

WSCC UNSCHEDULED FLOW MITIGATION PLAN

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WSCC UNSCHEDULED FLOW MITIGATION PLAN

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ATTACHMENTS

1. WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE
2. WSCC CONTROLLABLE DEVICES COORDINATED OPERATING PROCEDURE
3. WSCC CONTROLLABLE DEVICES COMPENSATION METHODOLOGY
4. WSCC USF MITIGATION PLAN (ANNUAL MEMBERSHIP DUES)
5. WSCC UNSCHEDULED FLOW PRINCIPLES

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1 PARTIES

The Parties to which this Plan applies are the Member systems of the Western Systems Coordinating Council (Members).

2 RECITALS

This Plan is set forth with reference to the following facts and principles, among others:

- 2.1 The WSCC interconnected regional transmission systems have experienced Unscheduled Flow (USF) for many years, often constraining the scheduled use of transmission facilities.
- 2.2 The Members recognize that significant USF is an inevitable and occasionally burdensome consequence of interconnected system operation.
- 2.3 The Members also recognize that effective control of USF will provide significant transmission benefits to all owners and users of the interconnected transmission system.
- 2.4 Past administrative and schedule curtailment procedures to relieve or mitigate the impact of such USF have not been as successful as desired.
- 2.5 A number of Controllable Devices, primarily phase shifting transformers, have been installed within the WSCC interconnected system in the past several years by their respective owners for specific local purposes.
- 2.6 Controllable Devices have the capability to alter power flow on parallel alternating current transfer paths. The WSCC Minimum Operating Reliability Criteria states that Controllable Devices may be used to control Actual Flow within the limits of Scheduled Flow and unaltered power flow.
- 2.7 The coordinated operation of the phase shifting transformers and other Controllable Devices has been demonstrated to be very effective in reducing the level of USF over both the major loop and some minor loop transmission paths in the WSCC interconnected system.
- 2.8 The owners of these Controllable Devices are willing to make them available for coordinated operation to assist in relieving Qualified Transfer Paths constrained by USF, provided that such operation does not materially

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adversely impact their intended purposes or the Controllable Device owners' respective customers.

- 2.9 This Plan is a result of the work by the WSCC PCC/OC Unscheduled Flow Task Force at the direction of the WSCC Loop Flow Steering Committee.
- 2.10 The WSCC has developed this Plan to control USF and to provide relief to the transmission owners and operators and to prevent excessive amounts of USF from creating constrained Transfer Paths.
- 2.11 This Plan is based on the WSCC Unscheduled Flow Principles, which are incorporated into this Plan by reference as Attachment 5.
- 2.12 This Plan recognizes that all Schedules contribute to USF and that some amount of USF is inevitable; therefore, both some accommodation and some curtailment of contributing Schedules are reasonable.
- 2.13 The WSCC seeks through this Plan to utilize accommodation and coordinated operation of the Controllable Devices, together with Schedule adjustments in a three-level protocol, to relieve the constraints on Qualified Transfer Paths caused by excessive amounts of USF.
- 2.14 This Plan provides a means to collect funds from the Members and to disburse these funds to the Controllable Device owners for their reasonably incurred costs associated with coordinated operation to relieve WSCC Qualified Transfer Path constraints.
- 2.15 Because the Controllable Devices, such as phase shifting transformers, have limited operating lifetimes, and the parties desire to not adversely affect the planned lifetimes and effectiveness of those devices through overuse, coordinated operation of the Controllable Devices must be used in combination with other operational tools including accommodation and Schedule curtailment to effectively mitigate USF.
- 2.16 This Plan attempts to balance the mitigation responsibilities among all Members through shared accommodation, shared operating costs for control, and with curtailment requirements when necessary.
- 2.17 This Plan represents the Operational Control portion of a three part solution to mitigate the undesirable effects of USF. The other two parts, upon which this Plan is not contingent, Long Range Planning Implications and Scheduling

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Practice Implications, are being addressed by the WSCC Regional Planning Policy Committee and the WSCC Operations Committee, respectively.

- 2.18 This Plan was originally accepted for filing by the FERC in January 1995 and placed into service on April 1, 1995. Experience gained since that time has proven the value of the Plan, in particular the coordinated operation of controllable devices, in mitigating USF.

3 TERM

This Plan shall become effective on the first day of the calendar month following the calendar month in which it has been both accepted and permitted to become effective by FERC without substantive modifications, as determined by the WSCC Board of Trustees. The initial term of this Plan shall be for ten years, and this Plan shall be automatically extended in five year increments; provided, however, that this Plan may be terminated at any time, to be effective at the end of the then current Plan Year, by an affirmative vote, by written ballot, of at least 51 percent of the Members to terminate the Plan. There shall be no ongoing responsibilities following termination or expiration of this Plan for either the Members or the owners of Qualified Controllable Devices, except this Plan shall remain in effect for one additional year for the purpose of collecting USF Dues from Members and distributing compensation to the Qualified Controllable Device owners for the allocated portion of the operation and maintenance expenses associated with the last Plan Year of operation under this Plan, pursuant to the calculation and allocation methodology in Attachment 3.

4 DEFINITIONS

The following terms, when used herein with initial capitalization (whether in the singular or plural), shall have the meaning specified:

- 4.1 Actual Flow: The demand across a Transfer Path.
- 4.2 Controllable Device: An element (phase shifter, series capacitors, back-to-back DC, etc.) that can be used to mitigate the effects of Unscheduled Flow.
- 4.3 Controllable Devices Coordinated Operating Procedure (CDCO Procedure): The WSCC Controllable Devices Coordinated Operating Procedure, included as Attachment 2.

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- 4.4 FERC: Federal Energy Regulatory Commission.
- 4.5 Maximum Transfer Limit (MTL): The maximum operating limit, expressed in megawatts, of a Transfer Path (with all elements in service) that has been established by the Transfer Path Operator and published in WSCC documents.
- 4.6 Member: A member of the WSCC.
- 4.7 Plan: This WSCC Unscheduled Flow Mitigation Plan, including the following attachments: USF Reduction Procedure; CDCO Procedure; WSCC Controllable Devices Compensation Methodology; WSCC USF Mitigation Plan Annual Member Dues; and WSCC Unscheduled Flow Principles.
- 4.8 Plan Year: The 12-month period beginning on the effective date of this Plan and each subsequent 12-month period beginning on the anniversary of the effective date of this Plan. (For example, if FERC accepts and permits the Plan to become effective on March 15, 1994, then the first Plan Year will be the period April 1, 1994 through March 31, 1995.) After the fourth Plan Year, the Plan Year will be adjusted to match the current calendar year.
- 4.9 Procedures: The step by step instructions and guidelines needed to implement the operational portion of this Plan, specifically the USF Reduction Procedure and the CDCO Procedure.
- 4.10 Qualified Controllable Device: A Controllable Device that has met the qualification requirements described in Section 9 and has been approved by the WSCC Operations Committee.
- 4.11 Qualified Transfer Path: A Transfer Path that has met the qualification requirements described in Section 8 and has been approved by the WSCC Operations Committee.
- 4.12 Receiver: An entity receiving a Schedule of energy across a Transfer Path or series of Transfer Paths.
- 4.13 Schedule (hourly): Each transaction between the originating Sender and the ultimate Receiver.
- 4.14 Scheduled Flow: The algebraic sum of individual Schedules for an hour across a Transfer Path, e.g. net Schedules.

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- 4.15 Sender: An entity delivering a Schedule of energy across a Transfer Path or series of Transfer Paths.
- 4.16 Transfer Limit: The operating limit, expressed in megawatts, of a Transfer Path at the time of curtailment that has been established by the Transfer Path Operator.
- 4.17 Transfer Path: An element or group of elements (transmission lines, transformers, series capacitors, buses or other pieces of electrical equipment interconnecting control areas or parts of a control area) over which a Schedule can be established.
- 4.18 Transfer Path Operator: The Member that operates the Qualified Transfer Path.
- 4.19 Unscheduled Flow (USF): Transfer Path Actual Flow minus Transfer Path Scheduled Flow.
- 4.20 Unscheduled Flow Accommodation (USF Accommodation): The amount of Unscheduled Flow to be accommodated across a Qualified Transfer Path.
- 4.21 Unscheduled Flow Administrative Subcommittee (UFAS): The sub-committee that is described in Section 5.4 of this Plan.
- 4.22 Unscheduled Flow Dues (USF Dues): Each Member's dues allocation of the costs associated with achieving coordinated operation of the Qualified Controllable Devices.
- 4.23 Unscheduled Flow Reduction Procedure (USF Reduction Procedure): The WSCC Unscheduled Flow Reduction Procedure, included as Attachment 1.
- 4.24 WSCC: Western Systems Coordinating Council, its successors and assigns.
- 4.25 WSCC Annual Meeting: The Annual Meeting of the WSCC Council Representatives held in the fourth quarter of every calendar year.
- 4.26 WSCC Dispute Resolution Procedures: The written procedure adopted by the WSCC in Article XII of the WSCC Agreement and Bylaws to govern the voluntary process for Members to resolve disputes relating to the reliability, planning, and operation of the western interconnected system.

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5 ADMINISTRATION

- 5.1 The administrative organization that shall implement this Plan and the USF Reduction Procedure is as follows:
 - 5.1.1 WSCC Board of Trustees
 - 5.1.2 WSCC Operations Committee
 - 5.1.3 Unscheduled Flow Administrative Subcommittee (UFAS) reporting to the WSCC Operations Committee
 - 5.1.4 WSCC Staff
- 5.2 The WSCC Board of Trustees is responsible for communicating the activities of the WSCC Operations Committee and the UFAS to the Members. The WSCC Staff support of the USF Reduction Procedure and the WSCC Operations Committee and the UFAS activities shall be done with the advice and consent of the WSCC Board of Trustees. The WSCC Board of Trustees shall perform the following functions and responsibilities:
 - 5.2.1 Approve changes, deletions, and amendments to the Plan and Procedures that in its judgement do not have significant adverse impact on Members.
 - 5.2.2 Present significant changes, deletions, and amendments to the Plan or its Procedures to the Members for review and approval.
 - 5.2.3 Upon receipt of written requests from 20% of the Members, initiate a review of the USF Dues allocation and report the results and any recommended changes to the Members in a timely manner.
- 5.3 The WSCC Operations Committee shall perform the following tasks:
 - 5.3.1 Review and approve recommendations of the UFAS to qualify or delete Transfer Paths for USF control.
 - 5.3.2 Review and approve recommendations of the UFAS to qualify or delete Controllable Devices for USF coordinated control compensation under this Plan and the Procedures.

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- 5.3.3 Review UFAS recommendations of changes, deletions and amendments to the Plan and the Procedures and recommend such to the WSCC Board of Trustees.
- 5.3.4 Review UFAS recommendations of subsequent procedures to deal with USF and recommend such to the WSCC Board of Trustees.
- 5.3.5 Perform other duties as assigned by the WSCC Board of Trustees.
- 5.3.6 Coordinate changes to this Plan and the Procedures with the Planning Coordination Committee.
- 5.4 The UFAS shall be made up of an equal number of representatives from the following Member groups: Members that operate Qualified Controllable Devices, Members that operate Qualified Transfer Paths, and at-large representatives from Members that do not operate either Qualified Controllable Devices or Qualified Transfer Paths. The WSCC Operations Committee Chairman shall appoint the at-large representatives and shall determine the overall size of the UFAS. The Members in each of the other two groups shall appoint their respective representatives, provided that the WSCC Operations Committee Chairman may appoint representatives to fill vacancies with respect to either such Member group to serve until such time as a majority of the Members in such group agrees upon replacement representatives. The UFAS will carry out its responsibilities based on a majority vote of UFAS representatives and shall have the following functions and responsibilities:
 - 5.4.1 Review requests for the qualification, requalification, and deletion of Transfer Paths, and recommend such to the WSCC Operations Committee.
 - 5.4.2 Recommend changes, deletions, and amendments to the Plan to the WSCC Operations Committee.
 - 5.4.3 Recommend changes, deletions, and amendments to the Procedures to the WSCC Operations Committee.
 - 5.4.4 Determine if proposed Controllable Devices meet, or current qualifying Controllable Devices fail to meet, the appropriate qualifying criteria (for coordination and compensation) and recommend such to the WSCC Operations Committee.

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- 5.4.5 Other duties as may be required under the Plan, the Procedures or as may be assigned by the WSCC Board of Trustees or the WSCC Operations Committee.
- 5.4.6 Collect performance data and monitor compliance with the Procedures.
- 5.5 The WSCC Staff shall perform the following tasks annually:
 - 5.5.1 Compute each Member's USF Dues obligation under this Plan.
 - 5.5.2 Compute the annual compensation payment for each Qualified Controllable Device under this Plan.
 - 5.5.3 Provide to each Member an annual summary of USF Dues and payments.
 - 5.5.4 Develop an annual USF budget with the UFAS for each calendar year, which shall include an estimate of the annual compensation payments and the USF Dues obligation for each Member.
 - 5.5.5 The WSCC Staff expenses to implement and administer the Plan shall be included in the annual WSCC budget submitted to the Members for approval at the WSCC Annual Meeting.
 - 5.5.6 Collect the Members' USF Dues and distribute the collected funds to the Qualified Controllable Device owners in accordance with Section 9.

6 PROTOCOL

The protocol for action to be taken is in the following order:

- 6.1 A portion of the USF must be accommodated as provided in Section -7- ACCOMMODATION LIMITS.
- 6.2 Coordinated Controllable Device operation must be accomplished as provided in Section - 9 - CONTROLLABLE DEVICE QUALIFICATION, OPERATION AND COMPENSATION.

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- 6.3 Schedule changes must be accomplished as provided in Section - II
UNSCHEDULED FLOW REDUCTION.

7 ACCOMMODATION LIMITS

- 7.1 During normal operating conditions when Actual Flow is not exceeding the Transfer Limit and desired Schedules are not being curtailed, the Qualified Transfer Path(s) will accommodate 100 percent of the USF.
- 7.2 During those time periods when there is or it is anticipated that there will be a scheduling limitation due to USF on a Qualified Transfer Path, the Transfer Path Operator and those Members scheduling across the Qualified Transfer Path are required to accommodate a minimum level of USF. Such USF Accommodation will be achieved by ensuring that the Scheduled Flow across the Qualified Transfer Path is reduced below the then available Transfer Limit by the amounts specified in the USF Reduction Procedure.

8 TRANSFER PATH QUALIFICATION, REQUALIFICATION, OR DELETION

- 8. The UFAS shall determine that a Transfer Path Operator has provided the required documentation and meets the criteria for qualification, requalification, or deletion as specified in the USF Reduction Procedure prior to recommending its qualification, requalification, or deletion to the WSCC Operations Committee.

9 CONTROLLABLE DEVICE QUALIFICATION, OPERATION AND COMPENSATION

- 9.1 Any Member may propose a Controllable Device to be qualified for compensation for coordinated operation under this Plan by presenting a plan for coordinated operation to the UFAS pursuant to the USF Reduction Procedure.
- 9.2 Qualified Controllable Devices that are no longer made available or are not capable of providing the minimum average effectiveness across all the Qualified Transfer Paths (specified in the USF Reduction Procedure) shall be considered by UFAS for deletion from the list of Qualified Controllable Devices according to the guidelines set forth in the USF Reduction Procedure.

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- 9.3 During periods when there is a scheduling limitation due to USF on a Qualified Transfer Path and the Transfer Path Operator has already met the minimum USF Accommodation requirements specified in Section 7, the owners of Qualified Controllable Devices shall make the control capability of such Qualified Controllable Devices available to reduce USF on the Qualified Transfer Path. Where there is more than one Qualified Controllable Device available, they shall be operated in a coordinated manner in accordance with the CDCO Procedure to reduce USF on the affected Qualified Transfer Path. In the event that such coordinated operation creates excess loadings or other adverse effects elsewhere in the WSCC system, the level of USF control shall be reduced to avoid such adverse effects.
- 9.4 During periods when there is no scheduling limitation due to USF (beyond USF Accommodation) on any Qualified Transfer Path affected by the Controllable Device, such, Controllable Device may be operated as desired by its owner(s) provided such operation is consistent with the Minimum Operating Reliability Criteria.
- 9.5 Owners of Qualified Controllable Devices shall be compensated by WSCC for their coordinated operation. The level of compensation and its allocation among the Qualified Controllable Devices shall be determined using an effectiveness test, in conjunction with the number of hours of controllable device operation requested during the year, as shown in Attachment 3. The effectiveness test recognizes that some Controllable Devices are able to achieve a greater reduction in USF over all Qualified Transfer Paths than other Controllable Devices, and it therefore provides a means for apportioning the compensation among the Controllable Devices according to their effectiveness in reducing USF.
- 9.6 Qualified Controllable Devices shall receive the full annual compensation according to the schedule shown in Attachment 3 provided the Qualified Controllable Device was available for coordinated operation at least 90 percent of the time for which coordinated operation was requested. Operating performance at levels below this minimum shall result in a pro-rata reduction in the annual compensation pursuant to the following formula:

Annual Qualified Controllable Device Compensation = (Attachment 3 Compensation Amount) * AF
where

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AF = Availability Factor = $AA / (0.90 * RA)$ but not greater than 1.0;

AA = Actual Availability = RA minus the number of hours in a calendar year for which operation of the Controllable Device was requested, but was not provided; and

RA = Number of hours in a calendar year for which operation of the Controllable Device was requested.

The calculation of AA and RA shall not include hours in which a Controllable Device is not operated in accordance with the last sentence of Section 9.3. If no requests for coordinated operations are made, then the AF shall be deemed to be 100 percent.

10 OPERATION UNDER CONTINGENCY CONDITIONS

In the event of an extended loss of more than 30 days of a Qualified Controllable Device, the UFAS shall determine an appropriate increase, if any, of the level of USF Accommodation that may be required to offset the loss of control effectiveness associated with the failure of the Qualified Controllable Device.

11 UNSCHEDULED FLOW REDUCTION

11.1 When USF Accommodation, as specified in Section 7, together with coordinated operation of the Qualified Controllable Devices, as specified in Section 9, are insufficient to reduce the Actual Flow on the Qualified Transfer Path to below the Transfer Limit, the Transfer Path Operator shall request curtailments in Schedules that contribute to the USF through the Qualified Transfer Path according to the USF Reduction Procedure.

11.2 Members shall comply in a timely manner with a Transfer Path Operator's request for Schedule curtailments.

12 ANNUAL UNSCHEDULED FLOW DUES ALLOCATION

12.1 In accordance with Article VIII, Section 7 of the WSCC Agreement, as amended, each Member shall be allocated an USF Dues obligation according to the methodology set forth in Attachment 4.

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- 12.2 USF Dues shall be payable at the same time as annual dues are payable under the WSCC Agreement, as amended, and each such payment shall cover USF Dues for the current calendar year being completed in which such USF Dues are payable.
- 12.3 If the Plan Year is not on a calendar year basis, the WSCC Staff shall adjust the USF Dues allocation at the end of each calendar year to reflect the appropriate USF Dues for that calendar year, reflecting the pro rata portions of the respective Plan Years included in the calendar year. After the fourth Plan Year, the Plan Year will be adjusted to match the current calendar year. The transition will be accomplished by making a "short year" for the period April 1 through December 31, 1999. Hours of PST-use accounting will start over on January 1, 2000. Dues for the short Plan Year 5 will be assessed in January 2000.
- 12.4 If the Plan Year is not on a calendar year basis, then the USF Dues for the first Plan Year shall be prorated to reflect the portion of the first Plan Year in the first calendar year, and shall be payable by special assessment at the end of the first Plan Year. For example, if the Plan Year begins April 1, then the USF Dues allocation for the first calendar year shall reflect 9/12 of the USF Dues, as determined using Attachment 4, for the first Plan Year.

13 EFFECTIVENESS REVIEW

The UFAS shall perform a review of the effectiveness of this Plan at the end of the first Plan Year of operation, and every three years thereafter, and shall report its findings to the WSCC Operations Committee and the WSCC Board of Trustees. The review shall include an assessment of the overall effectiveness of the Plan in mitigating USF and the cost effectiveness of the Procedures. Additionally, the WSCC Operations Committee shall coordinate with the WSCC Planning Coordination Committee to ensure that the Procedures continue to be effective in the future.

14 DISPUTE RESOLUTION

Any disputes, which arise as a result of Member's performance or non-performance under this Plan or its associated Procedures, shall be resolved using the WSCC Voluntary Dispute Resolution Procedure in effect at the time the notice is given to the UFAS and the WSCC Staff.

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15 LIMITATION OF LIABILITY

15.1 Except for the obligation to make payments hereunder, this Plan shall not create or be interpreted as creating any duty to, any standard of care with reference to, or any liability to, any Member or anyone else.

15.2 Each member shall be responsible for protecting its facilities from (i) possible damage by reason of electrical disturbances or faults caused by the operation, faulty operation or non-operation of the facilities of any other Member being used under or as part of this Plan, and (ii) the performance or non-performance of any Member under this Plan. No damages, direct, indirect, secondary or consequential, shall arise hereunder by reason of any such operation, non-operation, performance or nonperformance, and each Member hereby waives any claim for any such damages thereby arising.

16 AUDIT RIGHTS

Any Member shall have the right to audit the records of the owners of the Qualified Controllable Devices in substantiation of their annual ownership and operating costs associated with any Qualified Controllable Device. Such audit right shall remain in place for five years following the Plan Year for which the costs were applicable in determining the level of compensation for the Qualified Controllable Device.

FEBRUARY 12, 1999
July 30, 2001

ATTACHMENT 1

WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

-1-

The combination of scheduled and unscheduled flows on a Transfer Path may exceed the transfer capability of that Transfer Path. This Unscheduled Flow Reduction Procedure (USF Reduction Procedure) will be utilized to reduce the Unscheduled Flows (USF) across a constrained Qualified Transfer Path. The USF Reduction Procedure has the following parts:

1. Transfer Path Qualification
2. Transfer Path Requalification
3. Transfer Path Deletion
4. Actions Required Following Addition of a New Qualified Transfer Path
5. Controllable Device Qualification
6. Controllable Device Deletion
7. Accommodation Limits
8. General Terms
9. General Action Rules
10. Action Steps
11. Further Action
12. Term

This USF Reduction Procedure addresses the actions which are required by all Members. This USF Reduction Procedure recognizes the effectiveness of coordinated control and operation of the Qualified Controllable Devices installed within the WSCC systems. It is subject to review for its effectiveness (Section 13 of the Plan) and modification as provided in Section 5.2 of the Plan.

When a Qualified Transfer Path is constrained by USF, the Transfer Path Operator will notify all Members via the WSCC communications system, and Members will take actions as required by this USF Reduction Procedure to reduce the effects of USF across the Qualified Transfer Path. Where Schedule adjustments are required by this USF Reduction Procedure, it is the responsibility of the Member who is a Receiver to determine if any mitigation steps are required, and if so, to initiate appropriate actions. If the ultimate Receiver is not a Member, then the scheduling change administration responsibility shall belong to the Control Area Operator who is providing control area services to the non-Member.

This USF Reduction Procedure is not intended to be prescriptive with regard to which Schedules are to be adjusted to effect the required USF Accommodation or Schedule reduction. Rather, when actions are required to reduce the effects of USF, it is expected that each Member will select the most appropriate Schedule reduction which will satisfy the intended accommodation and curtailment responses required by this USF Reduction Procedure.

ATTACHMENT 1

WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

-2-

Terms which are initially capitalized in this USF Reduction Procedure refer to defined terms in the WSCC Unscheduled Flow Mitigation Plan.

1. Transfer Path Qualification

Requests for Transfer Path qualification shall be made directly to the UFAS. To qualify a Transfer Path under this Plan, a Transfer Path Operator must specify the applicable direction and provide documentation to satisfy the requirements for qualification set forth below:

- a. The Transfer Path must be a transmission element or elements across which:
 - i. a Schedule (MW) can be established,
 - ii. Actual Flow (MW) is metered, and
 - iii. Maximum Transfer Limit has been established and published in WSCC Planning Coordination Committee or WSCC Operations Committee documents.
- b. An historical record exists to document that:
 - i. for at least 100 hours in the most recent 36 months, Actual Flow across a Transfer Path (MW) has exceeded 97 percent of the Maximum Transfer Limit in MW, and at the same time
 - ii. energy Schedules were curtailed because of USF.
- c. The prospective Transfer Path Operator will be expected to make a presentation to the UFAS explaining how the Maximum Transfer Limit was determined and how the historical Actual Flow and/or Schedule curtailment records were obtained.
- d. An incremental matrix for the current operating season and applicable to the proposed Transfer Path confirms that a feasible combination of Schedules between Sender and Receiver can create USF across the Transfer Path whose sum is equal to or greater than five percent of the Maximum Transfer Limit.
- e. After the UFAS has reviewed the documentation and presentation, a recommendation will be forwarded to the WSCC Operations Committee. The Transfer Path Operator may be requested to make a presentation to the WSCC Operations Committee.
- f. A Transfer Path is normally qualified for USF reduction in only one direction. The Transfer Path may be qualified for USF reduction in both directions, but supporting data must be provided for each direction.

2. Transfer Path Requalification

If there is a change in the Maximum Transfer Limit for an existing Qualified Transfer Path or the addition of a Controllable Device in the Qualified Transfer Path, the Transfer Path Operator shall make a presentation to the UFAS so that the UFAS can determine if requalification of the Qualified Transfer Path is necessary.

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WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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3. Transfer Path Deletion

If there have been no Schedule reductions or USF Accommodations and the Actual Flow across a Qualified Transfer Path has not exceeded 97 percent of the Maximum Transfer Limit for the most recent 36 months, the UFAS shall make a determination as to whether the WSCC system configuration has been altered sufficiently so that USF Schedule reductions or USF Accommodation on the Qualified Transfer Path would no longer be expected. An affirmative finding of the UFAS and approval by the WSCC Operations Committee will be required to delete a Qualified Transfer Path.

4. Actions Required Following Addition of a New Qualified Transfer Path

- a. A new Transfer Path will be added to the list of Qualified Transfer Paths, attached as Exhibit A, upon approval of the WSCC Operations Committee.
- b. Owners of facilities making up a Qualified Transfer Path will designate a Transfer Path Operator.
- c. Incremental power flow matrices will be prepared for the current summer and winter seasons based on appropriately modified operating base cases for each Qualified Transfer Path and provided to the WSCC Operations Committee members. The matrices will be based on an incremental schedule of 100 MW and express results in units of MW (equivalent to percent of individual Schedule). They will be used to determine the magnitude of each Contributing Schedule's contribution to USF. A "Contributing Schedule" is defined as the net Schedule between individual Senders and Receivers that contributes USF across a Qualified Transfer Path in the same direction as the Actual Flow across that Qualified Transfer Path.
- d. The effectiveness factors and compensation for the Qualified Controllable Devices will be recalculated.

