

Slice Straw Proposal

Version 5.1 – 1/4/99

Introduction

The Slice Straw Proposal is a more defined and developed version of the Bonneville Power Administration's ("BPA") Slice Proposal that was presented at BPA's October 13, 1998 public meeting. Features that have been further developed include methods for defining a customer's Slice "percentage", a proposal for dispute resolution, and a paper-pond accounting model. BPA expects to modify this Straw Proposal as it receives input from customers and their representatives. Provisions of the Straw Proposal will ultimately be used by BPA unless a better alternative is developed. The Straw Proposal attempts to meet two goals: 1) maintain the overall balance of equity contained in the original Slice Proposal, and 2) simplify as much of the Slice Product as possible. The simplification effort goes to implementation, rate design, and administration issues (including minimizing potential subsequent arguments).

The Straw Proposal is intended to be a living document and is subject to frequent change. The current version of the Straw proposal is attached.

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GLOSSARY

THE FOLLOWING TERMS ARE DEFINED VERY GENERALLY AND ARE TO BE USED SOLELY FOR THE PURPOSE OF GAINING A BETTER UNDERSTANDING OF THE SLICE STRAW PROPOSAL THROUGH A CONSISTENT USE OF TERMS.

THESE TERMS WILL BE FURTHER DEVELOPED AND REFINED IN THE CONTRACT DEVELOPMENT/NEGOTIATION PROCESS. AS SUCH, OTHER THAN MAKING SURE THAT WE HAVE A COMMON UNDERSTANDING OF THE MEANING OF A TERM, IT WILL NOT BE A PRODUCTIVE USE OF TIME TO NEGOTIATE THE SPECIFIC WORDING. FINALLY, THE FINAL CONTRACTS WILL LIKELY CONTAIN ADDITIONAL TERMS

Biological Opinion means any biological opinion issued by the National Marine Fisheries Service or the U.S. Fish and Wildlife Service relating to the operation of the Federal Columbia River Power System.

Buy Back means the process by which Bonneville Power Administration buys back Surplus Slice Entitlement from Participants when such power is necessary to serve unmet Northwest firm load commitments.

Buy Back Storage Account means the mechanism that tracks Bonneville Power Administration's exercise of the Buy Back process that resulted in a decrease of energy to the Participant and the corresponding rights and obligations between Bonneville Power Administration and the relevant Participant.

Canadian Entitlement means the obligation of the United States as assumed by the U.S. Entity (Bonneville Power Administration and the Corps of Engineers) to return energy and capacity to Canada pursuant to the Columbia River Treaty.

Contract Implementation Group ("CIG") means the forum designed for Participants (including Bonneville) to discuss Slice Contract implementation issues.

Eligible Customer means a Bonneville Power Administration customer that is eligible to purchase the Slice Product.

Federal Agencies means those Federal agencies that have authority to influence the operation of the Federal Columbia River Power System, whether directly or indirectly.

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Federal Columbia River Power System (“FCRPS”) means the Federal hydro-electric resources in the Columbia River Basin as more specifically defined in Attachment 2.

Federal Base System means those Federal Columbia River Power System resources that have identified by statutory definition as being part of the base Federal system.

Federal System means the composite system of the Federal System Resources.

Federal System Resources means those resources that comprise the Federal Columbia River Power System and other BPA Northwest Power Act resource acquisitions *[is it necessary to have the adder?]*.

Hourly Coordination means the Mid-Columbia Hourly Coordination Agreement or its replacement, whichever is in effect at the relevant time period.

Inventory Solution means the potential inventory enhancement resulting from load demands in the Subscription Process that exceeds the capability of the Federal Base System.

Maximum Percentage means the highest percentage of Slice Entitlement that a Participant can select.

Native Firm Load means the loads contemplated under the Northwest Power Act for purposes of determining a requirements customer’s Net Requirement *[we’ll need to add in whatever decision we have regarding specific contracts that will fall within this definition, to the extent we have one]*

Net Requirement means a requirements customer’s Native Firm Load minus its planned firm resources as defined within the Northwest Power Act.

Net Revenues for Risk means those revenues that Bonneville Power Administration has collected or plans to collect and set aside for risk mitigation purposes.

Non-Treaty Storage Agreement (“NTSA”) means the Non-Treaty Storage Agreement between the Bonneville Power Administration and BC Hydro or its replacement agreement, whichever is in effect at the relevant time period.

Northwest Power Pool Operating Reserves Sharing Program means the practices and procedures, as defined by the Northwest Power Pool Operating Manual, that are used by members of the NWPP to share Operating Reserves.

Operating Year means the operating period from August 1 to July 31.

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Pacific Northwest Coordination Agreement (“PNCA”) means the 1964 Pacific Northwest Coordination Agreement or the 1997 Pacific Northwest Coordination Agreement, whichever is in effect at the relevant time period.

PF Rate means the rate charged for BPA’s requirements power sales to preference customers as determined in the relevant Power Business Line rate case. The average PF Rate includes charges for energy, demand, and unbundled services.

Partial Block Service means the Partial Block Service that is being offered as a power product pursuant to the Subscription Process.

Participant means an Eligible Customer who has purchased a Slice Product.

Power Business Line (“PBL”) means the Power Business Line of the Bonneville Power Administration.

Public Purpose Resource Acquisition means a resource acquisition made by Bonneville Power Administration pursuant to the Northwest Power Act for public purposes. *[We’re going to need a lot more detail/clarity here]*

Rate Case means the Power Business Line’s imminent rate case that will determine rates for the first five years of the Subscription Products being sold as part of the Subscription Process.

Requirements Products means BPA’s power products that BPA has designed and offered to sell to certain classes of BPA customers pursuant to the Northwest Power Act

Selected Slice Percentage Exhibit means the exhibit that a Participant uses to indicate the Slice Percentage that it has selected to purchase (which can be up to its Maximum Percentage).

Slice Contract means a contract that has been entered into between the Bonneville Power Administration and an Eligible Customer for the purchase of the Slice Product.

Slice Entitlement means the capability that a Participant is entitled to call upon on an hourly basis which is a function of applying the Participant’s Slice Percentage to the Slice System Capability on that hour.

Slice Percentage means the percentage of the Slice System that a Participant has selected to purchase, which percentage is capped by the Participant’s Maximum Percentage.

Slice Product means a Bonneville Power Administration bundled power product where the purchasers’ right to capability is measured as a percentage of the combined capability of identified Slice System Resources.

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Slice Revenue Requirement means the revenue requirement that is used to determine, in part, the payment obligation of a Participant. The Slice Revenue Requirement is Bonneville Power Administration Power Business Line's revenue requirement with certain enumerated line items removed.

Slice System means a virtual system comprised of the Federal System Resources identified on Attachment 2 to the Straw Proposal. Depending upon the choices of a Participant with respect to replacements (whether it chooses to participate or not), what Federal System Resources are considered Slice System Resources and are included in the Slice System may vary between Participants.

Slice System Capability means the capability of the Federal System Resources that are included in the Slice System.

Slice System Resources means the virtual equivalent of those Federal System Resources that have been included in the Slice System.

Slice System Storage Account ("SSA") means the account that the Bonneville Power Administration maintains for each Participant to track such Participant's cumulative use of its Slice Entitlement.

