

BPA Power Product Catalog

Power Product Descriptions

This Catalog includes descriptions of Standard Power Products, developed by the Bonneville Power Administration's (BPA) Power Business Line. This work was performed in conjunction with the Subscription WorkGroup representing a large cross-section of BPA's customers, their representatives and other interested regional representatives. The products and services described within this catalog are expected to meet most of the needs of BPA's customers. Other needs can be addressed during bilateral discussions.

These product descriptions can be the basis for negotiations between BPA and individual customers. Custom-tailoring of standard products or services will be reflected in the price.

*BPA Power Product Team
September, 1998*

For more information on Power Products, visit BPA's website at <http://www.bpa.gov/Power/products>



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* *These products are not necessary to meet the power needs of the Full Service customer.*

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



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<i>Core Subscription Product</i>	<i>Full Service</i>
General	This product provides the firm power needed to meet actual loads of customers not active in the market.
Term	5-20 years, beginning October 1, 2001 (or another term consistent with the Rate Schedules).
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	BPA will provide continuous power to meet the customer's retail load not met by the customer's resource(s).
Load Growth	BPA will meet the entire load growth needs of the customer, except NLSL.
Load Loss	BPA takes on the risk of load lost for reasons other than retail access.
Load Variations	BPA takes on the risk of variations in power consumption.
Retail Access	<p><i>Retail Access Load Loss:</i> Customer takes on the risk of retail access load loss. BPA offers both product and contract methods of mitigating this risk.</p> <p><i>Retail Access Load Gain:</i> This product does not include service to loads gained due to retail access. Customer can acquire that service separately.</p>
Resources	Customer has no resources, other than small generating resources limited to 3 MW each, 6 MW total (based on nameplate rating). Resource fluctuations are treated as variations in power consumption.
Linkages	None.
Basis for Payment	Payment is based on total retail load, measured energy plus demand. Additional payment for Retail Access schedules will be based on scheduled quantities.

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<i>Core Subscription Product</i>	<i>Partial Service – Actual</i>
General	<p>This product is intended for customers who have contractual or generating resources and therefore require a product other than Full Service. This product provides all the firm power the customer needs to meet net actual loads: loads in excess of declared resources.</p> <p>The full description of this product is attached at the end of this section on Partial Service Products. .</p>
Term	5-20 years, beginning October 1, 2001 (or another term consistent with the Rate Schedules).
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	To purchase this standard product at unadjusted posted rates, the purchaser must fix its declared resource amounts for all periods ('periods' refers to diurnal or HLH & LLH periods of rate seasons, e.g., calendar months) of FY 2001-2006 prior to contract signature, and in any case, not later than the end of BPA's Subscription Process.
Load Growth	BPA will meet the entire load growth needs of the customer, except NLSL
Load Loss	BPA takes on the risk of load lost for reasons other than retail access.
Load Variations	BPA takes on the risk of variations in power consumption.
Retail Access	<p><i>Retail Access Load Loss:</i> Customer takes on the risk of retail access load loss. BPA offers both product and contract methods of mitigating this risk.</p> <p><i>Retail Access Load Gain:</i> This product does not include service to loads gained due to retail access. Customer can acquire that service separately.</p>
Resources	Refer to the Partial Service Products -- Full Descriptions for details on Customer Resource Declaration Parameters.
Linkages	None
Basis for Payment	Payment is based on total retail load, measured energy plus demand. Additional payment for Retail Access schedules will be based on scheduled quantities.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



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<i>Core Subscription Product</i>	<i>Partial Service - Block</i>
General	Take-or-pay blocks of power. The full description of this product is attached at the end of this section on Partial Service Products..
Term	5-20 years, beginning October 1, 2001 (or another term consistent with the Rate Schedules).
Transmission	Transmission (and ancillary services) are not included, but BPA can secure these services and package them with this product.
Amount & Shape	To purchase this standard product at unadjusted posted rates, the purchaser must fix its desired purchase amounts for all periods ('periods' refers to diurnal or HLH & LLH periods of rate seasons, e.g., calendar months) of FY 2001-2006 prior to contract signature, and in any case, not later than the end of BPA's Subscription Process.
Load Growth	None: Amount is fixed.
Linkages	None.
Basis for Payment	Monthly payment is based on contract amounts.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