5. Controllable Device Qualification

- a. Any Member wishing to qualify a Controllable Device to receive compensation for coordinated operation under the Plan shall present a plan for coordinated operation to the UFAS. This plan should include the following elements:
 - i. The procedures developed to ensure that adequate communication and coordination occurs between the Member's Controllable Device and other Qualified Controllable Devices to achieve the desired coordination,
 - ii. A demonstration that by adding the Member's Controllable Device to the overall coordinated Controllable Device control strategy, using the Controllable Devices Compensation Methodology (Attachment 3), the proposed Controllable Device will reduce USF:

ATTACHMENT 1

WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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- (1) by an average over all of the then Qualified Transfer Paths of at least one percent of the respective Qualified Transfer Path limits, (which corresponds to average percent control of 6.7 percent in Table I of Attachment 3), and
 - (2) for more than half of the Qualified Transfer Paths, by at least one percent of each of the respective Qualified Transfer Path limits.
 - b. After the UFAS has reviewed the documentation and presentation, it will make a recommendation to the WSCC Operations Committee. Upon approval by the WSCC Operations Committee, the proposed Controllable Device will be added to the list of Qualified Controllable Devices.
6. Controllable Device Deletion
 - a. A Qualified Controllable Device shall be considered by UFAS for deletion from the list of Qualified Controllable Devices if the Controllable Device is no longer capable of reducing USF over all of the then Qualified Transfer Paths by the criteria specified in Section 5.a above. Approval of the Operations Committee will be required to delete a Controllable Device. The Controllable Device will no longer be required to participate in coordinated operation. However, its continued participation is encouraged.
7. Accommodation Limits
 - a. During normal operating conditions when Actual Flow is not exceeding the Transfer Limit and desired Schedules are not being curtailed, the Qualified Transfer Path(s) will accommodate 100 percent of the USF.
 - b. During those times when there is or it is anticipated that there will be a scheduling limitation on a Qualified Transfer Path due to USF, the Transfer Path Operator and those scheduling across the Qualified Transfer Path are required to accommodate a minimum level of USF. Such USF Accommodation will be achieved by ensuring that the net Schedules across the Qualified Transfer Path are reduced below the then available Transfer Limit by the following amount:
 - i. The greater of 50 MW or
 - (1) during the first Plan Year, 10 percent of the Transfer Limit;
 - (2) during the second Plan Year, 7.5 percent of the Transfer Limit; or
 - (3) during the third and subsequent Plan Years, 5 percent of the Transfer Limit.
 - c. If net Schedules are reduced below the Transfer Limit by the amounts specified above, then the Transfer Path Operator has met the USF Accommodation requirement and may request additional relief under the Plan, including coordinated operation of Qualified Controllable Devices, and Schedule

ATTACHMENT 1

WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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curtailments by other Receivers who are scheduling across other Transfer Paths.

- d. It is intended that the Qualified Controllable Devices shall not be requested to operate in a coordinated manner in response to requests under this USF Reduction Procedure in excess of 4000 hours per year, and if operation exceeds or is forecast to exceed that level, then the level of Transfer Path USF Accommodation shall be increased such that coordinated operation shall not exceed 4000 hours annually. The UFAS shall monitor the coordinated operation of the Qualified Controllable Devices and recommend to the WSCC Operations Committee adjustments to the level of USF Accommodation as needed to meet this objective.

8. General Terms

- a. All Members shall cooperate with the Transfer Path Operator by reducing Schedules as requested to achieve the appropriate reduction in USF. Schedule reductions required by this USF Reduction Procedure may be taken in either the Contributing Schedule, or any other Schedule, the reduction of which achieves the equivalent effect on reducing USF on the affected Transfer Path.
- b. Members having Controllable Devices, such as series capacitors, phase shifting transformers, and DC transmission lines shall cooperate with the Transfer Path Operator to the extent practical by using these elements to reduce USF across the constrained Qualified Transfer Path. Operation of such Controllable Devices shall be required where the Controllable Devices are being operated in a coordinated manner pursuant to the Plan. Operation of Controllable Devices (which are not Qualified Controllable Devices) shall be at the discretion of and consistent with the normal practice of the Member. Schedule reductions shall not be required by the Member to the extent that controllable elements (which are not operated in a coordinated manner) are operated to achieve an equivalent reduction in USF across the constrained Qualified Transfer Path.
- c. To the extent that a Qualified Controllable Device is capable of operating to achieve Actual Flows through the Controllable Device equal to Scheduled Flows, such Schedules shall be deemed to be 100 percent effective through the Controllable Device, and thus shall be exempt from the Schedule reductions required under this USF Reduction Procedure.
- d. The WSCC Staff will provide a summary of all qualified controllable elements which are being operated in a coordinated manner pursuant to the Plan, whenever a new Controllable Device is qualified pursuant to the Plan. This summary shall be provided to the WSCC Operations Committee.

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WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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9. General Action Rules
 - a. This procedure applies to all Members.
 - b. The UFAS shall develop guidelines to enable the Transfer Path Operators to implement actions under this USF Reduction Procedure which will achieve the desired accommodation/control/curtailment results in the scheduling hour immediately following the request. Furthermore, these guidelines shall enable the Transfer Path Operators to make an initial request for any step in the procedure up through the NINTH STEP, provided however that the guidelines shall ensure that neither over-control nor over-curtailment shall be expected. Until such guidelines are developed, the following action limits shall apply:
 - i. The Transfer Path Operator may request actions through the FOURTH STEP in the first hour if experience indicates that such action will be needed to achieve the required reduction in USF.
 - ii. For requests beyond the FOURTH STEP, no more than three requests may be initiated in any clock hour. The notice must specify if this is an FIFTH, SIXTH, SEVENTH, EIGHTH, OR NINTH STEP request. The request must be transmitted to Members by at least 30 minutes prior to the hour to ensure implementation for the following Schedule hour.
 - c. The Transfer Path Operator will verify, if possible, the magnitude of USF across the Qualified Transfer Path by checking adjacent metered and scheduled values prior to requesting any other Member to take actions under this USF Reduction Procedure.
 - d. As to the actions to be taken in accordance with this Plan for each hour of a curtailment period, each Member shall promptly provide documentation, as requested by UFAS and/or WSCC staff, of all such accommodation, control or curtailment actions taken by its dispatchers or real-time schedulers, and in addition each Transfer Path Operator shall provide such documentation on such actions taken or not taken by others in response to its requests, to the WSCC Staff following each curtailment period. Members' documentation shall use formats and reporting conventions developed and monitored by the WSCC Operations Committee. The compiled information, including identification of Members who failed to adjust Schedules according to this USF Reduction Procedure, shall be promptly distributed to the WSCC Operations Committee members.
 - e. Operation of Qualified Controllable Devices will be monitored by the UFAS for compliance with the Minimum Operating Reliability Criteria and the WSCC Controllable Devices Coordinated Operating Procedure. Results will be distributed to the WSCC Operations Committee members.
 - f. The UFAS shall monitor major loop USF in a minimum of three locations during hours in which any USF Accommodation or coordinated operation of the Qualified Controllable Devices or curtailments are occurring under this

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WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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USF Reduction Procedure.

- g. The Transfer Path Operator and those scheduling across the constrained Qualified Transfer Path will continue to take actions necessary to reduce Actual Flow to a level at or below the Transfer Limit of the Qualified Transfer Path.
- h. Upon receipt of a curtailment request, Contributing Schedules which are subject to curtailments will be reduced (or equivalent alternative Schedule adjustments will be effected) in accordance with the following procedures:
 - i. Receivers of Contributing Schedules will initiate the requested Schedule reductions unless an otherwise agreed upon procedure for Schedule reduction achieving the equivalent effect on the Qualified Transfer Path is established by the Receiver and/or the Sender. If the ultimate Receiver is not a Member, then the curtailment administration responsibility shall first belong to the Member utility that has scheduling responsibility for the Receiver, and then to the Member utility that has control area responsibility for the Receiver.
 - ii. Members may arrange among themselves to make curtailments called for by this USF Reduction Procedure in a manner other than prescribed provided that the arrangements are as effective as the identified schedule curtailment in reducing USF across the Qualified Transfer Path. Members may make bilateral arrangements which will enable a Member with Schedules on the affected Qualified Transfer Path to make the required curtailments in lieu of making larger curtailments in Schedules over other parallel paths. Where alternative Schedule adjustments are utilized, it is the Receiver's responsibility to cause Schedule adjustments to be effected which provide the same reduction in flow across the Qualified Transfer Path as would have been achieved by the prescribed reduction in the Contributing Schedule.
 - iii. The total amount of requested Schedule reduction may be apportioned to the applicable Schedules at the discretion of the Receiver subject to item iv below.
 - iv. Irrespective of the Schedules altered or the manner in which they are altered, each Member's overall net reduction in Actual Flow across the constrained Qualified Transfer Path must be equivalent to or greater than the reduction which would have been achieved had the identified Schedule reduction occurred as requested.
 - v. System dispatchers or real-time schedulers should identify in advance those Schedules that qualify for curtailment requests for all Qualified Transfer Paths. This will expedite implementation of this USF Reduction Procedure when requested.

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WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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- vi. While this USF Reduction Procedure does not expect Receivers to curtail Schedules which would result in loss of firm load, nothing in this USF Reduction Procedure shall relieve the Receiver of the obligation to achieve the required reduction in USF across the constrained Qualified Transfer Path.
 - i. In the event of a transmission system emergency on any Member's system, such Member may request coordinated operation of the Qualified Controllable Devices if such operation is reasonably expected to assist in relieving the emergency condition.
10. Action Steps
- a. Action Taken by the Transfer Path Operator - Notification of Curtailment Period
 - i. The Transfer Path Operator shall advise the Members via the WSCC communications system of a current or an impending curtailment period, and may request assistance in mitigating the curtailment using the following procedure:

The following actions shall become effective at the start of the next scheduling hour following the request.

- b. Action Taken by the Transfer Path Operator - Controllable Devices
 - i. FIRST STEP: If the Qualified Transfer Path contains series connected Controllable Devices, such as series capacitors, phase shifting transformers, and DC transmission lines, these elements will be used to the maximum extent practical in reducing the USF across the constrained Qualified Transfer Path to a level at or below the Transfer Limit. Operations of such Controllable Devices shall comply with the WSCC Minimum Operating Reliability Criteria.
- c. Action Taken by the Transfer Path Operator - Accommodation
 - i. SECOND STEP: USF across a Qualified Transfer Path will be accommodated up to the greater of 50 MW or 10 percent of the Transfer Limit for that Qualified Transfer Path in the first Plan Year, 7.5 percent in the second Plan Year, and 5 percent in the third and subsequent Plan Years. USF Accommodation will be effected by the Transfer Path Operator causing the net Schedules across the Qualified Transfer Path to be reduced to not more than 90 percent of the Transfer Limit for that Qualified Transfer Path in the first Plan Year, 92.5 percent in the second Plan Year, and 95 percent in the third and subsequent Plan Years. The Transfer Path Operator shall not be expected to reduce net Schedules across the Qualified Transfer Path in this step if they are already below the appropriate USF Accommodation level (90 percent, 92.5 percent, or 95 percent of the

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WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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Transfer Limit).

- d. Actions Taken by Controllable Device Owners
 - i. THIRD STEP: At the request of a Transfer Path Operator, the Qualified Controllable Device owners shall operate their Controllable Devices in a coordinated manner so as to minimize the USF on the constrained Qualified Transfer Path, consistent with the WSCC Minimum Operating Reliability Criteria. If the constraint persists, then;
- e. Actions Taken by Others and the Transfer Path Operator - Curtailment of Schedules.
 - i. FOURTH STEP: Those Receivers with Contributing Schedules that result in USF across the constrained Qualified Transfer Path of 50 percent or more will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would a 20 percent reduction in the Contributing Schedule. Those Receivers with Contributing Schedules that result in USF across the constrained Qualified Transfer Path of from 30 percent to 49 percent will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would a 10 percent reduction in the Contributing Schedule. If the overload persists, then;
 - ii. FIFTH STEP: Those Receivers with Contributing Schedules that result in USF across the constrained Qualified Transfer Path of from 20 through 29 percent will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would a 10 percent reduction in the Contributing Schedule, and Receivers with Contributing Schedules that result in USF across the constrained Qualified Transfer Path of 30 percent or more will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would an additional 5 percent reduction in the Contributing Schedule. If the overload persists, then;
 - iii. SIXTH STEP: USF Accommodation on the Qualified Transfer Path will increase to the greater of 75 MW or 11 percent of the Transfer Limit for that Qualified Transfer Path in the first Plan Year, 8.5 percent in the second Plan Year, and 6 percent in the third and subsequent Plan Years. Contributing Schedules will continue to be curtailed as described up through the FIFTH STEP. If the overload persists, then;
 - iv. SEVENTH STEP: Those Receivers with Contributing Schedules that result in USF across the constrained Qualified Transfer Path of from 15 through 19 percent will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would a 10 percent reduction in the contributing Schedule, and Receivers with Contributing Schedules that result in USF across the constrained Qualified

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WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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Transfer Path of 20 percent or more will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would an additional 5 percent reduction in the Contributing Schedule.

- v. EIGHTH STEP: USF Accommodation on the Qualified Transfer Path will increase to the greater of 100 MW or 12 percent of the Transfer Limit for that Qualified Transfer Path in the first Plan Year, 9.5 percent in the second Plan Year, and 7 percent in the third and subsequent Plan Years. Contributing Schedules will continue to be curtailed as described up through the SEVENTH STEP. If the overload persists, then;
- vi. NINTH STEP: Those Receivers with Contributing Schedules that result in USF across the constrained Qualified Transfer Path of from 10 to 14 percent will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would a 10 percent reduction in the Contributing Schedule, and Receivers with Contributing Schedules that result in USF across the constrained Qualified Transfer Path of 15 percent or more will effect a scheduling change which is intended to reduce the USF across the Qualified Transfer Path by the same amount as would an additional 5 percent reduction in the Contributing Schedule.

11. Further Action

- a. The Transfer Path Operator and those scheduling across the constrained Qualified Transfer Path will continue to take actions necessary to reduce Actual Flow to a level at or below the Transfer Limit.
- b. The Transfer Path Operator and those scheduling across the Qualified Transfer Path may resume some Schedules as curtailment steps are taken by others provided the net Schedule remains at or below the amount that provides for USF Accommodation at the level specified above for the Qualified Transfer Path.
- c. The Transfer Path Operator must reconfirm the need to continue the present level of Schedule reductions via the WSCC communications system every four hours by at least 30 minutes to the hour.
- d. The Transfer Path Operator must notify Members via the WSCC communications system to reduce and or suspend Schedule curtailments when the Actual Flow on the Qualified Transfer Path is reduced below a level established by UFAS. Schedules should be resumed in the reverse order that Schedule curtailments were initiated. If conditions warrant, the Transfer Path Operator may notify all Members to cease all curtailments at any time.

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12. Term

This procedure will remain in effect coterminous with the Plan.

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February 12, 1999

May 14, 2001

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WSCC UNSCHEDULED FLOW REDUCTION PROCEDURE

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WSCC UNSCHEDULED FLOW PROCEDURE SUMMARY OF CURTAILMENT ACTIONS

Step	Action Description	Party(s) Affected	Unscheduled Flow Accommodation across Path (First Contract Year/Second Contract Year/Third and subsequent Contract Years)	Equivalent Percent Curtailment Required in Contributing Schedule -Based on amount of Unscheduled Flow across Path				
				10-14%	15-19%	20-29%	30-49%	50+%
1	Operate controllable devices in Path	Controllable devices in transfer Path	NA					
2	Accommodation	Schedules across the Path	50 MW or 5% of maximum transfer limit					
3	Coordinated operation of qualified controllable devices	Qualified controllable devices	50 MW or 15% of maximum transfer limit					
4	First level curtailment	Schedules in other paths	50 MW or 5% of maximum transfer limit				10%	20%
5	Second level curtailment	Schedules in other paths	50 MW or 5% of maximum transfer limit			10%	15%	25%
6	Accommodation	Schedules across Path	75 MW or 6% of maximum transfer limit			10%	15%	25%
7	Third level curtailment	Schedules in other paths	75 MW or 6% of maximum transfer limit		10%	15%	20%	30%
8	Accommodation	Schedules across Path	100 MW or 7% of maximum transfer limit		10%	15%	20%	30%
9	Fourth level curtailment	Schedules in other paths	100 MW or 7% of maximum transfer limit	10%	15%	20%	25%	35%

ATTACHMENT 2

WSCC CONTROLLABLE DEVICES COORDINATED OPERATING PROCEDURE

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PURPOSE

Controllable Devices are generally installed to redistribute power flows among parallel circuits for two distinct purposes:

- a. To make power flow where it otherwise wouldn't readily flow (i.e., to boost power flow).
- b. To prevent power from flowing over circuits which tend to load disproportionately (i.e., to buck power flow).

WSCC currently has examples of both types of applications and others may be required in the future:

- a. The Controllable Devices in Arizona, Idaho, Oregon, California, and at Silver Peak, Nevada were installed for the first purpose (i.e., to increase the flows on the corresponding lines so as to relieve the loading on adjacent parallel minor loop circuits or to cause scheduled power to flow on the Controllable Device circuit).
- b. The Controllable Devices in Colorado, Utah, Nevada, Montana, and British Columbia were installed for the second purpose (i.e., to reduce excessive flows on the Controllable Device circuit due to USF).

In addition, while most Controllable Devices were installed and have been operated to regulate local USF, they may also be operated to regulate remote USF. The purpose of this Controllable Devices Coordinated Operating Procedure (CDCO Procedure) is to define and implement the coordinated operation of such participating Controllable Devices within the WSCC so as to reduce or mitigate Schedule curtailments on Qualified Transfer Paths and thereby enhance the scheduled use of the interconnected WSCC transmission system.

BARRIERS

Physical Limits -- Controllable Device operation is constrained to the MVA rating and the range of angle provided by the Controllable Device.

Uniform Application -- Controllable Device operating criteria, agreements, and procedures and compensation should seek to address or accommodate both major and minor loop situations and be applied uniformly to utilities as well as independent power producers and non-utility generators.

ATTACHMENT 2

WSCC CONTROLLABLE DEVICES COORDINATED OPERATING PROCEDURE

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Loading Problems Elsewhere -- Controllable Device operation will be limited so that it will not cause sufficient additional flow elsewhere on the interconnected system that will result in any overload, low voltage condition, or Schedule curtailments on those systems. Care should be exercised to avoid moving the problem from one place to another as Actual Flows are altered.

Minimum Operating Reliability Criteria (MORC) - Controllable Device operation in the direction that increases the local USF through the Controllable Device is prohibited by the current language of the MORC. Beyond this, the MORC allows Controllable Devices to be operated between the limits of Scheduled Flow and unaltered Actual Flow (i.e., USF may be partially or fully accommodated, but not increased or reversed).

Interpretation of the MORC should leave the latitude for the involved parties, including impacted intervening and serial systems, to agree to apply the MORC to mean all flows and Schedules across a boundary or Transfer Path may be controlled per the MORC, not necessarily those of each individual Controllable Device. Lacking such specific agreement, the MORC would apply to each Controllable Device.

Data Exchange -- Communication links among Controllable Device owners have been arranged so as to facilitate coordinated operation and to share real-time Controllable Device and USF data, such as tap position and Scheduled Flows and Actual Flows through the Controllable Devices. The costs of these communications links, as well as the operation, maintenance, and administrative costs associated with coordinated operation and the sharing of necessary data, should be appropriately compensated through annual O&M charges associated with Qualified Controllable Devices.

In addition, it is suggested that operating procedures and communications be established such that major loop USF can be exchanged from a minimum of three locations approximately equidistant around the loop to verify consistency and continuity of USF. Suggested locations are TOT2 (Eastside), COI and/or Midway (Westside), EOR (Arizona), and east or west of Borah (Idaho).

Also, Schedule information from other systems from which to evaluate the sources of USF has been very difficult to obtain in the past. Recently, the WSCC Compliance Monitoring and Operating Practices Subcommittee implemented an USF curtailment monitoring procedure to collect information to determine the Schedules contributing to the USF, actions taken in response to curtailment requests, and the Actual Flows and Schedules across the constrained Qualified Transfer Path to enable analysis of operations during

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WSCC CONTROLLABLE DEVICES COORDINATED OPERATING PROCEDURE

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curtailment periods. This effort should be continued and integrated with monitoring of Controllable Device operations during periods of coordinated operation of these Controllable Devices.

EQUITY AND COMPENSATION ISSUES

- The economic and/or administrative costs to the WSCC and/or its Members of the traditional alternatives to Controllable Device installation/operation (i.e., Schedule curtailments directly across a constrained Qualified Transfer Path or elsewhere under a Schedule curtailment procedure to reduce USF) are expected to substantially exceed the compensation costs for coordinated operation.
- Members are expected to benefit from such coordinated Controllable Device operation by avoiding curtailments on the constrained Qualified Transfer Path and/or by avoiding curtailment of contributing Schedules elsewhere. Consequently, Controllable Device compensation comprised of administrative and communications costs, a portion of annual O&M, and a portion of the annualized investment cost proportional to the effectiveness of the various participating Controllable Devices as shown in the Compensation Table of Attachment 3 should come from the Members through the assessment of USF Dues.
- Equitably controlling USF is a complex issue/process requiring various mitigation approaches including USF Accommodation, alteration of Schedules or Schedule paths, coordinated Controllable Device operation, possible use of other Controllable Devices, as well as longer term transmission or Controllable Device additions. Accordingly, in the proposed Unscheduled Flow Mitigation Plan coordinated operation of Controllable Devices is viewed as just one of several mechanisms to be called upon to reduce USF and the responsibility for reducing USF is seen as a shared responsibility.

PRINCIPLES OF OPERATION

Definition of Coordinated Operation:

Coordinated operation of participating Controllable Devices shall apply only during periods of Schedule curtailments (beyond USF Accommodation) due to overload or constraint of a Qualified Transfer Path, and unless and until otherwise specifically agreed, shall mean:

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WSCC CONTROLLABLE DEVICES COORDINATED OPERATING PROCEDURE

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Participating Controllable Devices will be operated (moved) to Schedule to the extent practicable in a coordinated manner to reduce or mitigate the overload/curtailment. Such coordinated operation will:

- Be limited to Schedule through the Controllable Device.
- Be limited if advised of bonafide operating problems (i.e., voltages and loadings) encountered elsewhere.
- Be coordinated through the Rocky Mountain Security Center (RMSC) in accordance with the established East Side Owners of Phase Shifters (ESOPS) procedures,

Normal Operation - When There Are No Overloads Due to Unscheduled Flow

During periods when no Schedule curtailments (beyond USF Accommodation) are in effect due to overload of a Qualified Transfer Path by USF, any Controllable Device may be operated as desired by its owner(s) provided such operation is not inconsistent with the MORC or an agreed upon interpretation thereof, as noted above.

Operation During Periods of Curtailment Due to Unscheduled Flow

During periods of Schedule curtailment (beyond USF Accommodation) due to overload of a Qualified Transfer Path by USF, coordinated Controllable Device operation may be requested by the Transfer Path Operator to reduce the need for further curtailments, and the operators of participating Controllable Devices that can effectively reduce the loading will cooperate and coordinate operation of their Controllable Devices to relieve the constrained Qualified Transfer Path so as to reduce or mitigate further curtailments. The Controllable Devices participating in coordinated operation will be operated to within \pm two taps of Schedule as permitted by available range and rating, but will not be required to operate beyond Schedule. If operation of a participating Controllable Device to some level other than Schedule is sought, specific separate arrangements must be negotiated and agreed upon among the involved parties. Moreover, during curtailment periods, unless otherwise specifically agreed, individual Controllable Devices will not be operated in the direction to increase USF on the constrained Qualified Transfer Path, except as required to relieve or avoid similar overloads or curtailments elsewhere.

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WSCC CONTROLLABLE DEVICES COORDINATED OPERATING PROCEDURE

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ADMINISTRATION AND REVIEW OF COORDINATED OPERATION

The Unscheduled Flow Administrative Subcommittee (UFAS) shall be responsible for oversight and review of the operation of Qualified Controllable Devices in accordance with this CDCO Procedure, as modified from time to time.

Real-time Controllable Device operation will be coordinated the Rocky Mountain/Desert Southwest Security Coordination Center utilizing the computer software and procedures developed by the ESOPS group as modified from time to time.

Revised:

February 10, 1994

February 12, 1999

May 14, 2001

ATTACHMENT 3

WSCC CONTROLLABLE DEVICES COMPENSATION METHODOLOGY

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The WSCC Unscheduled Flow Mitigation Plan (Plan) provides that, to the extent that the owner of a Controllable Device within the WSCC interconnected system agrees to operate such Controllable Device as part of the WSCC Controllable Devices Coordinated Operating Procedure, then such owner will be entitled to be compensated for a portion of its annual fixed and actual O&M costs of ownership associated with such Controllable Device. Such compensation is to be based on the degree to which each Controllable Device is effective in controlling Unscheduled Flow on all of the Qualified Transfer Paths combined with the hours of requested coordinated operation during a plan year.

Compensation to phase shifter owners is split into two parts, a minimum component to compensate the owners for making their devices available for USF mitigation and an additional component based on actual use of the devices in controlling USF. The overall approach reduces the annual costs members pay when coordinated controllable device operation is minimal and ensures that no one pays more than 1.15 times their 1995 allocation when the phase shifters are used more than 1,000 hours.

To meet these objectives, the revised Plan uses the following approach:

1. Provide for a minimum payment (fixed payment component or "reservation fee") of \$500,000 to device owners, whether the devices are used or not, subject to adjustment as controllable devices are added to or deleted from the Qualified Controllable Devices list. Therefore, in a year with no coordinated phase-shifter operation, total revenue would drop to 23% of the 1995 level.
2. Provide for increased payments when devices are used, using an hourly rate based upon device annual fixed and O&M cost and the maximum hours (2,000) per year the controllable devices could be required to operate according to the original Plan.
3. Determine total device compensation as the \$500,000 minimum payment (adjusted up or down as Qualified Devices are added or removed) plus the hourly rate times the actual hours of coordinated device operation.

The following table sets forth the portion of annual fixed cost (levelized based on the original installed investment cost) and the variable O&M costs (estimated at 2 percent, but using actual costs where available) for the existing Controllable Devices and illustrates the methodology used in deriving an effectiveness factor for each Controllable Device.

Part I of the table sets forth the annual cost of each of the existing Controllable Devices

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WSCC CONTROLLABLE DEVICES COMPENSATION METHODOLOGY

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anticipated to initially participate in coordinated operation (i.e., phase shifters), and applies an effectiveness factor to determine what percentage of the annual cost is to be compensated by WSCC.

Part II of the table sets forth the methodology for determining each Controllable Device's effectiveness factor on each of the existing Qualified Transfer Paths based on the following computations:

- A Controllable Device's effectiveness (for phase shifters, MW per degree) on each of the Qualified Transfer Paths, as determined from incremental power flows using approved WSCC base cases representing the appropriate system topology and time period, is presented in the first line associated with the device in Part II.
- This is then multiplied by the Controllable Device's control range (presented in the first column) and divided by the Qualified Transfer Path's rating (listed directly under each path heading) to arrive at the percentage effectiveness of each Controllable Device on each Qualified Transfer Path.
- This is then divided by the Effectiveness Test listed as the first assumption in the block just above Part I of the table (e.g., 0.15 in Table I). The Effectiveness Test is the reference percentage effectiveness deemed to provide sufficient control of Unscheduled Flow so as to qualify for 100 percent compensation.
- The average percentage control factor for each Controllable Device is equal to the simple average of that Controllable Device's normalized percentage effectiveness on all of the Qualified Transfer Paths.

Part III of the table illustrates the hourly rate derivation and the resulting total compensation for various scenarios of controllable device operation.

The Effectiveness Test value of 15 percent was selected because it represents a high degree of control of historical Unscheduled Flow, i.e., an average of 700 MW of control of major loop Unscheduled Flow on the three major loop Qualified Transfer Paths (Malin - Rd. Mt., Midway - Los Banos, and EOR). Table I illustrates the amount of WSCC compensation using the Effectiveness Test of 15 percent. It has also been agreed to defer the O&M costs the first Plan Year and to assess the second and succeeding Plan Year's actual O&M costs for the previous Plan Year at the end of each calendar year thereafter. Thus, actual O&M incurred in any Plan Year will be collected during the following Plan Year.