Subscription Contracts means those power sales agreements that Bonneville Power Administration enters into as a result of the Subscription Process.

Subscription Process means the process that Bonneville Power Administration is currently undergoing to determine the power products it will offer for sale after 2001 and the identity and quantity of power purchases of future customers.

Subscription Products means those power products that Bonneville Power Administration offers to sell as a result of the Subscription Process.

Surplus Slice Entitlement means the portion of a Participant's Slice Entitlement that is excess to its Net Requirements at a given point in time.

System Obligation means those Bonneville Power Administration (in particular, Power Business Line) obligations that would have still been present had Bonneville Power Administration satisfied its public requirements obligations by "slicing" 100% of the Federal System capability.

Transmission Business Line ("TBL") means the Bonneville Power Administration's Transmission Business Line.

Unauthorized Increase Charge means the unauthorized increase charge established in

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the applicable rate case.

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Proposal

I. Nature of Slice Product

A. General Description

The Slice Product is a bundled Northwest Power Act Requirements Product that includes potential surplus sales. Stated in an oversimplified manner, when a requirements customer purchases the Slice Product, it receives a set percentage of the capability of the Federal Columbia River Power System (“FCRPS”) in exchange for paying the same percentage of the costs of the FCRPS.

More specifically (as described in detail below), a BPA customer purchasing the Slice Product (“Participant”) receives a percent (“Slice Percentage”) of the combined capability of those Federal System Resources that are included in the Slice System in exchange for a payment of a percent of PBL’s expenses (captured in the “Slice Revenue Requirement”). The Participant also assumes all of the PBL’s risks associated with the service of such Participant’s Net Requirements.

The Participant’s right to take energy and services under the Slice Product is tied to the capability of the Slice System (which approximates the aggregated actual capability of the Federal System Resources that are identified for inclusion in the Slice System), not to the shape of its Net Requirements. It is anticipated that the Participant will, in certain periods of the operating year, receive more energy than required to serve its Net Requirement. This is due, in part, to the nonfirm energy produced by the Federal System Resources included in the Slice System in better-than-critical water years. The Participant will be able to dispose of this surplus in order to offset its cost (its Slice Percentage applied to the Slice Revenue Requirement) and realize a proportionate share of Federal System benefits that the Net Requirements customer would otherwise see in terms of a PF rate being below market.

B. Slice Product as A Requirements Product

As the Slice Product is a requirements product, a number of provisions are necessary in order to ensure that statutory requirements are satisfied.

By definition, the Slice Product is bundled product, as Participants do not purchase specific services but a percentage of the bundled capability of the

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Federal System Resources that are reflected in the Slice System. For limited purposes, however, namely Buy Back and the Participant's use of its Slice Entitlement, it will be necessary to distinguish between the portion of a Participant's Slice Entitlement that is needed to meet its Net Requirements (the functional equivalent of requirements power) and the portion that is excess to such needs ("Surplus Slice Entitlement")(the functional equivalent of surplus power).

A Participant may be subject to Buy Back provisions if, at any point during the term of its Slice Contract, it has Surplus Slice Entitlement and BPA needs the Surplus Slice Entitlement to meet other Northwest firm commitments and has met the conditions set out in Section IX below.

To the extent that a Participant's Slice Entitlement is insufficient on one or more hours to meet the Participant's Native Firm Load (including its Net Requirements), it is the Participant's responsibility to take other actions to meet that load, not BPA's.

Finally, it is the Participant's obligation to cover a permanent loss or retirement of a resource on its system or of a Federal System Resource that is included in the Slice System (resulting in a corresponding loss in the Slice System Capability).

C. [No Waiver](#)

A Slice Contract shall not constitute a waiver of whatever rights the Participant might have under Section 6(m) of the Northwest Power Act.

II. Term

A. [Duration](#)

Minimum term of 10 years.

B. [No Off-Ramps](#)

There will be no off-ramps to Slice Contracts.

C. [Commencement Date](#)

The Slice Contracts will become effective on October 1, 2001.

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III. Eligibility

Only BPA customers that have (i) a Northwest Power Act Section 5(b) Net Requirements Load and (ii) a statutory public preference right are eligible to purchase Slice (“Eligible Customer”).

IV. Slice Entitlement

The amount of actual capability that a Participant is entitled on any given hour is a function of applying the Participant’s Slice Percentage to the Slice System Capability on such hour (“Slice Entitlement”); *provided* the exact amount of a Participant’s Slice Entitlement on each hour will be influenced by such Participant’s on-going use of such capability as reflected in the Participant’s Slice System Storage Account (*see* Accounting and Scheduling Sections below). A Participant is not required to fully exercise its entitlement; rather a Participant has the flexibility to schedule within the maximum and minimum operating limits of the Slice System.

V. Slice Percentage

A. [Determination of Maximum Percentage](#)

The maximum percentage of the Slice System Capability that an Eligible Customer may purchase (“Maximum Percentage”) shall be determined by the following formula:

$$\text{Max Percent} = \text{Net Entitlement} / \text{Total Inventory}$$

Where,

Max Percent = The Maximum Percentage of the Slice System Capability that an Eligible Customer may purchase.

Net Entitlement = The annual average quantity of the Eligible Customer’s Net Requirement (measured in average megawatts of energy) calculated for such Eligible Customer in the Subscription Process (using the same methodology and operating year as used to determine entitlements to purchase Partial Block Service)¹ and

¹ “Speech Number 1” (or a general qualifier) for the Slice negotiations and for this Straw Proposal is that the Slice Product must be consistent with certain decisions coming out of Subscription. This is especially

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Total Inventory = The annual average firm energy load carrying capability (measured in average megawatts of energy) calculated in the Rate Case for “PNCA-Identified” Federal System Resources, adjusted by System Obligations of the FCRPS as defined below in Section VI. For this purpose “PNCA-Identified” Federal System Resources are those FCRPS resources identified in BPA’s Pacific Northwest Coordination Agreement (“PNCA”) 1998-99 data submittal.²

Determining an Eligible Customer’s ratio is a one-time calculation made prior to the execution of a Slice Contract, and its sole purpose is to set the Maximum Percentage available to such customer.

B. [Slice Percentage](#)

An Eligible Customer may purchase a Slice Percentage in an amount up to its Maximum Percentage. The percentage purchased must remain constant throughout each year of the Slice Contract.³ Once selected, a Slice Percentage is fixed regardless of whether the Participant subsequently acquires or loses resources or has unexpected load increases or decreases.

C. [Process to Select Slice Percentage](#)

The Slice Contract shall identify the Maximum Percentage for an Eligible Customer at the time the contract is executed. A blank "Selected Slice Percentage Exhibit" will be attached to the contract. Within 120 days (this duration is meant to be consistent with the selection window available for other Subscription Products) following the end of the Rate Case, the

true with respect to a potential Participant’s Net Entitlement.

² The energy associated with BPA’s Inventory Solution is not included in the Total Inventory; Participants pay their proportionate share of the net cost of the Inventory Solution but do not receive any of the increased capability resulting from the Inventory Solution.

