

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

Disclaimer:

Because the Slice Straw Proposal is being released prior to the Subscription Strategy and Record of Decision for the Subscription Strategy, this proposal is for illustrative purposes only. It is subject to retraction or change at any time prior to release of the Subscription Strategy and Record of Decision for the Subscription Strategy. Comments on this Straw-proposal will not be considered or reflected in the Subscription Strategy or Record of Decision.

Objective:

The Slice Straw proposal is a more defined and developed version of the BPA Slice Proposal that was presented at the October 13, 1998 public meeting. The more developed features include methods for defining the Slice percentage, a proposal for dispute resolution, and paper pond accounting model. We expect to modify this straw-proposal as we receive input from customers and their representatives. Provisions of the straw-proposal would be used 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 product as possible. The simplification includes implementation, rate design, and administration (including minimizing potential arguments).

Background:

The Slice Product is a bundled Requirements Product that includes potential surplus sales. A customer gets a percent of BPA's capabilities in exchange for a payment of a percent of BPA's expenses. The purchaser of the Slice Product also assumes all BPA's risks associated with the service of the customer's Net Requirements. The customer's right to energy and services under the Slice Product is tied to the capability of the Federal System and not to Net Requirements. It is anticipated that the customer will, in certain periods of the year, receive more energy than required to serve its Net Requirements. This is due to the nonfirm energy produced by the Slice share above critical water years. The customer will be able to dispose of the surplus in order to offset the cost (the percent of 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.

Discussion:

The Straw-proposal is intended to be a living document and is subject to frequent change. Until the final ROD is released, there is a possibility that BPA may need to alter the Slice straw-proposal in order to conform it to the final ROD. BPA does not anticipate any conflict between the Straw-proposal and the final ROD at this time. The current version of the straw-proposal is attached.

I. —

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

II. Term

- A. Minimum term of 10 years.
- B. No off-ramps.
- C. Starts October 1, 2001.

III. Eligibility

A. Only customers that have a 5b Net Requirements Load as defined under statute under the Subscription Process and have a public preference right are eligible to purchase Slice. A customer in BPA's load control area that signs up for Slice must also purchase load following services (from BPA or another utility) for the duration of this contract since Slice does not guarantee to follow the customer's load. A customer in BPA's load control area that takes energy from BPA in excess of Slice and any other contracts with BPA will be charged for such excess at the Unauthorized Increase charge under the PF Rate.

III.V. Determination of maximum slice percentage

A. Ratio of Net Entitlement to Total Inventory, both determined in annual average megawatts of energy:

1. Net Entitlement – An annual average quantity of the customer's Net Requirement, in energy, calculated in the same fashion and using the same Operating Year as for Partial Block Service in the Subscription process.¹ There is no load growth provided in Slice.
2. Total Inventory – The annual average firm energy load carrying capability calculated in the Rate Case for "PNCA-identified" Federal System resources, adjusted by "System obligations" of the FCRPS as defined below in Section V. For this purpose "PNCA-identified" Federal System resources are those FCRPS resources identified in BPA's Pacific Northwest Coordination Agreement 1998-99 data submittal. ~~"System obligations" are energy obligations of the Federal system that would still exist if 100% of the Federal System been sliced (e.g., reserve/ancillary service capabilities committed to the TBL, MCHC transactions, PNCA transactions, and Treaty obligations).~~ The quantity of annual average energy associated with inventory enhancement isn't included here due to the fact that the Slice Participants are paying a pro rata share of the net cost of enhancement but not receiving any energy share of enhancement.

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 true with respect to a potential Slice Participant's Net Entitlement.

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

3. The Slice Participant can choose up to this maximum percentage as their Slice share of the Federal System (the exact amounts of energy each hour will vary based on the calculated quantities in the Accounting and Scheduling Sections below). The percentage chosen shall remain constant throughout each year of the contract term and, once selected, cannot be changed. The timeline for the Slice Participant to make such decision shall be consistent with other Subscription deadlines allowing potential Slice Participants to make meaningful decisions about how much Slice to purchase; provided that it is anticipated that after BPA informs ~~potential~~ ~~the~~ Slice Participants of their maximum percentages, the Participants will have thirty (30) days after the maximum Slice percentage is calculated to give-inform BPA of the percentage of Slice they want will purchase for the term of this agreement. Once the percentage is given to BPA, it can't be changed for the term of the agreement.