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WSSC CONTROLLABLE DEVICES COMPENSATION METHODOLOGY

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As new Controllable Devices or Transfer Paths are qualified, requalified or deleted, the effectiveness factors and associated compensation levels will be established by the same methodology. However, in order to provide the revenue stability needed for investment decisions, once a compensation level for a Qualified Controllable Device has been established, it will not be reduced unless otherwise agreed upon by the UFAS. New Qualified Controllable Devices will receive compensation commensurate with the increase in Unscheduled Flow control provided by each such new Qualified Controllable Device. Additionally, a minimum compensation level for a Controllable Device is established equal to the greater of 10 percent of the annual cost or \$50,000. Finally, the compensation level is subject to adjustment pursuant to the formula set forth in Section 9.6 of the Plan.

Adding New Devices to the Plan

The Plan provides for adding (or deleting) controllable devices for compensation for coordinated operation. The UFAS has developed a Procedure for Controllable Device Qualification in accordance with the Plan's provisions. Adding a device to the list for compensation will increase the total cost of the Plan and the members in the medium and large categories will see allocation increases to cover a large percent of the additional cost, unless caps are implemented. If increases over the members' 1995 cost allocations are to be avoided, adding new devices will "dilute" the revenue to the existing device owners.

With the adoption of the new allocation methodology (described in Attachment 4) the following compensation procedure is adopted as well. To avoid diluting the compensation available for device owners when a new qualified device is added to the Plan, the total minimum payment to device owners should be increased. The minimum compensation under the Plan for any device installation is the greater of 10% of the annual cost or \$50,000. The total minimum payment should be increased by a corresponding amount. Upon the addition of the first new device, the minimum payment level would become \$550,000. Individual member cost allocation would then be calculated according to the procedure described in Attachment 4. If that allocation procedure results in a significant revenue shortfall, the shortfall itself would be allocated to the members in proportion to their original allocation. For example, suppose the original allocation has a target of \$550,000 (zero hours of device use), but the final allocation is only \$500,000 (a \$50,000 shortfall) due to the ceiling on allocations. A small member with the 90% ceiling would have been allocated \$900. As a percent of the total allocation, the \$900 allocation is 0.16%. The member's allocation would be increased by 0.16% of \$50,000, or by \$80. A large member might have an allocation of \$66,000 (12% of the total). That member's allocation would be increased by 12% of \$50,000, or \$6,000. In this scenario, large members would still be well under their 1995 actual allocation.

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WSSC CONTROLLABLE DEVICES COMPENSATION METHODOLOGY

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The foregoing example is for adding one qualified device to the system. As with the original plan, the addition of future devices eventually may cause the maximum annual member cost allocations to increase above these levels. However, the addition of new transmission lines also tends to dilute the effectiveness factors of existing devices and reduce their revenue entitlement. This will partially offset the cost impact of new devices.

Deleting Qualified Controllable Devices From the Plan

If a Qualified Controllable Device is deleted from the Plan, the minimum payment will be reduced by the minimum payment for any device (\$50,000). The deleted device's annual fixed and O&M costs will not be used in calculating the hourly rate of the remaining devices.

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WSCC CONTROLLABLE DEVICES COMPENSATION METHODOLOGY

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PST effectiveness is shown in the following table.

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WSCC CONTROLLABLE DEVICES COMPENSATION METHODOLOGY

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TABLE 1 - WSCC PHASE SHIFTER COMPENSATION PROPOSAL

Filename PSTcoststudy.xls

TABLE 1

Attachment 3

WSCC PHASE SHIFTER COMPENSATION PROPOSAL

This table establishes the actual cost and compensation factors. The modifications adopted by the Board of Trustees on July 30, 1996 use a minimum total compensation level of \$500,000 and add to that amount the hourly rate times the hours of actual use to arrive at total compensation. Changed minimum to \$550,000 upon adding Perkins.

WSCC Cost:

• WSCC Fixed Cost	mm\$=	2.619
• WSCC estimated O&M Cost	mm\$ =	0.224
• WSCC total annual cost		2.844

Assumptions:

• Average % effectiveness (of all qualified path ratings) needed for 100% compensation =	15.0%
• Minimum % effectiveness to qualify for compensation =	6.7%
• Annual Operation & Maintenance cost as a % of Original Cost=	2.0%
• Minimum annual compensation for qualifying phase shifters (mm\$) =	0.050
• Spare phase shifter NOT funded initially. Annual cost est. at \$	10 million& 10.76% 1.076

PART I

			COL 1	COL 2	COL 3 = COL 1*COL 2	COL 4	COL 5	COL 6 = COL 3*COL 5	COL 7= COL 1*0.02*COL 5	COL 8= COL 6 + COL 7
Phase-Shifter Designation	Owners	Operator	Original Cost mm\$	Lev. Annual Fixed Cost%	Annual Cost mm\$	Average % Effectiveness	Compensation Factor	1st Year Cost mm\$	1998-99 Actual O&M Cost mm\$	2nd Year Cost mm\$
Tot 2A	Western	Western	28.400	10.76%	[1] 3.056	33.64%	33.64%	[3] 1.028	[4] 0.121	1.150
Pinto	PAC/SCE/PG&E	PAC	17.000	13.77%	[2] 2.341	34.11%	34.11%	0.798	0.019	0.817
Sigurd	PAC/SCE/PG&E	PAC	9.900	13.77%	[2] 1.363	11.71%	11.71%	0.160	0.011	0.171
Harry Allen	PAC/NEVP	NPC	9.600	13.77%	[2] 1.322	20.23%	20.23%	0.267	0.027	0.295
Billings	MPC	MPC	5.215	14.72%	[2] 0.768	18.24%	18.24%	0.140	0.007	0.147
Crossover	Western	MPC	5.400	8.80%	[1] 0.475	18.24%	18.24%	0.087	0.001	0.088
Cal Sub	SPP	SPP	3.014	12.39%	[2] 0.373	5.90%	5.90%	0.050	0.014	0.064
Perkins	SRP	SRP	20.178	11.15%	[1] 0.375	23.69%	23.69%	0.089	0.023	0.112
Totals			78.529		9.698		WSCC Cost=	2.619	0.224	2.844

[1] Levelized annual cost, tax free financing, includes debt and A&G.

[2] Levelized annual cost, taxable entity includes ROE prop tax and A&G.

[3] Minimum compensation = the > of 10% of Levelized Annual cost or

\$50,000

[4] Estimated at 2% of Original Cost.

PART II

		8 Qualified Path Control (MW per Degree)/% effectiveness								
Control(Deg) +/-	Phase-Shifter Path Rating	CA-OR Intie 4800	Midwy-Vinct 3900	EOR 5700	FC West 2235	FC 345/500 840	Tot 1A 650	Tot 3 1509	Path C 675	Average % Control
30	Tot 2A	-2.23	-3.57	3.82	3.46	1.91	-4.83	2.56	0.6	
	% path effectiveness	9.3%	18.3%	13.4%	31.0%	45.5%	100.0%	33.9%	17.8%	33.64%
30	Pinto	-1.92	-3.07	3.91	4.28	2.25	1.96	-0.31	2.67	
	% path effectiveness	8.0%	15.7%	13.7%	38.3%	53.6%	60.3%	4.1%	79.1%	34.11%
30	Sigurd	-1.04	-1.56	1.93	-0.86	-0.19	0.83	-0.03	1.23	
	% path effectiveness	4.3%	8.0%	6.8%	7.7%	4.5%	25.5%	0.4%	36.4%	11.71%
30	Harry Allen	-1.50	-2.50	-2.29	-1.72	-1.01	0.99	0.04	2.17	
	% path effectiveness	6.3%	12.8%	8.0%	15.4%	24.0%	30.5%	0.5%	64.3%	20.23%
35	Billings/Crossover	-1.41	-1.84	1.41	1.08	0.61	0.89	1.94	-0.93	
	% path effectiveness	6.9%	11.0%	5.8%	11.3%	16.9%	31.9%	30.0%	32.1%	18.24%
45	Cal Sub	-2.03	0.87	-0.55	-0.37	-0.21	0.19	-0.05	-0.06	
	% path effectiveness	12.7%	6.7%	2.9%	5.0%	7.5%	8.8%	1.0%	2.7%	5.90%
24	Perkins	-0.81	-1.52	-44.67	0.35	-2.40	-0.41	-0.38	0.77	
	% path effectiveness	2.7%	6.2%	100.0%	2.5%	45.7%	10.1%	4.0%	18.3%	23.69%
Total MW Control		341	425	433	364	192	298	158	235	306
% path effect.		47.4%	72.6%	50.6%	100.0%	100.0%	100.0%	70.0%	100.0%	80.07%

PART III

HOURLY RATE CALCULATIONS

Hourly Rate = annual
cost, less minimum
payment, divided by
2000 hours.

With O&M Cost
Total Annual Cost = \$2,843,564
Minimum Payment = \$550,000
Difference = \$2,293,564
Hourly Rate = \$1,147

Hourly Rate =
Difference/2000 hours

TOTAL COMPENSATION INCLUDING O&M

	OPERATION 0 HRS/YR	OPERATION 100 HRS/YR	OPERATION 500 HRS/YR
VARIABLE PAYMENT	\$0	\$114,678	\$573,391
TOTAL (\$550,000 + VARIABLE)	\$550,000	\$664,678	\$1,123,391

	OPERATION 1000 HRS/YR	OPERATION 2000 HRS/YR
VARIABLE PAYMENT	\$1,146,782	\$2,293,564
TOTAL (\$550,000 + VARIABLE)	\$1,696,782	\$2,843,564

Variable payment = indicated
hours of operation times the
hourly rate.

OPERATION HRS/YR
2000
\$2,293,564
\$2,843,564

Total compensation to
start allocation
process.

	OPERATION 2500 HRS/YR	OPERATION 3000 HRS/YR	OPERATION 3500 HRS/YR
VARIABLE PAYMENT	\$2,866,955	\$3,440,346	\$4,013,738
TOTAL (\$550,000 + VARIABLE)	\$3,416,955	\$3,990,346	\$4,563,738

OPERATION 4000 HRS/YR
\$4,587,129
\$5,137,129

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WSCC USF MITIGATION PLAN (ANNUAL MEMBERSHIP DUES)

This paper, along with the attached Tables 1 through 7, explains and memorializes the methodology used to allocate the costs associated with the Controllable Device Coordinated Operation Procedure (CDCO Procedure) (see ATTACHMENT 3) among the WSCC membership pursuant to Section 12 of the WSCC Unscheduled Flow Mitigation Plan (Plan). The methodology filed with the FERC in November 1994 and approved by the FERC in November 1995 was based on the assumption that Unscheduled Flow (USF) would be a consistent problem and that the phase shifters would be used extensively (up to 2,000 hours annually) in controlling USF. Experience in the first Plan Year (April 1, 1995 to March 31, 1996) has proven that not to be the case.

The Executive Policy Issues Task Force (EPITF) of the WSCC Board of Trustees requested the Unscheduled Flow Administrative Subcommittee (UFAS), in conjunction with WSCC staff, to develop an alternative compensation methodology for EPITF review. The goal was to change the Plan compensation methodology and make it more performance based (i.e., tie compensation level to the level of Qualified Controllable Device usage during each plan year, instead of the original 100% fixed payment methodology). Another goal was to minimize the upward cost impact of any Member shifting from the medium to large Member class, or small to medium member class, under the Plan's cost allocation formula. These changes were approved by the WSCC Board of Trustees on July 30, 1996 and by the Council on December 5, 1996.

General

The Plan is comprised of three basic elements, which, in order of implementation are: USF Accommodation, the CDCO Procedure, and the USF Reduction Procedure. The final form of the three basic elements reflect significant interdependent compromises among Members on issues such as:

- the required level of USF Accommodation,
- schedule curtailment obligations and procedures,
- subordination of a Controllable Device owner's control priorities in favor of coordinated operation,
- increased obligations and liabilities for Controllable Device owners, and
- the appropriate level of reimbursement of the Controllable Device owner's fixed and variable costs by Members.

As with the compromises related to the Plan, the cost allocation methodology reflects additional interdependent compromises among Members regarding the appropriate Member system information for use in determining:

- each Member's relative size and use of the interconnected system,

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- an appropriate distinction between large and small Members, and
- the appropriate parameters for allocating the costs among the Members.

Objectives

Consistent with the approved Loop Flow Principles, the basic objectives of the cost allocation methodology are to spread the costs associated with the CDCO Procedure among the Members in a manner that:

- involves participation of all Members,
- assures that smaller Members will not be excessively burdened, and
- provides that the cost will be allocated fairly among all Members in a manner that reflects each Member's size and relative use of the WSCC interconnected system.

The 1996 changes add the following objectives:

- Tie controllable device owners' payments to actual use of the devices in controlling USF.
- Provide the opportunity for device owners to recover the full compensation allowed under the original Plan if the devices are used extensively.
- Retain the minimum compensation of \$50,000 per year for each device installation.
- Provide substantially reduced annual cost allocations for member systems when devices are not used or are used very little, and as a result, few benefits are realized. Reduce annual payments for everyone to no more than 90% of their 1995 allocation if devices are used for no more than 100 hours.
- Limit each member's annual cost allocation to a maximum of 115% of its 1995 allocation.
- Ensure that any increases a member would see above 1995 dues allocations are limited and well defined.
- Eliminate the possibility of a member's allocation increasing significantly due to a shift to a larger size group because of a small change in system data or another member's terminating membership in WSCC.

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- Adopt a method for calculating a cap for new members.
- Ensure that device owners receive compensation for all hours for which the devices are actually used and ultimately receive approximately the same total compensation established under the Plan if the devices are used for 2,000 hours.

Changes Required in 2001

The critical energy supply situation encountered by WSCC members in 2001 has resulted in a large increase in the number of hours requiring USF mitigation on several Qualified Paths. Consequently, more than half of the 2,000 available hours of coordinated controllable device operation was used by the end of April 2001. In accordance with this Plan, the Unscheduled Flow Administrative Subcommittee (UFAS) recommended, and the Operations Committee (OC) approved, increased accommodation requirements for Path Operators and those scheduling on the Paths. Increases to 10% and then to 15% of path transfer capability had little effect in slowing the rate of controllable device usage. An increase in accommodation to 25% of the path transfer capability was recommended, but not approved by the Operations Committee due to the severe impact on entities affected by accommodating USF.

The UFAS considered other alternatives, but determined the most effective approach to making a viable and effective Plan would be increasing the available hours of coordinated controllable device operation. The UFAS recommended to the Controllable Device Owners an increase in the hours of coordinated controllable device operation available to 4,000, with compensation to be at the same hourly rate as is used at or below 2,000 hours. On May 18, 2001, the device owners approved this recommendation.

The recommendation was then brought to the Operations Committee, along with an estimate of the increased dues required to compensate the device owners. The OC approved the recommendation by e-mail ballot on June 4, 2001.

Member System Information

In order to provide a consistent data base from which to establish cost allocators based on each Member's relative size and use of the interconnected system, all Members were requested to supply historical annual energy information for the years 1991, 1992, and 1993 in the following six categories:

- | | |
|-----------------------------------|---------------|
| • Generation (G) | • Imports (I) |
| • Remote Generation Imports (RGI) | • Exports (E) |

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- Remote Generation Exports (RGE)
- Load (L)

The above information is updated annually to maintain a three-year rolling average of each category. The three-year averages are used as described below to establish a relative ranking of each Member's size and use of the interconnected system as well as to calculate the cost allocation to each Member. Use of the three-year rolling averages is intended to minimize the volatility of Member assessments due to variables such as weather and rainfall patterns throughout the WSCC geographic area, while still capturing a Member's changing use of the interconnected system. Each Member's annual energy (GWh) information for the years 1991, 1992, and 1993 and the three year averages are set forth in Tables 2 through 5. For those Members that have not submitted the requested information as set forth above, such information will be estimated as described in the Procedure for Estimating Annual Energy, and such estimate will be used to determine such Member's cost allocation.

In 1998, the Operations Committee approved a recommendation by the Unscheduled Flow Administrative Subcommittee to modify the definition of Imports and Exports that had previously been used. The Board of Trustees subsequently approved this recommendation. Under the modified definition, transactions among marketers at a single bus or scheduling node do not have to be included as Imports or Exports. Only transactions that actually use the transmission system must be accounted for as Imports or Exports.

For example, suppose Marketer A purchases energy from Generator A at Scheduling Node (bus) X. The transmission system is used to transmit the energy from the generator to the scheduling node. At the scheduling node, Marketer A sells the energy to Marketer B who sells it to Marketer C. These "paper transactions" do not use the transmission system. Marketer C then sells the energy to Utility Y, who imports it to serve load. This last transaction again uses the transmission system to transmit the energy to the load. In this scenario, Generator A would account for an export, Marketer A would account for an import, Marketer C books an export and Utility Y incurs an import. Marketer B would incur neither an import nor an export.

This modified definition of Imports and Exports will result in a reduced USF dues allocation to entities that do a significant amount of business simply buying and selling energy at a scheduling node. It does, however, require a significant change in most entities' accounting practices to ensure that "paper transactions" are accurately recorded apart from transactions that actually use the transmission system. The change was made effective beginning January 1, 1999.

Relative Ranking of WSCC Members (Large vs Small)

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While no single indicator of size and use of the interconnected system was acceptable to all Members, it was agreed that appropriate indicators of such size and use should include each Member's:

- Load (L)
- Imports plus Remote Generation Imports (I + RGI)
- Exports (E)
- Generation minus Remote Generation Exports (G - RGE)

To achieve consensus, it was decided to establish each Member's final relative ranking as the average of such Member's relative ranking in each of the above four categories using three-year rolling averages of the information submitted by each Member. The results of the ranking process in each of the four categories and each Member's final relative ranking are set forth in Tables 6 and 7.

Examination of the information provided by the Members in each of the four ranking categories described above provides no obvious logical transition points to differentiate between "large," "medium" and "small" Members. Therefore, it was decided that the transition between large, medium and small Members would be derived by applying the following subjective judgments:

- Member assessments should not exceed 400% of current annual WSCC dues
- the large Members should pay the largest share of the cost
- assessments should not create a WSCC membership disincentive for small Members
- small Member assessments should be in the range of \$1000-\$4000

After applying the above judgments to numerous experimental allocations, it was decided to establish the "large," "medium" and "small" groupings at final relative rankings of 1-13, 14-34, and 35 and higher respectively.

In 1996, the following changes to the process were made:

- Allocate costs pro rata to member systems based upon each member's size in all the energy categories listed in the Plan. However, place an upper limit on the allocated costs to members at 90%-115% (depending upon the device utilization level) of their 1995 allocation.
- Since capping the smaller members results in large revenue shortfalls, apply a multiplier of 135% to the 13 largest members' interim allocation. Application of

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the multiplier to the interim allocation results in recovering revenue comparable to the revenue received under the original Plan as device usage approaches 2,000 hours. This multiplier replaces the 60/40 split (60% of total cost to large members, 40% to all members) used in the original Plan. Application of the 135% multiplier results in a 3% increase in payments (compared to the original Plan) to device owners at 2,000 hours of actual use.

Cost Allocation Among Members

The following steps are followed in the new allocation methodology:

1. Determine total device compensation as the \$500,000 minimum payment plus the hourly rate times the actual hours of coordinated device operation.
2. Determine each member's size by ranking according to the procedure originally established by the Plan, i.e., rank according to size in each of several energy categories, average the resulting rankings, and use the average rank to determine a final rank. Members ranked one to 13 constitute the "large" members, those ranked 14 to 34 are in the "medium" classification, and those ranked greater than 34 are considered "small." (Note: under the new methodology, dues allocations are "capped." This eliminates the possibility of a member's dues being determined by its position in the alphabet rather than by its actual size when its average rank is the same as that of another member.)
3. Determine each member's average percentage of all energy categories in WSCC, using three years of actual system data and various energy categories as outlined in the Plan. The energy categories are: Imports plus Remote Generation Imports plus Exports, Load plus Generation less Remote Generation Exports, and Load only. The percentages in these three categories are averaged to obtain a final percentage for each member.
4. Allocate the total compensation for the appropriate usage scenario to all members, pro rata, according to their final percentage described in 3. above. The total compensation to be provided to the controllable devices is multiplied by each member's final average percentage to calculate its initial allocation.
5. Calculate a member's "interim" allocation by implementing a ceiling. For large members, set the ceiling at 115% of the 1995 allocation. For medium and small members, cap the allocation as follows:

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Zero to 100 hours use of controllable devices – 90% of 1995 final allocations.
101 to 499 hours use of controllable devices – 105% of 1995 final allocations.
500 to 999 hours use of controllable devices – 110% of 1995 final allocations.
1000 hours or more use of controllable devices – 115% of 1995 final allocations.

6. The above-described “caps” create a large shortfall in revenue, i.e., the allocation calculated in 5. above provides considerably less than the compensation allowed by the initial allocation calculated in 4. This is because the straight percentage allocation results in greatly reducing the initial allocation to the large members while increasing the initial allocation to small and medium members. (The original Plan used a methodology which allocated 60% of the total cost plus a share of the remaining 40% to the largest 13 members.)

This proposal eliminates the shortfall by multiplying the largest 13 members’ interim allocation by a factor (135%) which increases their allocation (but still limits the final allocation to no greater than 1995 final allocation plus 15% in the scenario with the highest hours of use). Using this multiplier allows the device owners to recover slightly more (e.g., a total of \$2,240,443) than the 1995 amount if devices are used extensively. The full-year allocation for 1995 was \$2,178,596.

This approach partially compensates the device owners for the reduced revenue (as compared to the original Plan) during years of little use.

This proposal achieves all the objectives listed. Most members will not pay more than their 1995 allocation unless controllable devices are used for more than 100 hours per year, and even then the increase is limited to a maximum of 15%. It reduces annual payments for all members to no more than 90% of their 1995 allocation if devices are used less than 100 hours. Controllable device owners receive a minimum payment, even if their devices are not used, and their compensation increases as device use increases. Approaching 2,000 hours of actual use, device owners receive approximately the amount of compensation established by the original Plan.

Although it may appear the largest 13 members derive the greatest benefit from this change (in terms of cost reduction), they still contribute 76% of the total when devices are used very little, and nearly 90% of the total when the devices are used extensively.

Changes Required in 2001 to Recover Costs at up to 4,000 Hours of Coordinated Controllable Device Operation

The increased cost associated with increasing the coordinated operation hours cannot be

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recovered with the caps established by the 1996 modifications to this Plan. The commitment to not increase any member's dues to more than 115% of its 1995 allocation is not feasible in a situation where the costs will nearly double. Therefore, it is necessary to increase the "cap" level on dues.

The 1996 modifications included a 135% multiplier on the interim allocation for the 13 largest members to make up for the shortfall in revenue resulting from the caps applied to smaller members. It will now be necessary to increase the multiplier under various levels of coordinated controllable device operation. As the caps are raised for smaller members, this multiplier for the 13 largest members must also be increased. However, the same caps will apply to the large members as will apply to the medium and small members. Through experimentation, it was determined that increasing the multiplier above 173% had little effect on increasing revenue with a given cap in place. Therefore, the multiplier at each increment of 100 hours was calculated as a straight-line function between 135% at 2,000 hours and 173% at 4,000 hours. Then the cap was adjusted as necessary to obtain the required revenue for the scenario. The cap increases relatively slowly for the first several hundred hours above 2,000, then increases more rapidly as the increasing multiplier is less effective. The cap surpasses the multiplier at 3,600 hours. The following table illustrates the increasing multipliers and caps as the hours of coordinated controllable device operation increase in increments of 100 hours. The multiplier is incremented by 0.00019 for each hour of coordinated controllable device operation and the cap is adjusted as necessary to obtain the total revenue required.

<u>Hours of Coordinated Operation</u>	<u>Multiplier Applied to Interim Allocation of Largest 13</u>	<u>Cap as % of 1995 Allocation</u>
2000	1.350	115.000
2001-2100	1.369	115.671
2101-2200	1.388	116.479
2201-2300	1.407	119.482
2301-2400	1.426	122.513
2401-2500	1.445	125.643
2501-2600	1.464	129.021
2601-2700	1.483	132.440
2701-2800	1.502	135.929
2801-2900	1.521	139.444
2901-3000	1.540	143.058
3001-3100	1.559	146.617
3101-3200	1.578	150.337
3201-3300	1.597	154.127
3301-3400	1.616	157.893

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3401-3500	1.635	161.847
3501-3600	1.654	165.777
3601-3700	1.673	169.725
3701-3800	1.692	173.647
3801-3900	1.711	177.454
3901-4000	1.730	181.178

The following special conditions are addressed just as they were in the original Plan:

- Members such as PPA and CFE, that are only radially interconnected with WSCC, are allocated costs only on the basis of their Imports (I) and Exports (E).
- Members such as TANC, USBR and USCE, whose allocation parameters are fully accounted for in other Members' cost allocations, do not incur a further cost allocation.
- Members that have formed new organizations, whose allocation parameters are fully accounted for in the new organization, do not incur a cost allocation. Instead, the new organization bears the cost for its component organizations. Examples are CISO (containing PG&E, SCE and SDGE) and PPA (containing ATCO, EAL and TAUC).

For further information on the ranking and allocation methodology, see the attached example.

Using the revised allocation methodology and Member system information described above, Tables 1 and 1a summarize the following information:

- Table 1 shows the 1995 full-year cost allocations using the methodology approved by the FERC in 1995 and the allocations resulting from the new methodology adopted in 1996 (but with higher multipliers and caps) and applied to various total hours of coordinated operation from 2,000 to 4,000.
- the cost allocations for various scenarios of controllable device usage 2,000 hours, 2,500 hours, 3,000 hours, 3,500 hours and 4,000 hours respectively.

Table 1a shows the distribution of the dues assessments to phase shifter owners, the amount of the PacifiCorp Credit (see description below), and the listing of multipliers and caps as the hours of coordinated operation increase from 2,000 to 4,000.

Tables 1b through 1f contain information at 500-hour increments from 2,000 to 4,000 hours of coordinated device operation. In addition to the following bullet list, Table 1f includes Tables 2 through 7 (energy data and ranking results) that are referenced in the section on Member System Information and in the Example Allocation on page 14.

- each Member's percentage share in each of the three allocation categories

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- described above and the average of such shares,
- each Member's 1995 cost allocation under the FERC-approved methodology.
- each Member's Initial, Interim and Final cost allocation under the proposed modifications to the methodology
- Controllable Device Owners' share of the revenue

PacifiCorp Credit

PacifiCorp believes that the CDCO Procedure is a vital step toward maximizing the efficient use of the WSCC interconnected system and is consistent with the intent underlying PacifiCorp's installation or participation in those Controllable Devices in which it has an ownership interest. As such, PacifiCorp has agreed to credit the total cost of the CDCO Procedure with any positive difference between its reimbursable Qualifying Controllable Device ownership and operating costs and its own cost allocation as described above. PacifiCorp reserves the right to reduce or eliminate such credit if, in its sole discretion, it determines that the CDCO Procedure is not effective or that such credit would be more effectively utilized to purchase, replace or repair other Controllable Devices related to the CDCO Procedure. PacifiCorp will provide advance written notice to WSCC in the event it elects to change such credit and such change will be effective one year from the end of the then current WSCC dues billing cycle.

Dues Allocation Changes Upon Losing Members

As new members join or existing members leave WSCC, the dues allocated to remaining members under the original Plan are affected by the change in membership base. Increasing the number of members provides more parties among which to spread the total costs, while losing members reduces the parties available to bear the same cost. The magnitude of the effect depends upon the size of the member joining or leaving. One of the 13 large member's leaving, for example, would result in a member that was formerly in the "medium" ranks to move into the top 13, with a nearly 300% increase in annual dues. A formerly "small" member would move into the "medium" category, with a 400% increase in annual dues.

Several new members have joined WSCC, but they are in the "small" category. Their contributions are capped by the Plan at \$1,000, so they have little effect on the remaining members.