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<i>Core Subscription Product</i>	<i>Partial Service - Factoring</i>
General	<p>For purposes of the core Subscription products, the term “factoring” refers to the service of shaping a given quantity of MWhs among hours of a period to follow load. Factoring Service is distinct from that feature of the Full and Actual Partial Services which meets energy load variance. This service is a bundled component of Subscription Core Products for Full Service and Actual Partial Service. Factoring, subject to the benchmarking process, may be purchased as a staple-on to a Firm Block core product.</p> <p>The full description of this product is attached at the end of this section on Partial Service Products.</p>
Term	The term will be the same as the term of the underlying power purchase.
Transmission	Transmission (and ancillary services) are not included, but BPA can secure these services and package them with this product.
Amount & Shape: Benchmark	See full product descriptions attached at the end of this section on Partial Service products.
Linkages	This product is only available in conjunction with the purchase of core block power products. (This service is a bundled component of Subscription Core Products for Full Service and Actual Partial Service.)
Basis for Payment	See full product descriptions attached at the end of this section on Partial Service products.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



Partial Service Products

This Addendum represents a snapshot of the Product Development performed in the last year by BPA Staff in conjunction with a large cross-section of BPA's customers, their representatives and other interested regional representatives. Many of the participants were also active participants in the Subscription WorkGroup. The products and the service, which are more fully explained in the following pages, will undergo further development during the next few months.

Products

Actual Partial Service
Block Partial Service

Service

Factoring

*BPA Partial Products Team
September, 1998*



Actual Partial Service

General & Availability:

This standard product is a core Subscription product which is available to purchasers who have a right to purchase from BPA for their requirements. This product is intended for customers who have contractual or generating resources with firm capabilities and therefore require a product other than Full Service. This product provides service to net actual load in a manner equitably comparable to the Full Service package. This standard product will be sold under a posted embedded-cost rate schedule.

Timing and Duration of Purchase Commitment:

To purchase this standard product at unadjusted posted rates, the purchaser must fix its declared resource amounts for all periods of FY 2001-2006 at time of contract signature, and in any case, not later than the end of BPA's Subscription process. The term 'periods' refers to the HLH & LLH periods of rate seasons, e.g., calendar months and years.

Product Description:

Customer Resource Portfolio -- Declaration Parameters

Customer resource portfolio declared amounts will be set at time of contract signature for the duration of the commitment, consistent with the following:

- a) This core product is available to serve net requirements under section 5b1 of the NW Power Act. Therefore, the monthly HLH/LLH resource portfolio amounts to be declared will be the reasonably determined capabilities of the customer's firm peaking and energy resources as referred to in sections 5b1A and B of the Act. The declarations will be consistent with the intent of the NW Power Act that such resources are dedicated to serving purchaser load throughout the life of the resource or term of contract. Initial declarations of customer resource amounts (for at least the term of the post-2001 rate) will include monthly peak and HLH /LLH energy amounts. The declared amounts will be based on reasonable and prudent utility practices and will be consistent with resource data used by the customer for other purposes. Customer declared amounts may take into account change of conditions reasonably affecting resource capability. Prudent utility practices for establishing firm hydro resource capabilities may include criteria other than critical period planning.

- b) Customer resource portfolio amounts will be declared in HLH and LLH energy amounts and demand amounts for each month of the term of commitment.
- c) 5b1A coordinated hydro resource capabilities may be revised annually consistent with coordinated planning processes.
- d) Declared resource portfolio amounts reflecting 5b1B generating resources and long term contracts which were declared prior to 2001, would be subject to the same principles as a. and b. above.
- e) Customer resources which are not 5b1A or pre-2001 5b1B, would be assumed for purposes of the standard core product to be distributed across months in either equal amounts per month or proportionally, based on distribution of the purchaser's system load across months.
- f) Customer declared resource annual amounts may increase over the years of the commitment term.
- g) In operations, the customer may provide its declared resource portfolio amounts from available power sources, consistent of course with prevailing interchange and transmission scheduling practices. For purposes of this product, the sources of such power are not limited to specific 5b1A or B generation resources owned by the customer or specific contracts.

Factoring Service and Benchmark for Customers with Variable Resources.

The Actual Partial Service product provides the same degree of load following to the customer's system load as is provided under the Full Service product. The Actual Partial Service product does not provide services to support, shape or absorb variability due to customer resource operation. For an Actual Partial Service customer whose declared resource portfolio includes resources with hour to hour variability which the customer wishes to use to serve its firm load, the factoring service benchmark methodology will be applied. The customer will be subject to excess factoring service charges as described in Attachment 3, the Factoring Service product description.

Transmission Delivery and Ancillary Services for the Product.

Transmission delivery is not included, although the amounts of product sold and billed for may be measured at meter points on the customer's system which often correspond to transmission PODs. Load Regulation, and Reactive Support are excluded from the power product and the posted power rates will not address them.