³ The Slice Percentage remains constant as a Participant’s load growth is not provided for in the Slice Contract. While the determination of the Maximum Percentage does not take into account the resource profile of an Eligible Customer after the year for which such customer’s Net Entitlement is calculated, changes in such customer’s resources will be factored into the calculation of such customer’s (at this point a Participant) Surplus Slice Entitlement, impacting the ability of BPA to Buy Back such Surplus Slice Entitlement.

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Eligible Customer will notify BPA of its selected Slice Percentage (including zero percent, in which case the Slice Contract would terminate), and there will be a one-time revision to the Selected Slice Percentage Exhibit to show the selected percentage.⁴

VI. Slice System Capability

The Slice Product is not a sale of Federal System Resources but rather it represents a power sale that is indexed to the capabilities of a Slice System that is comprised of a specific set of Federal System Resources.

A. [Slice System Resources](#)

The resources that comprise the Slice System includes the Federal System Resources identified by BPA in its 1998-99 Pacific Northwest Coordination Agreement data submittal, which resources are reflected on Attachment 2.

B. [Capability of Slice System](#)

The capability of the Slice System is the energy capability of the Slice System Resources, after adjusting for all non-power requirements and unit outages (see “Determination of FCRPS Energy Capabilities” below).

Energy capabilities of the Slice System will be monitored by PBL and will be updated as necessary.

C. [System Obligations](#)

System Obligations are the energy obligations of BPA that support the FCRPS and other Federal commitments related to the Federal System. The test for determining whether a BPA energy commitment is a System Obligation or an obligation of BPA is whether BPA would still have had the commitment if 100% of its Federal requirements obligation had been satisfied through Slice purchases. System Obligations that are currently known include:

1. Canadian Entitlement obligations;

⁴ This construct protects the Eligible Customer from making a commitment before it knows its cost exposure.

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2. Hourly Coordination obligations;
3. Biological Opinion obligations; and
4. System commitments to BPA's Transmission Business Line (TBL).

D. Resource Replacements and Acquisitions

The composition and generating characteristics of the Slice System Resources, with the following exceptions, shall remain constant over the term of the Slice Contract. Generating characteristics, for this purpose, is the physical generating characteristics of a project before operational limits are applied. The capabilities of the Slice System Resources are expected to vary as operating requirements change.

(1) Physical Upgrades or Adjustments

Any physical upgrade or adjustment (increase or decrease) to a Slice System Resource or to a unit of a Slice System Resource will be included in the Slice System and, as such, the Participants shall be responsible for their proportionate share of the associated costs of such upgrade or adjustment. Adjustments may also include the removal or diminishment of a Slice System Resource (for example the removal of a dam or a generating unit). BPA shall provide Participants with advance notice of the upgrade or adjustment.

(2) Public Purpose Resource Acquisitions

Any Public Purpose Resource Acquisition made by BPA will be included in the Slice System and, as such, the Participants shall be responsible for their proportionate share of the associated costs of such Public Purpose Resource Acquisition. The capability of the Slice System shall be adjusted accordingly to reflect such addition to the Slice System. BPA shall provide Participants with advance notice of any Public Purpose Resource Acquisition.

(3) Federal Base System Resource Replacements Included in the Slice System Resources only at the Option of a Participant

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BPA will not be obligated to acquire replacement resources for the Slice System under the Slice Contracts. However, if BPA chooses to acquire a Federal Base System (“FBS”) replacement for a resource that is also a Slice System Resource, BPA shall offer each Participant the opportunity to participate in the resource acquisition. Should a Participant choose to participate in such FBS replacement, the replacement shall be included in the Slice System as it is defined for such Participant and, as such, any Participant choosing to participate shall be responsible for their proportionate share of the associated costs of such FBS replacement. The capability of the Slice System for such Participant shall be adjusted accordingly to reflect such replacement. BPA shall provide Participants with advance notice of any FBS replacement acquisition.

E. Other Things to Address

- (1) Distinguishing between Replacements and Inventory Solution – Depending upon the form of the “Inventory Solution,” there might be a need to distinguish between replacements and the Inventory Solution in the Slice Contracts (the concern is that in the second 5 year period, the costs of true replacements should not be placed into the Slice Revenue Requirement as part of the Inventory Solution).*

VII. Payments

A. Slice Revenue Requirement

(1) Components of the Slice Revenue Requirement

(a) Power Business Line’s Revenue Requirement

The Slice Revenue Requirement shall be comprised of all of the line items in PBL’s revenue requirement as identified all of PBL’s rate cases for the years that are within the term of the Participant’s Slice Contract with the following exceptions:

1. Transmission costs (other than those associated with the fulfillment of System Obligations);

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2. Transmission costs of provisional draft energy transactions that BPA is responsible for under the PNCA;
3. Power purchase costs (with the exception of those net costs incurred as part of the Inventory Solution discussed below); and
4. Net Revenues for Risk.

(See Attachment 3 for an example of the Slice Revenue Requirement).

(b) Amortization of Costs within the Term of the Slice Contract

If BPA incurs a cost that is eligible for inclusion in the Slice Revenue Requirement and chooses to amortize its payment obligation over a multi-year period (so long as the amortization schedule does not extend beyond the term of the Slice Contract), BPA will correspondingly amortize the payment obligation in the Slice Revenue Requirement. (See below for discussion of amortization of costs beyond the term of the Slice Contract) *[Although, of course, we'll have to figure out how to handle those costs before we can add the following discussion! BPA is still considering].*

(c) Previously Unidentified Costs

If a BPA cost arises that was not previously identified, it should be included in the Slice Revenue Requirement to the extent it is a System Obligation as described in Section VI above.

(d) Inventory Solution

(1) General

It is anticipated that as a result of BPA's current Subscription Process, BPA may take steps to

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supplement the FBS' capability ("Inventory Solution"). The Participants will share in the estimated net cost of the Inventory Solution, although the capability of their Slice Systems will not be adjusted. Although it is not currently known whether an Inventory Solution will be necessary or what form the Inventory Solution will take, the governing Slice principle is that whatever is agreed to in the Subscription Process will carry over into the Slice Contracts.

(2) Calculation of the Net Cost of the Inventory Solution on a Projected Basis

The estimated net cost of the Inventory Solution will be placed in the Slice Revenue Requirement as set out below. These costs will not be subject to a true-up to reflect the actual net cost of the Inventory Solution.

(3) Inclusion of Net Cost of Inventory Solution in the Slice Revenue Requirement

a) First Rate Case Five-Year Period (2002 through 2006)

The estimated net cost identified in the Rate Case for the Inventory Solution shall be included in the Slice Revenue Requirement on a uniform monthly basis during 2002 through 2006. The estimated net cost shall be calculated as the projected expense for the Inventory Solution less the expected revenues for the sale of such inventory enhancement as assumed in the Rate Case, and could be a positive or negative number.

For example, if the Rate Case assumes the Inventory Solution costs \$30 million in power purchases to serve load that would

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pay expected revenues of \$20 million, the net cost to be added to the Slice Revenue Requirement would be \$10 million.

b) Subsequent Rate-Case Periods

The estimated net cost of the Inventory Solution for any subsequent rate-case periods of the Slice Contracts, if any, will not be known until the rate case for the subsequent periods of the Slice Contracts. Notwithstanding this, if there is a net cost for the Inventory Solution that extends into subsequent periods, Participants may have to pay their proportionate share of some, if not all, of such net cost (estimated in the subsequent rate cases).