A plan for handling membership changes is needed. If a large member withdraws from WSCC, the original Plan would simply reallocate expenses to remaining members, without

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regard to the effect such a reallocation might have. Members in the “small” category are protected by the \$1,000 ceiling, but for larger members, or those who move to a larger category, the resulting potential volatility in dues from year to year might prove unacceptable.

The proposed new allocation methodology would spread the cost among other members, but using a cap so they won’t see a significant increase over their 1995 dues allocation. The ceilings imposed in this case may still result in a shortfall, but a much smaller shortfall than would result from using the original Plan. A member that moves up in rank due to loss of a larger member will still be capped at 115% of its 1995 allocation.

Dues Allocation Changes Upon Adding Members

There is also a need to address the handling of new members joining WSCC. As established, the Plan simply places the new member in the appropriate size category and allocates dues accordingly. In many cases, this will not be a significant issue under the original allocation scheme. If the new member falls naturally into the “small” category, its dues will be capped at \$1000. However, under the new allocation methodology there may be significant effects on some new members as this methodology allocates costs first according to relative size (average of all energy categories). As proposed above, resulting dues are capped at or near the 1995 allocation, but a new member will not have such an established “ceiling.” Should there be any new members in the “medium” or “large” category, they could see a disproportionately large allocation of USF dues. There will be a natural tendency among new members to expect dues in the same range as those of similarly sized existing members. If the allocation process were unconstrained, this would happen naturally. However, if “ceilings” are established at some level for existing members, e.g., based on previous allocations, the new member may be faced with a larger allocation than an existing member of similar size.

Therefore, a new member’s ceiling will be established at the same level as that of an existing member of similar size. If there is no existing member “close” to the new member in size, the ceiling will be determined as an (interpolated, if appropriate) average of the ceilings of the nearest members above and below the new member.

Procedure for Handling Significant Growth and Mergers

The procedure described above for ranking new members addresses the new member’s size at the time of its first dues allocation under this Plan. The limitation on dues under this Plan for existing “small” members is appropriate only as long as they remain in the small category. Members that exhibit significant growth, either through merger with another

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WSCC USE MITIGATION PLAN (ANNUAL MEMBERSHIP DUES)

organization or through significant increases in the amount of business they transact on the Western Interconnection, should be allocated dues commensurate with the benefits they receive from using the Interconnection. The “ceiling” established above will apply only until the member’s three-year average in all energy categories results in an average rank higher than its initial ranking. Any member that moves into a higher size ranking due to its own growth or merger with another entity will be assigned a dues allocation comparable to other members in the larger size category.

Adding New Devices to the Plan

As described in Attachment 3, Controllable Devices Compensation Methodology, whenever a new Qualified Device is added to the Plan, the total minimum payment to Device Owners is increased. The minimum compensation under the Plan for any device installation is the greater of 10% of annual cost or \$50,000. The total minimum payment is increased by a corresponding amount. Upon the addition of the first new device, the minimum payment level becomes \$550,000. Individual member cost allocation is then calculated according to the procedure described previously. If that allocation procedure results in a significant revenue shortfall, the shortfall itself is allocated to the members in proportion to their original allocation. For example, suppose the original allocation has a target of \$550,000 (zero hours of device use), but the final allocation is only \$500,000 (a \$50,000 shortfall) due to the ceiling on allocations. A small member with the 90% ceiling would have been allocated \$900. As a percent of the total allocation, the \$900 allocation is 0.16%. The member’s allocation will be increased by 0.16% of \$50,000, or by \$80. A large member might have an allocation of \$66,000 (12% of the total). That member’s allocation will be increased by 12% of \$50,000, or \$6,000. In this scenario, large members will still be well under their 1995 actual allocation.

The foregoing example illustrates adding one qualified device to the system. As with the original Plan, the addition of future devices eventually may cause the maximum annual member cost allocations to increase above these levels. However, the addition of new transmission lines also tends to dilute the effectiveness factors of existing devices and reduce their revenue entitlement. This will partially offset the cost impact of adding new devices. Deletion of devices that are no longer sufficiently effective will also reduce costs.

Procedure for Estimating Annual Energy

It is highly preferred that all members report their annual energy as described in Member System Information. However, when members fail to report such information, a method is needed to ensure they are assessed a fair share of the costs of this Plan. The estimate should be as close as possible to a member’s actual energy load, generation, imports and

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WSCC USE MITIGATION PLAN (ANNUAL MEMBERSHIP DUES)

exports. However, the results of such an estimate should not encourage members not to report their information as requested, nor should it reward them for not reporting by allocating them a less than fair share of the costs of the Plan. If an estimate is required, it shall be made as follows:

1. If the energy categories for the applicable year(s) have been reported to WSCC for other purposes, the reported numbers will be used for cost allocation under the Plan.
2. If the numbers have not been reported for other purposes, and the member has reported the energy categories for a prior year, the missing data will be estimated from the prior years' data. This estimate will be based on an assumed 25% annual growth rate in each of the applicable energy categories.
3. If the member's numbers have not been reported for a prior year, data used for determining the member's WSCC Annual Dues will be the basis for the estimate. Such estimates will be made for each member category as follows:
 - a. Traditional utilities – the output of the organization's owned and operated generation facilities plus its imports at the time of its system peak demand shall set the peak value in each energy category. To determine the energy, the annual load factor/capacity factor shall be estimated at 80%.
 - b. Independent Power Producers – the nonsimultaneous maximum output (MW) of all owned and operated generation facilities at an assumed capacity factor of 85%.
 - c. Marketers – the annual MWh transacted shall be assigned to both imports and exports.

Alternative to Estimating the Energy

As an alternative to estimating the annual energy, WSCC may call for an audit of the member's energy record books, using such audit to determine the member's energy for purposes of dues allocation under the Plan. The costs of such audit shall be borne by the member being audited.

EXAMPLE ALLOCATION

This example uses the Sacramento Municipal Utility District (rank #23) for illustration purposes only to explain the ranking and cost allocation methodology. It is based on the

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WSCC USE MITIGATION PLAN (ANNUAL MEMBERSHIP DUES)

scenario of 4,000 hours of phase shifter use, resulting in the maximum total compensation to phase shifter owners.

1. SMUD has submitted the requested annual historical energy data and that information is tabulated by categories in Tables 2, 3, and 4.

2. SMUD's energy data are then averaged over the three-year period in each category to produce the three-year rolling average in each category as tabulated in Table 5. As an error check, the submitted energy Load data are compared to the Load calculated as: $L = G + I + RGI - E - RGE$ (for SMUD $L = 9,588$ GWh). The three-year rolling averages are then used in various combinations to determine each Member's relative ranking and cost allocation as described below.

Ranking Process

3. The information in Table 5 is then sorted with respect to all Members to establish the relative ranking of SMUD in the categories of L, I + RGI, G - RGE, and E. The sorted results are shown in Table 7 where SMUD's relative rankings are shown to be: L = 17, I + RGI = 26, G - RGE = 27 and E = 51. Table 7 also shows each Member's percentage share of the total for all Members in each of the four categories.

4. The results of the relative ranking process shown in Table 7 are summarized in Table 6 where SMUD's relative ranking in the four categories is then averaged (average = 30.25) and again sorted with respect to all Members to obtain SMUD's final relative ranking of 23.

5. By virtue of its final ranking of 23, SMUD is then deemed to be one of the "medium" Members and will not be assessed the 135% multiplier assigned to "large" Members. Except for Load (L), the ranking categories in Tables 6 and 7 are used only in the ranking process and not for determining cost allocation.

Initial and Final Cost Allocations

6. Using the data from Table 5, the three allocation categories of (I + RGI + E), (L + G - RGE) and (L) are created and are tabulated in Table 1f for the scenario of 4,000 hours of controllable device use (Tables 1b through 1e reflect use of the same data to allocate the lower costs in the scenarios with fewer hours of controllable device use). SMUD's share of each category, expressed as a percentage of the total for all 98 WSCC Members, is: I + RGI + E = 0.67%, L + G - RGE = 1.03% and L = 1.39%. SMUD's share in the three categories is then averaged to obtain SMUD's 1.03% share, or an initial allocation of \$40,040.

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7. The interim allocation is then calculated by implementing a ceiling. For 4,000 hours of controllable device use, the ceiling is 181% of the 1995 final allocation. SMUD's 1995 allocation was \$12,342. SMUD's interim allocation is 181% of its 1995 allocation or \$22,361. For "small" Members (rank 35 and higher), the 1995 cost allocation was limited by the lesser of the allocation under the original January 7, 1994 methodology or \$1,000. The limitation carries forward into the new methodology as the 1995 allocation and the 181% ceiling is applied to that amount.

8. The final allocation is made by multiplying the interim allocation of the 13 largest members by 135%. SMUD does not fall into this category, and its final allocation is the same as the interim allocation.

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WSCC USE MITIGATION PLAN (ANNUAL MEMBERSHIP DUES)

THIRTEEN PAGES OF EXCEL SPREADSHEETS

Insert Tables 1, 1a-1f and 2 through 7 (Filename Attach-4-Tables.xls)

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Table 1

Attachment 4

UNSCHEDULED FLOW DUES SCENARIOS - INCREASING COORDINATED OPERATION HOURS TO 4000

	Multiply 13 largest members' Interim Allocation ²⁾ by:	135.0%	144.5%	154.0%	163.5%	173.0%
Member	1995 Allocation ¹⁾	Cap 115% of 1995 2000 Hrs	Cap 126% of 1995 2500 Hrs	Cap 143% of 1995 3000 Hrs	Cap 162% of 1995 3500 Hrs	Cap 181% of 1995 4000 Hrs
AEP	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
AES	\$4,000	\$2,411	\$2,842	\$3,300	\$3,788	\$4,304
ANHM	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
APS	\$69,663	\$80,112	\$87,527	\$99,658	\$112,747	\$126,214
APX	\$4,000	\$0	\$0	\$0	\$0	\$0
ATCO	\$0	\$0	\$0	\$0	\$0	\$0
AVA	\$35,000	\$40,250	\$43,975	\$50,070	\$56,646	\$63,412
AXIA	\$4,000	\$2,243	\$2,644	\$3,070	\$3,524	\$4,004
BCHA	\$168,187	\$178,075	\$211,316	\$240,605	\$272,206	\$304,718
BEPC	\$5,330	\$6,130	\$6,697	\$7,625	\$8,626	\$9,657
BHPL	\$963	\$1,108	\$1,210	\$1,378	\$1,559	\$1,745
BPA	\$331,518	\$260,444	\$328,587	\$406,610	\$495,578	\$595,767
BPAP	\$0	\$0	\$0	\$0	\$0	\$0
BURB	\$719	\$827	\$904	\$1,029	\$1,164	\$1,304
CALP	\$975	\$1,121	\$1,225	\$1,395	\$1,578	\$1,766
CDWR	\$10,844	\$12,471	\$13,625	\$15,514	\$17,551	\$19,647
CFE	\$703	\$605	\$713	\$828	\$951	\$1,080
CHPD	\$3,122	\$3,590	\$3,923	\$4,466	\$5,053	\$5,656
CINE	\$4,000	\$1,403	\$1,654	\$1,920	\$2,204	\$2,504
CISO	\$555,249	\$592,976	\$697,631	\$794,328	\$898,653	\$1,005,989
CPS (EMMT)	\$4,000	\$4,600	\$5,026	\$5,722	\$6,474	\$7,247
CPSI	\$4,000	\$120	\$142	\$165	\$189	\$215
CPX	\$4,000	\$4,600	\$5,026	\$5,722	\$6,474	\$7,247
CRGL	\$4,000	\$394	\$464	\$539	\$619	\$703
CSU	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
DENA	\$4,000	\$1,875	\$2,210	\$2,566	\$2,946	\$3,347
DETM	\$11,000	\$12,650	\$13,821	\$15,736	\$17,803	\$19,930
DGT	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
DOPD	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
DYN	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
EAL	\$1,000	\$0	\$0	\$0	\$0	\$0
EPE	\$9,654	\$11,102	\$12,130	\$13,811	\$15,625	\$17,491
EPMI	\$20,000	\$23,000	\$25,129	\$28,612	\$32,369	\$36,236
EWEB	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
FARM	\$362	\$416	\$455	\$518	\$586	\$656
FPLE	\$4,000	\$0	\$0	\$0	\$0	\$0
GCPD	\$4,889	\$5,622	\$6,143	\$6,994	\$7,913	\$8,858
GLEN	\$677	\$779	\$851	\$969	\$1,096	\$1,227
HHWP	\$4,000	\$4,441	\$5,026	\$5,722	\$6,474	\$7,247
IGI	\$4,000	\$120	\$141	\$164	\$188	\$214
IID	\$7,634	\$8,779	\$9,591	\$10,920	\$12,355	\$13,830
IPC	\$30,000	\$34,500	\$37,693	\$42,917	\$48,554	\$54,353
LAC	\$323	\$371	\$406	\$462	\$522	\$585
LDWP	\$98,283	\$97,777	\$123,359	\$140,601	\$159,068	\$178,067
MID	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
MIEC	\$4,000	\$218	\$257	\$298	\$343	\$389
MIR	\$4,000	\$4,600	\$5,026	\$5,722	\$6,474	\$7,247
MPC	\$46,614	\$23,200	\$27,346	\$31,751	\$36,450	\$41,413
MWD	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
MWEC	\$1,000	\$612	\$721	\$837	\$961	\$1,092
NAPG	\$1,000	\$128	\$151	\$175	\$201	\$228
NCPA	\$4,000	\$4,600	\$5,026	\$5,722	\$6,474	\$7,247
NEVP	\$14,177	\$16,303	\$17,812	\$20,281	\$22,945	\$25,685
OXGC (CAE)	\$473	\$544	\$594	\$676	\$765	\$856
PACE	\$128,788	\$87,193	\$102,774	\$119,332	\$136,992	\$155,644
PACW	\$130,380	\$87,744	\$103,424	\$120,087	\$137,858	\$156,628
PASA	\$827	\$951	\$1,039	\$1,184	\$1,339	\$1,499
PECO (EXPT)	\$4,000	\$4,600	\$5,026	\$5,722	\$6,474	\$7,247
PG&E	\$257,856	\$0	\$0	\$0	\$0	\$0
PGE	\$80,417	\$92,480	\$101,039	\$115,044	\$130,153	\$145,699
PNEG	\$1,000	\$953	\$1,123	\$1,304	\$1,497	\$1,701
PNM	\$8,458	\$9,727	\$10,627	\$12,100	\$13,689	\$15,324
POPD	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812

Table 1

Attachment 4

UNSCHEDULED FLOW DUES SCENARIOS - INCREASING COORDINATED OPERATION HOURS TO 4000

	Multiply 13 largest members' Interim Allocation ²⁾ by:	135.0%	144.5%	154.0%	163.5%	173.0%
Member	1995 Allocation ¹⁾	Cap 115% of 1995 2000 Hrs	Cap 126% of 1995 2500 Hrs	Cap 143% of 1995 3000 Hrs	Cap 162% of 1995 3500 Hrs	Cap 181% of 1995 4000 Hrs
PPA	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
PPLM	\$4,000	\$0	\$0	\$0	\$0	\$0
PRPA	\$3,941	\$4,532	\$4,951	\$5,638	\$6,378	\$7,140
PSC	\$86,513	\$80,984	\$102,172	\$123,763	\$140,018	\$156,742
PSE	\$79,872	\$81,849	\$100,354	\$114,264	\$129,271	\$144,711
PWX	\$4,000	\$4,600	\$5,026	\$5,722	\$6,474	\$7,247
RDNG	\$456	\$524	\$573	\$652	\$738	\$826
REI	\$4,000	\$1,624	\$1,915	\$2,223	\$2,552	\$2,900
RVSD	\$627	\$721	\$788	\$897	\$1,015	\$1,136
SCE	\$279,578	\$0	\$0	\$0	\$0	\$0
SCL	\$12,254	\$14,092	\$15,396	\$17,530	\$19,833	\$22,202
SDGE	\$17,815	\$0	\$0	\$0	\$0	\$0
SETC	\$4,000	\$4,600	\$5,026	\$5,722	\$6,474	\$7,247
SFG	\$406	\$467	\$510	\$581	\$657	\$736
SMUD	\$12,342	\$14,193	\$15,507	\$17,656	\$19,975	\$22,361
SNCL	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
SNPD	\$8,223	\$9,456	\$10,332	\$11,764	\$13,309	\$14,898
SPP	\$8,303	\$9,548	\$10,432	\$11,878	\$13,438	\$15,043
SRP	\$80,004	\$77,095	\$97,266	\$114,452	\$129,484	\$144,950
TANC	\$0	\$0	\$0	\$0	\$0	\$0
TAUC	\$328	\$0	\$0	\$0	\$0	\$0
TCP	\$4,000	\$1	\$1	\$1	\$2	\$2
TEP	\$12,531	\$14,411	\$15,744	\$17,927	\$20,281	\$22,703
TID	\$823	\$946	\$1,034	\$1,177	\$1,332	\$1,491
TNP	\$922	\$1,060	\$1,158	\$1,319	\$1,492	\$1,670
TNSK	\$431	\$496	\$542	\$617	\$698	\$781
TPWR	\$8,488	\$9,761	\$10,665	\$12,143	\$13,738	\$15,378
TSGT	\$10,543	\$12,124	\$13,247	\$15,083	\$17,064	\$19,102
UAMP	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
UMPA	\$1,000	\$1,150	\$1,256	\$1,431	\$1,618	\$1,812
USBR	\$0	\$0	\$0	\$0	\$0	\$0
VERN	\$723	\$831	\$908	\$1,034	\$1,170	\$1,310
WAPA	\$118,610	\$68,020	\$85,817	\$106,195	\$129,431	\$155,597
WEMT	\$8,000	\$3,067	\$10,051	\$11,445	\$12,948	\$14,494
WKP	\$5,721	\$6,579	\$7,188	\$8,184	\$9,259	\$10,365
WPE	\$751	\$864	\$944	\$1,074	\$1,215	\$1,361
Total	\$2,893,290	\$2,167,313	\$2,569,205	\$2,983,146	\$3,424,604	\$3,890,879

¹⁾ Members who joined WSCC after 1995 do not have a 1995 allocation. Cap set at \$1000 to \$4,000 if ranking is "small." Actual allocation may be less than the cap because percent of total energy times total cost resulted in a lower number. In several cases, the 1995 allocation itself was limited by a commitment to small members that their allocation would not be larger than the lesser of \$1,000 or the January 1994 trial allocation that was published to members.

²⁾ To eliminate the revenue shortfall caused by capping small and medium members' dues, apply the multiplier to the 13 largest members' allocations. Large members' are still capped at the same level (e.g., 115% of the 1995 allocation) as are small and medium members.

³⁾ The 1996 changes to the Plan called for capping small and medium members' dues at 115% of their 1995 allocation if the phase shifters are used for 1000 to 2000 hours. The cap is reduced for fewer hours. The cap has been raised for members that were "small" in 1995, but have shown significant growth due to mergers and/or increased energy transactions. Size is based on a three-year rolling average (1996-1998 for current calculations) of energy categories: Generation less Remote Generation Exports, Imports, Remote Generation Imports, Exports, and Energy for Load.

In the allocation process, an "initial allocation" is derived by multiplying the members' average percent of energy in the above energy categories by the total cost. In many cases, this results in an initial allocation much higher than the cap. The cap described above is applied to limit such members' final allocations.

Table 1a**Attachment 4**

	REVENUE ALLOCATION				
	<u>2000 hours</u>	<u>2500 hours</u>	<u>3000 hours</u>	<u>3500 hours</u>	<u>4000 hours</u>
<u>PST OWNERS</u>					
MPC (Billings)	\$147,481	\$185,064	\$227,244	\$275,964	\$332,845
NEVP (1/2 Harry Allen)	\$147,300	\$183,182	\$222,694	\$250,729	\$283,459
PAC (70% Pinto & Sigurd +1/2 HA)	\$174,937	\$206,198	\$239,419	\$274,850	\$312,272
PG&E (15% of Pinto + Sigurd)	\$148,206	\$186,624	\$219,451	\$249,311	\$273,278
SCE (15% of Pinto + Sigurd)	\$148,206	\$186,624	\$219,451	\$249,311	\$273,278
SPP (California Sub)	\$63,945	\$63,945	\$63,945	\$63,945	\$65,102
WAPA (TOT 2A + Crossover)	\$1,237,245	\$1,433,905	\$1,654,611	\$1,909,545	\$2,185,531
SRP (Perkins)	\$112,254	\$123,515	\$136,154	\$150,753	\$164,881
TOTAL	\$2,179,573	\$2,569,058	\$2,982,968	\$3,424,408	\$3,890,645
Shortfall in Revenue =	\$12,260	(\$147)	(\$178)	(\$197)	(\$235)
PacifiCorp Credit *	\$663,991	\$847,897	\$1,007,378	\$1,139,330	\$1,246,485

* To encourage adoption of the Unscheduled Flow Mitigation Plan, PacifiCorp agreed to credit the Plan with any revenue it earned in excess of its costs. (See Plan Attachment 4, page 9)

TABLE OF MULTIPLIERS AND CAPS

Multipliers (applied to 13 largest members' interim allocation) and caps (as % of 1995 dues applied to final allocation) to be implemented at various levels of coordinated operation.

<u>Hours</u>	<u>Multiplier</u>	<u>Cap</u>	
2000	1.350	115.000%	Multiplier is increased as a straight-line function (.019% for each additional hour of coordinated operation) from 135% at 2000 hours to 173% at 4000 hours. Cap is adjusted as needed to obtain the required revenue. The cap is applied to all members' final allocation.
2100	1.369	115.671%	
2200	1.388	116.479%	
2300	1.407	119.482%	
2400	1.426	122.513%	
2500	1.445	125.643%	
2600	1.464	129.021%	
2700	1.483	132.440%	
2800	1.502	135.929%	
2900	1.521	139.444%	
3000	1.540	143.058%	See Plan Attachment 4, page 8 for an expanded description of setting multipliers and caps.
3100	1.559	146.617%	
3200	1.578	150.337%	
3300	1.597	154.127%	
3400	1.616	157.893%	
3500	1.635	161.847%	
3600	1.654	165.777%	
3700	1.673	169.725%	
3800	1.692	173.647%	
3900	1.711	177.454%	
4000	1.730	181.178%	

TABLE 1b

WSCC UNSCHEDULED FLOW MITIGATION PLAN (Year 6)
2000 Hours of PST use

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Revised 7/30/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate **0%** of cost to ranks = or < **13** pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate **100%** of cost to **98** members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.
- Total WSCC cost = **2179.57 K\$**. Fourth Year O&M included for fifth year.
- PacifiCorp credit = **663.99 K\$**

small test
 If Rank < 14
 Multiply Interim
 Allocation of largest
 13 by **135%**
 Ceiling as % of 1995= **115%**

- Smaller **34** member dues equal lesser of \$1000 - \$4000 (new) or 1/7/94 assessment.
- Shortfall equal **422.216 K\$**