The treatment of Operating Reserves and Energy Imbalance ancillary services with respect to Subscription power products depends on PBL and inter-business line decisions that have not yet been made.



Transmission and Ancillary Services for Non-Federal Resources.

Customer or consumer generation is assumed to have all transmission, ancillary services such as energy imbalance service and any miscellaneous shaping or support services provided by separate arrangement. The product would avoid bundling in services to generation in the customer's system for which the customer would have had to pay a provider if the resource were imported in from another control area.

Customer Resource Operational Flexibility

The product imposes no direct contractual constraint on customer resource management. Customer resource operation choices would have billing impacts in event they resulted in underruns or overruns under this product.

Scheduling Provisions and Change from Preschedule

Change from Preschedule – customer inside BPA CA. This core product is not scheduled for customers within the CA. Subject to a final decision that the factoring approach meets the test of providing equitably comparable service compared to Full Service at no greater business risk, the Actual Partial Service product would impose no restriction on customer schedule changes for customer resources. *(Note: We'll continue to consider the pro's and con's of other alternatives such as setting MW or % bandwidths defining maximum and minimum limits of dispatchability of the PF (if scheduled) or the customer declared resource amounts per time period (week, day, diurnal period, hour) and maximum change amounts for hour-ahead scheduling changes from preschedule.)*

Change from Preschedule – customer outside BPA CA. For customers outside the BPA control area, the product assumes use of prevailing industry interchange scheduling practices. To deliver the Partial Service actual load-following product outside the CA, subject to final decision on the factoring approach, the product will allow for change to the PF preschedules not later than 30 minutes prior to the hour.



Block Partial Service

General & Availability:

This standard product is a core Subscription product which is available to purchasers who have a right to purchase from BPA for their requirements. This standard product will be sold under a posted embedded-cost rate schedule.

Timing and Duration of Purchase Commitment:

To purchase this standard product at unadjusted posted rates, the purchaser must fix its desired purchase amounts for all periods of FY 2001-2006 at time of contract signature, and in any case, not later than the closing date for BPA's Subscription process. The term 'periods' refers to the HLH & LLH periods of rate seasons, e.g., calendar months and years.

Product Description:

Maximum Purchase Amounts.

1. This core product is available to serve net requirements under section 5b1 of the NW Power Act. Therefore, the monthly HLH/LLH purchase amounts that may be subscribed per customer may not exceed the reasonably estimated projected differences between customer load and the capabilities of the customer's firm peaking and energy resources, except where otherwise indicated below under "Firm Block Distribution Among Periods".
2. Customers may elect to purchase less than the maximum indicated under point 1 above. However, the standard product assumes that the reduction would be evenly distributed across months, as opposed to reducing the block purchase amounts in a few months.
3. Customers wishing to purchase more than the maximum indicated under point 1 above may negotiate such additional purchase amounts with BPA subject to availability and under the then-applicable FPS rate schedule.

Firm Block Distribution Among Periods.

As mentioned above, the term 'periods' refers to the HLH & LLH periods of rate seasons, e.g., calendar months and years. Under the Firm Block standard product assumes, hour by hour MW amounts will be the same for all LLHs or HLHs of a calendar month. Distributions of block

purchase energy among years and months of the purchase commitment term are described below. Other distributions may be mutually agreed upon, provided that BPA will have the right to a price adjustment under the FPS rate schedule in the event such alternative distribution would have a significantly different business impact on BPA's cost to serve.

1. The annual amounts of Firm Block purchase may be distributed among years as follows:
 - a) Equal for each of the years of commitment.
 - b) Decreasing over the years of the commitment.
2. The monthly amounts of the product may be distributed:
 - a) Equally for all months of a year;
 - b) Proportionally in relation to the monthly distribution of the customer's system load or in the case of a net requirement, proportional to the distribution of the customer's load net of 5b1A and B resources.
3. All or a portion of the customer's maximum HLH purchase amount (consistent with the provisions above on "Maximum Purchase Amounts") may be declared as Firm Block purchase for LLHs only. or with greater LLH amounts than HLH amounts.
4. Firm Block declared HLH purchase amounts may be greater than the LLH amounts if and to the extent this is consistent with the diurnal distribution of purchaser's net requirement (see the provisions above on "Maximum Purchase Amounts").
5. Factoring service, subject to benchmarking in the same manner as applicable to an Actual Partial Service customer with variable resources, may be purchased as a core product staple-on. See description of Factoring Service and Benchmark Methodology.



