1997 AGREEMENT

FOR

THE HOURLY COORDINATION

OF PROJECTS ON THE

MID-COLUMBIA RIVER

THIS AGREEMENT, is entered into as of July 1, 1997, by and between the UNITED STATES OF AMERICA (Government), acting by and through the BONNEVILLE POWER ADMINISTRATOR of the DEPARTMENT OF ENERGY (Administrator), the DIVISION ENGINEER, Northwestern Division, Corps of Engineers, DEPARTMENT OF THE ARMY (Division Engineer) and the REGIONAL DIRECTOR, Pacific Northwest Region, Bureau of Reclamation, DEPARTMENT OF THE INTERIOR (Regional Director); THE CITY OF SEATTLE, WASHINGTON, a municipal corporation of the State of Washington (Seattle), the CITY OF TACOMA, WASHINGTON, a municipal corporation of the State of Washington (Tacoma); the CITY OF EUGENE, OREGON, a municipal corporation of the State of Oregon (Eugene); the CITY OF MCMINNVILLE, OREGON, a municipal corporation of the State of Oregon (McMinnville); PUBLIC UTILITY DISTRICT NO. 2 OF GRANT COUNTY, WASHINGTON, a municipal corporation of the State of Washington (Grant); PUBLIC UTILITY DISTRICT NO. 1 OF CHELAN COUNTY, WASHINGTON, a municipal corporation of the State of Washington (Chelan); PUBLIC UTILITY DISTRICT NO. 1 OF DOUGLAS COUNTY, WASHINGTON, a municipal corporation of the State of Washington (Douglas); PUBLIC UTILITY DISTRICT NO. 1 OF COWLITZ COUNTY, WASHINGTON, a municipal corporation of the State of Washington (Cowlitz); PUGET SOUND ENERGY, INC., a corporation (Puget); PORTLAND GENERAL ELECTRIC COMPANY, a corporation (Portland); PACIFICORP, a corporation (PacifiCorp); THE WASHINGTON WATER POWER COMPANY, a corporation (Water Power); and COLOCKUM TRANSMISSION COMPANY, INC., a corporation (Colockum), (collectively referred to herein as the Parties).

WITNESSETH:

WHEREAS, the Parties operate major hydroelectric generating projects or electric systems which serve the Pacific Northwest area; and

WHEREAS, The Grand Coulee Project's third powerhouse has been authorized by the Congress of the United States, and certain assurances have been given to the owners and users of non-Federal dams downstream that Bonneville is willing to enter into agreements in order to secure optimum usable generation at the affected projects and equitable distribution of the benefits; and

WHEREAS, several of the Parties plan to extend and restate with other entities the 1964 Pacific Northwest Coordination Agreement by entering into the 1997 Pacific Northwest Coordination Agreement; and

WHEREAS, the Parties have achieved substantial economy and efficiency of resources for the Pacific Northwest by entering into agreements, including the 1987 Agreement for the Hourly Coordination of Projects on the Mid-Columbia River; and

WHEREAS, the Parties plan to replace the 1987 Agreement for the Hourly Coordination of Projects on the Mid-Columbia River by entering into this 1997 Agreement for the Hourly Coordination of Projects on the Mid-Columbia River; and

WHEREAS, coordination for the production of power must take into consideration non-power uses for water resources and must be achieved as a part of the comprehensive development and management of water resources for maximum sustained benefit for the public good; and

WHEREAS, the Administrator is authorized to transmit and dispose of electric power and energy generated at various federal hydroelectric projects in the Pacific Northwest in accordance with the Bonneville Project Act, approved August 20, 1937, as amended, the Reclamation Project Act of August 4, 1939, the Flood Control Act of December 22, 1944, the Preference Act of August 31, 1964, as amended, the Transmission System Act of October 18, 1974, as amended, the Northwest Power Act of December 5, 1980, as amended, and pursuant to the following orders of the Secretary of the Interior; No. 2563 dated May 2, 1950, and No. 2860 dated January 19, 1962, as amended; and

WHEREAS, the Administrator is authorized by Order No. 2860, as amended, to enter into such contracts, agreements, and arrangements, upon such terms and conditions and in such manner as the Administrator may deem necessary, as provided in Bonneville Project Act, as amended; and

WHEREAS, the Secretary of the Army is authorized by various public laws related to the development of the Columbia River Basin to construct, operate, and maintain dam and reservoir projects for multiple purposes, one purpose being the generation of power; and