Member	I+RGI+ E	L+G -RGE	L only	Ave. all 98	Ave. top 13	1995				Distribution of assessment
						Initial Allocation	New RGE Allocation	Interim Allocation	Final Allocation	
AEPC	0.18%	0.50%	0.59%	0.42%	40	\$9,221	\$1,000	\$1,150	\$1,150	
AES	0.18%	0.15%	0.00%	0.11%	54	\$2,411	\$4,000	\$2,411	\$2,411	
ANHM	0.25%	0.20%	0.38%	0.28%	55	\$6,093	\$1,000	\$1,150	\$1,150	
APS	1.57%	3.43%	3.49%	2.83%	4.10%	8	\$61,686	\$69,663	\$61,686	\$80,112
APX	0.00%	0.00%	0.00%	0.00%	82	\$0	\$4,000	\$0	\$0	
ATCO	0.00%	0.00%	0.00%	0.00%	83	\$0	\$0	\$0	\$0	
AVA	2.32%	1.28%	1.60%	1.74%	2.83%	12	\$37,834	\$35,000	\$37,834	\$40,250
AXIA	0.31%	0.00%	0.00%	0.10%	58	\$2,243	\$4,000	\$2,243	\$2,243	
BCHA	1.77%	8.63%	7.75%	6.05%	8.40%	7	\$131,907	\$168,187	\$131,907	\$178,075
BEPC	0.32%	0.47%	0.27%	0.36%	32	\$7,744	\$5,330	\$6,130	\$6,130	
BHPL	0.12%	0.24%	0.28%	0.22%	47	\$4,709	\$963	\$1,108	\$1,108	
BPA	8.76%	11.15%	6.65%	8.85%	13.72%	3	\$192,921	\$331,518	\$192,921	\$260,444
BPAP	0.00%	0.00%	0.00%	0.00%	85	\$0	\$0	\$0	\$0	
BURB	0.10%	0.09%	0.16%	0.12%	66	\$2,550	\$719	\$827	\$827	
CALP	0.29%	0.23%	0.00%	0.17%	52	\$3,803	\$975	\$1,121	\$1,121	
CDWR	1.19%	0.59%	0.66%	0.81%	19	\$17,702	\$10,844	\$12,471	\$12,471	
CFE	0.08%	0.00%	0.00%	0.03%	71	\$605	\$703	\$605	\$605	
CHPD	0.06%	0.52%	0.50%	0.36%	46	\$7,854	\$3,122	\$3,590	\$3,590	
CINE	0.19%	0.00%	0.00%	0.06%	65	\$1,403	\$4,000	\$1,403	\$1,403	
CISO	6.84%	25.92%	27.69%	20.15%	28.19%	2	\$439,241	\$555,249	\$439,241	\$592,976
CPS (EMMT)	1.81%	0.00%	0.00%	0.60%	39	\$13,132	\$4,000	\$4,600	\$4,600	
CPSI	0.02%	0.00%	0.00%	0.01%	81	\$120	\$4,000	\$120	\$120	
CPX	9.41%	0.00%	0.00%	3.14%	28	\$68,393	\$4,000	\$4,600	\$4,600	
CRGL	0.05%	0.00%	0.00%	0.02%	79	\$394	\$4,000	\$394	\$394	
CSU	0.10%	0.54%	0.57%	0.40%	45	\$8,818	\$1,000	\$1,150	\$1,150	
DENA	0.14%	0.11%	0.00%	0.09%	64	\$1,875	\$4,000	\$1,875	\$1,875	
DETM	3.74%	0.92%	0.00%	1.55%	18	\$33,878	\$11,000	\$12,650	\$12,650	
DGT	0.39%	0.37%	0.22%	0.32%	30	\$7,083	\$1,000	\$1,150	\$1,150	
DOPD	0.39%	0.33%	0.11%	0.27%	38	\$5,987	\$1,000	\$1,150	\$1,150	
DYN	0.40%	0.32%	0.00%	0.24%	48	\$5,268	\$1,000	\$1,150	\$1,150	
EAL	0.00%	0.00%	0.00%	0.00%	89	\$0	\$1,000	\$0	\$0	
EPE	0.83%	0.72%	0.91%	0.82%	22	\$17,875	\$9,654	\$11,102	\$11,102	
EPMI	7.16%	0.00%	0.00%	2.39%	33	\$51,991	\$20,000	\$23,000	\$23,000	
EWEB	0.34%	0.25%	0.37%	0.32%	35	\$7,006	\$1,000	\$1,150	\$1,150	
FARM	0.04%	0.08%	0.11%	0.08%	70	\$1,686	\$362	\$416	\$416	
FPLE	0.00%	0.00%	0.00%	0.00%	90	\$0	\$4,000	\$0	\$0	
GCPD	0.32%	0.58%	0.43%	0.45%	29	\$9,741	\$4,889	\$5,622	\$5,622	
GLEN	0.16%	0.10%	0.16%	0.14%	53	\$3,086	\$677	\$779	\$779	
HHWP	0.07%	0.30%	0.25%	0.20%	50	\$4,441	\$4,000	\$4,441	\$4,441	
IGI	0.02%	0.00%	0.00%	0.01%	88	\$120	\$4,000	\$120	\$120	
IID	0.96%	0.28%	0.39%	0.54%	26	\$11,823	\$7,634	\$8,779	\$8,779	
IPC	3.09%	1.98%	2.07%	2.38%	3.86%	6	\$51,850	\$30,000	\$34,500	\$34,500
LAC	0.02%	0.06%	0.07%	0.05%	72	\$1,062	\$323	\$371	\$371	
LDWP	3.62%	2.79%	3.56%	3.32%	5.23%	4	\$72,427	\$98,283	\$72,427	\$97,777
MID	0.26%	0.20%	0.32%	0.26%	43	\$5,599	\$1,000	\$1,150	\$1,150	
MIEC	0.03%	0.00%	0.00%	0.01%	86	\$218	\$4,000	\$218	\$218	
MIR	3.02%	0.00%	0.00%	1.01%	41	\$21,933	\$4,000	\$4,600	\$4,600	
MPC	0.47%	1.48%	1.25%	1.06%	20	\$23,200	\$46,614	\$23,200	\$23,200	\$147,481
MWD	0.23%	0.18%	0.34%	0.25%	67	\$5,431	\$1,000	\$1,150	\$1,150	
MWEC	0.03%	0.02%	0.04%	0.03%	87	\$612	\$1,000	\$612	\$612	
NAPG	0.01%	0.01%	0.00%	0.006%	84	\$128	\$1,000	\$128	\$128	838.93
NCPA	0.24%	0.44%	0.53%	0.40%	31	\$8,784	\$4,000	\$4,600	\$4,600	
NEVP	0.94%	1.91%	2.47%	1.77%	21	\$38,635	\$14,177	\$16,303	\$16,303	\$147,300
OXGC (CAE)	0.04%	0.04%	0.01%	0.03%	69	\$697	\$473	\$544	\$544	
PACE	2.73%	4.96%	4.30%	4.00%	5.92%	1	\$87,193	\$128,788	\$87,193	\$174,937
PACW	6.21%	2.74%	3.13%	4.03%	6.77%	1	\$87,744	\$130,380	\$87,744	\$87,744
PASA	0.11%	0.10%	0.17%	0.13%	59	\$2,824	\$827	\$951	\$951	
PECO (EXPT)	0.54%	0.12%	0.00%	0.22%	44	\$4,747	\$4,000	\$4,600	\$4,600	
PG&E	0.00%	0.00%	0.00%	0.00%	92	\$0	\$257,856	\$0	\$0	\$148,206
PGE	3.68%	2.49%	3.44%	3.20%	5.09%	5	\$69,845	\$80,417	\$69,845	\$92,480
PNEG	0.07%	0.06%	0.00%	0.04%	78	\$953	\$1,000	\$953	\$953	
PNM	1.09%	0.97%	1.04%	1.03%	15	\$22,538	\$8,458	\$9,727	\$9,727	
POPD	0.07%	0.11%	0.13%	0.10%	60	\$2,220	\$1,000	\$1,150	\$1,150	
PPA	0.22%	0.00%	0.00%	0.07%	75	\$1,612	\$1,000	\$1,150	\$1,150	
PPLM	0.00%	0.00%	0.00%	0.00%	93	\$0	\$4,000	\$0	\$0	
PRPA	0.25%	0.40%	0.32%	0.32%	36	\$7,077	\$3,941	\$4,532	\$4,532	
PSC	0.99%	3.54%	3.73%	2.75%	3.86%	13	\$59,988	\$86,513	\$59,988	\$80,984
PSE	3.02%	2.14%	3.19%	2.78%	4.38%	9	\$60,629	\$79,872	\$60,629	\$81,849
PWX	2.14%	0.00%	0.00%	0.71%	49	\$15,538	\$4,000	\$4,600	\$4,600	
RDNG	0.13%	0.06%	0.10%	0.10%	62	\$2,078	\$456	\$524	\$524	
REI	0.12%	0.10%	0.00%	0.07%	76	\$1,624	\$4,000	\$1,624	\$1,624	
RVSD	0.10%	0.11%	0.18%	0.13%	61	\$2,905	\$627	\$721	\$721	
SCE	0.00%	0.00%	0.00%	0.00%	94	\$0	\$279,578	\$0	\$0	\$148,206
SCL	0.68%	1.40%	1.42%	1.17%	17	\$25,416	\$12,254	\$14,092	\$14,092	
SDGE	0.00%	0.00%	0.00%	0.00%	95	\$0	\$17,815	\$0	\$0	
SETC	2.37%	0.00%	0.00%	0.79%	51	\$17,232	\$4,000	\$4,600	\$4,600	
SFG	0.20%	0.16%	0.00%	0.12%	74	\$2,652	\$406	\$467	\$467	
SMUD	0.67%	1.03%	1.39%	1.03%	23	\$22,431	\$12,342	\$14,193	\$14,193	
SNCL	0.33%	0.18%	0.34%	0.29%	42	\$6,264	\$1,000	\$1,150	\$1,150	
SNPD	1.03%	0.56%	0.94%	0.84%	24	\$18,385	\$8,223	\$9,456	\$9,456	
SPP	0.42%	1.12%	1.39%	0.98%	25	\$21,264	\$8,303	\$9,548	\$9,548	\$63,945
SRP	2.82%	2.10%	2.95%	2.62%	4.12%	10	\$57,107	\$80,004	\$57,107	\$77,095
TANC	0.00%	0.00%	0.00%	0.00%	96	\$0	\$0	\$0	\$0	
TAUC	0.00%	0.00%	0.00%	0.00%	97	\$0	\$328	\$0	\$0	
TCP	0.00%	0.00%	0.00%	0.00%	91	\$1	\$4,000	\$1	\$1	
TEP	1.11%	0.99%	1.20%	1.10%	16	\$24,027	\$12,531	\$14,411	\$14,411	
TID	0.11%	0.17%	0.21%	0.16%	56	\$3,519	\$823	\$946	\$946	
TNP	0.17%	0.13%	0.25%	0.19%	73	\$4,045	\$922	\$1,060	\$1,060	
TSNK	0.11%	0.09%	0.00%	0.07%	80	\$1,429	\$431	\$496	\$496	
TPWR	0.62%	0.52%	0.83%	0.66%	27	\$14,291	\$8,488	\$9,761	\$9,761	
TSGT	1.14%	1.49%	1.69%	1.44%	14	\$31,369	\$10,543	\$12,124	\$12,124	
UAMP	0.19%	0.17%	0.30%	0.22%	63	\$4,828	\$1,000	\$1,150	\$1,150	
UMPA	0.10%	0.07%	0.12%	0.10%	68	\$2,082	\$1,000	\$1,150	\$1,150	
USBR	0.00%	0.00%	0.00%	0.00%	98	\$0	\$0	\$0	\$0	
VERN	0.11%	0.09%	0.17%	0.12%	77	\$2,647	\$723	\$831	\$831	
WAPA	2.04%	2.96%	1.94%	2.31%	3.53%	11	\$50,385	\$118,610	\$50,385	\$68,020
WEEM	1.19%	0.56%	0.00%	0.58%	34	\$12,701	\$8,000	\$9,200	\$9,200	\$1,237,245
WKP	0.08%	0.75%	0.71%	0.51%	37	\$11,126	\$5,721	\$6,579	\$6,579	
WPE	0.14%	0.14%	0.22%	0.17%	57	\$3,637	\$751	\$864	\$864	
Total	100%	100%	100%	100%	100%	\$2,179,573	\$2,893,290	\$1,757,357	\$2,167,313	\$2,179,573
						new	old	final		\$12,260
										= shortfall

Costs including O&M		
PST	Owner	k\$
Tot 2A	Western	1,149,519
Pinto	PAC/SCE/PG&E	817,155
Sigurd	PAC/SCE/PG&E	170,886
H. Allen	PAC/NEVP	294,599
Billings	MPC	147,481
Crosobr	Western	87,726
Cal Sub	SPP	63,945
Perkins	SRP	112,254
Credit from PacifiCorp		663,991
yes	total k\$	2179,573
100% to all members		2179.57
0% largest members		0.00
Total k\$		2179.57

TABLE 1c

WSSC UNSCHEDULED FLOW MITIGATION PLAN (Year 6)
2500 Hours of PST use

ATTACHMENT 4

Revised 7/30/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate **0%** of cost to ranks = or < **13** pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate **100%** of cost to **98** members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSSC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.
- Total WSSC cost = **2569.06** K\$. Fourth Year O&M included for fifth year.
- PacifiCorp credit = **847.90** K\$

• Smaller **34** member dues equal lesser of **1000 (\$4k for new members)** or 1/7/94 assessment.

• Shortfall equal **\$25,037 K\$** 1995 **34** **145%** **Ceiling as % of 1995= 126%**

Member	I+RGI+E	L+G-RGE	L only	Ave. all 98	Ave. top 13	Initial Allocation	New RGE Allocation	Interim Allocation	Final Allocation	Distribution of assessment
AEPC	0.18%	0.50%	0.59%	0.42%	40	\$10,869	\$1,000	\$1,256	\$1,256	
AES	0.18%	0.15%	0.00%	0.11%	54	\$2,842	\$4,000	\$2,842	\$2,842	
ANMH	0.25%	0.20%	0.38%	0.28%	55	\$7,182	\$1,000	\$1,256	\$1,256	
APS	1.57%	3.43%	3.49%	2.83%	4.10%	\$72,710	\$69,663	\$72,710	\$87,527	
APX	0.00%	0.00%	0.00%	0.00%	82	\$0	\$4,000	\$0	\$0	
ATCO	0.00%	0.00%	0.00%	0.00%	83	\$0	\$0	\$0	\$0	
AVA	2.32%	1.28%	1.60%	1.74%	2.83%	\$44,595	\$35,000	\$43,975	\$43,975	
AXIA	0.31%	0.00%	0.00%	0.10%	58	\$2,644	\$4,000	\$2,644	\$2,644	
BCHA	1.77%	8.63%	7.75%	6.05%	8.40%	\$155,479	\$168,187	\$155,479	\$211,316	
BEPC	0.32%	0.47%	0.27%	0.36%	32	\$9,128	\$5,330	\$6,697	\$6,697	
BHPL	0.12%	0.24%	0.28%	0.22%	47	\$5,550	\$963	\$1,210	\$1,210	
BPA	8.76%	11.15%	6.65%	8.85%	13.72%	\$3227,396	\$331,518	\$227,396	\$328,587	
BPAP	0.00%	0.00%	0.00%	0.00%	85	\$0	\$0	\$0	\$0	
BURB	0.10%	0.09%	0.16%	0.12%	66	\$3,005	\$719	\$904	\$904	
CALP	0.29%	0.23%	0.00%	0.17%	52	\$4,482	\$975	\$1,225	\$1,225	
CDWR	1.19%	0.59%	0.66%	0.81%	19	\$20,865	\$10,844	\$13,625	\$13,625	
CFE	0.08%	0.00%	0.00%	0.03%	71	\$713	\$703	\$713	\$713	
CHPD	0.06%	0.52%	0.50%	0.36%	46	\$9,257	\$3,122	\$3,923	\$3,923	
CINE	0.19%	0.00%	0.00%	0.06%	65	\$1,654	\$4,000	\$1,654	\$1,654	
CISO	6.84%	25.92%	27.69%	20.15%	28.19%	\$517,733	\$555,249	\$517,733	\$697,631	
CPS (EMMT)	1.81%	0.00%	0.00%	0.60%	39	\$15,479	\$4,000	\$5,026	\$5,026	
CPSI	0.02%	0.00%	0.00%	0.01%	81	\$142	\$4,000	\$142	\$142	
CPX	9.41%	0.00%	0.00%	3.14%	28	\$80,615	\$4,000	\$5,026	\$5,026	
CRGL	0.05%	0.00%	0.00%	0.02%	79	\$464	\$4,000	\$464	\$464	
CSU	0.10%	0.54%	0.57%	0.40%	45	\$10,393	\$1,000	\$1,256	\$1,256	
DENA	0.14%	0.11%	0.00%	0.09%	64	\$2,210	\$4,000	\$2,210	\$2,210	
DETM	3.74%	0.92%	0.00%	1.55%	18	\$39,932	\$11,000	\$13,821	\$13,821	
DGT	0.39%	0.37%	0.22%	0.32%	30	\$8,349	\$1,000	\$1,256	\$1,256	
DOPD	0.39%	0.33%	0.11%	0.27%	38	\$7,057	\$1,000	\$1,256	\$1,256	
DYN	0.40%	0.32%	0.00%	0.24%	48	\$6,210	\$1,000	\$1,256	\$1,256	
EAL	0.00%	0.00%	0.00%	0.00%	89	\$0	\$1,000	\$0	\$0	
EPE	0.83%	0.72%	0.91%	0.82%	22	\$21,069	\$9,654	\$12,130	\$12,130	
EPMI	7.16%	0.00%	0.00%	2.39%	33	\$61,282	\$20,000	\$25,129	\$25,129	
EWEB	0.34%	0.25%	0.37%	0.32%	35	\$8,258	\$1,000	\$1,256	\$1,256	
FARM	0.04%	0.08%	0.11%	0.08%	70	\$1,987	\$362	\$455	\$455	
FPLE	0.00%	0.00%	0.00%	0.00%	90	\$0	\$4,000	\$0	\$0	
GCPD	0.32%	0.58%	0.43%	0.45%	29	\$11,482	\$4,889	\$6,143	\$6,143	
GLEN	0.16%	0.10%	0.16%	0.14%	53	\$3,638	\$677	\$851	\$851	
HHWP	0.07%	0.30%	0.25%	0.20%	50	\$5,234	\$4,000	\$5,026	\$5,026	
IGI	0.02%	0.00%	0.00%	0.01%	88	\$141	\$4,000	\$141	\$141	
IID	0.96%	0.28%	0.39%	0.54%	26	\$13,936	\$7,634	\$9,591	\$9,591	
IPC	3.09%	1.98%	2.07%	2.38%	3.86%	\$61,115	\$30,000	\$37,693	\$37,693	
LAC	0.02%	0.06%	0.07%	0.05%	72	\$1,251	\$323	\$406	\$406	
LDWP	3.62%	2.79%	3.56%	3.32%	5.23%	\$85,370	\$98,283	\$85,370	\$123,359	
MID	0.26%	0.20%	0.32%	0.26%	43	\$6,599	\$1,000	\$1,256	\$1,256	
MIEC	0.03%	0.00%	0.00%	0.01%	86	\$257	\$4,000	\$257	\$257	
MIR	3.02%	0.00%	0.00%	1.01%	41	\$25,853	\$4,000	\$5,026	\$5,026	
MPC	0.47%	1.48%	1.25%	1.06%	20	\$27,346	\$46,614	\$27,346	\$27,346	\$185,064
MWD	0.23%	0.18%	0.34%	0.25%	67	\$6,402	\$1,000	\$1,256	\$1,256	
MWEC	0.03%	0.02%	0.04%	0.03%	87	\$721	\$1,000	\$721	\$721	
NAPG	0.01%	0.01%	0.00%	0.006%	84	\$151	\$1,000	\$151	\$151	
NCPA	0.24%	0.44%	0.53%	0.40%	31	\$10,354	\$4,000	\$5,026	\$5,026	
NEVP	0.94%	1.91%	2.47%	1.77%	21	\$45,539	\$14,177	\$17,812	\$17,812	\$183,182
OXGC (CAE)	0.04%	0.04%	0.01%	0.03%	69	\$821	\$473	\$594	\$594	
PACE	2.73%	4.96%	4.30%	4.00%	5.92%	\$102,774	\$128,788	\$102,774	\$102,774	\$206,198
PACW	6.21%	2.74%	3.13%	4.03%	6.77%	\$103,424	\$130,380	\$103,424	\$103,424	1054.10
PASA	0.11%	0.10%	0.17%	0.13%	59	\$3,329	\$827	\$1,039	\$1,039	
PECO (EXPT)	0.54%	0.12%	0.00%	0.22%	44	\$5,595	\$4,000	\$5,026	\$5,026	
PG&E	0.00%	0.00%	0.00%	0.00%	92	\$0	\$257,856	\$0	\$0	\$186,624
PGE	3.68%	2.49%	3.44%	3.20%	5.09%	\$82,326	\$80,417	\$82,326	\$101,039	
PNEG	0.07%	0.06%	0.00%	0.04%	78	\$1,123	\$1,000	\$1,123	\$1,123	
PNM	1.09%	0.97%	1.04%	1.03%	15	\$26,565	\$8,458	\$10,627	\$10,627	
POPD	0.07%	0.11%	0.13%	0.10%	60	\$2,616	\$1,000	\$1,256	\$1,256	
PPA	0.22%	0.00%	0.00%	0.07%	75	\$1,901	\$1,000	\$1,256	\$1,256	
PPLM	0.00%	0.00%	0.00%	0.00%	93	\$0	\$4,000	\$0	\$0	
PRPA	0.25%	0.40%	0.32%	0.32%	36	\$8,341	\$3,941	\$4,951	\$4,951	
PSC	0.99%	3.54%	3.73%	2.75%	3.86%	\$70,708	\$86,513	\$70,708	\$102,172	
PSE	3.02%	2.14%	3.19%	2.78%	4.38%	\$71,463	\$79,872	\$71,463	\$100,354	
PWX	2.14%	0.00%	0.00%	0.71%	49	\$18,315	\$4,000	\$5,026	\$5,026	
RDNG	0.13%	0.06%	0.10%	0.10%	62	\$2,449	\$456	\$573	\$573	
REI	0.12%	0.10%	0.00%	0.07%	76	\$1,915	\$4,000	\$1,915	\$1,915	
RVSD	0.10%	0.11%	0.18%	0.13%	61	\$3,424	\$627	\$788	\$788	
SCE	0.00%	0.00%	0.00%	0.00%	94	\$0	\$279,578	\$0	\$0	\$186,624
SCL	0.68%	1.40%	1.42%	1.17%	17	\$29,958	\$12,254	\$15,396	\$15,396	
SDGE	0.00%	0.00%	0.00%	0.00%	95	\$0	\$17,815	\$0	\$0	
SETC	2.37%	0.00%	0.00%	0.79%	51	\$20,311	\$4,000	\$5,026	\$5,026	
SFG	0.20%	0.16%	0.00%	0.12%	74	\$3,125	\$406	\$510	\$510	
SMUD	0.67%	1.03%	1.39%	1.03%	23	\$26,439	\$12,342	\$15,507	\$15,507	
SNCL	0.33%	0.18%	0.34%	0.29%	42	\$7,383	\$1,000	\$1,256	\$1,256	
SNPD	1.03%	0.56%	0.94%	0.84%	24	\$21,671	\$8,223	\$10,332	\$10,332	
SPP	0.42%	1.12%	1.39%	0.98%	25	\$25,064	\$8,303	\$10,432	\$10,432	\$63,945
SRP	2.82%	2.10%	2.95%	2.62%	4.12%	\$67,312	\$80,004	\$67,312	\$97,266	\$123,515
TANC	0.00%	0.00%	0.00%	0.00%	96	\$0	\$0	\$0	\$0	
TAUC	0.00%	0.00%	0.00%	0.00%	97	\$0	\$328	\$0	\$0	
TCP	0.00%	0.00%	0.00%	0.00%	91	\$1	\$4,000	\$1	\$1	
TEP	1.11%	0.99%	1.20%	1.10%	16	\$28,320	\$12,531	\$15,744	\$15,744	
TID	0.11%	0.17%	0.21%	0.16%	56	\$4,147	\$823	\$1,034	\$1,034	
TNP	0.17%	0.13%	0.25%	0.19%	73	\$4,768	\$922	\$1,158	\$1,158	
TSK	0.11%	0.09%	0.00%	0.07%	80	\$1,685	\$431	\$542	\$542	
TPWR	0.62%	0.52%	0.83%	0.66%	27	\$16,844	\$8,488	\$10,665	\$10,665	
TSGT	1.14%	1.49%	1.69%	1.44%	14	\$36,975	\$10,543	\$13,247	\$13,247	
UAMP	0.19%	0.17%	0.30%	0.22%	63	\$5,690	\$1,000	\$1,256	\$1,256	
UMPA	0.10%	0.07%	0.12%	0.10%	68	\$2,454	\$1,000	\$1,256	\$1,256	
USBR	0.00%	0.00%	0.00%	0.00%	98	\$0	\$0	\$0	\$0	
VERN	0.11%	0.09%	0.17%	0.12%	77	\$3,120	\$723	\$908	\$908	
WAPA	2.04%	2.96%	1.94%	2.31%	3.53%	\$59,389	\$118,610	\$59,389	\$85,817	\$1,433,905
WEEM	1.19%	0.56%	0.00%	0.58%	34	\$14,970	\$8,000	\$10,051	\$10,051	
WKP	0.08%	0.75%	0.71%	0.51%	37	\$13,115	\$5,721	\$7,188	\$7,188	
WPE	0.14%	0.14%	0.22%	0.17%	57	\$4,287	\$751	\$944	\$944	
Total	100%	100%	100%	100%	100%	\$2,569,058	\$2,893,290	\$2,044,021	\$2,569,205	\$2,569,058

small test

If Rank < 14

• Multiply Interim Allocation of largest 13 by **145%**
Ceiling as % of 1995= 126%

Costs including O&M		
PST	Owner	k\$
Tot 2A	Western	1,322,913
Pinto	PAC/SCE/PG&E	1,030,425
Sigurd	PAC/SCE/PG&E	213,737
H. Allen	PAC/NEVP	366,363
Billings	MPC	185,064
Crosov	Western	110,991
Cal Sub	SPP	63,945
Perkins	SRP	123,515
Credit from PacifiCorp		847,897
yes	total k\$	2569,058
		3416,955
100% to all members		2569.06
0% largest members		0.00
Total k\$		2569.06

TABLE 1d

WSCC UNSCHEDULED FLOW MITIGATION PLAN (Year 6)
3000 Hours of PST use

ATTACHMENT 4

Revised 7/30/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate **0%** of cost to ranks = or < **13** pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate **100%** of cost to **98** members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.
- Total WSCC cost = **2982.97** K\$. Fourth Year O&M included for fifth year.
- PacifiCorp credit = **1007.38** K\$

• Smaller **34** member dues equal lesser of **1000 (\$4k for new members)** or 1/7/94 assessment.