4. After the Slice Percentage is calculated and the Slice Participant determines the percent it will sign up for, that percentage is fixed regardless of whether the Slice Participant acquires more resources or has unexpected load increases later.

IV. Resource Replacements and Acquisitions

A. Any physical upgrade or adjustment to an existing project or unit within a project listed in Attachment 2 will be included in the Slice Participant's share and the Slice Participant will be subject to the associated costs on a pro rata basis. [There probably will be advance notice of the upgrade or adjustment.]

B. Any Public Purpose Resource Acquisition which BPA acquires will be included in the Slice Participant's share and the Slice Participant will be subject to the associated costs on a pro rata basis.

C. All other resource acquisitions will be solely for BPA's use and BPA will be solely responsible for their expenses.

VI. Firm-System Obligations

A. "System obligations" are energy obligations of the Federal system that would still exist if 100% of the Federal System been sliced. The firm-system obligations of BPA that will "come off the top of the Federal Resources" before allocation to the Slice Participant are:

1. Canadian Entitlement,
2. Hourly Coordination,
3. Biological Opinion, and

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

4. System commitments to TBL.

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

VII. Payments

A. Line item Revenue Requirements and overhead expenses will be included. All Revenue Requirements are included except transmission costs (transmission costs of “System obligation”, Provisional Draft Energy under the PNCA ~~and NTS~~ transmission costs are to be included), power purchase costs (with the exception of those incurred as part of the “Inventory Solution” discussed below), and Net Revenues for Risk (see Attachment 3 for an example).

Additionally, financial adjustments for the “Inventory Solution” as defined in the Rate Case are to be included. The net cost of the Inventory Solution used in the Rate Case shall be added to the Revenue Requirement. The net cost is the expense assumed in the Rate Case less the expected revenues used in the Rate Case resulting from the increased inventory. For example, if the Rate Case assumes the inventory solution costs \$30 million in power purchases to serve \$20 million of PF sales, the net cost to be added to the Revenue Requirement would be \$10 million.

~~If there is a question as to whether a new cost category (one not already addressed) should be included in Slice or not, the fallback position is to see whether that cost would still be there if 100% of the Federal System were sliced.~~ In addition all overhead costs attributable to implementing Slice shall be paid by the Slice Participants. The detailed costs, enhancement costs and line items will be noted in an ~~E~~xhibit prior to a final contract being offered.

Any monetary credits that BPA receives for line items in the Slice Revenue Requirement should be credited to such Revenue Requirement and the benefits of such credit shall be shared proportionately by BPA and all Slice Participants.

If a new cost category (one not already addressed) arises, in order to determine whether it should be included in the Slice Revenue Requirement the parties shall apply the principle of whether that cost would still be there if 100% of the Federal System were sliced. If so, the cost should be included in the Slice Revenue Requirement.

B. Periodic payments – The annual Slice payment (calculated by multiplying the sum of all the costs noted above by the percent chosen by the Slice Participant in Section III above) would be broken into 12 equal monthly payments.

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

C. True-up for actual net expenses where appropriate – By August 1 of each year BPA will calculate the difference between actual and forecasted expenses (that are known at that time) and the October payment would be adjusted by the difference. An ~~unusual~~unusual or unanticipated expense of more than a million dollars (to BPA) would be dealt with as it occurs with an adjustment to the next month's payment. The actual net cost of the Inventory Solution will not be subject to the true-up mechanism as it will be determined on a projected basis through the rate case.

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

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

VIII. Deliveries of power

A. The Slice Participant agrees to ~~adhere to all decisions accept the results of the operating decisions of by the federal government (acting through relevant federal agencies and other entities)-, including decisions~~ relating to any nonpower constraint being added to or deleted from the Federal System. ~~-and agrees to pay its pro-rata share of such addition or deletion.-~~ Examples of nonpower constraints on the Federal System could include: the Biological Opinion (BO), maximum and minimum rates of change on a forebay or discharge at a project, BPA's decision to economically displace WNP2, BPA operating conservatively in January and February to insure that the Federal System will meet the flood control requirements in April under the BO.