WHEREAS, the Secretary of the Army is to deliver electric power and energy which, in the Secretary's opinion, is not required in the operation of hydroelectric projects, to the Secretary of

Energy for transmission and disposal in accordance with Section 5 of the 1944 Flood Control Act; and

WHEREAS, the Secretary of the Army and the Chief of Engineers have delegated necessary and appropriate authority to the Division Engineer; and

WHEREAS, the Secretary of the Interior is authorized by Congress to construct, operate and maintain Federal Reclamation projects within the Columbia River Basin for multiple purposes, including the generation of power for transmission to Bonneville Power Administration except for electric power required for the operation of Reclamation's projects; and

WHEREAS, the Commissioner of Reclamation has delegated necessary and appropriate authority to the Regional Director; and

WHEREAS, each Party has the authority to enter into this Agreement and fulfill all the appropriate rights and responsibilities herein; and

NOW, THEREFORE, in consideration of the above premises and of the mutual benefits hereinafter set forth, the Parties do hereby agree as follows:

Section 1 Term

(a) Term of Agreement; Early Termination

Subject to subsection 8(g), *Regulatory Approval*, this Agreement shall be effective for a term of twenty years beginning 0000 hours on July 1, 1997, and ending at 2400 hours on June 30, 2017. Any Party to this Agreement may terminate prospectively its rights and obligations under this Agreement by giving written notice to all other Parties as follows: Such Party shall first specify by written notice to each other Party a tentative date for such termination ("Tentative Date"), which date shall be no less than six (6) months from the notice date, and such Party shall state in such notice its reasons for termination; and second, any final notice of termination shall be given in writing not more than 60 days nor less than 30 days prior to, and to become effective on, the Tentative Date.

(b) Termination

All Parties to this Agreement shall, between the time that notice of the Tentative Date is given and the time the corresponding final notice of termination is due pursuant to subsection 1(a), *Term of Agreement; Early Termination*, negotiate in good faith in an attempt to remedy the terminating Party's reason(s) for termination given in such notice.

(c) Survival of Rights and Obligations

Upon expiration or other termination by a Party of this Agreement all rights and obligations then accrued or incurred for the delivery of power or energy shall be preserved until satisfied.

Section 1 Definitions

The following capitalized terms shall have the following meanings when used in this Agreement:

(d) Bias

Bias means the arithmetic difference between the allocation of generation to each Project pursuant to Hourly Coordination and such Project's Uncoordinated Request.

(e) Central

Central means the control center for the total system of Projects which at the time of execution of this Agreement is at Grant facilities in Ephrata, Washington.

(f) Control Interval

Control Interval means the interval of time between successive calculations of Bias.

(g) Coordination Exchange

Coordination Exchange means the arithmetic difference between the actual net generation and the sum of the allocated integrated Uncoordinated Requests for a Project for an hour, expressed in megawatt hours.

(h) Group(s)

Group means each of the two groups established under subsection 8(a), namely the Agreement Group and the Operating Group.

(i) Hourly Coordination

Hourly Coordination means coordinated operations as outlined under this Agreement.

(j) In Lieu Energy

In Lieu Energy has the meaning set forth in the Pacific Northwest Coordination Agreement or a successor coordination agreement.

(k) Operating Reserve

Operating Reserve means the unloaded generating capacity of a Party's firm resources ready at all times to take load upon demand, together with any firm arrangements with another system or systems for obtaining such capacity, and less any such firm arrangements for the supply of such capacity to another system or systems. Only that portion of such capacity or firm arrangements which is capable of serving load on a sustained basis within ten (10) minutes of the time of demand may be considered Operating Reserve. Operating Reserve includes spinning reserve, which is that portion of the Operating Reserve that is responding to system frequency and ready to take load automatically.

(l) Party's Pond Account

Party's Pond Account means an hourly accounting of the status of a Party's use of its rights to the storage capability in the Projects.

(m) Project(s)

Project means each of the following: Grand Coulee, Chief Joseph, Wells, Rocky Reach, Rock Island, and Priest Rapids (consisting of the Wanapum and Priest Rapids developments).

(n) Project Control Center(s)

Each Project Control Center is as identified in Exhibit A hereto.

(o) Project Generation

Project Generation means the algebraic sum of actual net generation and the Project's receipt of Coordination Exchange. A Project's delivery of Coordination Exchange shall not be treated as Project Generation.