• Shortfall equal **618,306 K\$**

Member	I+RGI+E	L+G-RGE	L only	Ave. all 98	Ave. top 13	Initial Allocation	New RGE Allocation	Interim Allocation	Final Allocation	Distribution of assessment
AEPC	0.18%	0.50%	0.59%	0.42%	40	\$12,620	\$1,000	\$1,431	\$1,431	
AES	0.18%	0.15%	0.00%	0.11%	54	\$3,300	\$4,000	\$3,300	\$3,300	
ANHM	0.25%	0.20%	0.38%	0.28%	55	\$8,339	\$1,000	\$1,431	\$1,431	
APS	1.57%	3.43%	3.49%	2.83%	4.10%	\$84,424	\$69,663	\$84,424	\$99,658	
APX	0.00%	0.00%	0.00%	0.00%	82	\$0	\$4,000	\$0	\$0	
ATCO	0.00%	0.00%	0.00%	0.00%	83	\$0	\$0	\$0	\$0	
AVA	2.32%	1.28%	1.60%	1.74%	2.83%	\$12,780	\$35,000	\$50,070	\$50,070	
AXIA	0.31%	0.00%	0.00%	0.10%	58	\$3,070	\$4,000	\$3,070	\$3,070	
BCHA	1.77%	8.63%	7.75%	6.05%	8.40%	\$180,529	\$168,187	\$180,529	\$240,605	
BEPC	0.32%	0.47%	0.27%	0.36%	32	\$10,598	\$5,330	\$7,625	\$7,625	
BHPL	0.12%	0.24%	0.28%	0.22%	47	\$6,445	\$963	\$1,378	\$1,378	
BPA	8.76%	11.15%	6.65%	8.85%	13.72%	\$264,033	\$331,518	\$264,033	\$406,610	
BPAP	0.00%	0.00%	0.00%	0.00%	85	\$0	\$0	\$0	\$0	
BURB	0.10%	0.09%	0.16%	0.12%	66	\$3,489	\$719	\$1,029	\$1,029	
CALP	0.29%	0.23%	0.00%	0.17%	52	\$5,204	\$975	\$1,395	\$1,395	
CDWR	1.19%	0.59%	0.66%	0.81%	19	\$24,227	\$10,844	\$15,514	\$15,514	
CFE	0.08%	0.00%	0.00%	0.03%	71	\$828	\$703	\$828	\$828	
CHPD	0.06%	0.52%	0.50%	0.36%	46	\$10,749	\$3,122	\$4,466	\$4,466	
CINE	0.19%	0.00%	0.00%	0.06%	65	\$1,920	\$4,000	\$1,920	\$1,920	
CISO	6.84%	25.92%	27.69%	20.15%	28.19%	\$601,147	\$555,249	\$601,147	\$794,328	
CPS (EMMT)	1.81%	0.00%	0.00%	0.60%	39	\$17,972	\$4,000	\$5,722	\$5,722	
CPSI	0.02%	0.00%	0.00%	0.01%	81	\$165	\$4,000	\$165	\$165	
CPX	9.41%	0.00%	0.00%	3.14%	28	\$93,603	\$4,000	\$5,722	\$5,722	
CRGL	0.05%	0.00%	0.00%	0.02%	79	\$539	\$4,000	\$539	\$539	
CSU	0.10%	0.54%	0.57%	0.40%	45	\$12,068	\$1,000	\$1,431	\$1,431	
DENA	0.14%	0.11%	0.00%	0.09%	64	\$2,566	\$4,000	\$2,566	\$2,566	
DETM	3.74%	0.92%	0.00%	1.55%	18	\$46,365	\$11,000	\$15,736	\$15,736	
DGT	0.39%	0.37%	0.22%	0.32%	30	\$9,694	\$1,000	\$1,431	\$1,431	
DOPD	0.39%	0.33%	0.11%	0.27%	38	\$8,194	\$1,000	\$1,431	\$1,431	
DYN	0.40%	0.32%	0.00%	0.24%	48	\$7,210	\$1,000	\$1,431	\$1,431	
EAL	0.00%	0.00%	0.00%	0.00%	89	\$0	\$1,000	\$0	\$0	
EPE	0.83%	0.72%	0.91%	0.82%	22	\$24,464	\$9,654	\$13,811	\$13,811	
EPMI	7.16%	0.00%	0.00%	2.39%	33	\$71,155	\$20,000	\$28,612	\$28,612	
EWEB	0.34%	0.25%	0.37%	0.32%	35	\$9,588	\$1,000	\$1,431	\$1,431	
FARM	0.04%	0.08%	0.11%	0.08%	70	\$2,307	\$362	\$518	\$518	
FPLE	0.00%	0.00%	0.00%	0.00%	90	\$0	\$4,000	\$0	\$0	
GCPD	0.32%	0.58%	0.43%	0.45%	29	\$13,332	\$4,889	\$6,994	\$6,994	
GLEN	0.16%	0.10%	0.16%	0.14%	53	\$4,224	\$677	\$969	\$969	
HHWP	0.07%	0.30%	0.25%	0.20%	50	\$6,078	\$4,000	\$5,722	\$5,722	
IGI	0.02%	0.00%	0.00%	0.01%	88	\$164	\$4,000	\$164	\$164	
IID	0.96%	0.28%	0.39%	0.54%	26	\$16,181	\$7,634	\$10,920	\$10,920	
IPC	3.09%	1.98%	2.07%	2.38%	3.86%	\$70,962	\$30,000	\$42,917	\$42,917	
LAC	0.02%	0.06%	0.07%	0.05%	72	\$1,453	\$323	\$462	\$462	
LDWP	3.62%	2.79%	3.56%	3.32%	5.23%	\$99,124	\$98,283	\$99,124	\$140,601	
MID	0.26%	0.20%	0.32%	0.26%	43	\$7,662	\$1,000	\$1,431	\$1,431	
MIEC	0.03%	0.00%	0.00%	0.01%	86	\$298	\$4,000	\$298	\$298	
MIR	3.02%	0.00%	0.00%	1.01%	41	\$30,018	\$4,000	\$5,722	\$5,722	
MPC	0.47%	1.48%	1.25%	1.06%	20	\$31,751	\$46,614	\$31,751	\$31,751	\$227,244
MWD	0.23%	0.18%	0.34%	0.25%	67	\$7,433	\$1,000	\$1,431	\$1,431	
MWEC	0.03%	0.02%	0.04%	0.03%	87	\$837	\$1,000	\$837	\$837	
NAPG	0.01%	0.01%	0.00%	0.006%	84	\$175	\$1,000	\$175	\$175	
NCPA	0.24%	0.44%	0.53%	0.40%	31	\$12,022	\$4,000	\$5,722	\$5,722	
NEVP	0.94%	1.91%	2.47%	1.77%	21	\$52,877	\$14,177	\$20,281	\$20,281	\$222,694
OXGC (CAE)	0.04%	0.04%	0.01%	0.03%	69	\$954	\$473	\$676	\$676	
PACE	2.73%	4.96%	4.30%	4.00%	5.92%	\$119,332	\$128,788	\$119,332	\$119,332	\$239,419
PACW	6.21%	2.74%	3.13%	4.03%	6.77%	\$120,087	\$130,380	\$120,087	\$120,087	
PASA	0.11%	0.10%	0.17%	0.13%	59	\$3,865	\$827	\$1,184	\$1,184	
PECO (EXPT)	0.54%	0.12%	0.00%	0.22%	44	\$6,497	\$4,000	\$5,722	\$5,722	
PG&E	0.00%	0.00%	0.00%	0.00%	92	\$0	\$257,856	\$0	\$0	\$219,451
PGE	3.68%	2.49%	3.44%	3.20%	5.09%	\$95,590	\$80,417	\$95,590	\$115,044	
PNEG	0.07%	0.06%	0.00%	0.04%	78	\$1,304	\$1,000	\$1,304	\$1,304	
PNM	1.09%	0.97%	1.04%	1.03%	15	\$30,845	\$8,458	\$12,100	\$12,100	
POPD	0.07%	0.11%	0.13%	0.10%	60	\$3,038	\$1,000	\$1,431	\$1,431	
PPA	0.22%	0.00%	0.00%	0.07%	75	\$2,207	\$1,000	\$1,431	\$1,431	
PPLM	0.00%	0.00%	0.00%	0.00%	93	\$0	\$4,000	\$0	\$0	
PRPA	0.25%	0.40%	0.32%	0.32%	36	\$9,685	\$3,941	\$5,638	\$5,638	
PSC	0.99%	3.54%	3.73%	2.75%	3.86%	\$82,099	\$86,513	\$82,099	\$123,763	
PSE	3.02%	2.14%	3.19%	2.78%	4.38%	\$82,977	\$79,872	\$82,977	\$114,264	
PWX	2.14%	0.00%	0.00%	0.71%	49	\$21,266	\$4,000	\$5,722	\$5,722	
RDNG	0.13%	0.06%	0.10%	0.10%	62	\$2,844	\$456	\$652	\$652	
REI	0.12%	0.10%	0.00%	0.07%	76	\$2,223	\$4,000	\$2,223	\$2,223	
RVSD	0.10%	0.11%	0.18%	0.13%	61	\$3,975	\$627	\$897	\$897	
SCE	0.00%	0.00%	0.00%	0.00%	94	\$0	\$279,578	\$0	\$0	\$219,451
SCL	0.68%	1.40%	1.42%	1.17%	17	\$34,784	\$12,254	\$17,530	\$17,530	
SDGE	0.00%	0.00%	0.00%	0.00%	95	\$0	\$17,815	\$0	\$0	
SETC	2.37%	0.00%	0.00%	0.79%	51	\$23,583	\$4,000	\$5,722	\$5,722	
SFG	0.20%	0.16%	0.00%	0.12%	74	\$3,629	\$406	\$581	\$581	
SMUD	0.67%	1.03%	1.39%	1.03%	23	\$30,699	\$12,342	\$17,656	\$17,656	
SNCL	0.33%	0.18%	0.34%	0.29%	42	\$8,572	\$1,000	\$1,431	\$1,431	
SNPD	1.03%	0.56%	0.94%	0.84%	24	\$25,162	\$8,223	\$11,764	\$11,764	
SPP	0.42%	1.12%	1.39%	0.98%	25	\$29,102	\$8,303	\$11,878	\$11,878	\$63,945
SRP	2.82%	2.10%	2.95%	2.62%	4.12%	\$78,157	\$80,004	\$78,157	\$114,452	\$136,154
TANC	0.00%	0.00%	0.00%	0.00%	96	\$0	\$0	\$0	\$0	
TAUC	0.00%	0.00%	0.00%	0.00%	97	\$0	\$328	\$0	\$0	
TCP	0.00%	0.00%	0.00%	0.00%	91	\$1	\$4,000	\$1	\$1	
TEP	1.11%	0.99%	1.20%	1.10%	16	\$32,883	\$12,531	\$17,927	\$17,927	
TID	0.11%	0.17%	0.21%	0.16%	56	\$4,816	\$823	\$1,177	\$1,177	
TNP	0.17%	0.13%	0.25%	0.19%	73	\$5,536	\$922	\$1,319	\$1,319	
TSNK	0.11%	0.09%	0.00%	0.07%	80	\$1,956	\$431	\$617	\$617	
TPWR	0.62%	0.52%	0.83%	0.66%	27	\$19,558	\$8,488	\$12,143	\$12,143	
TSGT	1.14%	1.49%	1.69%	1.44%	14	\$42,932	\$10,543	\$15,083	\$15,083	
UAMP	0.19%	0.17%	0.30%	0.22%	63	\$6,607	\$1,000	\$1,431	\$1,431	
UMPA	0.10%	0.07%	0.12%	0.10%	68	\$2,849	\$1,000	\$1,431	\$1,431	
USBR	0.00%	0.00%	0.00%	0.00%	98	\$0	\$0	\$0	\$0	
VERN	0.11%	0.09%	0.17%	0.12%	77	\$3,622	\$723	\$1,034	\$1,034	
WAPA	2.04%	2.96%	1.94%	2.31%	3.53%	\$68,958	\$118,610	\$68,958	\$106,195	\$1,654,611
WEEM	1.19%	0.56%	0.00%	0.58%	34	\$17,382	\$8,000	\$11,445	\$11,445	
WKP	0.08%	0.75%	0.71%	0.51%	37	\$15,228	\$5,721	\$8,184	\$8,184	
WPE	0.14%	0.14%	0.22%	0.17%	57	\$4,977	\$751	\$1,074	\$1,074	
Total	100%	100%	100%	100%	100%	\$2,982,968	\$2,893,290	\$2,364,662	\$2,983,146	\$2,982,968 (\$178) = shortfall

small test
 If Rank < 14
 Multiply Interim Allocation of largest 13 by 154%
 Ceiling as % of 1995= 143%

Costs including O&M		
PST	Owner	k\$
Tot 2A	Western	1,517,509
Pinto	PAC/SCE/PG&E	1,201,175
Sigurd	PAC/SCE/PG&E	261,829
H. Allen	PAC/NEVP	445,389
Billings	MPC	227,244
Crosov	Western	137,102
Cal Sub	SPP	63,945
Perkins	SRP	136,154
Credit from PacifiCorp		1007,378
yes	total k\$	2982,968
		3990,346
	100% to all members	2982.97
	0% largest members	0.00
	Total k\$	2982.97

ATTACHMENT 4

= shortfall Page 8

TABLE 1f

WSSC UNSCHEDULED FLOW MITIGATION PLAN (Year 6)
4000 Hours of PST use

ATTACHMENT 4

Revised 7/30/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate **0%** of cost to ranks = or < **13** pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate **100%** of cost to **98** members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSSC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.
- Total WSSC cost = **3890.64 K\$**. Fourth Year O&M included for fifth year.
- PacifiCorp credit = **1246.48 K\$**

• Smaller **34** member dues equal lesser of **1000 (\$4k for new members)** or 1/7/94 assessment.

• Shortfall equal **823,054 K\$**.

Member	I+RGI+E	L+G-RGE	L only	Ave. all 98	Ave. top 13	Initial Allocation	New RGE Allocation	Interim Allocation	Final Allocation	Distribution of assessment
AEPC	0.18%	0.50%	0.59%	0.42%	40	\$16,460	\$1,000	\$1,812	\$1,812	
AES	0.18%	0.15%	0.00%	0.11%	54	\$4,304	\$4,000	\$4,304	\$4,304	
ANHM	0.25%	0.20%	0.38%	0.28%	55	\$10,876	\$1,000	\$1,812	\$1,812	
APS	1.57%	3.43%	3.49%	2.83%	4.10%	8	\$110,113	\$69,663	\$110,113	\$126,214
APX	0.00%	0.00%	0.00%	0.00%	82	\$0	\$4,000	\$0	\$0	\$0
ATCO	0.00%	0.00%	0.00%	0.00%	83	\$0	\$0	\$0	\$0	\$0
AVA	2.32%	1.28%	1.60%	1.74%	2.83%	12	\$67,536	\$35,000	\$63,412	\$63,412
AXIA	0.31%	0.00%	0.00%	0.10%	58	\$4,004	\$4,000	\$4,004	\$4,004	
BCHA	1.77%	8.63%	7.75%	6.05%	8.40%	7	\$235,461	\$168,187	\$235,461	\$304,718
BEPC	0.32%	0.47%	0.27%	0.36%	32	\$13,823	\$5,330	\$9,657	\$9,657	
BHPL	0.12%	0.24%	0.28%	0.22%	47	\$8,406	\$963	\$1,745	\$1,745	
BPA	8.76%	11.15%	6.65%	8.85%	13.72%	3	\$344,374	\$331,518	\$344,374	\$595,767
BPAP	0.00%	0.00%	0.00%	0.00%	85	\$0	\$0	\$0	\$0	
BURB	0.10%	0.09%	0.16%	0.12%	66	\$4,551	\$719	\$1,304	\$1,304	
CALP	0.29%	0.23%	0.00%	0.17%	52	\$6,788	\$975	\$1,766	\$1,766	
CDWR	1.19%	0.59%	0.66%	0.81%	19	\$31,598	\$10,844	\$19,647	\$19,647	
CFE	0.08%	0.00%	0.00%	0.03%	71	\$1,080	\$703	\$1,080	\$1,080	
CHPD	0.06%	0.52%	0.50%	0.36%	46	\$14,020	\$3,122	\$5,656	\$5,656	
CINE	0.19%	0.00%	0.00%	0.06%	65	\$2,504	\$4,000	\$2,504	\$2,504	
CISO	6.84%	25.92%	27.69%	20.15%	28.19%	2	\$784,067	\$555,249	\$784,067	\$1,005,989
CPS (EMMT)	1.81%	0.00%	0.00%	0.60%	39	\$23,441	\$4,000	\$7,247	\$7,247	
CPSI	0.02%	0.00%	0.00%	0.01%	81	\$215	\$4,000	\$215	\$215	
CPX	9.41%	0.00%	0.00%	3.14%	28	\$122,086	\$4,000	\$7,247	\$7,247	
CRGL	0.05%	0.00%	0.00%	0.02%	79	\$703	\$4,000	\$703	\$703	
CSU	0.10%	0.54%	0.57%	0.40%	45	\$15,740	\$1,000	\$1,812	\$1,812	
DENA	0.14%	0.11%	0.00%	0.09%	64	\$3,347	\$4,000	\$3,347	\$3,347	
DETM	3.74%	0.92%	0.00%	1.55%	18	\$60,474	\$11,000	\$19,930	\$19,930	
DGT	0.39%	0.37%	0.22%	0.32%	30	\$12,644	\$1,000	\$1,812	\$1,812	
DOPD	0.39%	0.33%	0.11%	0.27%	38	\$10,687	\$1,000	\$1,812	\$1,812	
DYN	0.40%	0.32%	0.00%	0.24%	48	\$9,404	\$1,000	\$1,812	\$1,812	
EAL	0.00%	0.00%	0.00%	0.00%	89	\$0	\$1,000	\$0	\$0	
EPE	0.83%	0.72%	0.91%	0.82%	22	\$31,908	\$9,654	\$17,491	\$17,491	
EPMI	7.16%	0.00%	0.00%	2.39%	33	\$92,807	\$20,000	\$36,236	\$36,236	
EWEB	0.34%	0.25%	0.37%	0.32%	35	\$12,506	\$1,000	\$1,812	\$1,812	
FARM	0.04%	0.08%	0.11%	0.08%	70	\$3,009	\$362	\$656	\$656	
FPLE	0.00%	0.00%	0.00%	0.00%	90	\$0	\$4,000	\$0	\$0	
GCPD	0.32%	0.58%	0.43%	0.45%	29	\$17,388	\$4,889	\$8,858	\$8,858	
GLEN	0.16%	0.10%	0.16%	0.14%	53	\$5,509	\$677	\$1,227	\$1,227	
HHWP	0.07%	0.30%	0.25%	0.20%	50	\$7,927	\$4,000	\$7,247	\$7,247	
IGI	0.02%	0.00%	0.00%	0.01%	88	\$214	\$4,000	\$214	\$214	
ID	0.96%	0.28%	0.39%	0.54%	26	\$21,105	\$7,634	\$13,830	\$13,830	
IPC	3.09%	1.98%	2.07%	2.38%	3.86%	6	\$92,555	\$30,000	\$54,353	\$54,353
LAC	0.02%	0.06%	0.07%	0.05%	72	\$1,895	\$323	\$585	\$585	
LDWP	3.62%	2.79%	3.56%	3.32%	5.23%	4	\$129,286	\$98,283	\$129,286	\$178,067
MID	0.26%	0.20%	0.32%	0.26%	43	\$9,994	\$1,000	\$1,812	\$1,812	
MIEC	0.03%	0.00%	0.00%	0.01%	86	\$389	\$4,000	\$389	\$389	
MIR	3.02%	0.00%	0.00%	1.01%	41	\$39,152	\$4,000	\$7,247	\$7,247	
MPC	0.47%	1.48%	1.25%	1.06%	20	\$41,413	\$46,614	\$41,413	\$41,413	
MWD	0.23%	0.18%	0.34%	0.25%	67	\$9,695	\$1,000	\$1,812	\$1,812	\$332,845
MWEC	0.03%	0.02%	0.04%	0.03%	87	\$1,092	\$1,000	\$1,092	\$1,092	
NAPG	0.01%	0.01%	0.00%	0.006%	84	\$228	\$1,000	\$228	\$228	
NCPA	0.24%	0.44%	0.53%	0.40%	31	\$15,680	\$4,000	\$7,247	\$7,247	
NEVP	0.94%	1.91%	2.47%	1.77%	21	\$68,966	\$14,177	\$25,685	\$25,685	\$283,459
OXGC (CAE)	0.04%	0.04%	0.01%	0.03%	69	\$1,244	\$473	\$856	\$856	
PACE	2.73%	4.96%	4.30%	4.00%	5.92%	1	\$155,644	\$128,788	\$155,644	\$312,272
PACW	6.21%	2.74%	3.13%	4.03%	6.77%	1	\$156,628	\$130,380	\$156,628	\$156,628
PASA	0.11%	0.10%	0.17%	0.13%	59	\$5,041	\$827	\$1,499	\$1,499	
PECO (EXPT)	0.54%	0.12%	0.00%	0.22%	44	\$8,473	\$4,000	\$7,247	\$7,247	
PG&E	0.00%	0.00%	0.00%	0.00%	92	\$0	\$257,856	\$0	\$0	\$273,278
PGE	3.68%	2.49%	3.44%	3.20%	5.09%	5	\$124,677	\$80,417	\$124,677	\$145,699
PNEG	0.07%	0.06%	0.00%	0.04%	78	\$1,701	\$1,000	\$1,701	\$1,701	
PNM	1.09%	0.97%	1.04%	1.03%	15	\$40,231	\$8,458	\$15,324	\$15,324	
POPD	0.07%	0.11%	0.13%	0.10%	60	\$3,962	\$1,000	\$1,812	\$1,812	
PPA	0.22%	0.00%	0.00%	0.07%	75	\$2,878	\$1,000	\$1,812	\$1,812	
PPLM	0.00%	0.00%	0.00%	0.00%	93	\$0	\$4,000	\$0	\$0	
PRPA	0.25%	0.40%	0.32%	0.32%	36	\$12,632	\$3,941	\$7,140	\$7,140	
PSC	0.99%	3.54%	3.73%	2.75%	3.86%	13	\$107,081	\$86,513	\$107,081	\$156,742
PSE	3.02%	2.14%	3.19%	2.78%	4.38%	9	\$108,226	\$79,872	\$108,226	\$144,711
PWX	2.14%	0.00%	0.00%	0.71%	49	\$27,737	\$4,000	\$7,247	\$7,247	
RDNG	0.13%	0.06%	0.10%	0.10%	62	\$3,709	\$456	\$826	\$826	
REI	0.12%	0.10%	0.00%	0.07%	76	\$2,900	\$4,000	\$2,900	\$2,900	
RVSD	0.10%	0.11%	0.18%	0.13%	61	\$5,185	\$627	\$1,136	\$1,136	
SCE	0.00%	0.00%	0.00%	0.00%	94	\$0	\$279,578	\$0	\$0	\$273,278
SCL	0.68%	1.40%	1.42%	1.17%	17	\$45,369	\$12,254	\$22,202	\$22,202	
SDGE	0.00%	0.00%	0.00%	0.00%	95	\$0	\$17,815	\$0	\$0	
SETC	2.37%	0.00%	0.00%	0.79%	51	\$30,759	\$4,000	\$7,247	\$7,247	
SFG	0.20%	0.16%	0.00%	0.12%	74	\$4,733	\$406	\$736	\$736	
SMUD	0.67%	1.03%	1.39%	1.03%	23	\$40,040	\$12,342	\$22,361	\$22,361	
SNCL	0.33%	0.18%	0.34%	0.29%	42	\$11,181	\$1,000	\$1,812	\$1,812	
SNPD	1.03%	0.56%	0.94%	0.84%	24	\$32,819	\$8,223	\$14,898	\$14,898	
SPP	0.42%	1.12%	1.39%	0.98%	25	\$37,958	\$8,303	\$15,043	\$15,043	\$65,102
SRP	2.82%	2.10%	2.95%	2.62%	4.12%	10	\$101,940	\$80,004	\$101,940	\$164,881
TANC	0.00%	0.00%	0.00%	0.00%	96	\$0	\$0	\$0	\$0	
TAUC	0.00%	0.00%	0.00%	0.00%	97	\$0	\$328	\$0	\$0	
TCP	0.00%	0.00%	0.00%	0.00%	91	\$2	\$4,000	\$2	\$2	
TEP	1.11%	0.99%	1.20%	1.10%	16	\$42,889	\$12,531	\$22,703	\$22,703	
TID	0.11%	0.17%	0.21%	0.16%	56	\$6,281	\$823	\$1,491	\$1,491	
TNP	0.17%	0.13%	0.25%	0.19%	73	\$7,221	\$922	\$1,670	\$1,670	
TSNK	0.11%	0.09%	0.00%	0.07%	80	\$2,551	\$431	\$781	\$781	
TPWR	0.62%	0.52%	0.83%	0.66%	27	\$25,510	\$8,488	\$15,378	\$15,378	
TSGT	1.14%	1.49%	1.69%	1.44%	14	\$55,996	\$10,543	\$19,102	\$19,102	
UAMP	0.19%	0.17%	0.30%	0.22%	63	\$8,617	\$1,000	\$1,812	\$1,812	
UMPA	0.10%	0.07%	0.12%	0.10%	68	\$3,716	\$1,000	\$1,812	\$1,812	
USBR	0.00%	0.00%	0.00%	0.00%	98	\$0	\$0	\$0	\$0	
VERN	0.11%	0.09%	0.17%	0.12%	77	\$4,725	\$723	\$1,310	\$1,310	
WAPA	2.04%	2.96%	1.94%	2.31%	3.53%	11	\$89,940	\$118,610	\$89,940	\$2,185,531
WEMT	1.19%	0.56%	0.00%	0.58%	34	\$22,671	\$8,000	\$14,494	\$14,494	
WKP	0.08%	0.75%	0.71%	0.51%	37	\$19,861	\$5,721	\$10,365	\$10,365	
WPE	0.14%	0.14%	0.22%	0.17%	57	\$6,492	\$751	\$1,361	\$1,361	
Total	100%	100%	100%	100%	100%	\$3,890,645	\$2,893,290	\$3,067,591	\$3,890,645	\$3,890,645 (\$235) = shortfall

small test
 If Rank < 14
 Multiply Interim Allocation of largest 13 by 173%
 Ceiling as % of 1995= 181%

Costs including O&M		
PST	Owner	k\$
Tot 2A	Western	1,983,058
Pinto	PAC/SCE/PG&E	1,439,620
Sigurd	PAC/SCE/PG&E	382,233
H. Allen	PAC/NEVP	566,918
Billings	MPC	332,845
Crosobr	Western	202,473
Cal Sub	SPP	65,102
Perkins	SRP	164,881
Credit from PacifiCorp		1246,485
yes	total k\$	3890,645
		5137,129
	100% to all members	3890,64
	0% largest members	0.00
	Total k\$	3890,64

TABLE 2 WSCC UNSCHEDULED FLOW MITIGATION PLAN

ATTACHMENT 4

Revised 6/6/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate **0%** of cost to ranks = or < **13** pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate **100%** of cost to **98** members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.

1996	Gwh	Gwh	Gwh	Gwh	Gwh	Gwh			
Company	Generation	Imports	Remote Gen Imports	Exports	Remote Gen Exports	Energy Load	Data Check	Source of Estimate	
AEP	1958.36	2108.0219	0.00	67.19	0.00	3999.20	3999.20		
AES	689.63	0.935	0.00	662.62	0.00	27.95	27.95		
ANHM	3.86	962.72	1887.25	0.00	0.00	2853.83	2853.83		
APS	48390.72	4063.36	1730.88	1877.04	28732.67	23575.24	23575.24		
APX	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
ATCO	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
AVA	5614.97	11335.07	2771.88	11174.66	0.00	8547.26	8547.26		
AXIA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
BCHA	57873.04	2644.18	0.00	9973.58	0.00	50543.65	50543.65		
BEPC	3778.16	0.00	654.27	2689.53	0.00	1742.90	1742.90		
BHPL	1096.30	374.79	567.63	224.08	4.25	1810.39	1810.39		
BPA	102266.13	18066.22	608.22	79019.37	0.00	41921.20	41921.20		
BPAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
BURB	103.94	394.42	545.59	0.00	0.00	1043.95	1043.95		
CALP	1985.40	0.00	0.00	1985.40	0.00	0.00	0.00		
CDWR	5383.04	5933.94	828.89	4922.12	2231.43	4992.31	4992.31		
CFE	7113.48	354.99	0.00	1257.59	0.00	6210.70	6210.88		
CHPD	10916.25	593.60	0.00	484.70	7567.97	3457.18	3457.18		
CINE	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
CISO	145439.07	35718.55	12845.81	8921.50	6415.12	178466.81	178466.81		
CPS (EMMT)	0.00	6880.12	0.00	6880.12	0.00	0.00	0.00		
CPSI	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
CPX	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
CRGL	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
CSU	2788.65	1034.75	0.00	1.66	0.00	3821.74	3821.74		
DENA	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
DETM	0.00	13005.00	0.00	13005.00	0.00	0.00	0.00		
DGT	3281.13	333.56	0.00	2316.77	0.00	1204.32	1297.91		
DOPD	5282.87	370.14	211.98	3715.85	1375.31	773.84	773.84		
DYN	3688.08	0.00	0.00	3688.08	0.00	0.00	0.00		
EAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
EPE	2757.75	777.56	5162.93	2543.58	0.00	6154.66	6154.66		
EPMI	0.00	25517.00	0.00	25517.00	0.00	0.00	0.00		
EWEB	578.53	2514.36	122.89	739.90	0.00	2475.87	2475.87		
FARM	295.35	125.58	276.51	0.00	0.00	697.44	697.44		
FPLE	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
GCPD	11754.68	730.93	0.00	2542.29	6940.44	3002.89	3002.89		
GLEN	139.94	943.35	0.00	0.00	0.00	1083.29	1083.29		
HHWP	2139.66	185.53	0.00	577.05	0.00	1700.00	1748.15		
IGI	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
ID	828.23	4380.04	1547.90	4094.98	0.00	2661.18	2661.18		
IPC	11936.18	3778.87	4796.97	4949.04	319.83	15243.14	15243.14		
LAC	283.65	154.08	69.08	41.42	0.00	465.39	465.39		
LDWP	13525.08	19508.01	9362.76	15001.76	3195.22	24198.86	24198.86		
MID	379.27	1378.19	809.04	478.10	0.00	2088.40	2088.40		
MIEC	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
MIR	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
MPC	16838.10	1876.83	0.00	3342.55	6746.71	8625.66	8625.66		
MWD	0.00	910.96	1508.69	0.00	0.00	2419.65	2419.65		
MWEC	0.00	29.19	0.00	0.00	0.00	29.19	29.19		
NAPG	96.94	0.00	0.00	96.94	0.00	0.00	0.00		
NCPA	2343.70	2105.64	0.00	1190.37	0.00	3258.97	3258.97		
NEVP	8054.00	4339.00	4246.00	151.00	1022.00	15466.00	15466.00		
OXGC (CAE)	535.60	0.00	0.00	481.36	0.00	54.24	54.24		
PACE	32997.99	9425.70	3262.79	15828.69	0.00	29857.79	29857.79		
PACW	12828.82	18457.16	12944.10	23145.88	0.00	21084.20	21084.20		
PASA	150.71	392.72	710.25	85.40	0.00	1168.28	1168.28		
PECO (EXPT)	114.97	0.00	0.00	0.00	114.97	0.00	0.00		
PG&E	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
PGE	7501.23	18841.22	3861.88	924.60	267.71	29012.02	29012.02		
PNEG	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
PNM	13355.02	1993.59	2115.76	2479.80	8010.43	6974.12	6974.12		
POPD	454.65	562.46	0.00	107.50	0.00	909.61	909.61		
PPA	47271.93	2133.24	0.00	348.89	0.00	49056.28	49056.28		
PPLM	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
PRPA	3086.11	892.41	0.00	1845.80	0.00	2132.72	2132.72		
PSC	20873.70	6411.86	683.73	1500.97	1450.37	25017.96	25017.96		
PSE	4846.11	8706.94	12706.48	4556.06	0.00	21703.46	21703.46		
PWX	0.00	10155.86	0.00	10155.86	0.00	0.00	0.00		
RDNG	42.85	762.15	0.00	83.43	0.00	713.45	721.57		
REI	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
RVSD	304.66	567.90	810.72	0.00	0.00	1683.28	1683.28		
SCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
SCL	8892.04	3527.60	0.00	2404.88	246.29	9768.46	9768.46		
SDGE	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
SETC	0.00	721.83	0.00	721.83	0.00	0.00	0.00		
SFG	2372.00	0.00	0.00	2372.00	0.00	0.00	0.00		
SMUD	2937.90	6369.61	598.90	471.59	0.00	9434.82	9434.82		
SNCL	56.34	1463.77	996.01	440.51	0.00	2075.61	2075.61		
SNPD	722.56	6292.02	660.34	1288.96	0.00	6385.96	6385.96		
SPP	5692.47	3942.15	0.00	655.98	778.05	8985.45	8200.585		
SRP	14949.59	7466.19	13181.12	5866.45	10122.17	19608.28	19608.28		
TANC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Included in members data	
TAUC	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
TCP	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
TEP	723.23	983.96	9779.95	3431.86	0.00	8055.29	8055.29		
TID	769.91	528.81	265.90	178.28	0.00	1386.33	1386.33		
TNP	0.00	1707.95	0.00	1.49	0.00	1706.46	1706.46		
TSNK	908.22	0.00	0.00	908.22	0.00	0.00	0.00		
TPWR	852.17	2113.07	3248.12	536.73	0.00	5676.74	5676.64		
TSGT	10913.39	4249.20	3097.00	3944.86	5100.00	9214.73	9214.73		
UAMP	34.77	1541.71	665.96	0.00	0.00	2242.43	2242.43		
UMPA	12.10	469.68	373.83	39.64	0.00	815.97	815.97		
USBR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Included with BPA/Western	
VERN	4.39	1088.80	0.00	0.00	0.00	1093.19	1093.19		
WAPA	47993.12	5102.52	435.05	14979.11	26193.25	12358.33	12358.33		
WEMT	0.00	275.45	0.00	275.45	0.00	0.00	0.00		
WKP	4685.30	261.02	0.00	26.96	0.00	4919.37	4919.37		
WPE	281.29	1255.05	2.85	86.37	0.00	1452.81	1452.81		
Total	726769	301893	120756	314108	116834	719111			

TABLE 3 WSCC UNSCHEDULED FLOW MITIGATION PLAN

ATTACHMENT 4

Revised 6/6/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate 0% of cost to ranks = or < 13 pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate 100% of cost to 98 members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.

