schedules and GRSPs for each Rate Period for such service. By September 30 of each Rate Case Year, BPA shall calculate the applicable FORS charges and update the table in section 2.4.5.3 below with the monthly capacity charge. «Customer Name» shall also pay for any energy provided under FORS in accordance with BPA's Wholesale Power Rate Schedules and GRSPs.

Reviewer's Notes: see BP-12 GRSPs for information on possible FORS pricing methodology.

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¶
(1) **FORS CAPACITY CHARGE:** BPA plans on pricing the capacity provided under FORS as follows (subject to a 7(i) process): The FORS capacity charge will be based on the capacity needed to back up a resource. BPA will calculate a forced outage rate for each resource (based on past generation, if available, and expected outage data). To calculate the amount of capacity to reserve for a resource (a future 7(i) process will determine whether this will be a monthly average or an annual average), BPA will multiply such forced outage rate by either: (1) the average energy amounts in Exhibit A for resources not getting DFS, or (2) the operating minimum of the for resources getting DFS. BPA will then charge the customer for such reserved capacity at the computed rate for capacity, which is equivalent to the Tier 1 Demand Charge and determined in each 7(i).¶

¶
(2) **FORS ENERGY RATES:** BPA plans on pricing the energy provided under FORS as follows (subject to a 7(i) process): Except for the first 24 hours of energy provided during a Forced Outage, energy provided by BPA shall be charged at the applicable Monthly/Diurnal Dow Jones Mid-C Prices. Energy provided during the first 24 hours of a Forced Outage shall be charged at the Daily Dow Jones Mid-C Prices in effect during the first 24 hours of the Forced Outage (unless prices in a given hour are markedly greater than that day's average daily prices, in which case BPA may use the applicable hourly prices from BPA's Trading Floor).

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2.4.4 Additional «Customer Name» Obligations

2.4.4.1 Requesting FORS

~~«Customer Name» shall use the Integrated Scheduling, Allocation, and After-the-fact Calculation (ISAAC) Portal, or other method BPA provides to «Customer Name» in writing, for the following FORS-related transactions:~~

Deleted: To request FORS

- (1) ~~«Customer Name» shall notify the PS duty scheduler, of «Customer Name»'s request to take FORS, the amounts of FORS «Customer Name» is requesting, and the expected duration of the Forced Outage, no later than 30 minutes prior to the hour of delivery;~~
- (2) ~~«Customer Name» shall notify the PS duty scheduler, of any changes to the information provided to the PS duty scheduler pursuant to section 2.4.4.1(1) above no later than 30 minutes prior to the hour of delivery; and~~
- (3) ~~«Customer Name» shall notify and report the following information to BPA within four Business Days after the end of the month in which «Customer Name» requested FORS for one or more Forced Outages: the monthly amounts of FORS taken; the duration of each Forced Outage; and the cause of each Forced Outage.~~

Deleted: call the PS duty scheduler at 503-230-3341 (or such other number or method BPA provides to «Customer Name» in writing) to notify the duty scheduler

Deleted: call the PS duty scheduler at 503-230-3341 (or such other number or method BPA provides to «Customer Name» in writing) to notify the duty scheduler

2.4.4.2 Information and Scheduling Requirements

~~«Customer Name» shall provide BPA with hourly meter data from the Specified Resources listed in section 2.4.5.1 below in accordance with section 17.3 of the body of this Agreement. If «Customer Name» installs or upgrades a meter to meet such requirement, then «Customer Name» shall pay for any costs or related services attributable to the new or upgraded meters. If any of the Specified Resources listed below in section 2.4.5.1 are scheduled to «Customer Name»'s Total Retail Load, then «Customer Name» shall provide hourly generation forecast data and schedule data to BPA for such resources in accordance with Exhibit F.~~

~~«Customer Name» shall schedule FORS in accordance with the provisions of section 2.4.4.1 of this exhibit, reflecting the metered data in section 2.4.4.2 of this exhibit and section 6 of Exhibit F.~~

~~By October 31 of each Rate Case Year, «Customer Name» shall also provide BPA (in a format determined by BPA) with the resource information, including historical and forecast~~

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resource data that BPA determines is necessary to provide FORS.

2.4.5 Applicable Resources, Limits, and Charges

2.4.5.1 List of Specified Resources

Drafter's Note: Add a row to the table below for each resource.

Resource Name	Resource Balancing Authority Area Location	Resource Transmission

2.4.5.2 Annual and Purchase Period Limits by Resource

By September 30 of each Rate Case Year, BPA shall update the tables below with the annual limits for each resource listed above in section 2.4.5.1 for the upcoming Rate Period. By September 30 prior to the beginning of the first Rate Period in a Purchase Period, BPA shall update the tables below with the Purchase Period limits for each resource listed above in section 2.4.5.1 for the upcoming Purchase Period.

Drafter's Note: Include the Annual MWh Limit and Purchase Period Limit tables below for each resource listed in section 2.4.5.1 above.

«RESOURCE NAME»'S ANNUAL MWH LIMITS			
FY	MWh	FY	MWh
2012		2021	
2013		2022	
2014		2023	
2015		2024	
2016		2025	
2017		2026	
2018		2027	
2019		2028	
2020			

Note: The amounts in the table above should be rounded to whole megawatt-hours.