1) Treatment of Parties of Ten-Year Contracts

BPA will treat all parties to ten-year power purchase contracts similarly with respect to paying a share of the net costs of the Inventory Solution. Thus, if BPA determines that customers that have committed to purchase power for ten years should be relieved of responsibility for the net costs of Inventory Solution in the subsequent rate-case periods, this decision would apply to Participants. Conversely, if BPA determines that parties to ten-year contracts will pay their share of the net costs of the Inventory Solution for the subsequent rate-case periods, this decision would apply to Participants as follows.

(A) Responsibility of

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Participants for Estimated
Net Cost of Inventory
Solution in Subsequent
Rate-Case Periods
Assuming Parties to Ten-
year Power Contracts are
Continuing to Contribute
to Cost of Inventory
Solution

In the event that BPA determines that Participants are responsible for the net costs of the Inventory Solution in subsequent rate-case periods during the term of their Slice Contracts, the Participants shall only be responsible for the estimated net costs of the Inventory Solution that was necessary to serve other ten-year or longer power sales contracts. Those net costs shall be segregated from other Inventory Solution costs, and included in the Slice Revenue Requirement on a uniform monthly basis. The estimated net cost shall be calculated as the projected expense for the Inventory Solution less the expected revenues for the sale of such inventory enhancement as assumed in the Rate Case, and could be a positive or negative number;

Provided,

If the capability of the FBS in the subsequent rate-case periods are equal to or greater than that required to

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serve the aggregated contractual rights of all of the long-term power sales contracts entered into at the time of the Subscription Process, there is not an inventory problem that requires an Inventory Solution.

OR, AS AN ALTERNATIVE

The Slice Contract will provide a methodology for calculating the net cost of the Inventory Solution for 2007-11, which will be implemented in the rate cases for those years. The liability or exposure to Slicers in 2007-11 will be limited in megawatts to the amount of energy associated with ten-year contracts that are part of the initial Inventory Solution. (This means that if the IOUs want to increase their purchases of federal power after 2006, and sign 10-year contracts during the current Subscription Process to that effect, the amount of energy in those 10-year contracts will determine that part of the energy liability for Slicers in 2007-11 associated with the Inventory Solution. On the other hand, if no IOUs sign contracts longer than 5 years, then the net cost of the Inventory Solution after 2006

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will be automatically zero.)

(d) Physical Upgrades or Adjustments

The costs of any physical upgrade or adjustment (increase or decrease) to a Slice System Resource or to a unit of a Slice System Resource will be included in the Slice Revenue Requirement.

(e) Public Purpose Resource Acquisitions

The costs of any Public Purpose Resource Acquisition will be included in the Slice Revenue Requirement.

(f) Federal Base System Resource Replacements Included in the Slice System Resources only at the Option of a Participant

If a Participant chooses to participate in a FBS replacement by BPA, the cost of such replacement shall be included in the Slice Revenue Requirement.

(g) Credits

Any monetary credits that PBL receives for items in the Slice Revenue Requirement shall be credited to such Revenue Requirement, including 4(h)(10)(c) and FCCF credits, with the effect that the benefits of such credit shall be shared proportionately by BPA and all Participants. *[If BPA receives revenues in payment for fulfilling System Obligations, such revenues should be credited back to the Slice Revenue Requirement?]*

B. Additional Payment Obligations

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(1) Slice Administrative Expenses

All overhead costs incurred by BPA that are attributable to implementing Slice shall be paid by the Participants. The detailed costs, enhancement costs, and line items will be noted in an exhibit prior to a final Slice Contract being offered for execution. These costs will be categorized into general costs (payable by all Participants in proportion to their Slice Percentages) and specific costs (attributable to individual Participants as they were incurred specifically for the benefit of such Participants, for example, costs of direct signaling).

(2) Unauthorized Increased Charge

A Participant in BPA's load control area that takes energy from BPA in excess of its Slice Entitlement and any other contracts with BPA will be charged for such excess at the Unauthorized Increase Charge under the PF Rate.

(3) Transmission Costs

The Participant is responsible for acquiring and paying for all transmission services required for its Slice Entitlement.

C. Payment Obligation

A Participant shall pay its share of the costs of the Slice System on an annual basis. The amount of a Participant's annual obligation shall be calculated by multiplying the sum of all the costs described in subsection (A) above by the Participant's Slice Percentage. In addition, each Participant shall be responsible for their share of the Slice administrative expenses as described above in subsection (B) above.

D. Payment Schedule

(1) Periodic Payments

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A Participant shall pay its annual Slice payment in 12 equal monthly payments.

(2) True-Up for Actual Expenses

By August 1 of each year BPA will calculate the difference between the Slice Revenue Requirement's actual and forecasted expenses (that are known at that time) and the October payment would be adjusted by the difference. An unusual or unanticipated expense fluctuation of more than a million dollars (to BPA) would be dealt with as it occurs with an adjustment to the next month's payment. If a previously unidentified cost discussed in subsection (A)(1)(c) above arises during the year, it will be subject to true-up. Slice administrative costs are subject to the true-up. The estimated net cost of the Inventory Solution will not be subject to the foregoing true-up mechanism, as it will be paid by the Participants on an estimated basis.

The more often during a year that true-up occurs, the smaller the adjustment will be to the Participants and the less the cash flow concerns to BPA. BPA will work to provide true-up at least quarterly.

E. Other Things to Address

(1) Costs Amortized Beyond the Term of the Slice Contract

How to treat costs that BPA handles on an amortized basis beyond the term of the Slice contract. BPA is considering, and the nonfeds are working on a proposal. One suggestion is that the Participants be treated consistently with other ratepayers – if the other rate payers will be responsible for the fully amortized costs during the current rate period then Participants would also be fully responsible; if other ratepayers were only responsible for a portion of such amortized costs then the Participants would also only be responsible for their proportionate share of such portion.

Would the addition of a stranded cost provision deal sufficiently with this issue? The nonfeds believe that there should be a stranded cost provision, but want to make sure that they do not

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double-pay for costs both through an inclusion of the cost in the Slice Revenue Requirement and through the stranded cost provision.

(2) Timing of the True-Up

BPA is checking to see how often the true-up can occur. All parties recognize the dynamic tension in the number of true-ups during a year – the more frequently they happen the less concern there is about cash flow, but the greater the chance the money will have to be exchanged that could otherwise be netted out.

VIII. Deliveries of Power

A. Participants' Acceptance of the Operating Decisions of the Federal Government

The Participants agree to accept the results of the operating decisions of the Federal government (acting through relevant Federal agencies and other entities), including decisions relating to any nonpower requirement being added to or deleted from the Federal System. Examples of nonpower constraints on the Federal System could include: (i) the Biological Opinion (“BO”), (ii) maximum and minimum rates of change on a forebay, tailwater, or discharge at a project, (iii) BPA’s decision to economically displace WNP2, (iv) BPA’s decision to operate conservatively in January and February to ensure that the Federal System will meet the flood control requirements in April under the BO.