Factoring Service and Benchmark Methodology

General & Availability:

This service is a bundled component of Subscription core products for Full Service and Actual Partial Service. For purposes of administering the Actual Partial Service product to customers with variable resources, a factoring benchmark test is proposed to be done in the billing process. Factoring, subject to the benchmarking process, may be purchased as a staple-on to a Firm Block core product. Note that the factoring methodology described here may need to be revised to reflect future PBL and inter-business line decisions regarding the applicability of Energy Imbalance ancillary service to load-following requirements products.

Timing and Duration of Purchase Commitment:

Coterminous with the Full Service and Actual Partial Service products. If the customer desires to purchase this as a staple-on to a Firm Block purchase, duration of the factoring service may be selected by the customer, not to exceed the term of the Firm Block purchase.

Product Description:

For purposes of the core Subscription products, the term factoring refers to the service of shaping a given quantity of MWhs among hours of a period to follow load. (The term ‘periods’ refers to the HLH & LLH periods of rate seasons, e.g., calendar months and years.) In this context, factoring is therefore an ‘energy-neutral’ service. Factoring Service is distinct from that feature of the Full and Actual Partial Services which meets the plus or minus variance in cumulative MWh load, such as the variance due to temperature-related power consumption, or changing electric load within a customer’s system (for reasons other than retail access choices).

Factoring Service within the Benchmark.

By definition, a customer without resources or a customer whose resources are delivered flat will take exactly the amount of factoring service that they are entitled to. See Example A in the table below. (Note that if the flat resource is interrupted in an hour, the service provided is back-up service or “unauthorized increase”, not factoring.)

Only when customer resources have hour-to-hour variability is there a possibility of receiving factoring service amounts which are less or greater than the entitlement amount. See Examples B and C in the table below. Factoring service which is within the benchmark is proposed to have no

customer-specific billing implications. It is proposed that a posted power demand charge be applied to the customer's power billing demand. Subject to approval in the rates process, this would be considered sufficient payment for factoring service within the benchmark (as well as payment for energy firming service).

Billing Process :

Determination of Factoring Service Actual Use – Billing Determinants for Excess Charges

For each day of a billing month, the day's HLH and LLH TRL and actual customer resource deliveries will be used to calculate that day's amount of kWhs entitled to benchmark factoring service. Customer actual use of the service will be compared to the benchmark. Actual factoring service used for kWhs in excess of the benchmark will be added for the month billing determinants for the excess factoring service charge to be posted with other rates for core products. Amounts of factoring service used which are less than the benchmark entitlement amount will not be taken into account.

Re: Future Development of Factoring Service Product: BPA has considered some form of grace treatment for excess factoring billing determinants. This would reflect unavoidable load estimating error which may be similar to the load estimating error embedded in the Full Service product. However, the Slice product which is currently under development will most probably also contain some error and error-disposal procedures as well. It hasn't been ruled out that a customer could take both a Slice and the Actual Partial Service product. Also, a customer could simultaneously take the Slice, the Firm Block product and the staple-on factoring service. Until the Slice product error disposal procedures are better defined, BPA will not propose grace treatment at this time for the Factoring Service product. This is not intended to close the door on the topic, but to minimize the chance of offering two error-disposal methods without a clear understanding of the interaction between them and the pricing applicable to the underlying products.



Examples of Factoring Methodology

Example A. Flat resource

Hour	Total Load MWh	Average Load	Load Variation	Res. Deliv.	BPA En.	BPA En Ave..	Load Variation
1	43	47	0	20	23	27	0
2	46	47	0	20	26	27	0
3	47	47	0	20	27	27	0
4	50	47	3	20	30	27	3
5	51	47	4	20	31	27	4
6	49	47	2	20	29	27	2
7	44	47	0	20	24	27	0
8	44	47	0	20	24	27	0
9	45	47	0	20	25	27	0
10	49	47	2	20	29	27	2
11	50	47	3	20	30	27	3
12	52	47	5	20	32	27	5
13	49	47	2	20	29	27	2
14	46	47	0	20	26	27	0
15	44	47	0	20	24	27	0
16	43	47	0	20	23	27	0
Total	752	752	21	320	432	432	21

Example B: Resource shaped to follow load.

Hour	Total Load MWh	Average Load	Load Variation	Res. Deliv.	BPA En.	BPA En Ave..	Load Variation
1	43	47	0	18	25	27	0
2	46	47	0	20	26	27	0
3	47	47	0	19	28	27	1
4	50	47	3	21	29	27	2
5	51	47	4	22	29	27	2
6	49	47	2	20	29	27	2
7	44	47	0	17	27	27	0
8	44	47	0	18	26	27	0
9	45	47	0	20	25	27	0
10	49	47	2	20	29	27	2
11	50	47	3	23	27	27	0
12	52	47	5	25	27	27	0
13	49	47	2	20	29	27	2
14	46	47	0	20	26	27	0
15	44	47	0	20	24	27	0
16	43	47	0	17	26	27	0
Total	752	752	21	320	432	432	11

Example C: Resource not shaped to follow load.