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«RESOURCE NAME»'S PURCHASE PERIOD MWH LIMITS	
Purchase Period	MWh
FY 2012 - FY 2014	
FY 2015 - FY 2019	
FY 2020 - FY 2024	
FY 2025 - FY 2028	
Note: The amounts in the table above should be rounded to whole megawatt-hours.	

2.4.5.3 **FORS Capacity Charge**

BPA shall update the table below pursuant to section 2.4.3 above.

FORS CAPACITY CHARGE	
Rate Period	\$/month
2012 – 2013	
2014 – 2015	
2016 – 2017	
2018 – 2019	
2020 – 2021	
2022 – 2023	
2024 – 2025	
2026 – 2027	
2028	

End Option 1.

***Option 2:** Include the following version if customer does NOT purchase FORS*

2.4 **Forced Outage Reserve Service (FORS)**

«Customer Name» has chosen not to purchase FORS.

***Drafter's Note:** If customer purchases DFS and/or FORS, then replace the Revisions section in Exhibit D with the following revisions section.*

«X». **Revisions**

«X».1 **General Exhibit Revisions**

Except for those provisions in this exhibit for Diurnal Flattening Service (DFS) and Forced Outage Reserve Service (FORS), this exhibit shall be revised by mutual agreement of the Parties to add products «Customer Name» purchases during the term of this Agreement.

***Reviewer's Notes:** The revisions section below is based on the revisions section in Exhibit F, Scheduling.*

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«X».2 **Revisions to DFS and FORS**

If «Customer Name» purchases DFS or FORS, then BPA may unilaterally revise the provisions in this exhibit related to such products as follows:

- (1) to implement changes that BPA determines are necessary to allow it to meet its power and scheduling obligations under this Agreement, or
- (2) to comply with requirements of WECC, NAESB, or NERC, or their successors or assigns.

BPA shall provide a draft of any material unilateral revisions of this exhibit to «Customer Name», with a reasonable time for comment, prior to BPA providing written notice of the revision. Unilateral revisions are effective 45 days after BPA provides written notice of the revisions to «Customer Name» unless, in BPA's sole judgment, less notice is necessary to comply with an emergency change to the requirements of WECC, NAESB, NERC, or their successors or assigns. In this case, BPA shall specify the effective date of such revisions.

(1) DFS CAPACITY CHARGE: BPA plans on calculating the DFS Capacity Charge as follows (subject to each 7(i) Process): BPA shall calculate the DFS Capacity Charge by looking at the monthly capacity needs of each resource. The monthly look involves multiplying the monthly Demand Rates by the calculated difference between planned average HLH energy amounts listed in section 2.3.6.2 below for each month and the HLH Operating Minimum amounts in section 2.3.6.2 below of the resource(s) for that particular month. This is a set charge because it applied regardless of actual generation.

(2) DFS ENERGY RATE: BPA plans on calculating the DFS Energy Charge as follows (subject to each 7(i) Process): BPA shall calculate the DFS Energy Charge by first calculating a DFS Energy Rate (either as a separate rate for each year of the rate period or a single rate for the rate period). BPA does so by first summing the MWhs of the historical hourly resource generation (historical data from the resource or similar resource hourly data if no history exists) that is above the planned average diurnal energy amounts listed in section 2.3.6.2 below. This would be calculated separately for each Monthly/Diurnal period of the year. Second, BPA would multiply these MWh amounts by 25 percent and then again by the applicable Resource Shaping Rates. Third, BPA would sum the Monthly/Diurnal dollar amounts resulting from the calculation done in step two and divide it by the annual planned aMW energy amounts listed in section 2.3.6.2 below, converted to MWhs by multiplying by the number of hours in the year. The quotient of the calculation done in step three would be the dollar per MWh rate that is applied each month to either the amounts measured by the meters, as listed in Exhibit E, for the resources listed in section 2.3.6.1 below, or if such resources are scheduled then, the scheduled amounts, as provided to BPA in accordance with section 2.3.4.2 above to arrive at the monthly DFS Energy Charge. This is a rate because it is applied to actual scheduled or metered generation to determine the charge.

(3) RESOURCE SHAPING CHARGE: BPA plans on calculating the Resource Shaping Charge as follows (subject to each 7(i) Process): For the Specified Resources listed in section 2.3.6.1 below, BPA shall credit or charge «Customer Name» for the difference between the planned monthly diurnal average megawatt amounts listed below in section 2.3.6.2 and the sum of the annual average megawatt amounts listed in the Specified Resource Amounts tables in section 2 of Exhibit A for the applicable year. BPA shall calculate «Customer Name»'s Resource Shaping Charge by multiplying such monthly differences (converted to megawatt-hours) for all months of the

upcoming Rate Period by the applicable Resource Shaping Rate, as established in BPA's Wholesale Power Rate Schedules and GRSPs. BPA shall then divide the sum of the dollar amounts calculated above by 24 to calculate the fixed monthly Resource Shaping Charge, which shall be listed in section 2.3.6.3 below.

(4) RESOURCE SHAPING CHARGE ADJUSTMENT: BPA plans on calculating the Resource Shaping Adjustment Billing Determinant as follows: BPA shall calculate the Resource Shaping Charge Adjustment billing determinant by subtracting (a) either the amounts measured by the meters, as listed in Exhibit E, for the resources listed in section 2.3.6.1 below, or if such resources are scheduled then, the scheduled amounts, as provided to BPA in accordance with section 2.3.4.2 above, for the resources listed in section 2.3.6.1 below, from (b) the applicable planned amounts listed in section 2.3.6.2 below.