B. Scheduling

Power will be scheduled hourly within the (pro rata) limits of the energy capabilities of the Slice System, calculated for each Participant (see Section XV below for daily scheduling details). Once everyone is satisfied that the algorithm developed to determine Slice System Capability is satisfactory, interested Participants will be able to work with the PBL to develop a strategy for sending a dynamic signal to schedule their Slice Entitlement subject to the final approval of the TBL in doing a dynamic signal for the Participants. All costs to do this will be borne solely by those Participants wanting to schedule by dynamic signal. It is recognized that there will be

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special issues for Participants in BPA's load control area that schedule Slice and who purchase dynamic load service from BPA. This will be one of the items worked out in developing a strategy for sending a dynamic signal.

IX. Buy Back Provisions

A. General

In order to ensure that BPA's sales of the Slice Product will not prevent BPA from serving its other Northwest firm load, on any hour BPA will have the ability to buy back a Participant's Surplus Slice Entitlement on such hour ("Buy Back"). For purposes of Buy Back, a Participant's Net Requirements shall be updated on an on-going basis as provided below.

B. Buy Back Conditions

Buy Back may occur when all of the following conditions are met.

(1) A Participant's Slice Entitlement Exceeds its Net Requirements

The Participant's rights to Slice System Capability are in excess of its Net Requirements;

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(a) Net Requirements

For purposes of Buy Back, a Participant's Net Requirement is measured on an on-going hourly basis and is calculated the hour before Buy Back as follow:

Native Firm Load – Planned Peak Firm Resources

Where,

Native Firm Load = The Participant's forecasted hourly load (forecasted the hour before the Buy Back is exercised), and

Planned Peak Firm

Resources = The Participant's declared sustained 6-hour peak capability (declared on an annual basis)

(2) BPA's Other Northwest Firm Commitments Cannot Be Met

BPA's other Northwest firm commitments cannot be met without additional power purchases;

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(a) BPA's Other Northwest Firm Commitments

BPA's other Northwest firm commitments that are considered for purposes of Buy Back are the sum of the following:

(1) Northwest Firm Subscription Contracts

The actual loads of the (firm) Northwest Subscription Contracts under 5(b), (c), and 5(d),

(2) Plus Northwest Firm Post-Subscription Contracts

The actual loads of the (firm) Northwest post-Subscription contracts under 5(b), 5(c), 5(d) *[waiting for more clarification on whether this should extend to 5(c) and 5(d) – nonfederals might propose alternative language],*

(3) Plus Existing Northwest Firm Surplus Sales in Place at the Time of Subscription

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The actual loads of existing firm surplus contracts in place at the time of the Subscription Process (this excludes short-term surplus sales made after the Subscription Process is completed),

- (4) Less BPA's Capability from All Resources Available to BPA, Including Planned Purchases and Inventory Solution Purchases

[This needs further clarification but there will be more discussion with the lawyers included] Less BPA's sustained 6-hour peak capability from all resources available to BPA, including the firm resource capability of the FBS excluding forced outages, and

Less BPA's other planned purchases and Inventory Solution purchases;

and

- (5) BPA Cannot Purchase the Needed Power

- (a) Cost of Power Not Considered

The cost of power will not be considered in determining whether power is available and

- (b) Proffer of Sale by Participant

Upon notification of a Buy Back situation a Participant may offer to sell BPA its Surplus Slice Entitlement subject to a price cap (indexed to "X" – for example, X could be the Dow Jones); BPA cannot exercise Buy Back from a Participant to the extent that such Participant has offered to sell Surplus Slice Entitlement to BPA or to the extent that

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BPA has actually purchased such Surplus Slice Entitlement from such Participant;

and

(6) Prior Notification

BPA has given seven days notice of the possibility of buying back energy or capacity and identified the days on which BPA believes it might exercise a Buy Back. This notice is not a commitment that BPA will exercise its right, but rather that it may exercise its right.

C. Buy Back Limits

Buy Back will be limited to the lesser of (i) BPA's other Northwest firm commitments that cannot be met or (ii) the Participant's Surplus Slice Entitlement less any such capability that a Participant has declared as reserves and is currently using as reserves.

D. Buy Back Storage Account

(1) Buy Back Storage Account

BPA will establish and maintain a Buy Back Storage Account for each individual Participant.

(2) Credits

When BPA buys back energy from a Participant, BPA will credit the amount of such energy to the Participant's Buy Back Storage Account in terms of megawatt-hours.

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(3) One Year and Not Spillable

BPA will maintain each Buy Back Storage Account on a first-in, first-out basis. A Participant will have the ability to withdraw energy that has been credited to its Buy Back Storage Account for a period of one year after such credit was made.

(4) Withdrawals

The Participant may take energy from the Buy back Storage Account for any reason; *provided* withdrawals may not be made when all of the Buy Back conditions set out above are met or when the withdrawal of such energy would cause all of the Buy Back conditions set out above to be met. A Participant who is withdrawing energy from its Buy Back Storage Account shall first use the energy, to the extent necessary, to serve its then-existing unmet Net Requirement.

(5) Cash Out

BPA shall cash out energy that remains in a Participant's Buy Back Storage Account one year after it has been credited at the simple-average annual-energy PF Rate.

(6) Rate Limit

A Participant may withdraw energy from its Buy Back Storage Account at a rate not to exceed the difference between its share of the Slice System's maximum capability (with all planned units assumed to be operating) and its maximum rate of delivery for its Slice Entitlement (the diagonal hatched area in Attachment 1). The combination of the delivery of Slice Entitlement and the account withdrawal shall not exceed the Participant's share of the maximum Slice System Capability (with all planned units assumed to be operating). Withdrawals shall be by schedule only, not by direct signal.

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(7) Effect of Buy Back on a Participant's Slice System Storage Account

The energy that BPA buys back and credits to the Participant's Buy Back Storage Account is counted against the Participant's Slice System Storage Account as if it were taken by the Participant. Energy taken out of the Buy Back Storage Account has no effect on the Participant's Slice System Storage Account since it has already been debited from said account.

E. Payment for Buy Back

(1) Demand Charge to be Paid by BPA

When BPA buys back a Participant's Slice System Capability, BPA will pay the Participant a demand charge (the daily demand rate) on the maximum hourly amount of capability and energy that BPA purchases for each day a Buy Back occurs. When BPA buys back energy, such energy will be deposited into the Buy Back Storage Account.

(2) Demand Charge to be Paid By Participant

When a Participant withdraws energy from its Buy Back Storage Account, it will pay BPA a demand charge (the daily demand rate) on the maximum hourly amount of energy that such Participant withdraws for each day energy is withdrawn. The maximum permissible rate of withdrawal is set forth above.

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F. Buyback Procedures

(1) Daily Test for Buy Back Conditions

Each prescheduling day, BPA will test to determine whether there is a projected Buy Back situation within the next eight to 15 days.

(2) Data Exchange

To assist in determining whether Buy Back conditions are met, Participants shall annually provide BPA with monthly firm resource and 6-hour sustained peak capability exhibit or, for Participants without resources, an exhibit detailing the non-BPA energy that will be used to meet their firm load, as well as an assured capability exhibit showing by month the Participant's average energy and 6-hour sustained peak capability. *[BPA is considering what, if anything, it will provide to Participants, for example, aggregate firm commitments for a year; nonfeds are working on a proposal]*

(3) Process for Determining Which Participants BPA Buys Back From

When BPA provides notice of a Buy Back situation, Participants may volunteer to participate in the Buy Back. If there is not sufficient capability volunteered, BPA will schedule Buy Back from those Participants with the greatest Surplus Slice Entitlement.