1997	Gwh	Gwh	Gwh	Gwh	Gwh	Gwh				
Company	Generation	Imports	Remote Gen Imports	Exports	Remote Gen Exports	Energy Load	Data Check	Source of Estimate		
AEP	2558.69	1820.34	0.00	56.22	0.00	4322.81	4322.81			
AES	713.87	0.00	0.00	713.87	0.00	0.00	0.00			
ANHM	4.82	1011.42	1500.00	0.00	0.00	2516.24	2516.24			
APS	49821.24	9793.61	1834.22	7777.40	29157.27	24514.39	24514.39			
APX	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
ATCO	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
AVA	5856.68	8651.90	3472.87	8070.65	0.00	9910.79	9910.79			
AXIA	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
BCHA	54717.04	7435.46	0.00	11088.48	0.00	52216.62	51064.02			
BEPC	3837.69	0.00	189.20	2133.36	0.00	1893.53	1893.53			
BHPL	1234.60	444.71	572.55	225.28	3.30	2023.27	2023.27			
BPA	106153.30	15556.95	0.00	78344.49	0.00	59880.14	43365.75			
BPAP	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
BURB	147.34	349.51	646.08	21.23	0.00	1121.70	1121.70			
CALP	2158.01	0.00	0.00	2158.01	0.00	0.00	0.00			
CDWR	4725.97	6141.27	823.23	4484.71	1907.78	5297.98	5297.98			
CFE	6407.28	405.60	0.00	16.49	0.00	6796.39	6796.39			
CHPD	10986.35	172.98	0.00	54.85	7676.95	3427.53	3427.53			
CINE	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
CISO	145229.88	47111.55	9353.35	11504.50	6201.73	183988.55	183988.55			
CPS (EMMT)	0.00	462.39	0.00	462.39	0.00	0.00	0.00			
CPSI	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
CPX	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
CRGL	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
CSU	3003.50	1014.25	0.00	65.64	0.00	3952.11	3952.11			
DENA	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
DETM	0.00	26508.77	0.00	26508.77	0.00	0.00	0.00			
DGT	3084.41	991.18	542.09	2780.24	122.33	1715.11	1715.11			
DOPD	5293.93	457.94	216.50	3594.43	1616.90	757.04	757.04			
DYN	2141.23	0.00	0.00	2141.23	0.00	0.00	0.00			
EAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
EPE	3002.53	666.95	5183.66	2558.79	0.00	6294.34	6294.34			
EPMI	0.00	7575.00	0.00	7575.00	0.00	0.00	0.00			
EWEB	610.72	2625.51	161.45	823.42	0.00	2574.27	2574.27			
FARM	320.24	164.05	261.05	0.00	0.00	745.34	745.34			
FPLE	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
GCPD	12111.42	421.58	0.00	2487.73	7077.04	2968.23	2968.23			
GLEN	183.28	1687.09	0.00	717.25	0.00	1153.12	1153.12			
HHWP	2089.46	255.39	0.00	485.03	0.00	1740.35	1859.82			
IGI	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
ID	968.14	4243.81	1673.56	4210.58	0.00	2674.93	2674.93			
IPC	11807.15	9676.41	5394.17	13289.31	348.00	13240.42	13240.42			
LAC	293.76	88.60	75.31	11.29	0.00	446.38	446.38			
LDWP	15435.75	20929.30	9778.09	17160.70	4014.25	24968.19	24968.19			
MID	325.73	1313.05	833.59	309.16	0.00	2163.20	2163.20			
MIEC	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
MIR	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
MPC	19095.73	892.22	0.00	3202.99	8586.89	8198.08	0.00			
MWD	0.00	839.67	1622.14	0.00	0.00	2461.82	2461.82			
MWEC	0.00	33.03	0.00	0.00	0.00	33.03	33.03			
NAPG	104.37	0.00	0.00	104.37	0.00	0.00	-0.01			
NCPA	2019.64	2364.73	0.00	64.84	0.00	4319.54	4319.54			
NEVP	8101.21	6482.79	4482.64	0.16	482.64	18583.85	18583.85			
OXGC (CAE)	528.05	0.00	0.00	473.81	0.00	54.24	54.24			
PACE	33741.47	8240.20	4382.48	17169.00	0.00	29195.15	29195.15			
PACW	13880.95	25842.13	11971.88	30083.47	0.00	21611.49	21611.49			
PASA	150.21	123.69	931.35	0.00	0.00	1205.25	1205.25			
PECO (EXPT)	4500.31	0.00	0.00	4500.31	0.00	0.00	0.00			
PG&E	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
PGE	7558.82	35976.79	3779.30	27719.12	232.64	19363.15	19363.15			
PNEG	255.50	0.00	0.00	255.50	0.00	0.00	0.00			
PNM	13678.33	4306.42	2019.53	4547.20	8321.34	7135.73	7135.73			
POPD	484.82	572.06	0.00	153.04	0.00	903.83	903.83			
PPA	49457.71	1774.27	0.00	642.08	0.00	50589.90	50589.90			
PPLM	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
PRPA	3041.59	804.65	0.00	1633.58	0.00	2220.35	2212.67			
PSC	21522.84	7785.32	700.14	2696.10	1542.36	25769.83	25769.83			
PSE	4877.99	19581.18	4953.11	7543.79	0.00	21868.49	21868.49			
PWX	0.00	10478.30	0.00	10478.30	0.00	0.00	0.00			
RDNG	35.33	888.48	162.10	386.19	0.00	699.72	699.72			
REI	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
RVSD	245.30	596.08	894.12	0.00	0.00	1735.49	1735.49			
SCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
SCL	9243.84	4083.71	0.00	3313.97	246.22	9767.36	9767.36			
SDGE	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
SETC	0.00	6355.39	0.00	6355.39	0.00	0.00	0.00			
SFG	2094.51	0.00	0.00	2094.51	0.00	0.00	0.00			
SMUD	3296.08	6095.14	511.15	344.42	0.00	9557.95	9557.95			
SNCL	144.56	1744.42	1124.71	441.84	164.15	2407.70	2407.70			
SNPD	880.06	7532.52	497.75	2493.04	0.00	6417.28	6417.28			
SPP	5812.85	3995.68	0.00	286.04	924.71	9613.92	8597.787			
SRP	16769.56	8262.72	13703.97	6579.90	11565.12	20591.23	20591.23			
TANC	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
TAUC	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
TCP	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
TEP	6573.98	1348.60	3926.99	3555.02	0.00	8294.55	8294.55			
TID	664.65	649.83	301.84	184.12	0.00	1432.20	1432.20			
TNP	0.00	1745.42	0.00	0.00	0.00	1745.42	1745.42			
TSNK	637.38	0.00	0.00	637.38	0.00	0.00	0.00			
TPWR	1363.62	2100.74	3728.84	1396.62	0.00	5796.58	5796.58			
TSGT	14328.41	5398.08	3054.24	3179.08	5279.58	14322.07	14322.07			
UAMP	127.96	551.82	551.82	0.00	0.00	1231.60	1231.60			
UMPA	11.51	466.84	401.03	31.41	0.00	847.97	847.97			
USBR	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
VERN	1.79	1142.27	0.00	0.00	0.00	1144.06	1144.06			
WAPA	52230.43	4306.58	464.19	18165.98	26605.56	12229.65	12229.65			
WENT	0.00	7164.27	0.00	7164.27	0.00	0.00	0.00			
WKP	4842.06	595.80	0.00	494.05	0.00	4943.81	4943.81			
WPE	252.78	1388.65	0.00	91.21	0.00	1550.22	1550.22			
Total	757780	370487	106676	380293	122076.76	751145				

TABLE 4 WSCC UNSCHEDULED FLOW MITIGATION PLAN

ATTACHMENT 4

Revised 6/6/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate 0% of cost to ranks = or < 13 pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate 100% of cost to 98 members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device useage. All members are capped at 115% of 1995 at maximum useage.

1998	Gwh	Gwh	Gwh	Gwh	Gwh	Gwh				
Company	Generation	Imports	Remote Gen Imports	Exports	Remote Gen Exports	Energy Load	Data Check	Source of Estimate		
AEP	2652.80	1337.465	0.00	79.03	0.00	3911.23		3911.23		
AES	4302.89	0.00	0.00	4302.89	0.00	0.00		0.00		
ANHM	23.07	962.43	1510.20	0.00	0.00	2495.70		2495.70		
APS	49619.91	10411.72	1884.00	8878.00	28943.58	24094.06		24094.06		
APX	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
ATCO	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
AVA	5094.07	13906.74	3832.84	8093.15	0.00	14740.50		14740.50		
AXIA	0.00	4743.64	0.00	4743.64	0.00	0.00		0.00		
BCHA	62206.18	9294.33	0.00	13860.60	0.00	57639.91		57639.91		
BEPC	5123.45	0.00	555.27	3730.82	0.00	1947.91		1947.91		
BHPL	1305.72	449.30	571.31	308.08	6.33	2011.91		2011.91		
BPA	86928.04	12934.10	225.00	64405.46	19.63	35662.05		35662.05		
BPAP	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
BURB	78.32	425.57	649.89	53.63	0.00	1100.16		1100.16		
CALP	4833.60	0.00	0.00	4833.60	0.00	0.00		0.00		
CDWR	5407.37	5780.88	952.31	6771.55	2096.85	3272.17		3272.17		
CFE	6576.66	479.82	0.00	45.15	0.00	7011.34		7011.34		
CHPD	8740.56	456.57	0.00	35.11	5640.15	3521.87		3521.87		
CINE	0.00	2966.64	0.00	2966.64	0.00	0.00		0.00		
CISO	177658.42	58218.12	11740.44	14904.16	22260.10	210452.73		210452.73		
CPS (EMMT)	0.00	20626.88	0.00	20626.88	0.00	0.00		0.00		
CPSI	0.00	254.80	0.00	254.80	0.00	0.00		0.00		
CPX	0.00	144627.00	0.00	144627.00	0.00	0.00		0.00		
CRGL	0.00	833.20	0.00	833.20	0.00	0.00		0.00		
CSU	3167.65	998.12	0.00	77.87	0.00	4087.90		4087.90		
DENA	4425.84	0.00	0.00	4425.84	0.00	0.00		0.00		
DETM	35863.71	0.00	0.00	35863.71	0.00	0.00		0.00		
DGT	3505.26	941.284	665.94	3309.16	128.15	1675.16		1675.16		
DOPD	4320.89	485.69	171.90	2806.17	1487.82	684.49		684.49		
DYN	6607.78	0.00	0.00	6607.78	0.00	0.00		0.00		
EAL	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
EPE	3160.76	526.88	5425.34	2664.68	0.00	6448.30		6448.30		
EPMI	0.00	76850.35	0.00	76850.35	0.00	0.00		0.00		
EWEB	616.95	2625.51	161.45	823.42	0.00	2680.50		2580.50		
FARM	342.35	191.71	259.70	0.00	0.00	793.76		793.76		
FPLE	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
GCPD	9461.58	1414.47	0.00	2383.95	5540.00	2952.10		2952.10		
GLEN	307.11	848.20	0.00	634.66	0.00	1155.31		520.65		
HHWP	2059.11	250.32	0.00	282.07	0.00	1728.51		2027.36		
IGI	0.00	253.48	0.00	253.48	0.00	0.00		0.00		
ID	1017.25	3993.64	1557.37	3939.78	0.00	2628.48		2628.48		
IPC	11134.95	21334.26	6924.86	24816.86	260.06	14317.15		14317.15		
LAC	293.76	117.05	75.31	11.29	0.00	474.83		474.83		
LDWP	17293.28	5588.54	9809.20	3990.42	4242.53	24458.07		24458.07		
MID	444.96	1405.17	891.96	450.00	0.00	2292.10		2292.10		
MIEC	0.00	461.20	0.00	461.20	0.00	0.00		0.00		
MIR	0.00	46380.64	0.00	46380.64	0.00	0.00		0.00		
MPC	20750.33	1501.72	0.00	3501.02	9754.21	8996.82		8996.82		
MWD	0.00	270.99	1857.44	0.00	0.00	2128.43		2128.43		
MWEC	0.00	727.30	0.00	0.00	0.00	727.30		727.30		
NAPG	100.77	0.00	0.00	100.77	0.00	0.00		0.00		
NCPA	2019.64	1452.63	0.00	189.02	0.00	3283.25		3283.25		
NEVP	9170.57	3961.16	4950.96	310.03	773.82	16998.84		16998.84		
OXGC (CAE)	471.15	0.00	0.00	425.00	0.00	46.15		46.15		
PACE	36894.94	5217.77	4163.70	16276.76	0.00	29999.65		29999.65		
PACW	14735.02	22894.62	14960.54	30553.02	0.00	22057.15		22037.15		
PASA	159.46	230.33	902.01	111.25	0.00	1180.55		1180.55		
PECO (EXPT)	0.00	6006.63	0.00	6006.63	0.00	0.00		0.00		
PG&E	0.00	0.00	0.00	0	0.00	0.00		0.00		
PGE	11494.03	13420.10	3465.08	5032.81	506.09	22840.30		22840.30		
PNEG	1993.57	0.00	0.00	1993.57	0.00	0.00		0.00		
PNM	13320.01	6498.56	2513.79	7060.92	7863.74	7407.70		7407.70		
POPD	481.76	533.92	0.00	84.73	0.00	930.95		930.95		
PPA	50751.09	1408.54	0.00	512.40	0.00	51647.24		51647.24		
PPLM	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
PRPA	2846.06	990.90	0.00	1514.12	0.00	2298.38		2322.84		
PSC	22405.29	7308.98	680.96	2539.99	1496.05	26359.20		26359.20		
PSE	7441.71	12407.82	12408.41	9939.73	0.00	22318.21		22318.21		
PWX	0.00	12223.73	0.00	12223.73	0.00	0.00		0.00		
RDNG	54.10	1092.17	17.43	451.64	0.00	712.07		712.07		
REI	3834.53	0.00	0.00	3834.53	0.00	0.00		0.00		
RVSD	57.36	316.99	0.00	14.59	0.00	359.76		359.76		
SCE	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
SCL	7636.06	4973.62	0.00	2544.54	249.46	9815.68		9815.68		
SDGE	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
SETC	0.00	29361.33	0.00	29361.33	0.00	0.00		0.00		
SFG	1793.00	0.00	0.00	1793.00	0.00	0.00		0.00		
SMUD	5023.16	5217.67	193.14	664.13	0.00	9769.83		9769.83		
SNCL	182.70	1984.26	1338.42	735.27	164.15	2621.71		2605.95		
SNPD	674.40	8749.60	709.89	3520.97	0.00	6612.91		6612.91		
SPP	6424.95	3806.10	0.00	182.81	1418.92	10098.56		8629.316		
SRP	23079.68	10645.66	10260.93	10532.82	12673.13	20780.32		20780.32		
TANC	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
TAUC	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
TCP	0.00	2.20	0.00	2.20	0.00	0.00		0.00		
TEP	6499.75	2358.53	4223.02	4640.70	0.00	8440.60		8440.60		
TID	878.50	448.65	423.52	261.66	0.00	1489.01		1489.01		
TNP	0.00	1770.77	0.00	7.35	0.00	1763.42		1763.42		
TSNK	1828.57	0.00	0.00	1828.57	0.00	0.00		0.00		
TPWR	1013.59	2228.27	2995.61	619.30	0.00	5618.16		5618.16		
TSGT	12834.20	4449.17	3327.34	4246.29	4904.66	11459.76		11459.76		
UAMP	175.65	2003.30	599.10	0.00	0.00	2778.05		2778.05		
UMPA	15.25	620.14	403.38	145.54	0.00	893.24		893.24		
USBR	0.00	0.00	0.00	0.00	0.00	0.00		0.00		
VERN	0.90	1155.87	0.00	0.00	0	1189.05		1156.77		
WAPA	48017.55	6941.52	0.00	12294.54	20763.53	15507.01		21901.01		
WENT	21676.83	0.00	0.00	21676.83	0.00	0.00		0.00		
WKP	4800.00	504.60	0.00	550.00	0.00	4754.59		4754.60		
WPE	229.20	1418.64	0.00	43.37	0.00	1604.48		1604.48		
Total	866340	640480	118259	719714	131193	769726				

TABLE 5 WSCC UNSCHEDULED FLOW MITIGATION PLAN ATTACHMENT 4

Revised 6/6/01

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate 0% of cost to ranks = or < 13 pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate 100% of cost to 98 members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device useage. All members are capped at 115% of 1995 at maximum useage.

3 year ave.	Gwh	Gwh	Gwh	Gwh	Gwh	Gwh		Cross Check Load
Company	Generation	Imports	Remote Gen Imports	Exports	Remote Gen Exports	Energy Load		Load diff.
AEPC	2390	1755	0	67	0	4078	4078	0
AES	1902	0	0	1893	0	0	0	0
ANHM	11	979	1632	0	0	2622	2622	0
APS	49277	8090	1816	6177	28945	24061	24061	0
APX	0	0	0	0	0	0	0	0
ATCO	0	0	0	0	0	0 radial	0	0 Included in PPA data
AVA	5522	11298	3359	9113	0	11066	11066	0
AXIA	0	1581	0	1581	0	0	0	0
BCHA	58265	6458	0	11641	0	53467	53083	384
BEPC	4246	0	466	2851	0	1861	1861	0
BHPL	1212	423	570	252	5	1949	1949	0
BPA	98449	15519	278	73923	7	45821	40316	5505
BPAP	0	0	0	0	0	0	0	0 Included in BPA data
BURB	110	390	614	25	0	1089	1089	0
CALP	2992	0	0	2992	0	0	0	0
CDWR	5172	5952	868	5393	2079	4521	4521	0
CFE	0	413	0	440	0	0 radial	0	0
CHPD	10214	408	0	192	6962	3469	3469	0
CINE	0	989	0	989	0	0	0	0
CISO	156109	47016	11247	11777	11626	190969	190969	0
CPS (EMMT)	0	9256	0	9256	0	0	0	0
CPSI	0	85	0	85	0	0	0	0
CPX	0	48209	0	48209	0	0	0	0
CRGL	0	278	0	278	0	0	0	0
CSU	2987	1016	0	48	0	3954	3954	0
DENA	1475	0	0	1475	0	0	0	0
DETM	11955	13171	0	25126	0	0	0	0
DGT	3290	755	403	2802	83	1532	1563	-31
DOPD	4966	438	200	3372	1493	738	738	0
DYN	4146	0	0	4146	0	0	0	0
EAL	0	0	0	0	0	0 radial	0	0 Included in PPA data
EPE	2974	657	5257	2589	0	6299	6299	0
EPMI	0	36647	0	36647	0	0	0	0
EWEB	602	2588	149	796	0	2577	2544	33
FARM	319	160	266	0	0	746	746	0
FPLE	0	0	0	0	0	0	0	0
GCPD	11109	856	0	2471	6519	2974	2974	0
GLEN	210	1160	0	451	0	1131	919	212
HHWP	2096	230	0	448	0	1723	1878	-155
IGI	0	84	0	84	0	0	0	0
IID	938	4206	1593	4082	0	2655	2655	0
IPC	11626	11597	5705	14352	309	14267	14267	0
LAC	290	120	73	21	0	462	462	0
LDWP	15418	15342	9650	12051	3817	24542	24542	0
MID	383	1365	845	412	0	2181	2181	0
MIEC	0	154	0	154	0	0	0	0
MIR	0	15460	0	15460	0	0	0	0
MPC	18895	1424	0	3349	8363	8607	8607	0
MWD	0	674	1663	0	0	2337	2337	0
MWEC	0	263	0	0	0	263	263	0
NAPG	101	0	0	101	0	0	0	0
NCPA	2128	1974	0	481	0	3621	3621	0
NEVP	8442	4928	4560	154	759	17016	17016	0
OXGC (CAE)	512	0	0	460	0	52	52	0
PACE	34545	7628	3936	16425	0	29684	29684	0
PACW	13815	22398	13292	27927	0	21584	21578	7
PASA	153	249	848	66	0	1185	1185	0
PECO (EXPT)	1538	2002	0	3502	38	0	0	0
PG&E	0	0	0	0	0	0	0	0 Included in CISO data
PGE	8851	22746	3702	11226	335	23738	23738	0
PNEG	750	0	0	750	0	0	0	0
PNM	13451	4266	2216	4696	8065	7173	7173	0
POPD	474	556	0	115	0	915	915	0
PPA	0	1772	0	501	0	0 radial	0	0
PPLM	0	0	0	0	0	0	0	0
PRPA	2991	896	0	1664	0	2217	2223	-6
PSC	21601	7169	688	2246	1496	25716	25716	0
PSE	5722	13565	10023	7347	0	21963	21963	0
PWX	0	10953	0	10953	0	0	0	0
RDNG	44	914	60	307	0	708	711	-3
REI	1278	0	0	1278	0	0	0	0
RVSD	202	494	568	5	0	1260	1260	0
SCE	0	0	0	0	0	0	0	0 Included in CISO data
SCL	8591	4195	0	2754	247	9784	9784	0
SDGE	0	0	0	0	0	0	0	0 Included in CISO data
SETC	0	12146	0	12146	0	0	0	0
SFG	2087	0	0	2087	0	0	0	0
SMUD	3752	5894	434	493	0	9588	9588	0
SNCL	128	1731	1153	539	109	2368	2363	5
SNPD	759	7525	623	2434	0	6472	6472	0
SPP	5977	3915	0	375	1041	9566	8476	1090
SRP	18266	8792	12382	7660	11453	20327	20327	0
TANC	0	0	0	0	0	0	0	0 Included in members data
TAUC	0	0	0	0	0	0 radial	0	0 Included in PPA data
TCP	0	1	0	1	0	0	0	0
TEP	4599	1564	5977	3876	0	8263	8263	0
TID	771	542	330	208	0	1436	1436	0
TNP	0	1741	0	3	0	1738	1738	0
TNSK	1125	0	0	1125	0	0	0	0
TPWR	1076	2147	3324	851	0	5697	5697	0
TSGT	12692	4699	3160	3790	5095	11666	11666	0
UAMP	113	1366	606	0	0	2084	2084	0
UMPA	13	519	393	72	0	852	852	0
USBR	0	0	0	0	0	0	0	0 Included with BPA/Western
VERN	2	1129	0	0	0	1142	1131	11
WAPA	49414	5450	300	15147	24521	13365	15496	-2131
WEMT	7226	2480	0	9706	0	0	0	0
WKP	4776	454	0	357	0	4873	4873	0
WPE	254	1354	1	74	0	1536	1536	0
Total	727770	437620	115230	471372	123368	689548		
Total Largest	546881	203067	76378	227010	82509	520571		

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Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(I+RGI), Exports(E), and Generation(G-RGE).
- Allocate 0% of cost to ranks = or < 13 pro-rata to: [I+RGI + E], [L + G - RGE], [L only], and the [average of the three].
- Allocate 100% of cost to 98 members pro-rata to: [I+RGI+E], [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.

RANKINGS for 3 Year Averages

Company	Load	Imp + RGI	Exports	Gen-RGE	Average Ranking	Final Ranking
AEPC	27	43	73	36	44.75	40
AES	60	77	39	40	54.00	54
ANHM	33	35	81	67	54.00	55
APS	7	16	20	6	12.25	8
APX	61	78	82	69	72.50	82
ATCO	62	79	83	70	73.50	83
AVA	15	12	17	19	15.75	12
AXIA	63	45	41	71	55.00	58
BCHA	2	25	12	3	10.50	7
BEPC	41	64	31	25	40.25	32
BHPL	40	55	62	44	50.25	47
BPA	4	10	1	2	4.25	3
BPAP	64	80	84	72	75.00	85
BURB	51	54	76	62	60.75	66
CALP	65	81	30	32	52.00	52
CDWR	26	23	21	31	25.25	19
CFE	66	67	56	73	65.50	71
CHPD	30	68	64	29	47.75	46
CINE	67	56	45	74	60.50	65
CISO	1	1	11	1	3.50	2
CPS (EMMT)	68	18	16	75	44.25	39
CPSJ	69	74	69	76	72.00	81
CPX	70	2	2	77	37.75	28
CRGL	71	69	61	78	69.75	79
CSU	28	53	75	34	47.50	45
DENA	72	82	42	42	59.50	64
DETM	73	13	5	8	24.75	18
DGT	45	49	32	30	39.00	30
DOPD	55	62	28	28	43.25	38
DYN	74	83	23	26	51.50	48
EAL	75	84	85	79	80.75	89
EPE	23	27	34	35	29.75	22
EPMI	76	4	4	80	41.00	33
EWEB	34	34	47	51	41.50	35
FARM	54	66	86	55	65.25	70
FPLE	77	85	87	81	82.50	90
GCPD	31	61	35	24	37.75	29
GLEN	50	48	54	58	52.50	53
HHWP	43	71	55	38	51.75	50
IGI	78	75	70	82	76.25	88
IID	32	28	24	47	32.75	26
IPC	12	9	8	10	9.75	6
LAC	57	72	77	56	65.50	72
LDWP	6	6	10	9	7.75	4
MID	38	38	57	54	46.75	43
MIEC	79	73	65	83	75.00	86
MIR	80	11	6	84	45.25	41
MPC	19	46	29	11	26.25	20
MWD	36	37	88	85	61.50	67
MWEC	58	70	89	86	75.75	87
NAPG	81	86	68	63	74.50	84
NCPA	29	40	52	37	39.50	31
NEVP	11	17	66	14	27.00	21
OXGC (CAE)	59	87	53	52	62.75	69
PACE	3	3	3	4	3.25	1
PACW	3	3	3	4	3.25	1
PASA	48	51	74	60	58.25	59
PECO (EXPT)	82	39	27	41	47.25	44
PG&E	83	88	90	87	87.00	92
PGE	8	5	13	12	9.50	5
PNEG	84	89	48	50	67.75	78
PNM	21	24	22	20	21.75	15
POPD	52	63	67	53	58.75	60
PPA	85	42	50	88	66.25	75
PPLM	86	90	91	89	89.00	93
PRPA	37	59	40	33	42.25	36
PSC	5	21	37	7	17.50	13
PSE	9	7	19	18	13.25	9
PWX	87	15	14	90	51.50	49
RDNG	56	57	60	64	59.25	62
REI	88	91	43	43	66.25	76
RVSD	47	52	78	59	59.00	61
SCE	89	92	92	91	91.00	94
SCL	16	31	33	13	23.25	17
SDGE	90	93	93	92	92.00	95
SETC	91	14	9	93	51.75	51
SFG	92	94	38	39	65.75	74
SMUD	17	26	51	27	30.25	23
SNCL	35	33	49	65	45.50	42
SNPD	22	19	36	49	31.50	24
SPP	18	32	58	21	32.25	25
SRP	10	8	18	17	13.25	10
TANC	93	95	94	94	94.00	96
TAUC	94	96	95	95	95.00	97
TCP	95	76	80	96	86.75	91
TEP	20	22	25	23	22.50	16
TID	46	60	63	48	54.25	56
TNP	42	44	79	97	65.50	73
TNSK	96	97	44	45	70.50	80
TPWR	24	30	46	46	36.50	27
TSGT	14	20	26	15	18.75	14
UAMP	39	41	96	61	59.25	63
UMPA	53	58	72	66	62.25	68
USBR	97	98	97	98	97.50	98
VERN	49	50	98	68	66.25	77
WAPA	13	29	7	5	13.50	11
WEMT	98	36	15	16	41.25	34
WKP	25	65	59	22	42.75	37
WPE	44	47	71	57	54.75	57
Total						

TABLE 7
Revised 6/6/01

WSCC UNSCHEDULED FLOW MITIGATION PLAN

ATTACHMENT 4

Allocation Method:

- Finds each member's ranking based on the average of rolling 3 year averages of annual energy for :Load(L), Imports(+RGI), Exports(E), and Generation(G-RGE).
- Allocate 0% of cost to ranks = or < 13 pro-rata to: [(+RGI + E), [L + G - RGE], [L only], and the [average of the three].
- Allocate 100% of cost to 98 members pro-rata to: [(+RGI+E), [L+G-RGE], [L only], and the [average of the three].
- Members with radial interconnections to WSCC (EAL and CFE) are allocated costs based only on Imports and Exports.
- Ranks greater than 13 are capped at 90-115% of 1995 allocation, depending upon device usage. All members are capped at 115% of 1995 at maximum usage.