Hour	Total Load MWh	Average Load	Load Variation	Res. Deliv.	BPA En.	BPA En Ave..	Load Variation
1	43	47	0	22	21	27	0
2	46	47	0	22	24	27	0
3	47	47	0	18	29	27	2
4	50	47	3	18	32	27	5
5	51	47	4	18	33	27	6
6	49	47	2	20	29	27	2
7	44	47	0	22	22	27	0
8	44	47	0	22	22	27	0
9	45	47	0	22	23	27	0
10	49	47	2	20	29	27	2
11	50	47	3	18	32	27	5
12	52	47	5	18	34	27	7
13	49	47	2	18	31	27	4
14	46	47	0	18	28	27	1
15	44	47	0	22	22	27	0
16	43	47	0	22	21	27	0
Total	752	752	21	320	432	432	34



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<i>Customized Product</i>	<i>Renewable and Environmentally Superior Resources</i>
General	This product recognizes the environmental characteristics of some resources and attempts to stimulate markets for renewable resources.
New Renewable Resources	BPA may provide renewable resources which meet this standard: <ul style="list-style-type: none"> • Power generated by new or existing facilities driven by wind, solar, geothermal, or qualifying biomass;
Environmentally Superior Resources	BPA may offer Environmentally Superior power products (ESP) which are consistent with criteria established by others, including state legislatures. Examples include: <ul style="list-style-type: none"> • Power produced by hydropower facilities with nameplate rating under 30 MW. • Hydropower facilities where specific projects and/or system operations are guaranteed to be available and are designated to support an ESP sale and which have been endorsed by NW public interest groups as environmentally superior power resources. • Hydropower facilities sited in locations that do not block anadromous fish passage (with a nameplate rating under 30 MW); • Operations of hydropower facilities due to seasonal flows mandated in accordance with the Endangered Species Act or other required flow management directives; • Operations of hydropower facilities during off-peak hours during the months of April, May, June, or July of any year.
Term	New Renewable Resources: 5-20 years, beginning October 1, 2001 (if available). Environmentally Superior Products: At least one month.
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product
Amount/Shape	Flat blocks of power: 100% load factor.
Scheduling	BPA will guarantee the availability of the resource during the term of the sale. BPA will schedule the energy-equivalent of the resource output plus backup power to the customer on an hourly basis.
Disclosure	BPA will provide the purchaser with periodic reports documenting the project source and power delivery schedules associated with this sale.
Backup	BPA will back up the output of this resource with one of the following: renewable resources, system power, or nuclear-free system power (if available), as specified by the customer.
Linkages	To the extent a customer is purchasing a Full Service or Partial Service product, load served by this product will be netted against the Full or Partial load.
Payment	Take-or-Pay: Payment is based on monthly contract amounts.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



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<i>Customized Product</i>	<i>Variable Load Factor</i>
General	This product provides the purchaser with a specified amount of capacity and the right to take energy within a specified load factor range.
Term	5-20 years, beginning October 1, 2001 (or another term consistent with the Rate Schedules).
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	Up to a negotiated monthly capacity amount. Customer can specify a monthly load factor range which will be reflected in the pricing. Capacity and minimum load factor are Take-or-Pay.
Load Growth	None: Amount is fixed.
Load Variations	BPA takes on the risk of all variations in power consumption within the limits of the specified capacity and load factor.
Resource Fluctuations	This product is intended to follow load variations only. Customer retains the risk of resource fluctuations.
Linkages	None.
Basis for Payment	Payment is based on contract demand and amount of energy used (but not less than take-or-pay amount).

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Customized Product</i>	<i>Slice of System</i>
General	Product Description not yet available.
Term	
Transmission	
Amount & Shape	
Load Growth	
Load Variations	
Resource Fluctuations	
Linkages	
Basis for Payment	

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Bilateral Products</i>	<i>Power – Firm, Secondary, Commodity</i>
General	Non-Subscription power is a commodity product normally sold from BPA's Trading Floor.
Term	Monthly amounts from 1-18 months, or annual blocks of power.
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	As negotiated, but this product is commonly sold as monthly flat blocks of power: 100% load factor on LLH only, on HLH only, or on all hours.
Interruption Rights	Rights to interrupt schedules may be negotiated.
Basis for Payment	Payment is based on amount of power scheduled.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