B. Power will be scheduled hourly within the (pro rata) limits of the energy capability of the resources listed in Attachment 2, calculated for each Slice Participant (see Section XIV for daily scheduling details). Once everyone is satisfied that the algorithm is good, those Slice Participants that want to will be able to work with the PBL to develop a strategy for sending a dynamic signal to retrieve their share subject to the final approval of the TBL in doing a dynamic signal for the Slice Participants. All costs to do this will be borne solely by those Slice Participants wanting to schedule by dynamic signal. It is recognized that there will be a potential quandary for Slice Participants in BPA's load control area receiving a dynamic signal from Slice and getting dynamic load service. This will be one of the items worked out in developing a strategy for sending a dynamic signal.

1. Capability of the FCRPS (the term FCRPS is used loosely in this paper to refer to the resources listed in Attachment 2 to simplify the description of calculations and concepts. It is recognized that those resources are not exactly the same as the actual FCRPS resources) is based on a percentage of the Federal System energy capability of the listed resources, after adjusting for all non-power requirements and unit outages (see "Determination of FCRPS Energy Capabilities" below).
2. Energy capabilities are net of all "System obligations" (like Canadian Entitlement and Hourly Coordination).
3. Energy capabilities of the FCRPS will be monitored by PBL and changes will be made as necessary.

C. To the extent that the Slice share is insufficient on one or more hours to meet the Slice Participant's firm load, it will be the Slice Participant's responsibility to take other actions to meet that load. Also, after the determination of the Slice Participant's percent of the firm energy capability of the FCRPS, it will be the Slice Participant's obligation to cover a permanent loss or retirement of a resource on its system or of its pro rata share of the FCRPS.

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

D. The Slice Participant will be subject to buyback provisions, as noted in the Buyback Provisions section.

E. The Slice Participant is responsible for acquiring and paying for all transmission required for its Slice share.

IXVIII. Buyback Provisions

A. ~~BPA's ability to B~~buyback is measured on a daily basis.

B. Buyback may occur when the following conditions are met:

1. The Slice Participant's rights to capability are in excess of its Net Requirements (defined below),
2. BPA's other firm commitments (defined below) cannot be met without additional power purchases,
3. BPA cannot purchase the needed power, and
4. BPA has given seven days notice of the possibility of buying back energy or capacity. This notice is not a commitment that BPA will exercise its right, but rather that it may exercise its right.

CB. The Slice Participant's Net Requirement is its actual firm load less its planned firm resources [we need to have more clarification on what types of power contracts will be considered part of a Slice Participant's actual firm load].

DC. BPA's net firm commitments are the sum of the following:

1. ~~€~~The actual loads of the (firm) Subscription contracts under 5b, 5c, and 5d,
2. ~~T~~the actual loads of the (firm) post-Subscription contracts under 5b, 5c, 5d [Terrin, you should double-check these changes, should this be 5b, c and d, or just 5b?], and
3. ~~€~~The actual loads of existing firm surplus contracts in place at the time of Subscription (this excludes short-term surplus sales made after Subscription).
4. ~~H~~ess BPA's access to all resources available to BPA, including the firm resource capability of the Federal Base System excluding forced outages, and
5. Less BPA's planned purchases and Inventory Solution purchases.

ED. Buyback Limits

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

Buyback will be limited to the lesser of BPA's other firm commitments that cannot be met or the Slice Participant's Slice capability in excess of its Net Requirement minus any such capability that a Slice Participant has declared as reserves and is currently using as reserves.

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

~~FE~~. Payment for Buyback

1. For ~~capability~~energy, BPA will pay the Slice Participant for the amount of capability it uses ~~decreased capability~~ at the PF Demand Rate on a hourly basis (maximum hourly amount used by BPA during the month multiplied by the PF Demand Rate).
2. For energy and capacity, no payment by BPA will be made. Rather, a special Net Requirements Storage Account will be set up as described below.