(p) Project Pond Account

Project Pond Account means the sum of those portions of the Parties' Pond Accounts attributed to that Project.

(q) Project Rights

Project Rights means the legal rights, such as contract rights, ownership rights, or operator rights that a Party may have (i) with respect to any specific Project, and (ii) in the power or energy produced by or received for the account of such Project at any time. Project Rights include, but are not limited to, generator capability, pondage, reservoir elevation limits, inflow, minimum discharge, generator availability, reserves, load following, and spill.

(r) Provisional Energy

Provisional Energy has the meaning set forth in the Pacific Northwest Coordination Agreement or a successor coordination agreement.

(s) Spill Prevention Bias

Spill Prevention Bias means the total energy generation in excess of the total Project requirements for all Projects except the Bureau of Reclamation and Corps of Engineers Projects, during spill prevention operation.

(t) Spill Prevention Energy

Spill Prevention Energy means energy delivered to the Administrator by any of the other Parties during spill prevention operation in accordance with the terms of the Implementation Manual, and is the integration of the Spill Prevention Bias.

(u) Treaty

Treaty means the treaty document titled "Treaty between Canada and the United States of America Relating to the Cooperative Development of the Water Resources of the Columbia River Basin."

(v) Uncoordinated Request

Uncoordinated Request means the sum of all generation requests sent to a Project Control Center that is forwarded to Central. When combined with all other Projects' Uncoordinated Requests, such individual requests become the Mid-Columbia Uncoordinated Request.

Section 1 Objectives

Subject to the respective rights and obligations of the Parties under Section 5, *Rights and Obligations*, the Parties shall coordinate the operation of the Projects so as to achieve the following objectives:

(w) Primary Objective

The primary objective is to coordinate the hydraulic operation of the Projects. The intended result is to optimize the amount of energy from the available water consistent with the needs to both (i) adjust the total actual generation to match the total requested generation, and (ii) operate within all Parties' power and non-power requirements.

(x) Secondary Objective

The secondary objective is to provide flexibility and ease of scheduling generation for the Projects through centralized coordinated scheduling, and to provide flexibility in scheduling Project generation through the use of composite scheduling and accounting procedures.

(y) Tertiary Objective

The tertiary objective is, to the extent such can be made consistent with the primary and secondary objectives, to minimize unnecessary Project generation changes, including unit starts and stops.

To carry out the foregoing objectives the Parties shall implement the procedures set forth in Exhibit A attached hereto, and incorporated herein by this reference.

Section 1 Distribution of Net Benefits

Except as provided in Section 5, *Rights and Obligations*, and Exhibit A, the Parties shall accept the gains and losses resulting from Hourly Coordination as such gains and losses accrue. The Parties will use their best efforts to evaluate the effects of Hourly Coordination, and each Party shall record and provide to other Parties data and information relevant to determining the equity of this distribution of benefits.

Section 2 Rights and Obligations

(z) Access to the Capability of Projects

Each Party shall have full access to, but not in excess of, the capability of the Project(s) in which it has Project Rights; provided, to the extent any Project is constrained, such Party's rights under this Agreement shall be correspondingly limited for the same period of time. In the event of a conflict between Project Rights and this Agreement, Project Rights shall have first priority.

(aa) Requests from Total System

A request by a Party to access the capability of the Project(s) in which it has Project Rights shall be satisfied from the total system of Projects. Such request by any Party may be satisfied from any Project regardless of whether such Party has Project Rights in such Project.

(bb) Appropriate Accounting

The Operating Group shall establish appropriate interchange accounts and accounting procedures in order that a Party's requests shall be attributed to the Project(s) in which such Party holds Project Rights.

(cc) No Impact on In Lieu Energy or Provisional Energy

A Party's delivery and receipt of energy under this Agreement shall not affect any rights or obligations with respect to In Lieu Energy or Provisional Energy.

(dd) Use of Existing Facilities

The Parties shall deliver or receive Coordination Exchange under this Agreement at existing points of interconnection between the Projects.

(ee) Operating Reserves

Hourly Coordination shall determine the location, by Project, and type of Operating Reserves necessary to satisfy all Parties' requests pursuant to subsection 5(b), *Requests from Total System*, in a manner that does not affect the type, quantity, and quality of Operating Reserves.