(4) Buy Back Scheduling Provisions

Buy Back shall be handled on a prescheduled basis; *provided* a Participant can modify a Buy Back preschedule up to 30 minutes before the hour based upon a system firm load increase on the Participant's system.

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(5) Implementing Buy Back Through Direct Signal

If a Participant is signaling its Slice schedules, BPA will implement a Buy Back for such Participant by establishing a schedule of Buy Back capabilities (the Participant's Surplus Slice Entitlement that BPA is buying back). BPA shall reduce the maximum and minimum entitlement signals according to the schedules in effect each hour. The schedules will also be used in determining the demand charge to be paid by BPA to the Participant for the day. BPA shall calculate the energy to be credited to the Buy Back Storage Account for each hour after-the-fact by taking the lesser of the Buy Back capability scheduled for the hour or the Participant's request for energy (the request signal) less the energy actually delivered (the return signal) integrated over the hour. Additionally, BPA will maintain all records of the schedules for Buy Back capabilities and energy stored in the Buy Back Storage Account.

G. Buyback Scenarios

Attachment 1 shows the capability limits that a Participant is subject to. The Buy Back can be considered as BPA using part of the Participant's share of useable capability (the area between minimum and maximum) and is represented as an arrow going down from the maximum capability line. In no case can the Buy Back arrow drop below the Net Requirements line. The effect to the Participant is that its maximum capability line gets lowered by the Buy Back arrow. The Participant's use of its share of useable capability is represented as an arrow starting from the bottom of the chart (0 capability) and going up. If the Buy Back arrow and request arrow do not cross the Buy Back is of capability only. If the arrows cross, then the Buy Back also involves energy.

A. Capability Only (Case 1 in Attachment 1)

BPA needs additional capability from the Participant that does not result in the Participant's request for energy being decreased.

1. Participant's maximum generation limits are lowered to reflect the Buy Back.

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2. Participant's Slice System Storage Account not affected.

B. Energy and Capacity (Case 2 & 3 in Attachment 1)

BPA needs additional capability from the Participant that:

1. Participant's maximum generation limits are lowered to reflect the Buy Back.
2. Participant's Slice System Storage Account is adjusted as if the Participant took the energy.

J. Other Things to Address

- (1) *BPA is considering interplay between Buy Back and reserves.*
- (2) *We need more clarification on what types of power contracts will be considered part of a Participant's Native Firm Load.*
- (3) *What parts of Buy Back are appropriate subjects for dispute resolution?*

X. **Slice in PNCA**

(The following provisions are subject to change based on BPA's legal review and discussion with parties to the 1997 PNCA. The main issue being that the Slice product is not a sale of a resource but rather a sale of power indexed to the Federal resource capability. At this time BPA is not sure how best to fit Slice into the PNCA. Although the Straw proposal does address nearly all PNCA related issues, BPA is open to other alternatives that also address the various PNCA issues.)

A. Membership in the PNCA

The new PNCA requires anyone receiving output from a PNCA resource to become a party to the PNCA. Therefore, a Participant must also be a member of the PNCA. With this membership, the Participant can then participate in storage energy, in lieu energy and interchange energy. In this fashion, they will directly account for any monetary credits and debits associated with the PNCA. Any PNCA transactions will be included in

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their schedule of Slice and the total Slice schedule must be between the maximum and minimum Slice bounds on each hour.

B. [Administration of the PNCA](#)

It will be the responsibility of the Participant to provide any reports and accounting of in lieu energy, interchange energy and storage required under the PNCA. It will also be the responsibility of the Participant to provide their own information for firm planning under the PNCA and any other written or oral requirements under the PNCA.

C. [Provisional Draft](#)

Provisional draft arrangements have been made for BPA's use in the past and will likely be allowed under similar arrangements in the future (for example to trade fishery operations in Canada for fishery operations in the US). BPA will unilaterally continue to make provisional draft agreements and to operate the Federal System for provisional draft. The Participants will receive their pro rata share of this draft and subsequent refill under the Slice contract but will not have the flexibility to independently schedule the draft or the refill at a rate different from how BPA is operating the provisional draft. BPA will make the provisional draft notices required under the PNCA. In the event that a downstream party elects to return the energy associated with the draft, the Participant will receive their pro rata portion of that energy and will provide their pro rata portion of energy back to the party, at the same time as BPA's delivery back to the party, consistent with the PNCA. It will be the Participant's obligation to maintain the firm backup required under the PNCA.

D. [Credits and Expenses](#)

Any credits or expenses under the PNCA not specifically covered above (such as headwater benefits) will be shared on a pro rata basis with the Participants based on their Slice percentage.

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XI. Non-Treaty Storage

The energy and water transactions under the Non-Treaty Storage Agreement (“NTS”) will also be considered under the Slice Contract. These transactions will be handled in the same fashion as provisional draft under the PNCA in Section X above. BPA will schedule the draft and the fill, and the Participants will receive their proportionate share of the NTS draft and fill. The Participant will also share in the benefits and obligations associated with the other NTS parties’ water transactions.

XII. General Contract Provisions

A. Uniform Terms and Conditions

All Slice Contracts will have the same terms and conditions for each Participant except for the selected Slice Percentage and information pertaining to the Participant. Over time, if a Participant elects to purchase capability from resources that BPA has acquired as replacements for the FBS as described in subsection VI(d) above, what Federal System Resources are considered Slice System Resources and are included in the Slice System may vary between Participants.

B. Contract Implementation Group

(1) General

BPA and each Participant shall designate a representative to a Contract Implementation Group (“CIG”), which will meet on an as-needed basis. The CIG will be responsible for formulating and establishing implementation details not defined by the Slice Contracts. The CIG will be the main forum for Participants to air their concerns and issues. The CIG will not have the authority to amend any Slice Contract provisions.

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(2) Voting Procedures

Changes or additions to implementation details proposed to the CIG will be adopted when approved by BPA and a 2/3 majority of the Participant representatives [*or unanimous approval?*].

(3) Condition Precedent to Dispute Resolution

The CIG must first discuss a dispute before a Participant may invoke dispute resolution for such dispute. (It is hoped that a majority of disputes may be successfully avoided by discussing it at the CIG).

XIII. Dispute Resolution

A. [Slice Dispute Resolution Process](#)

The dispute resolution provisions for Participants may be different than the dispute resolution for other Subscription Contracts since the Slice Product is indexed to Slice System Capabilities and is not load dependent. For purposes of dispute resolution, BPA shall be considered a Participant.

B. [Federal Operational Decisions Not Subject to Review](#)

Federal agencies' decisions and actions relating to the operations of Federal System Resources that are also Slice System Resources are not subject to dispute resolution.⁵

C. [Scope of Dispute Resolution](#)

The Participants may only address the following matters in dispute resolution: (i) what items were or were not included in the true-up, (ii) Slice System Storage Account errors, and (iii) errors in the amount of power that was scheduled (including whether there was intentional misrepresentation of operating requirements that resulted in unnecessary limitation in power deliveries). A Participant may not raise errors in forecasts as a subject for dispute resolution.