~~GF~~. Net Requirements Storage Account

1. Credits - Energy used under the buyback provision will be credited to the Slice Participant's account and accounted in terms of megawatt-hours.
2. Debits - Unless agreed by BPA and the Slice Participant, the participant may only take energy from its account in order to meet its Net Requirement that can not be otherwise met through Slice deliveries.
3. One Year and Not Spillable - the account will be available to the participant for one year after the buyback occurs. During that time, the account can not be decreased due to spill on the Federal System nor can the account drop below zero.
4. Cash out - any energy remaining in the account at the end of the year in 3) above will be cashed out at the average annual energy PF Rate.
5. Rate limit - The Slice Participant may take energy from the Net Requirements Storage Account at a rate not to exceed the difference between its share of the Federal System's maximum capability (with all units operating) and its maximum rate of delivery under Slice (the diagonal hatched area in Attachment 1). The combination of the Slice delivery and the account withdrawal will not exceed the Slice Participant's share of the maximum Federal System capability (with all units operating).

H. Buyback Procedures

1. When BPA provides notice of a buyback situation, Slice Participants may volunteer to participate in the buyback. If there is not sufficient capability volunteered, BPA will schedule buyback from those Slice Participants with the greatest capability.
2. Buyback shall be handled on a prescheduled basis; provided, that a Slice Participant can modify a buyback preschedule up to 30 minutes before the hour based upon a system firm load increase.

IG. Buyback Scenarios

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

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

1. Capability only (Case 1 in Attachment 1)

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

- a) Slice Participant's maximum generation limits are lowered to reflect the buyback.
- b) Slice Participant's Paper Pond account not effected.

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

BPA needs additional capability from the Slice Participant that:

- a) Slice Participant's maximum generation limits are lowered to reflect the buyback.
- b) Slice Participant's Paper Pond account is adjusted as if the participant took the energy.

IX. 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 Slice Participant must also be a member of the PNCA. With this membership, the Slice 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 their

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

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 Slice Participant to provide any reports and accounting of In Lieu, Interchange and Storage required under the PNCA. It will also be the responsibility of the Slice Participant to provide their own information for Firm Planning under the PNCA and any other written or oral requirements under the PNCA.

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

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 Slice 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 Slice 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 Slice 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 Slice Participants based on their Slice percentage.

XI. Non-Treaty Storage

The energy and water transactions under the Non-Treaty storage (NTS) will also be considered under the Slice contract. It will be handled in the same fashion as Provisional Draft under the PNCA above. That is, the Slice Participant will receive their share of the NTS draft and fill but will not have the flexibility to independently schedule the draft and the fill at a rate different from how BPA is operating its share of NTS. The Slice Participant will also share in the benefits and obligations associated with the other NTS parties' water transactions.

XII. General Contract Provisions

A. All Slice contracts will have the same terms and conditions for each customer except for the percentage elected and information pertaining to the customer.

B. BPA and each customer 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 contract. The CIG will be the main forum for customers to air their concerns and issues. The CIG will not have the authority to amend any contract provisions.

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

1. Changes or additions to implementation details proposed to the CIG will be adopted when approved by BPA and a 2/3 majority of the customer representatives (or unanimous approval?).
2. Disputes must first be discussed at the CIG before dispute resolution may be invoked by a customer. (It is hoped that a majority of disputes may be successfully avoided by discussing it at the CIG).

XIII. Dispute Resolution

- A. The dispute resolution provisions for Slice Participants may be different than the dispute resolution for ~~Partial Requirements Customers other Subscription contracts~~ since Slice is ~~indexed~~ to Federal resource capabilities and ~~is~~ not load dependent.
- B. Decisions and actions taken by the Federal Agencies relating to any system operations are not subject to dispute resolution. The Corps and the Bureau are in charge of operating the reservoirs and they are not interested in having arbitrations based on reservoir operations.
- C. Before dispute resolution may be invoked, the customer must bring its complaint to the CIG for discussion and possible resolution. If a mutually agreeable solution is not achieved within a ~~reasonable~~ reasonable period, ~~disputed~~ disput resolution may be invoked.
- D. Dispute resolution will involve four steps:
 1. A review panel of up to two to three Slice Participants shall review any request for dispute resolution. There must be agreement by the review panel that there is a valid complaint before the dispute resolution process is activated. This is intended to filter out the majority of the disputes that are not appropriate for dispute resolution.
 2. Bilateral discussion to point out the problem and see if a resolution can be achieved.
 3. Non-binding arbitration where the parties must mutually agree to the solution before the arbitration takes effect.
 4. Seek litigation to resolve the differences.
- E. Dispute resolution can cover only what items were or were not included in the true-up, Paper-Pond Accounting errors, and errors in the amount of power that was scheduled (also included would be cases of intentional misrepresentation of operating requirements that resulted in unnecessary limitation in power deliveries).