Section 1 Emergencies and Non-power Requirements

Nothing in this Agreement shall require a Party to operate a Project in a manner inconsistent with (i) its obligations in emergencies or, (ii) for non-power requirements or functions. No Party shall be considered in violation of this Agreement because of actions taken: to protect against threats to human life or property; to comply with applicable laws; to comply with regulations by governmental agencies having jurisdiction; or, to meet the terms of federal treaties, executive orders or similar legal requirements involving Indian trust assets or cultural resource obligations. If a Party is unable to meet such emergency or non-power requirements by coordinating its requirement with Central, a Party may manage its resources independent of Hourly Coordination for the purpose of fulfilling such requirement or obligation so long as such Party continues to advise Central of its expected operations.

Section 2 Facilities

The Administrator, Chelan, Douglas, and Grant shall procure, install, and maintain the facilities required on their respective systems for gathering, computing, and disseminating data and performing control functions to accomplish Hourly Coordination. The owner of the facility shall provide computer programming where it is required. The Party that incurs the cost of the facilities, programming, and other labor, material, or equipment required for Hourly Coordination shall bear such cost and shall allocate such costs to such Party's Projects; *provided*, the Project owners may enter into a separate agreement for sharing the costs of Hourly Coordination.

Section 3 General Provisions

(ff) Mid-Columbia Hourly Coordination Groups

Each Party except the Government shall designate a representative and an alternate to serve on the Groups listed in paragraphs (1) and (2) below. The

Administrator, the Division Engineer, and the Regional Director shall each designate a representative and an alternate to serve on such Groups. Each Group shall select from its representatives a chair, and shall meet on call of the chair or any representative. There is no quorum requirement for either Group.

(1) The Agreement Group

The Agreement Group shall adopt procedures for both Groups to accomplish the objectives set forth in Section 3, and shall attempt to resolve disputes among the Parties. The adoption of procedures and the resolution of disputes requires written notification to, and unanimous consent of, all members of the Agreement Group. The Agreement Group has no authority to alter this Agreement. The Agreement Group may propose modifications to Exhibit A of this Agreement by written notification to all Parties. Such modifications shall become effective only upon unanimous consent of all members of the Agreement Group. In all cases, the failure of an Agreement Group member, having received written notice, to object is considered consent. The Agreement Group may delegate tasks to the Operating Group in addition to the tasks specified in paragraph (2) below.

(2) The Operating Group

The Operating Group shall establish and review working guides and procedures to implement the strategy, accounting procedures, and operations under this Agreement. The Operating Group may propose modifications to the Implementation Manual, as provided for in Exhibit A Part V, by written notification to all Parties. Such modifications shall become effective only upon unanimous consent of all members of the Operating Group. In all cases, the failure of an Operating Group member, having received written notice, to object is considered consent. Operating Group actions shall be consistent with decisions of the Agreement Group. The Operating Group may delegate any of its functions to one or more subgroups.

(gg) Assignment of Agreement

This Agreement shall inure to the benefit of, and shall be binding upon, the respective successors and assigns of the Parties.

(hh) Effect on Other Agreements

Except as expressly provided herein, this Agreement shall not modify or alter any preexisting rights or obligations between or among Parties. Notwithstanding any other provisions of this Agreement, this Agreement shall in no way be interpreted or construed to increase or decrease any Party's rights or obligations with respect to any Project or alter the term of any power sales contract.

(ii) Entirety of Agreement

This Agreement constitutes the entire agreement among the Parties, and supersedes all prior hourly coordination agreements of Projects on the mid-Columbia River.

(jj) Headings

The headings in this Agreement are provided for organizational purposes only and shall not be construed to modify or interpret the text.

(kk) Notices

Notices under this Agreement shall be effective when (i) deposited in the United States mail first-class postage prepaid, (ii) sent via electronic mail or similar successor technology, (iii) sent via facsimile copy, or (iv) sent in any other manner reasonably certain to provide actual receipt within two business days, and addressed to the Agreement Group representative of a Party. Any notice to be given by the Government may be given by the Agreement Group representative of either the Administrator, the Division Engineer, or the Regional Director.

(ll) Regulatory Approval

This Agreement shall neither be nor become effective unless and until this Agreement has been approved, accepted for filing or permitted to become effective by FERC (including under Section 22 of the Federal Power Act if required by FERC) and any other regulatory entity having jurisdiction without any change or new condition that is unacceptable to any of the Parties; *provided* if FERC or any other regulatory entity requires a change in, or imposes a new condition on, this Agreement, this Agreement shall become effective only if all the Parties agree in writing to such change or new condition. In the absence of receiving all required regulatory approvals for all Parties, the 1987 Agreement for Hourly Coordination of Projects on the Mid-Columbia River may be extended for a period of time to be agreed upon by the Parties.