⁵ The Corps of Engineers and the Bureau of Reclamation are in charge of operating the reservoirs and they are not interested in having arbitrations based on reservoir operations.

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D. [Contract Implementation Group Discussion](#)

Before a Participant can invoke dispute resolution, a Participant must bring its complaint to the CIG for discussion and possible resolution. If the Participants cannot achieve a mutually agreeable solution within a reasonable period, any Participant may invoke dispute resolution.

E. [Dispute Resolution Steps](#)

Dispute resolution will involve four steps:

1. A review panel of two or three Participants (not involved in the dispute) shall review any request for dispute resolution. The review panel must agree that there is a valid complaint before the dispute resolution process can be activated. This is intended to filter out the majority of the disputes that are not appropriate for dispute resolution.
2. The parties to the dispute shall discuss the dispute to identify issues and determine if they can be resolved.
3. If the parties cannot agree on a resolution, they shall participate in non-binding arbitration (unless all interested parties agree to drop the dispute resolution process); *provided* the parties must mutually agree to the arbitration's solution before it becomes effective.
4. If the arbitration does not result in a mutually agreeable resolution, the parties may seek litigation to resolve their differences.

XIV. Accounting

A. [Development and Testing of Slice System Storage Accounting Algorithm](#)

BPA will establish and maintain for each Participant a Slice System Storage Account (“SSA”) in order to determine if each Participant is staying within the limits of the Slice System Capability to store energy and later release

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stored energy. The SSA, unlike a normal storage account, will not be measured in absolute terms (from full or empty), rather, the SSA will be measured (in water - KSFD) relative to a pass inflow condition. For example, if a Participant requests (and receives) energy that can be produced from its Slice System given natural streamflows only, then there is no change to its SSA.

The algorithm for the SSA will be developed and tested prior to October 1, 2001. The Participants will participate in this process.

B. Maintenance of Slice System Storage Account Activity

BPA will maintain each Participant's SSA and update it each normal weekday as follows. BPA will send the update to the Participants each time the account is updated.

(1) Account Balance at the Start and Finish of the Contract

At the start of the Slice Contracts, BPA will initialize each Participant's SSA to zero. It will be each Participant's responsibility to return its account balance to zero by the end of the Contract unless actual system requirements (nonpower requirements) force a deviation from zero.

(2) Measurements for Account Balance

BPA will maintain for each Participant and the aggregate Slice System (for all Participants as well as PBL) a SSA in terms of water stored in KSFD. The aggregate system shall be used to calculate the storage limits that will then be imposed on each Participant's SSA. BPA will start each Participant's SSA at zero and calculate a change in each Participant's SSA for each day based on the difference between the forecasted natural streamflows and the outflow required to supply the Participant's requested energy. The outflow required to supply the request is dependent on water to energy conversion efficiencies, spill, and other operational considerations.

For example a Participant has an account balance of 500 KSFD. Given the current state of the Participant's Slice System, natural flows provide only 240 MW-Hrs of generation over the next day

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and the Participant requests a total of 1240 MW-Hrs of generation over the next day. Additional flows are required to supplement the generation from natural flows in the amount of 50 KCFS to meet the requested generation. The change to the SSA would be 50 KSFD (50 KCFS for 1 day), so the resulting SSA balance would be 500 - 50 or 450 KSFD. If the Slice System's H/K is even less efficient (due to low head) the next day's balance may drop even lower.

(3) Maintenance of Slice System Storage Account Within Maximum and Minimum Storage Limit

The SSA must always be within the maximum and minimum storage limits that BPA will continually update. BPA will calculate the storage limits using the aggregate Slice System's SSA and translate the storage limits to each Participant's SSA using a algorithm to be developed in the future.

(4) Updates of Maximum and Minimum Balances

BPA will update each Participant's hourly maximum and minimum SSA balances for the next preschedule day(s). HLH and LLH maximum and minimum limits will be projected out for 7 to 10 days and will be based on the then-known power and nonpower requirements.

(5) Balances Outside of the Maximum and Minimum Bounds

If a Participant's SSA goes above the maximum bounds, BPA will keep the account at the maximum limit and any excess will be considered spilled (even if no physical spill takes place). If it goes below the minimum bounds, the Participant will pay an Unauthorized Increase Charge (to be developed in the relevant rate case). If a Participant's SSA is out of bounds as a result of a BPA forecasting error, there shall be a grace period for the purpose of the Participant managing its account and getting it back within bounds without penalty.

(6) Slice System Storage Account to Handle Physical Energy Transactions Associated with Slice System Resources

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In addition to the energy resulting from the resource operation, the Participant's SSA will also handle the physical energy transactions associated with the Federal System Resources that are also Slice System Resources such as provisional draft energy and NTS.

C. Determination of Slice System Energy Capabilities

(1) Hydro-Energy Capabilities Based on Individual Slice System Storage Account Balances

For purposes of taking delivery of energy, the Slice System's hydro-energy capability for each Participant will be based on that Participant's SSA balance. This takes into consideration head gains or losses that result from each Participant's operation of its SSA and allows the effects of energy purchases and sales to be isolated to the responsible Participant.

(2) For Purposes of this Subsection, Power Business Line Considered Participant

For purposes of determining Slice System energy capabilities, PBL will be considered a Participant.

(3) Calculation of Participant's Slice Entitlement

For each hour, BPA shall calculate for each Participant its Slice Entitlement based upon a percentage of the total Slice System energy capability less all System Obligations.

(a) Use of Slice Entitlement to Be Determined with Reference to Slice System

BPA shall set the Slice System initial storage condition based on each Participant's SSA balance. The capabilities of the Slice System shall be ratably reduced to reflect the Participant's percent share. This means that if a Participant with a 10% share wants to increase the next hour's schedule by 50 MW, then the Slice System will need to be able to increase by 500 MW for the next hour to accommodate the

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change. The hourly rates of change shall also be based on each Participant's SSA balance.

(b) Distribution of Storage

Distribution of storage among the Slice System Resources is set to the actual distribution of storage. For example, if a Participant had in its SSA 50% of the storage that the corresponding actual system had in the composite SSA, then each Slice System Resource initial content would be reduced to 50% of its actual storage content.

(c) Calibration of Energy Capabilities

BPA will calibrate the forecasts of energy capabilities so that the sum of the parts equals the whole. BPA will ratably adjust the forecast of each Participant's Slice energy capabilities (generation from natural flows, maximum generation, minimum generation, maximum and minimum rate of generation change) so that the sum of all of the Participant's Slice capabilities equals the forecasted actual capabilities of the Slice System.

(d) Initial Methodology of Calculating Energy Capabilities; Subsequent Efforts

BPA will initially calculate Slice System energy capabilities on a conservative basis with a minimum of effort in a manner agreed to by all of the Participants. The non-BPA Participants will decide jointly if additional effort and expense will be expended to get more accurate forecasts of capabilities. Since the Participants pay for this they will be the ones to determine the point of diminishing returns of additional precision; *provided* BPA agrees that whatever methodology is ultimately used results in sound forecasts for the Slice System Capabilities.