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

F. Is not available for errors in forecasts and for second guessing how the FCRPS was operated.

XIII. Accounting

A. The algorithm for the paper-pond accounting will be developed and tested prior to October 1, 2001. The Slice Participants will participate in this process.

B. Determination of Paper-Pond Account Activity:

1. At the start of the contract the Paper-Pond Account is initialized to BPA's actual storage multiplied by the Slice percentage that the Slice Participant chose in Section III above.
2. At the end of the contract the Slice Participant's Paper-Pond Account balance as a percent of the Slice Participants full share must match BPA's Paper-Pond Account balance as a percentage of the BPA's full share.
3. The account will be measured in storage energy (MW-Hrs) and updated hourly. Changes in the Paper-Pond Account balance may not match the MW-Hr deliveries of Slice. This is due to changes in water to energy conversion efficiencies, spill, and other operational considerations. For example if a Slice Participant has an account balance of 10,000 MW-Hrs, natural flows provide 240 MW-Hrs of generation over the next day and the Slice Participant requests a total of 1240 MW-Hrs of generation over the next day, the next day's balance may not be 9,000 MW-Hrs. If the H/K is low (due to low head) the next day's balance would be below 9,000 MW-Hrs.
4. The account must always be within the maximum and minimum storage limit, which will be calculated at the time that the Slice Participant chooses a Slice percent in Section III above.
5. The hourly maximum and minimum balances will be updated for the next preschedule day(s). HLH and LLH max and min limits will be projected out for 7 to 10 days and will be based on the then known power and nonpower constraints.

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

6. If a Slice Participant's Paper-Pond Account goes above the maximum bounds, the account will be kept 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 Slice Participant will pay an ~~U~~Unauthorized Increase Charge (to be developed in the Rate Case Process). There will be a grace period if a Slice Participant is out of bounds as a result of a BPA forecasting error; provided if the Participant is out of bounds due to matters under its control, there shall be an Unauthorized Increase Charge.

7. In addition to the energy resulting from the resource operation, the Slice Participant's Paper Pond Account will also handle the physical energy transactions associated with the Slice resources such as Provisional Draft Energy and NTS.

C. Determination of FCRPS Energy Capabilities

1. Hydro energy capabilities will be based on each Slice Participant's Paper-Pond Account balance. This takes into consideration head gains or losses that result from each participant's operation of their Paper-Pond Account and allows the effects of energy purchases and sales to be isolated to the responsible Slice Participant.

2. For purposes of determining FCRPS energy capabilities, BPA's PBL will be considered a Slice Participant.

3. Calculated for each Slice Participant based on a percentage of total FCRPS energy capability less all "System obligations".

a) FCRPS initial storage condition based on Slice Participant's Paper-Pond Account (expanded to represent a 100% Slice). This means that if a Slice Participant with a 10% share wants to increase the next hour's schedule by 50 MW, then the virtual Federal System will need to be able to increase by 500 MW for the next hour. The hourly rates of change shall also be based on each Slice Participant's Paper-Pond Account balance.

b) Distribution of storage is the same as actual.

c) Calibration of energy capabilities (sum of the parts ratably adjusted to equal the whole) will be done periodically. Adjustments are made to each Slice Participant's energy capabilities so that the sum of the parts equals the capabilities of the whole system.

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

- d) The calculation of energy capabilities will initially be approximated on a conservative basis with a minimum of effort. The non-BPA Slice Participants will decide jointly if additional effort and expense will be expended to get more accurate forecasts of capabilities. Since the Slice Participants pay for this they should be the ones to determine the point of diminishing returns of additional precision.
4. HLH and LLH entitlement for the next 7 to 10 days will be estimated using the 8-hour block forecasts from the 30-day.
5. The hourly estimates for the preschedule day(s) will involve the 30-day estimate in combination with a HOSS-type adjustment.