If any provision of this Agreement is invalidated by a final order of any regulatory or judicial authority having jurisdiction, the Parties shall consider whether to modify this Agreement so as to remove any impediment to validity of this Agreement. In the absence of such modification agreed to in writing by all of the Parties, the 1987 Agreement for Hourly Coordination of Projects on the Mid-

Columbia River, may be extended for a period of time to be agreed upon by the Parties.

(mm) Waiver of Default

The failure of any Party to exercise any right or demand any remedy against another Party for its default in performance of an obligation under this Agreement shall not be deemed a waiver of such right in any subsequent matter between the Parties.

(nn) Written Amendments

Except as provided in subsection 8(a)(1), *The Agreement Group*, no modifications or amendments to the terms of this Agreement shall be effective unless all the Parties execute a written amendment to this Agreement.

(oo) Conflict Between Agreement and Exhibit

In the event of a conflict between any exhibit to this Agreement or implementing procedure and any provision of this Agreement, the Agreement shall govern. In the event of a conflict between any implementing procedure to this Agreement and any exhibit of this Agreement, the exhibit shall govern.

(pp) Reservation of Rights

Each Party expressly reserves all of the rights (sovereign or otherwise), powers, and defenses that it may have.

(qq) Limitations and Liabilities

In no event shall any Party be liable to the other Parties for any incidental, special, consequential, indirect, exemplary, or punitive damages of any kind or nature whatsoever arising out of or relating to any emergency, unplanned outage, or action taken in response to emergency or non-power requirements referred to in Section 6, *Emergencies and Non-Power Requirements*.

No Party shall be in default of any obligation under this Agreement if failure to perform is caused by an uncontrollable force. The term “uncontrollable force” means any cause beyond the control of the Party affected, including, but not limited to, failure of facilities, flood, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance, labor disturbance, sabotage, restraint by court order, or applicable law, or requirement of state or federal regulatory agency having jurisdiction, which by exercise of due foresight such Party could not reasonably have been expected to avoid and which by exercise of due diligence such Party is unable to overcome.

Section 1 Joinder or Removal of Parties

(rr) Joinder of a Party

Any entity with Project Rights with respect to any of the Projects may join as a Party to this Agreement. Such joinder shall become effective when the joining Party executes and signs an addendum to this Agreement. The addendum shall be entitled "Addendum Joining Additional Party" and shall be attached to and incorporated by this reference in this Agreement.

(ss) Removal of a Party

A Party shall be removed automatically as a Party to this Agreement if such Party no longer has Project Rights with respect to any of the Projects. Upon such removal, the rights and obligations of such Party, then accrued or incurred, shall continue until satisfied.

Section 1 Execution in Counterparts

This Agreement may be executed in any number of counterparts. All such counterparts shall constitute a single document with the same force and effect as if all Parties signing a counterpart had signed all the other counterparts.

IN WITNESS WHEREOF the Parties have executed this Agreement.

Party

_____

_____

By

_____

Title _____

Exhibit A

The purpose of this Exhibit is to establish procedures to accomplish the objectives set forth in Section 3 of the Agreement.

Part I Operating Strategy

The operating strategy shall include, but not be limited to, the following:

(a) Drafting for Power Production.

Except for spill protection drafts, the total system of Projects shall, to the extent practicable, be primed to load from the Project that results in the least head loss from priming draft, which generally shall be the Project at the highest elevation that can prime to load without spill.

(b) Drafting to Prevent Present Spill.

When spill can be reduced or prevented by drafting a Project downstream of the point of spill, and if it is anticipated that such draft would refill within a prescribed time interval, the downstream Project shall, to the extent practicable, be drafted to reduce or prevent such spill. It is intended that the additional generation produced by the downstream draft will reduce the coordinated request upstream of the point of spill, and thereby reduce the inflow to the Project experiencing present spill.

(c) Drafting to Prevent Anticipated Spill.

When anticipated spill at a Project can be reduced or prevented by present draft at such Project, such anticipatory spill protection draft shall, to the extent practicable, be implemented. It is intended that the energy loss caused by such draft would be less than the energy that would have been spilled.