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<i>Bilateral Products</i>	<i>Capacity</i>
General	<p>Capacity is a customer's right to purchase and a supplier's obligation to stand-ready to provide. The need addressed in the past by capacity-without-energy can be met partly by buys and sells from the commodity market rather than with a separate capacity product.</p> <p>The term "capacity without energy" (e.g., "naked capacity") has been used to describe a common power product in which a supplier stands ready to supply a specified MW/hr level of power, generally in specified HLH only, and the receiver returns the energy in other hours.</p> <p>Additional product features might include cash-out in lieu of energy replacement, ability to defer acceptance of replacement energy, and flexibilities around notice or pre-schedule terms.</p> <p>NOTE: Demand associated with a firm power purchase is incorporated in the power product (1-5).</p>
Term	Any term up to 20 years.
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	<p>The customer can specify the amount and shape including:</p> <ul style="list-style-type: none"> • Maximum number of hours per period during which the customer is able to schedule the capacity • Maximum MW/hr to be scheduled, and • Hours of the day or week the service is required.
Energy Returns	<p>Replacement energy must be returned during a specified time period (as negotiated): Commonly within either 24 hours or 168 hours.</p> <p>Hourly maximum rate of return will be negotiated: a standard return rate could be 100% of the capacity amount.</p>
Linkages	None.
Basis for Payment	Payment is based on the amount of capacity specified in the contract.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



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<i>Bilateral Products</i>	<i>Storage</i>
General	<p>Storage generally has been used to refer to actual use of hydro reservoir space and therefore was constrained by reservoir specifics. It sometimes was attached literally to the water stored but more commonly was measured in energy equivalents.</p> <p>This product generally involves the delivery and return of equal amounts of energy in specified time periods. It is designed for customers that want to deliver energy to BPA at a certain time and have it returned at another time.</p> <p>The product can be designed to include any of the following, but the seasonal shaping of water described in “2” is the traditional use: (1) energy accepted from the customer in LLH and delivered to the customer in HLH, (2) energy accepted from the customer in the spring and returned to the customer in the winter, or (3) energy delivered to the customer in advance of energy being provided to BPA.</p>
Term	The term of this product is negotiable.
Transmission	Transmission and Ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	Amounts of BPA’s storage capability vary daily. BPA will assess system conditions and will provide storage capability within system limitations. Amounts and timing of storage may be negotiated on a preschedule basis.
Notification	Storage deliveries and returns will be conducted on a preschedule basis.
Spill Guarantee	This standard product is not guaranteed against spill.
Limitations	BPA may limit return of storage to a specified group of peak hours each day.
Reservoirs	This storage is considered system storage and is not tied to a specific reservoir.
Accounting	BPA’s normal storage accounting practices will be used.
Linkages	None.
Basis for Payment	Payment is based on amounts and periods when energy is stored and returned.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Bilateral Products</i>	<i>Resource Factoring – (Under discussion)</i>
General	<p>This product generally involves the delivery and return of equal amounts of energy in specified time periods. It is designed for customers that want to deliver energy to BPA at a certain time and have it returned at another time. It can be used for within-day shaping of a resource.</p> <p>The product can be designed to include (1) energy accepted from the customer in LLH and delivered to the customer in HLH, (2) energy accepted from the customer in the spring and returned to the customer in the winter, or (3) energy delivered to the customer in advance of energy being provided to BPA</p>
Term	The term of this product is negotiable.
Transmission	Transmission and Ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	BPA will negotiate with the customer on a case-by case basis for providing the services necessary to meet the customer's needs.
Firmness	This service may be firm or non-firm based on price and system conditions.
Limitations	BPA may limit delivery of this product to a specified group of peak hours each day.
Linkages	None.
Basis for Payment	Payment is based on the number of MW required to support the service and/or MWh accepted and/or returned.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Bilateral Products</i>	<i>Preschedule Change Rights– (Under discussion)</i>
General	This product provides the customer with the right to make changes to scheduled amounts previously set in the preschedule process, i.e., the workday prior to the day of delivery. It is assumed to be attached to an umbrella agreement or power sales contract specifying the limitations on preschedule change rights.
Term	Up to the term of the underlying agreement.
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Frequency	The maximum MW/hr magnitude of the schedule change and the number of changes per hour will be specified in the underlying agreement.
Deadline	Changes from preschedules for the “Hour Ahead” would be accepted until a specified time prior to the beginning of that clock hour.
Linkages	This product is offered in conjunction with an underlying BPA purchase agreement.
Basis for Payment	Payment is based on rights: amount (in MW) and frequency (in hours/month).