XIV. Scheduling Provisions

- A. PBL will keep the Slice Participants updated via E-mail on current non-power constraints on the system. The real-time scheduler will also notify the Slice Participants of anything that impacts their rights on real-time and it will be up to the Slice Participant to change their preschedule if needed to stay within the new maximum and minimum bounds.
- B. The Slice Participant is limited to prescheduling its Slice share until such time as all parties are satisfied that the algorithm is running properly. At that point, those Slice Participants that want to have their shares delivered by a signal will work with PBL to set that up. Using a signal will be solely at the ~~signalingsignalling~~ Slice Participants' cost.
- C. Changes to preschedule for any reason are allowed up to 30 minutes prior to delivery and must stay within the Federal System limits (rate of change, maximum and minimum bounds) established for that hour.
- D. Real time changes will be allowed less than 30 minutes before the hour only for
1. Outage of a FCRPS unit actually generating energy.
 2. Outage of a unit actually generating energy on the Slice Participant's system or a force majeure of a firm contract.
 3. The outage of a resource on either BPA's system or the Slice Participant's system is not intended to allow carte blanche changes to the preschedule. The maximum change allowed in the hour will be the Slice Participant's share of the FCRPS outage or the magnitude of the outage on the Slice Participant's system that the Slice Participant was actually getting generation from at the time of the outage and such change must stay within the maximum and minimum bounds (as adjusted for any unit changes on the Federal System) available to the Slice Participant.

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

4. The Slice share can be used for outage reserves consistent with E. below.

E. **The following subsections describe reserves for the Slice Participant.**

1. Reserve Obligations associated with Slice Participant Capacity.

Slice Participants are responsible for providing for all contingency reserve requirements associated with the operation of their 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 will change.

Slice Straw-Proposal

Version ~~43~~.0 – 12/157/98

2. Slice Participant use of their Slice Capacity as Operating Reserves.

Slice participants may choose to utilize their Slice capacity as Regulating Margin, Spinning Reserves, and Non-Spinning Operating Reserves. Slice 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 FCRPS 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 share. These limits will be dependent upon the total amount of energy that the Slice Participant schedules from its Slice Share.

3. Loss of FCRPS Capacity in Real Time.

When FCRPS is lost during the hour of delivery, Slice participants will be notified. Over the next 60 minutes, the participant's energy needs will be supplied up to their original limits for up to 60 minutes. The necessary capacity will come from Operating Reserves within the BPA control area and the Northwest Operating Reserves Sharing Program, as required. The Slice participant will be responsible for either purchasing or returning the energy delivered, as directed by the supplying entities. If the capacity has not been returned to service prior to 60 minutes after the capacity loss, the Slice participant's Slice capacity will be proportionately reduced until this capacity comes back into service. If the Participant's schedules are outside of these new limits, then the participant must adjust their schedules as required to bring them within these limits.

F. BPA will maintain the Paper-Pond Account and update it each normal workday. The update will be sent out to the Slice Participants each time it's updated.

G. It is the Slice Participant's responsibility to monitor its Paper-Pond Account hourly and to keep it within bounds.

XVI. Reflecting Slice in the Rate Case

A. Items to be decided in the Rate Case:

1. Estimates of expenses including the net cost of the Inventory Solution (becomes the basis of a Slice Participant's monthly payments)[still need to work through the 5 or 10 year issue].
2. Rate for the unauthorized Increase Charge.
3. Other items?

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

- B. Slice Participant's share of the FCRPS will not be subject to CRAC since they are already paying a portion of the actual costs. If a Slice Participant is also taking a flat block under Partial Requirements, that block would be subject to CRAC.
- C. BPA will develop Slice so as to avoid a cost shift.
- D. Energy purchases and Net Revenues for Risk should be decreased in the same proportion as the Slice percentage assumed in the Rate Case.

XVII. Slice in Combination With Other Subscription Products

A. The Slice 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. Combining Slice with an Actual Partial Purchase will not be considered.

To allow a combination of the two purchase types will allow the Slice Participant to lay off to BPA some of the risk they took on through Slice by making a offsetting adjustment in their Actual Partial schedule. This concern becomes magnified when the Slice Participants use direct signals and when considering Slice 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 share and that the customer is attempting to maximize their rights under both contracts at the same time.