(d) Drafting to Refill.

Except for anticipatory spill protection drafts, whenever conditions permit, Projects shall be refilled by drafting Projects at higher elevations with the ultimate objective of filling all downstream Projects from Grand Coulee draft.

(e) Operation to Protect Peaking Capability.

Notwithstanding (a) through (d), above, and subject to physical and other limitations, the draft of a Project shall be limited such that each Project shall be able to generate at its maximum generation for the same number of hours on two consecutive days.

(f) Operation to Provide Water Downstream.

When the Government so requires under paragraph III(d)(4) of this Exhibit, Central shall recognize the Bureau of Reclamation's operation of Grand Coulee and the Corps of Engineers' operation of Chief Joseph at their maximum generation.

(g) Unusual Situations.

The Parties recognize that special situations may arise which necessitate departure from the drafting sequences prescribed by (a) through (f). It is intended that the operating strategy be implemented only within the areas of freedom remaining after all special conditions are met.

Part II Limits

(a) Maximum Generating Capability.

Central shall compute each Party's maximum generating capability based upon the maximum capability, and other limiting factors, at each Project as determined by the operator of such Project. Project operators shall notify Central of any changes in Project capability.

(b) Minimum Generating Capability.

Central shall compute each Party's minimum generating capability based upon the minimum discharge requirement, and other limiting factors, at each Project as determined by the operator of that Project. Project operators shall notify Central of any changes in Project capability.

(c) Project Pond Account.

Project Pond Accounts may not be less than the lower limit or greater than the upper limit set forth in the following table for each Project. The Grand Coulee Project shall not have a Project Pond Account.

Project	Pond Elevation Limits Lower (Ft)	Pond Elevation Limits Upper (Ft)	Pond Account Limits Lower (MWh)	Pond Account Limits Upper (MWh)
Grand Coulee	1208.0	1290.0	Not applicable	
Chief Joseph				
(Oct. 16 through Feb. 14)	930.0	956.0	0	29339
(Feb. 15 through Oct. 15)	950.0	956.0	0	7668
Wells	771.0	781.0	0	6718
Rocky Reach	703.0	707.0	0	3283
Rock Island	609.0	613.0	0	352
Priest Rapids			0	26297
Wanapum Development	560.0	571.5		
Priest Rapids Development	481.5	488.0		

Limits on the Project Pond Accounts shall be modified to reflect any changes in the lower or upper pond elevation limit of any Project. Each Project operator shall supply the relationship between the pond elevations of its Project and the Project Pond Account limits.

(d) Party's Pond Account.

Each Party's Pond Account at the non-Federal Projects shall not be less than the lower limit or greater than the upper limit set forth in the Implementation Manual. Each Party's Pond Account limits are related to the Project Pond Account limits given in subpart II(c), *Project Pond Account*, for Wells, Rocky Reach, Rock Island and Priest Rapids in a manner specified by the operators of such Projects.

At any time any Project Pond Account limit is modified pursuant to subpart II(c), *Project Pond Account*, each Party's Pond Account limits shall be modified to reflect the modification. Nothing herein shall prevent Parties from reallocating Project Rights among Project participants. The Implementation Manual shall be amended to reflect the reallocation of any Project Rights.

(e) Maximum Rate of Delivery of Spill Prevention Energy.

The Government shall specify the maximum rate at which Spill Prevention Bias may be transmitted to the Administrator.

(f) Maximum Rate of Change of Generation.

Part III Each Project Control Center shall supply to Central the maximum amount of generation change per Control Interval to which the Project is capable of responding. Project operators shall notify Central of any changes in such maximum amount. Scheduling and Control

(a) Project Control Centers.

Project Control Centers shall be:

(1) BPA System Control Center on behalf of the Bureau of Reclamation for its Grand Coulee Project and on behalf of the Corps of Engineers for its Chief Joseph Project.

(2) Douglas System Control Center for Wells Project.

(3) Chelan System Control Center for Rocky Reach Project and Rock Island Project.

(4) Grant System Control Center for Priest Rapids Project.

(b) Control of Generation by Parties.

Each Party shall normally control its generation from the Projects by the following means:

(1) Portland by variable control signal to Grant System Control Center.

(2) PacifiCorp by variable control signal to Grant System Control Center.

(3) Puget by variable control signals to Douglas and Chelan System Control Centers.