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Bilateral Products</i>	<i>Displacement</i>
General	This product is designed to allow the customer to purchase less power from BPA, for any reason, than their commitment to purchase. Customer can use this product in addition to the Block Flexibility product to supplement the ability to reduce BPA purchases. This product enables the customer to exercise economic choice in large amounts for limited periods.
Term	One-calendar-month increments, not to exceed the term of the underlying agreement.
Transmission	Transmission and ancillary services are not necessary.
Amount & Shape	The product provides for displacement up to 100% of the BPA purchase.
Linkages	This product is offered in conjunction with a BPA power sale to the customer. The displacement product does not relieve the purchaser from a demand charge in the underlying purchase.
Basis for Payment	Payment is based on amount of displacement right and amount of use.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Complements to Core Products</i>	<i>Scheduling Services</i>
General	BPA can provide scheduling services for customers that purchase non-Federal power. (Scheduling fees will not be charged for power purchased by the customer from BPA.)
Term	Up to the term of the purchase.
Types of Scheduling Services	<p>Scheduling services are customized, tailored to the type of agreement or resource, and to the specifications of individual customers.</p> <p>BPA can provide the following Scheduling services, if requested:</p> <ul style="list-style-type: none"> • <i>Daily prescheduling</i>: Daily prescheduling of transactions between utilities within the Western Systems Power Pool (WSPP). • <i>Real-Time Activities</i>: Verification and coordination of the necessary interchange schedules with all parties involved, and coordination of all real-time changes in preschedules with all affected parties. • <i>After-the-Fact Activities</i>: After-the-fact verification and reconciliation of transactions. Bonneville will provide records of hourly schedules each day and cumulative total schedules at the end of each calendar month.
Conditions	<p>Customer will submit preschedule information (including hourly schedules, transmission arrangements, control area contacts) by a specified time, each preschedule day.</p> <p>Customer will provide the name of the utility providing load regulation and reserves, for each schedule.</p> <p>BPA is not responsible for reserves or mitigating losses if no reasonable alternatives are provided.</p>
Linkages	This product is tied to a non-Federal purchase.
Basis for Payment	Payment is based on fee for services and actual number of preschedules and real-time changes.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Reserves, Resource Support</i>	<i>Supplemental AGC</i>
General	<p><i>Since the Transmission Business Line will offer this product to customers within BPA's Control Area, this product is intended for customers outside BPA's Control Area.</i></p> <p>This product makes capacity available to either deliver or receive energy as needed on an instantaneous basis to cover a utility's load and resource variations.</p>
Term	Up to 5 years, beginning October 1, 2001.
Transmission	Transmission is not included, but BPA can secure transmission and package it with this product.
Amount & Shape	Hourly capacity is pre-determined by customer. Net amount of energy provided by BPA on any hour is determined by integrating the signal between BPA and the customer each hour.
Firmness	This standard product is sold on a firm basis.
Direction	Standard product is bi-directional
Accounting	Amounts of energy will be integrated on an hourly basis.
Equipment	Customer is responsible for acquiring and purchasing the telemetry and communications channel that are required between the customer's control center and the BPA control center.
Linkages	None
Basis for Payment	Payment is based on amount of capacity available on an instantaneous basis and amount of hourly or monthly net energy delivered or received.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Reserves, Resource Support</i>	<i>Operating Reserves</i>
General	<p><i>Since the Transmission Business Line will offer this product to customers within BPA's Control Area, this product is intended for customers outside BPA's Control Area.</i></p> <p>This product can be used to meet the customer's NWPP, WSCC, NERC or other reserve obligations within an hour. We offer Spinning and Non-spinning reserves that can be called upon in the event of a resource failure. Spinning reserves are provided from on-line generation that is responsive to changes in system frequency and are available within 10 minutes upon notification of a resource failure. Non-spinning reserves are provided from generation that can be on-line within 10 minutes or load that can be interrupted within 10 minutes.</p> <p>This product could also be negotiated to meet a customer's import loss obligations.</p>
Term	Up to 5 years, beginning October 1, 2001.
Transmission	Transmission is not included, but BPA can secure transmission and package it with this product.
Amount	Up to the contracted amounts within 10 minutes of notification.
Energy Delivery	BPA will provide energy for up to 60 minutes.
Linkages	None.
Basis for Payment	Payment is based on amount of operating reserve capacity provided by BPA and amount of energy delivered.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Reserves, Resource Support</i>	<i>Forced Outage Reserves</i>
General	This product provides Forced Outage Reserves that can be called upon at the start of an hour in the event of a resource or transmission line failure.
Term	Up to 5 years, beginning October 1, 2001.
Transmission	Transmission is not included, but BPA can secure transmission and package it with this product.
Amount	Size of resource or transmission line (MW), specified by customer, to be backed for the duration specified
Resource being supported	Back-up provided for forced outages on specific resources or transmission lines identified by the customer.
Duration of Energy Delivery	BPA will provide energy for the duration specified by the customer, normally up to 48 consecutive hours per occurrence and up to 6 occurrences in a year.
Linkages	This service can be packaged with Operating Reserves and be available immediately upon notice of a resource or transmission line failure. This service can also be sold in such a way that it picks up after your Operating Reserves have been exhausted.
Basis for Payment	Payment is based on amount of forced outage reserves (MW) held by BPA and amount of energy provided.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Complements to Core Products</i>	<i>Block Flexibility</i>
General	This product will meet variations in customer's purchase(s) from BPA, regardless of the reason for the variations. The reasons will be identified at the time of negotiation and will be factored into the price of the product. This product is associated with a separate take-or-pay power purchase.
Term	The term will be the same as the term of the underlying power purchase.
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	Customer will specify the hourly amount of flexibility above and below the take-or-pay amount. These variance limits do not have to be symmetrical around the take-or-pay amount.
Load Variations	All variations in load (e.g., load growth, economic or retail access load loss) can be covered in this product, up to the variance limits.
Resource Fluctuations	All fluctuations in resources (e.g., purchases or generating resource output) can be covered in this product, up to the variance limits.
Linkages	This product is offered in conjunction with a take-or-pay purchase from BPA.
Basis for Payment	<p>Payment is based on amount of variance.</p> <p>There is no energy delivery associated with this product. For net energy deliveries, within the variance limits, in excess of the underlying power purchase(s), the basis for payment will be the same as for the underlying power sale; There will be no charge for energy not taken, within the variance limits.</p>