Ranking For Energy Load (L)			Ranking For Imports + RGI			Ranking For Generation - RGE			Ranking For Exports (E)			Ranking For Average				
1	27 AEPC	4078	0.59%	43 AEPC	1755	0.32%	36 AEPC	2390	0.40%	73 AEPC	67	0.01%	40 AEPC	44.75	40 AEPC	44.75
2	60 AES	0	0.00%	77 AES	0	0.00%	40 AES	1902	0.31%	39 AES	1893	0.40%	54 AES	54.00	54 AES	54.00
3	33 ANHMH	2622	0.38%	35 ANHMH	2611	0.47%	67 ANHMH	11	0.00%	81 ANHMH	0	0.00%	55 ANHMH	54.00	55 ANHMH	54.00
4	7 APS	24061	3.49%	16 APS	9906	1.79%	6 APS	20333	3.36%	20 APS	6177	1.31%	8 APS	12.25	8 APS	12.25
5	61 APX	0	0.00%	78 APX	0	0.00%	69 APX	0	0.00%	82 APX	0	0.00%	82 APX	72.50	82 APX	72.50
6	62 ATCO	0	0.00%	79 ATCO	0	0.00%	70 ATCO	0	0.00%	83 ATCO	0	0.00%	83 ATCO	73.50	83 ATCO	73.50
7	15 AVA	11066	1.60%	12 AVA	14657	2.65%	19 AVA	5522	0.91%	17 AVA	9113	1.93%	12 AVA	15.75	12 AVA	15.75
8	63 AXIA	0	0.00%	45 AXIA	1581	0.29%	71 AXIA	0	0.00%	41 AXIA	1581	0.34%	58 AXIA	55.00	58 AXIA	55.00
9	2 BCHA	53467	7.75%	25 BCHA	6458	1.17%	3 BCHA	58265	9.64%	12 BCHA	11641	2.47%	7 BCHA	10.50	7 BCHA	10.50
10	41 BEPC	1861	0.27%	64 BEPC	466	0.08%	25 BEPC	4246	0.70%	31 BEPC	2851	0.60%	32 BEPC	40.25	32 BEPC	40.25
11	40 BHPL	1949	0.28%	55 BHPL	993	0.18%	44 BHPL	1208	0.20%	62 BHPL	252	0.05%	47 BHPL	50.25	47 BHPL	50.25
12	4 BPA	45821	6.65%	10 BPA	15797	2.86%	2 BPA	98443	16.29%	1 BPA	73923	15.68%	3 BPA	4.25	3 BPA	4.25
13	64 BPAP	0	0.00%	80 BPAP	0	0.00%	72 BPAP	0	0.00%	84 BPAP	0	0.00%	85 BPAP	75.00	85 BPAP	75.00
14	51 BURB	1089	0.16%	54 BURB	1004	0.18%	62 BURB	110	0.02%	76 BURB	25	0.01%	66 BURB	60.75	66 BURB	60.75
15	65 CALP	0	0.00%	81 CALP	0	0.00%	32 CALP	2992	0.50%	30 CALP	2992	0.63%	52 CALP	52.00	52 CALP	52.00
16	26 CDWR	4521	0.66%	23 CDWR	6820	1.23%	31 CDWR	3093	0.51%	21 CDWR	5393	1.14%	19 CDWR	25.25	19 CDWR	25.25
17	66 CFE	0	0.00%	67 CFE	413	0.07%	73 CFE	0	0.00%	56 CFE	440	0.09%	71 CFE	65.50	71 CFE	65.50
18	30 CHPD	3469	0.50%	68 CHPD	408	0.07%	29 CHPD	3253	0.54%	64 CHPD	192	0.04%	46 CHPD	47.75	46 CHPD	47.75
19	67 CINE	0	0.00%	56 CINE	989	0.18%	74 CINE	0	0.00%	45 CINE	989	0.21%	65 CINE	60.50	65 CINE	60.50
20	1 CISO	190969	27.69%	1 CISO	58263	10.54%	1 CISO	144483	23.91%	11 CISO	11777	2.50%	2 CISO	3.50	2 CISO	3.50
21	68 CPS (EMMT)	0	0.00%	18 CPS (EM	9256	1.67%	75 CPS (EMI	0	0.00%	16 CPS (EM	9256	1.96%	39 CPS (EM	44.25	39 CPS (EMMT)	44.25
22	69 CPSI	0	0.00%	74 CPSI	85	0.02%	76 CPSI	0	0.00%	69 CPSI	85	0.02%	81 CPSI	72.00	81 CPSI	72.00
23	70 CPX	0	0.00%	2 CPX	48209	8.72%	77 CPX	0	0.00%	2 CPX	48209	10.23%	28 CPX	37.75	28 CPX	37.75
24	71 CRGL	0	0.00%	69 CRGL	278	0.05%	78 CRGL	0	0.00%	61 CRGL	278	0.06%	79 CRGL	69.75	79 CRGL	69.75
25	28 CSU	3954	0.57%	53 CSU	1016	0.18%	34 CSU	2987	0.49%	75 CSU	48	0.01%	45 CSU	47.50	45 CSU	47.50
26	72 DENA	0	0.00%	82 DENA	0	0.00%	42 DENA	1475	0.24%	42 DENA	1475	0.31%	64 DENA	59.50	64 DENA	59.50
27	73 DETM	0	0.00%	13 DETM	13171	2.38%	8 DETM	11955	1.98%	5 DETM	25126	5.33%	18 DETM	24.75	18 DETM	24.75
28	45 DGT	1532	0.22%	49 DGT	1158	0.21%	30 DGT	3207	0.53%	32 DGT	2802	0.59%	30 DGT	39.00	30 DGT	39.00
29	55 DOPD	738	0.11%	62 DOPD	638	0.12%	28 DOPD	3473	0.57%	28 DOPD	3372	0.72%	38 DOPD	43.25	38 DOPD	43.25
30	74 DYN	0	0.00%	83 DYN	0	0.00%	26 DYN	4146	0.69%	23 DYN	4146	0.88%	48 DYN	51.50	48 DYN	51.50
31	75 EAL	0	0.00%	84 EAL	0	0.00%	79 EAL	0	0.00%	85 EAL	0	0.00%	89 EAL	80.75	89 EAL	80.75
32	23 EPE	6299	0.91%	27 EPE	5914	1.07%	35 EPE	2974	0.49%	34 EPE	2589	0.55%	22 EPE	29.75	22 EPE	29.75
33	76 EPMI	0	0.00%	4 EPMI	36647	6.63%	80 EPMI	0	0.00%	4 EPMI	36647	7.77%	33 EPMI	41.00	33 EPMI	41.00
34	34 EWEB	2577	0.37%	34 EWEB	2737	0.50%	51 EWEB	602	0.10%	47 EWEB	796	0.17%	35 EWEB	41.50	35 EWEB	41.50
35	54 FARM	746	0.11%	66 FARM	426	0.08%	55 FARM	319	0.05%	86 FARM	0	0.00%	70 FARM	65.25	70 FARM	65.25
36	77 FPLE	0	0.00%	85 FPLE	0	0.00%	81 FPLE	0	0.00%	87 FPLE	0	0.00%	90 FPLE	82.50	90 FPLE	82.50
37	31 GCPD	2974	0.43%	61 GCPD	856	0.15%	24 GCPD	4590	0.76%	35 GCPD	2471	0.52%	29 GCPD	37.75	29 GCPD	37.75
38	50 GLEN	1131	0.16%	48 GLEN	1160	0.21%	58 GLEN	210	0.03%	54 GLEN	451	0.10%	53 GLEN	52.50	53 GLEN	52.50
39	43 HHWP	1723	0.25%	71 HHWP	230	0.04%	38 HHWP	2096	0.35%	55 HHWP	448	0.10%	50 HHWP	51.75	50 HHWP	51.75
40	78 IGI	0	0.00%	75 IGI	84	0.02%	82 IGI	0	0.00%	70 IGI	84	0.02%	88 IGI	76.25	88 IGI	76.25
41	32 IID	2655	0.39%	28 IID	5799	1.05%	47 IID	938	0.16%	24 IID	4082	0.87%	26 IID	32.75	26 IID	32.75
42	12 IPC	14267	2.07%	9 IPC	17302	3.13%	10 IPC	11317	1.87%	8 IPC	14352	3.04%	6 IPC	9.75	6 IPC	9.75
43	57 LAC	462	0.07%	72 LAC	193	0.03%	56 LAC	290	0.05%	77 LAC	21	0.00%	72 LAC	65.50	72 LAC	65.50
44	6 LDWP	24542	3.56%	6 LDWP	24992	4.52%	9 LDWP	11601	1.92%	10 LDWP	12051	2.56%	4 LDWP	7.75	4 LDWP	7.75
45	38 MID	2181	0.32%	38 MID	2210	0.40%	54 MID	383	0.06%	57 MID	412	0.09%	43 MID	46.75	43 MID	46.75
46	79 MIEC	0	0.00%	73 MIEC	154	0.03%	83 MIEC	0	0.00%	65 MIEC	154	0.03%	86 MIEC	75.00	86 MIEC	75.00
47	80 MIR	0	0.00%	11 MIR	15460	2.80%	84 MIR	0	0.00%	6 MIR	15460	3.28%	41 MIR	45.25	41 MIR	45.25
48	19 MPC	8607	1.25%	46 MPC	1424	0.26%	11 MPC	10532	1.74%	29 MPC	3349	0.71%	20 MPC	26.25	20 MPC	26.25
49	36 MWD	2337	0.34%	37 MWD	2337	0.42%	85 MWD	0	0.00%	88 MWD	0	0.00%	67 MWD	61.50	67 MWD	61.50
50	58 MWEC	263	0.04%	70 MWEC	263	0.05%	86 MWEC	0	0.00%	89 MWEC	0	0.00%	87 MWEC	75.75	87 MWEC	75.75
51	81 NAPG	0	0.00%	86 NAPG	0	0.00%	63 NAPG	101	0.02%	68 NAPG	101	0.02%	84 NAPG	74.50	84 NAPG	74.50
52	29 NCPA	3621	0.53%	40 NCPA	1974	0.36%	37 NCPA	2128	0.35%	52 NCPA	481	0.10%	31 NCPA	39.50	31 NCPA	39.50
53	11 NEVP	17016	2.47%	17 NEVP	9488	1.72%	14 NEVP	7682	1.27%	66 NEVP	154	0.03%	21 NEVP	27.00	21 NEVP	27.00
54	59 OXGC (CAE	52	0.01%	87 OXGC (C	0	0.00%	52 OXGC (C	512	0.08%	53 OXGC (C	460	0.10%	69 OXGC (C	62.75	69 OXGC (CAE)	62.75
55	3 PACE	51268	7.44%	3 PACE	47254	8.55%	4 PACE	48360	8.00%	3 PACE	44352	9.41%	1 PACE	3.25	1 PACE	3.25
56	48 PASA	1185	0.17%	51 PASA	1097	0.20%	60 PASA	153	0.03%	74 PASA	66	0.01%	59 PASA	58.25	59 PASA	58.25
57	82 PECO (EXP	0	0.00%	39 PECO (E	2002	0.36%	41 PECO (E)	1500	0.25%	27 PECO (E	3502	0.74%	44 PECO (E	47.25	44 PECO (EXPT)	47.25
58	83 PG&E	0	0.00%	88 PG&E	0	0.00%	87 PG&E	0	0.00%	90 PG&E	0	0.00%	92 PG&E	87.00	92 PG&E	87.00
59	8 PGE	23738	3.44%	5 PGE	26448	4.78%	12 PGE	8516	1.41%	13 PGE	11226	2.38%	5 PGE	9.50	5 PGE	9.50
60	84 PNEG	0	0.00%	89 PNEG	0	0.00%	50 PNEG	750	0.12%	48 PNEG	750	0.16%	78 PNEG	67.75	78 PNEG	67.75
61	21 PNM	7173	1.04%	24 PNM	6483	1.17%	20 PNM	5386	0.89%	22 PNM	4696	1.00%	15 PNM	21.75	15 PNM	21.75
62	52 POPD	915	0.13%	63 POPD	556	0.10%	53 POPD	474	0.08%	67 POPD	115	0.02%	60 POPD	58.75	60 POPD	58.75
63	85 PPA	0	0.00%	42 PPA	1772	0.32%	88 PPA	0	0.00%	50 PPA	501	0.11%	75 PPA	66.25	75 PPA	66.25
64	86 PPLM	0	0.00%	90 PPLM	0	0.00%	89 PPLM	0	0.00%	91 PPLM	0	0.00%	93 PPLM	89.00	93 PPLM	89.00
65	37 PRPA	2217	0.32%	59 PRPA	896	0.16%	33 PRPA	2991	0.49%	40 PRPA	1664	0.35%	36 PRPA	42.25	36 PRPA	42.25
66	5 PSC	25716	3.73%	21 PSC	7857	1.42%	7 PSC	20104	3.33%	37 PSC	2246	0.48%	13 PSC	17.50	13 PSC	17.50
67	9 PSE	21963	3.19%	7 PSE	23588	4.27%	18 PSE	5722	0.95%	19 PSE	7347	1.56%	9 PSE	13.25	9 PSE	13.25
68	87 PWX	0	0.00%	15 PWX	10953	1.98%	90 PWX	0	0.00%	14 PWX	10953	2.32%	49 PWX	51.50	49 PWX	51.50
69	56 RDNG	708	0.10%	57 RDNG	974	0.18%	64 RDNG	44	0.01%	60 RDNG	307</					

ATTACHMENT 5

WSCC UNSCHEDULED FLOW PRINCIPLES

-1-

Objective

Achieve consensus on an unscheduled flow mitigation solution that will equitably resolve both short-term and long-term unscheduled flow impacts as well as foster the efficient operation, use and development of the WSCC interconnected system.

Fundamental Rules and Current Practices

1. Unscheduled flow (loop flow) is a consequence of interconnected operation using current WSCC scheduling practices as all schedules contribute to unscheduled flow.
2. The net benefit of interconnected operation is greater than the cost of a reasonable level of unscheduled flow accommodation. As such, some practical level of unscheduled flow accommodation is necessary in order to realize the benefits of interconnected operation.
3. The installation and coordinated use of controllable devices can mitigate unscheduled flow to acceptable levels.
4. The net economic benefit to be derived from a reasonable level of unscheduled flow control is expected to be greater than the cost of controllable devices.
5. The conditions for determining the impact of unscheduled flow are those that would exist without unscheduled flow.
6. Altering generation, transmission, or load will change the patterns of unscheduled flow.
7. Full control of unscheduled flows will enable all parties to schedule up to their transfer capability.
8. Present contracting practices implicitly assume the absence of unscheduled flows.
9. Curtailments, if required, are most effective if they are taken in schedules on the affected path and resultant generation changes near the overloaded facility.

ATTACHMENT 5

WSCC UNSCHEDULED FLOW PRINCIPLES

-2-

Principles of a Good Solution

Any solution for coordinated unscheduled flow mitigation must:

1. Recognize that unscheduled flow is created by all users of the WSCC interconnected system; therefore, all users should participate in coordinated unscheduled flow mitigation.
2. Address long-term solutions including maintaining existing facilities and investing in new facilities.
3. Address unscheduled flow in both major and minor loops.
4. Foster efficient and economic use and development of the WSCC interconnected system.
5. Produce net economic benefits greater than the cost of mitigation and/or accommodation.
6. Provide for the equitable mitigation of unscheduled flow in excess of reasonable accommodation levels.
7. Provide incentives to reinforce the weaker portions (high impedance) of the WSCC interconnected system.
8. Provide a means to monitor compliance.
9. Provide reimbursement to the owners of controllable devices operated to control unscheduled flow.
10. Provide equitable treatment for interconnected system users.
11. Provide transmission users with sufficient information to determine the cost of unscheduled flow mitigation measures in advance of making a scheduled transaction.
12. Be consistent with WSCC Criteria.
13. Foster conditions under which transmission owners can maximize the use of the path capability.

ATTACHMENT 5

WSCC UNSCHEDULED FLOW PRINCIPLES

-3-

14. Be relatively simple to implement and administer.
15. Provide for emergency operation.
16. Address schedules internal to a control area and from remote generation.
17. Be based on physical parameters that are measurable and conveniently monitored.

Approved by the PCC/OC Loop Flow Task Force July 28, 1993

Approved by the Loop Flow Steering Committee July 28, 1993

CALCULATION OF TOTAL COMPENSATION ASSOCIATED WITH CONTROLLABLE DEVICES

This Exhibit summarizes the methodology used to calculate total compensation, which is set forth in Attachment 3 to the Revised Plan.

STEP 1: Determine each Controllable Device's effectiveness factor as follows:

Measure the Controllable Device's effectiveness (for phase shifters, MW per degree) on each of the Qualified Transfer Paths,^{1/} as determined from incremental power flows using approved WSCC base cases representing the appropriate system topology and time period.^{1/} See Attachment 3, Table 1.

Multiply each of the above figures by the Controllable Device's Control Range and divide by the Qualified Transfer Path's rating to arrive at the Percentage Effectiveness of each Controllable Device on each Qualified Transfer Path.

Divide the Percentage Effectiveness by the "Effectiveness Test." The Effectiveness Test is the reference percentage effectiveness deemed to provide sufficient control of Unscheduled Flow so as to qualify for 100 percent compensation. The resulting figure is the Normalized Percentage Effectiveness.

^{1/} Qualified Transfer Paths are established through the WSCC ratings process.

^{2/} These figures will be updated annually based on studies performed using WSCC base case data sets.

EXHIBIT B

Calculate Average Percentage Control Factor for each Controllable Device by calculating the simple average of that Controllable Device's Normalized Percentage Effectiveness on all of the Qualified Transfer Paths.

Example: (Refer to Attachment 3, Table 1, Part II.)

For TOT2A, the California-Oregon Intertie control effectiveness is 2.23 MW per degree (Table 1). The Control Range is 30 degrees. $2.23 \text{ MW/degree} \times 30 \text{ degrees} = 66.9 \text{ MW}$. The first Qualified Transfer Path has a rating of 4800 MW. $2.23 \div 4800 = .0139375$. This figure is the Percentage Effectiveness. Divide the Percentage Effectiveness by the Effectiveness Test of 15%. $.0139375 \div .15 = .0929167$. This figure (9.3%) is the Normalized Percentage Effectiveness. Average the Normalized Percentage Effectiveness for each of the 6 qualified paths for the TOT2A phase shifters: $(.0923 + .183 + .134 + .310 + .455 + 1.00 + .339 + .178)/8 = 33.64\%$. Thus, the TOT2A phase shifters will receive compensation for 33.64% of their annual ownership costs, plus O&M expenses. The 33.64% is the Average Percentage Control Factor.

STEP 2: Determine the initial installed investment cost (Original Cost) of each Controllable Device. (Exhibit E of the original Plan).

STEP 3: Determine the Levelized Annual Fixed Cost Percentage for each Controllable Device. (Exhibit E of the original Plan).

STEP 4: Determine the Allowable Costs for each Controllable Device based on the following formula:

Annual Allowable Cost = (Original Cost * Levelized Annual Fixed Cost Percentage * Average

EXHIBIT B

Percentage Control Factor) + O&M Costs^{1/}

Or if the Annual Allowable Cost is less than \$50,000, then:

Annual Allowable Cost = the greater of: \$50,000 + O&M Costs **OR** (.1 * Original Cost * Levelized Annual Fixed Cost Percentage) + O&M Costs

STEP 5: If applicable, apply the formula in Plan § 9.6 to reduce the compensation for a particular device based on reduced availability. That formula provides:

Annual Qualified Compensation = Annual Compensation * Availability Factor

Availability Factor = Actual Availability ÷ (.9 * RA)

Actual Availability = RA - the number of hours in a calendar year for which operation of the Controllable Device was requested and not provided.

RA = Number of calendar hours in a calendar year for which operation of the Controllable Device was requested.

^{3/} In Plan Year 1 only, no O&M costs will be recovered. In later years, the owners will submit, on a one-year lag basis, data reflecting their actual O&M costs for the devices.

EXHIBIT B

STEP 6: Determine Hourly Rate

Subtract the Minimum Annual Compensation (\$550,000 with the 2001 list of Qualified Controllable Devices) from the compensation determined in the foregoing steps. Divide the result by 2,000 hours (the maximum hours of Controllable Device Coordinated Operation called for under the original Plan). The result is the Hourly Rate. The available hours of Coordinated Controllable Device Operation increase from 2,000 to 4,000 with these proposed changes. However, the 2,000-hour figure is still used to calculate the hourly rate, ensuring the Device Owners receive the full compensation envisioned under the original Plan if devices are called upon for 2,000 hours.

Step 7: Determine Total Compensation:

Multiply the Hourly Rate by the number of hours of Coordinated Controllable Device Operation during the year. Add the result to the Minimum Annual Compensation. The resulting sum is the Total Compensation for all Controllable Devices.

**CALCULATION AND ALLOCATION OF DUES
(WSCC Member's Annual Flow Mitigation Dues)**

This Exhibit summarizes how the dues are calculated for each WSCC member.

STEP 1: Collect data that shows historical energy information^{1/} for the following^{2/}:

Generation (G)	Load (L)
Remote Generation Imports (RGI)	Exports (E)
Remote Generation Exports (RGE)	Imports (I)

STEP 2: For each WSCC Member, determine that Member's average annual Load, Imports plus Remote Generation Imports (I+RGI), Generation minus Remote Generation Exports (G-RGE) and Exports (E) for the relevant three-year period.

Example: $L_{(1991)} + L_{(1992)} + L_{(1993)}) / 3 = \text{Average Load}$

STEP 3: Rank all of the WSCC Members in the four categories listed above, Average Load, Average (Imports + Remote Generation Imports), Average (Generation - Remote Generation Exports), and Average Exports) -- #1 has the largest figure in that category. Each Member will have four ranks, one for each of the four categories. Next, average all four ranks to determine average rank.

Example: $\text{Rank}_{(L)} + \text{Rank}_{(I+RGI)} + \text{Rank}_{(G-RGE)} + \text{Rank}_{(E)}) / 4 = \text{Average Rank}$

Because the Average Rank is not necessarily a whole number, using the Average Rank, rank the members from 1 - Total Number of WSCC Members

If Relative Average Rank ≥ 35 , that Member is "Small"

If Relative Average Rank ≤ 34 and ≥ 14 , that Member is "Medium"

If Relative Average Rank ≤ 13 , that Member is "Large"

STEP 4: For all WSCC Members, determine the three-year average of the following categories:

I + RGI + E
L + G - RGE
L

^{1/} The first three-year period will be 1991-1993. Subsequently, the figures will be updated each year on a rolling basis.

^{2/} If data are not submitted by a Member to the WSCC, data will be collected from publicly-available records.

For each of these categories, determine the percentage share that each Member's total represents.

Example:

Member's (I + RGE + E) / Sum of all members (I + RGE + E) = % Share_{(I + RGE +}

E)

Determine average percentage share for all three categories:

$\% \text{ Share}_{(I + RGI + E)} + \% \text{ Share}_{(L + G - RGE)} + \% \text{ Share}_{(L)} / 3 = \text{Average \% Share}$

Step 5a: If Member is Small or Medium, to determine a member's dues:

Total Compensation^{3/} * Average % Share = Total Dues, where Total Dues are capped by a percentage of the 1995 final allocation, as determined by hours of Controllable Device usage:

Zero to 100 hours use of controllable devices - 90% of 1995 final allocation
 101 to 499 hours use of controllable devices - 105% of 1995 final allocation
 500 to 999 hours use of controllable devices - 110% of 1995 final allocation
 1000-2000 hours use of controllable devices - 115% of 1995 final allocation
 2000 to 4000 hours use of controllable devices – select cap from the following list.

Hours of Coordinated Operation	Cap as % of 1995 Allocation
2000	115.000
2001-2100	115.671
2101-2200	116.479
2201-2300	119.482
2301-2400	122.513
2401-2500	125.643
2501-2600	129.021
2601-2700	132.440
2701-2800	135.929
2801-2900	139.444
2901-3000	143.058
3001-3100	146.617
3101-3200	150.337
3201-3300	154.127
3301-3400	157.893

^{3/}

Total Compensation is determined as set forth in Attachment 3 to the Plan.

EXHIBIT C

3401-3500	161.847
3501-3600	165.777
3601-3700	169.725
3701-3800	173.647
3801-3900	177.454
3901-4000	181.178

Step 5b: If Member is Large, to determine a member's dues:

Total Compensation * Average % Share * multiplier = Total Dues, where Total Dues are capped at the appropriate percentage from the list above applied to the 1995 final allocation.

Hours of Coordinated Operation	Multiplier Applied to Interim Allocation of Largest 13
Up to 2000	1.350
2001-2100	1.369
2101-2200	1.388
2201-2300	1.407
2301-2400	1.426
2401-2500	1.445
2501-2600	1.464
2601-2700	1.483
2701-2800	1.502
2801-2900	1.521
2901-3000	1.540
3001-3100	1.559
3101-3200	1.578
3201-3300	1.597
3301-3400	1.616
3401-3500	1.635
3501-3600	1.654
3601-3700	1.673
3701-3800	1.692
3801-3900	1.711
3901-4000	1.730