(4) Water Power by variable control signal to Chelan System Control Center.

(5) Seattle by schedule to Grant System Control Center.

(6) Tacoma by variable control signal to Grant System Control Center.

(7) Colockum by variable control signal to Chelan System Control Center.

(8) Government by variable control signals at BPA System Control Center and by schedule to Grant System Control Center.

(9) Grant by variable control signal at Grant System Control Center.

(10) Chelan by variable control signal at Chelan System Control Center.

(11) Douglas by variable control signals to Douglas and Chelan System Control Centers.

(12) Cowlitz by schedule to Grant System Control Center.

(13) Eugene by variable control signal to Grant System Control Center.

(14) McMinnville by schedule to Grant System Control Center.

Any Party may change its method of control by notice to the appropriate Project Control Center.

(c) Prescheduling.

(1) On each workday, for each day that is being prescheduled and on which spill is anticipated, each Party shall provide an estimate to Central, by hours, of the amounts of water which such Party intends to spill from its Projects for the following day or days.

(2) On each workday, the Government shall provide an estimate to Central for at least the following seven days of:

(A) The amount of water which is expected to be discharged from Chief Joseph Project, and

(B) The periods for which the Administrator expects Spill Prevention Operation to be in effect.

(3) Upon receipt of the data specified in paragraph III(c)(1) and (2), Central shall make an estimate of the operation for the following day or days. Results of such estimated operation shall be transmitted to the Parties.

(4) Each Party shall then perform the normal Prescheduling procedures which apply to the following day or days, and in addition, shall provide an hourly schedule of generation from the Projects for the following day or days.

(d) Scheduling.

(1) Any Party may change its current or future Scheduled Generation or Forecasted Generation from the Projects at any time.

(2) The Scheduled Generation from the Projects for a Party with a variable control signal shall be determined after any hour as the integration of the Return Signal for such hour.

(3) Each Party shall notify its appropriate Project Control Center of the amounts, if any, of water which such Party intends to spill from its Projects. Each Project Control Center shall notify Central of the total of such amounts requested for each of its Projects.

(4) In any hour that the Government determines that Chief Joseph and Grand Coulee should be operated at maximum generation to provide water for operations at the Corps of Engineers' hydroelectric Projects downstream from Priest Rapids, the Parties may agree to modify operations to minimize the amounts of spill (Spill Prevention Operation) as specified in the Implementation Manual.

(5) Each Party shall notify Central of the amounts, if any, of its Project Rights to be maintained as unloaded generating capacity synchronized to the line. Central shall insure that such notifications are processed as specified in the Implementation Manual.

(6) No Party shall schedule generation from the Projects, or transmit a variable control signal for generation from the Projects, which is greater than the maximum capability of its Project Rights or less than the minimum capability of its Project Rights.

(7) Each Party's rights to schedule both generation and Operating Reserves shall be limited by the following:

(A) The sum of a Party's Uncoordinated Request(s) and its Operating Reserves request(s) shall be less than or equal to its maximum capability in the Projects.

(B) Such schedules shall not result in any affected Pond Account exceeding the limits referenced in subparts II(c), *Project Pond Account*, and II(d), *Party's Pond Account*.

(e) Control.

(1) Each Project shall normally be controlled by a quantity which is the algebraic sum of the Uncoordinated Request and the Bias transmitted from Central to the Project Control Center for such Project.

(2) The Control Interval shall be four seconds unless modified by the Operating Group. For the Grand Coulee and the Chief Joseph Projects, it is expected that the time interval for Bias changes may be greater than four seconds. This is to assure separation of load regulation from hydraulic coordination to the maximum extent practicable for operation of the Grand Coulee and Chief Joseph Projects under this Agreement.

(3) Bias shall be determined at each Control Interval as follows:

(A) Each Project Control Center shall transmit to Central its Project's Uncoordinated Request. Central shall add these quantities together to determine the total Mid-Columbia Uncoordinated Request.

(B) Central shall compute the allocation of generation to each Project in the manner described in Part I. No new allocation of generation for each Project shall differ from the previous allocation for such Project by an amount larger than the maximum amount provided in subpart II(f), *Maximum Rate of Change of Generation*, of this Exhibit; *provided*, if the new Mid-Columbia Uncoordinated Request differs from the previous Mid-Columbia Uncoordinated Request by an amount that is larger than the maximum system generation change response available, one or more Projects shall be requested to respond at a rate that exceeds that Project's maximum rate of response.