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(4) Estimation of HLH and LLH Entitlements

BPA will estimate HLH and LLH entitlements for the 7 to 10 days using the 8-hour block forecasts using a hydro-regulation simulation used to create BPA's 30-day Forecast.

(5) Hourly Estimates

BPA will use the 30-day model in combination with a HOSS-type adjustment to determine hourly estimates for the preschedule day(s).

XV. Scheduling Provisions

A. Communication of Slice System Capabilities

PBL will keep the Participants updated via E-mail on current non-power constraints on the Slice System Resources. BPA's real-time scheduler will also notify the Participants of anything that impacts their rights on real-time and it will be up to the Participant to change their preschedule if needed to stay within the new maximum and minimum bounds.

B. Prescheduling/Direct Signaling

The Participant is limited to prescheduling its Slice Entitlement until such time as all parties are satisfied that the algorithm is running properly. At that point, those Participants that want to have their Slice Entitlement delivered by a signal will work with PBL to set that up. Using a signal will be solely at the signaling Participants' cost.

C. Changes to Preschedules

A Participant may change its Slice Entitlement preschedule for any reason up to 30 minutes prior to delivery of such Entitlement but must stay within the Slice System limits (rate of change, maximum and minimum bounds) established for that hour.

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D. Permissible Real-Time Changes

A Participant may make real-time changes to its Slice Entitlement preschedule less than 30 minutes before the hour for the following limited reasons:

(1) Outage of a Slice System Resource Unit

A Slice System Resource unit that was actually generating energy has an outage;

(2) Outage of a Participant's Resource or Force Majeure of Firm Contract

A Participant's system unit that was actually generating energy has an outage or a Participant is not able to take energy pursuant to a firm contract given a force majeure situation;

(3) Limits on Real-Time Changes

The outage of a resource on either the Slice System or an individual Participant's system is not intended to allow carte blanche on changes to the preschedule. The maximum change allowed in the hour will be the Participant's share of the Slice System outage or the magnitude of the outage on the Participant's system that the Participant was actually getting generation from at the time of the outage. Such change must also stay within the maximum and minimum bounds (as adjusted for any unit changes on the Slice System) available to the Participant.

(4) Use of Slice Entitlement for Outage Reserves

A Participant may use its Slice Entitlement for outage reserves consistent with (E) below.

E. Reserves for Participants

(1) Reserve Obligations Associated with Participant Capacity

Participants are responsible for providing for all contingency

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reserve requirements associated with the operation of their Slice System capacity. This is presently equal to 7% of their share of thermal generation plus 5% of their remaining generation schedule. If industry standards for operating reserves change, the specifics of this requirement may need to change to remain consistent.

(2) Participants' Use of their Slice Capacity as Operating Reserves

Participants may use their Slice capacity as regulating margin, spinning reserves, and non-spinning operating reserves. Participants must preschedule their use of Slice capacity as regulating margin, spinning reserve, and non-spinning operating reserve. The purpose of this requirement is to ensure that it is physically possible for the Slice System to provide the anticipated reserves at the prescheduled generation levels. BPA will develop maximum limits upon the amounts of regulating margin, spinning reserves and non-spinning operating reserves that can be provided from a Slice Entitlement. These limits will be dependent upon the total amount of energy that the Participant schedules from its Slice Entitlement.

(3) Loss of Slice System Capacity in Real Time

BPA will notify Participants when Slice System capacity is lost during the hour of delivery. Over the next 60 minutes, the Participants' energy needs will be supplied up to their original limits for up to 60 minutes. BPA will provide the necessary capacity from operating reserves within the BPA control area and the Northwest Operating Reserves Sharing Program, as required. The Participants will be responsible for either purchasing or returning the energy delivered, as directed by the supplying entities. If the Slice System capacity has not been returned to service prior to 60 minutes after the capacity loss, the Participants' maximum Slice Entitlement will be proportionately reduced until this capacity comes back into service. If a Participant's schedule is outside of these new limits, then the Participant must adjust its schedules as required to bring it within these limits.

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I. Other Things to Address

Need to get some detail on the scheduling protocols

XVI. Reflecting Slice in the Rate Case

A. Items to be Determined in the Rate Case

(1) Net Cost of Inventory Solution

Estimates of expenses including the net cost of the Inventory Solution (becomes the basis of a Participant's monthly payments);

(2) Unauthorized Increase Charge

Rate for the Unauthorized Increase Charge; and

(3) Other?

Other items?

B. Inapplicability of CRAC

A Participant's responsibility for costs of the Slice System will not be subject to CRAC since irrespective of CRAC a Participant will already be paying a portion of the Slice System's actual costs. If a Participant is also taking a flat block under Partial Requirements, that block would be subject to CRAC.

C. Avoidance of Cost Shifts

BPA will develop Slice so as to avoid a cost shift.

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D. [Energy Purchases/Net Revenues for Risk](#)

In any relevant rate case, energy purchases and Net Revenues for Risk should be decreased in the same proportion as the percentage of Slice purchases that are assumed.

XVII. Slice in Combination With Other Subscription Products

A. [Blocks of PF Energy](#)

The Participant can also purchase an annual block of PF energy from BPA and/or negotiate for monthly [variable/shaped] blocks of energy (under the FPS rate).

B. [Slice Cannot be Combined with Actual Partial Purchases](#)

A Participant may not combine a slice purchase with an actual partial purchase.⁶

C. [Required Purchase of Load Following Services](#)

A Participant in BPA's load control area must also purchase load following services (from BPA or another utility) for the duration of the Slice Contract since the contract does not guarantee to follow such Participant's load.

XVIII. Participant's Use of Slice Entitlement

[We need to have more discussion regarding what a Participant can do with its Slice Entitlement. I suggest we insert at least the following – what do people think? (may not yet be specifically agreed to, but I believe it was covered in

⁶ If this were allowed, the Participant would be able to lay off to BPA some of the risk they took on through Slice by making an offsetting adjustment in their actual partial schedule. This concern becomes magnified when the Participants use direct signals and when considering Participants in BPA's load control area. It must be remembered that the same resources that deliver the actual partial schedule are the same resources that deliver the Slice Entitlement and that the customer is attempting to maximize their rights under both contracts at the same time.

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earlier discussions]:

More discussion is needed, but the following is agreed:

The portion of a Participant's Slice Entitlement that is needed to meet its Net Requirement shall be subject to all of the statutory provisions pertaining to requirements power. A Participant's Surplus Slice Entitlement shall be considered surplus power for purposes of a Participant's use of such entitlement.

XIX. Stay flexible!!

TBL requirements or actions by other parties (i.e., FERC) could result in the Slice accounting being reservoir specific and generation being delivered to the Participant from each Slice System Resource instead of the Slice System. We don't know what may happen in the next 13 years so we must build the accounting system to handle the various possibilities.

XX. Summary/Changes from BPA's Draft Slice Product Proposal

- A. No cost shift adjustment;
- B. Buy Back provisions include a payment for use of capability or, if energy is taken, the establishment of an exchange;
- C. No contribution to Net Revenues for Risk;
- D. Non-Treaty Storage is included;
- E. Membership in the PNCA is required; and
- F. Formation of a Contract Implementation Group.

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THE ATTACHMENTS HAVE ONLY BEEN MODIFIED SLIGHTLY AND WILL BE FORWARDED SEPARATELY