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Complements to Core Products</i>	<i>Retail Access - Insurance</i>
General	This product allows the customer to reduce its purchases from BPA if load is lost because retail customers gain access to other suppliers of electricity. It relieves the customer of the market risk associated with BPA remarketing customer's take-or-pay power associated with retail access load loss.
Term	5 years, beginning October 1, 2001 (or another term consistent with the Rate Schedules).
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	BPA will assume the retail access load loss risk up to a specified amount of the customer's load in a shape consistent with the type of load lost.
Retail Access Load Loss	For loads lost by the customer due to retail access, BPA will adjust take-or-pay amounts under the customer's power sale.
Linkages	This product is offered in conjunction with a BPA power sale to the customer. It would not protect the customer from load loss beyond the amount of protection being purchased from BPA.
Basis for Payment	Payment is based on amount of retail load insured.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Complements to Core Products</i>	<i>Retail Access - Remarketing</i>
General	This product is designed to mitigate take or pay purchase obligations, and continuing payment obligations, resulting from of retail load(s) lost by the customer due to retail competition or de-regulation. The customer's power bill will be credited for the sale amount, minus any fees.
Term	Limited to the term(s) of the underlying purchase agreement(s).
Transmission	Transmission and ancillary services are not included, but BPA can secure these services and package them with this product.
Amount & Shape	The amount of excess firm energy to be remarketed will be identified in advance and will be limited to the customer's load loss. The shape of the power to be returned to BPA for remarketing will match the shape of the lost load.
Limitations	Under certain market or system conditions, BPA may have a limited ability to remarket.
Load Variations	None: Amount is fixed. BPA and customer can agree on the amount to be remarketed.
Linkages	This product is offered in conjunction with a BPA sale to the customer. It would not protect the customer from a take-or-pay obligation associated with load loss beyond the amount being remarketed by BPA.
Basis for Payment	Take or Pay: Payment is based on the monthly contract amount. Fees will be charged, as necessary, to off-set the cost of providing this service.

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.



BPA Power Product Catalog

<i>Complements to Core Products</i>	<i>Option for Follow-on Subscription Rights</i>
General	Any regional customer who buys firm power from BPA under a commercial or umbrella contract for a negotiated period of time can include a provision in its contract that will secure ongoing rights to purchase BPA power in the future at the lowest cost-based rate.
Term	Consistent with the term of the underlying agreement
Pricing Construct; Duration and Amount of Power	The “lowest cost-based rate” will be determined through BPA’s rate process. BPA and the customer will negotiate the duration of the rate protection and the amount of power covered by the rate, and the price for this option.
Linkages	This product is offered in conjunction with a purchase of subscription power from BPA.
Basis for Payment	Payment is based on a negotiated fee

Note: Standard power products can be the basis for negotiating products that meet the needs of individual customers.