(C) Central shall calculate each Project's Bias and shall transmit the Project's Bias to the respective Project Control Center.

(4) At times when operations are modified pursuant to paragraph III(d)(4) of this Exhibit, the procedures for Spill Prevention Operation in the Implementation Manual shall be used.

(5) Closed loop control shall be installed, allowing all Parties to incorporate a continuous control difference into their control error computation. The control difference is the difference between the generation and Operating

Reserves each Party requests and the generation and Operating Reserves such Party receives.

(f) Emergency Procedures.

The Operating Group shall develop procedures to be followed in the event of failure of communication or control equipment, or other emergency. Such procedures shall be documented in the Implementation Manual.

Part IV Accounting

(a) Data Reporting by Projects.

Immediately after the end of each hour, each Project Control Center shall transmit to Central data related to operations for that hour. The Operating Group shall establish the operations data necessary for proper accounting and for the efficient and reliable operation of the Projects.

(b) Accounting Computations by Central.

As soon as practicable each hour, Central shall make the following computations for such hours.

(1) The inflow to each Project, expressed in megawatt hours, shall be computed as the algebraic sum of net generation, spill, encroachment and change of pond content for such Project.

(2) The inflow to each Project shall be allocated among the Parties according to their Project Rights.

(3) The Project inflows of all Projects for each Party shall be totaled as that Party's total inflow.

(4) An alternate method of determining and allocating hourly inflows may be used by the non-Federal Projects, as agreed upon by all Parties; provided, that such method shall allocate inflow to each non-Federal Party during a period of time longer than one (1) hour and be equal to the inflow allocated in paragraph IV(b)(2) during a similar period of time, and that the sum of these inflows shall not differ from the sum of the inflows of the non-Federal Projects established in paragraph IV(b)(1).

(5) Procedures for accounting for Spill Prevention Energy shall be included in the Implementation Manual.

(6) The pondage change for each Party shall be computed as the difference between that Party's total inflow and the Party's integrated generation.

The Party's Pond Account shall be adjusted to reflect such pondage change.

(7) The integrated generation of each Party shall be allocated, within Project limits, among the Projects in which such Party has Project Rights:

(A) For each Party at the non-Federal Projects, its integrated generation shall be allocated to draft or fill its share of the Project Pond Accounts as specified in advance by that Party.

(B) The integrated generation from the Bureau of Reclamation's and the Corps of Engineers' Projects shall be allocated only to maintain the Project Pond Account for Chief Joseph within Chief Joseph's Project Pond Account limits, except that during any hour for which the Administrator has modified operations pursuant to paragraph III(d)(4), the allocated generation for Chief Joseph shall be its actual generation.

(8) The portion of each Party's Pond Account for each Project shall be totaled to determine the Project Pond Account for that Project.

(9) Coordination Exchange shall be accumulated for each Project. The total accumulation for all Projects shall be zero.

(c) Computation of Chief Joseph Head Loss.

The Administrator shall be compensated in the form of energy for head loss in excess of certain nominal amounts incurred at Chief Joseph resulting from its delivery of Coordination Exchange. Each Party except the Government shall schedule for delivery to the Administrator such energy in amounts as computed for such Party in accordance with the Implementation Manual.

(d) Reporting of Status of Accounts.

Central shall report to each Party, either directly or through the appropriate Project Control Center, the status of all accounts which are computed or modified as provided in subpart IV(b), *Accounting Computations by Central*. Reports shall be made at each hour or at such other intervals as the Parties may request. Summaries of operating data for the Projects and of the various accounts shall be prepared and issued by Central from time to time as established by the Operating Group.

(e) Project Accounting.

Chelan, Grant and Douglas shall receive from Central the determination of the allocated integrated generation as provided above, and shall use such quantities in accounting for Project generation under the appropriate Power Sales Contracts for their Projects.

Part V Implementation Manual

The Operating Group shall prepare and distribute a manual ("Implementation Manual") incorporating the current, detailed procedures for implementing the provisions of this Agreement. The Parties are to use the manual as a guide and source of information. Operations may not commence under this Agreement if any Party objects to the provisions of such manual. Any Party may call a meeting of the Operating Group to consider an amendment to the manual. The contents of the manual may be amended as needed to more effectively implement this Agreement and shall be amended according to the procedures set forth by the Agreement Group in paragraph 8(a)(1) of this Agreement.