XVIII. 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 Slice Participant from each Federal project instead of the Federal 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.

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

XIXII. 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.
- F. Formation of a Contract Implementation Group.

Slice Straw-Proposal

Version ~~43~~.0 – 12/~~157~~/98

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Version ~~43~~.0 – 12/~~157~~/98

XIX.

Resources Under Slice

All units of the resources listed below will be assumed to be included in Slice unless otherwise noted. The actual hour to hour capability of the resources listed below will be a function of a number of factors such as nonpower constraints, streamflows and unit capability. Such capability will be calculated as described in the body of this agreement.

Hydro Resources

Detroit	Lookout Point	Hill Creek
Cougar	Green Peter	Foster
Lost Creek	Black Canyon	Boise Diversion
Minidoka	Palisades	Anderson Ranch
Roza	Chandler	Big Cliff
Dexter	Hungry Horse	Albeni Falls
Libby	Grand Coulee	Chief Joseph
Wanapum (only the share associated with the Service and Exchange Contracts)	Priest Rapids (only the share associated with the Service and Exchange Contracts)	Dworshak
Lower Granite	Little Goose	Lower Monumental
Ice Harbor	McNary	John Day
The Dalles	Bonneville	Cowlitz Falls
Idaho Falls	Chief Joseph Encroachment	Mica (only the Treaty storage rights, no energy)
Arrow (only the Treaty storage rights, no energy)	Duncan (only the Treaty storage rights, no energy)	Non-Treaty Storage

Thermal and Miscellaneous

WNP2	GEM State	Wauna
CARES Columbia Wind #1		

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Version ~~43~~.0 – 12/157/98

COST OF SERVICE ANALYSIS TABLE FROM 1996 RATE CASE

Routing: MPPD
Date: Dec 01, 1998
Time: 10:18

COST OF SERVICE ANALYSIS
Itemized Revenue Requirement
(\$ Thousands)
Fiscal Year 1997

	A	B	C	D	E	F	G
	Investment	Net	Planned	Operating	Total	Adjustments	Adjusted
	Base	Interest	Net	Expenses			Total
			Revenues				
1	GENERATION COSTS						
2	Federal Base System						
3		153,827	91,250	295,463	540,540		540,540
4		4,692	2,500	119,915	127,107	(71,954)	55,153
5		0	0	19,547	19,547	0	19,547
6		0	0	168,104	168,104		168,104
7		0	0	326,536	326,536		326,536
8		0	0	153,720	153,720		153,720
9			0	78,610	78,610	(9,973)	68,637
10		158,519	93,750	1,161,894	1,414,163	(81,927)	1,332,236
11	New Resources						
12		0	0	13,620	13,620		13,620
13		0	0	4,950	4,950		4,950
14		0	0	14,408	14,408		14,408
15		0	0		0		0
16		0		32,977	32,977	0	32,977
17		0		94	94	1,041,558	1,041,652
18		40,306	28,750	100,723	169,779	0	169,779
19					(13,046)		(13,046)
20	Other Generation Costs						
21		468	2,500	106,740	109,708		109,708
22		0		3,086	3,086	0	3,086
23						0	0
24		468	2,500	109,826	112,794	0	112,794
25		199,293	125,000	1,405,514	1,716,761	959,631	2,676,392
26	TRANSMISSION COSTS						
27		0	0	299,500	299,500		299,500
28							
29		0	0	299,500	299,500	0	299,500

Notes:

1/ Slice is subject to all costs listed above with the exception of shaded costs, which include Balancing Power Purchases (row 9), Planned Net Revenue for Risk (column C), and Transmission Costs (rows 26-29).

2/ Slice will be subject to certain "System obligation" transmission costs, which include transmission for GTAs, PNCA transactions, Canadian Entitlement return, Mid Columbia Hourly Coordination transactions, and non-TBL PTP costs.

3/ Slice also subject to these non-COSA costs. PF Rate Conservation Credit Costs, PF Rate Impact Mitigation Costs, PF Rate Low Density Discount Costs, and Subscription Augmentation Costs (Net).