6450-01-P

DEPARTMENT OF ENERGY

Western Area Power Administration

Record of Decision for the Sierra Nevada Customer Service Region 2004 Power Marketing Program (DOE/EIS-0232)

AGENCY: Western Area Power Administration, DOE.

ACTION: Record of Decision.

SUMMARY: The Department of Energy (DOE), Western Area Power Administration (Western), has decided to develop and implement a marketing program for marketing Federal electric power resources from the Central Valley Project (CVP) after year 2004 that is within the range of the actions defined in Western's preferred alternative described in the 2004 Power Marketing Program Final Environmental Impact Statement (final 2004 EIS). In making this decision, Western has considered all comments received on its alternatives and the analysis contained in the 2004 Power Marketing Program Draft and Final Environmental Impact Statements (2004 EIS) issued for the project (DOE/EIS-0232) in May 1996 and March 1997, respectively. The program for marketing Federal electric power resources from the CVP is being developed through a public process now underway pursuant to the Administrative Procedure Act (APA). Although the marketing of Federal power from the Washoe Project (Washoe) may change, operations of Stampede Reservoir and generating facilities will not, so no environmental effects are expected from marketing program changes at this facility.

Western's 2004 EIS evaluated alternatives that cover the reasonable range of options for marketing CVP and Washoe power. The analyses of the environmental effects of these alternatives bracket the greatest possible range of potential impacts which could occur. The 2004 Power Marketing Program Draft Environmental Impact Statement (draft 2004 EIS) analyzed four alternatives: (1) no action (continue present approach of marketing CVP power), (2) maximize CVP hydropower peaking capability, (3) operate CVP in a base-loaded mode (relatively constant power output), and (4) a

renewable case involving the purchase of 50 megawatts (MW) of power from renewable resource generation sources. In the baseload and peaking alternatives, the effects of various levels of power purchases from 0 to 900 MW were also analyzed for potential environmental effects. Western's final 2004 EIS analyzed a fifth alternative identified as Western's preferred alternative. It addressed CVP operations similar to the maximized peaking alternative, except in Western's preferred alternative CVP hydropower resources and Federal power customers' resources are dispatched together in an integrated (economically optimized) fashion, and each customer is allowed to choose the level of firming purchases they would like Western to make to supplement the hydropower generation.

The 2004 EIS did not identify any environmental effects associated with Western's preferred alternative. Therefore, a monitoring program or mitigation measures is not warranted.

DATES: Decision is effective April 11, 1997.

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SUPPLEMENTARY INFORMATION: The hydroelectric generation facilities of the CVP are operated by the Bureau of Reclamation (Reclamation). Reclamation manages and releases water in accordance with the various acts authorizing specific projects and with other laws, permits, and enabling legislation. The authority to market Federal electric power, set rates for the power, and construct and operate transmission facilities was transferred from the Department of the Interior (DOI) to DOE through enactment of the Department of Energy Organization Act of 1977 (Public Law 95-91). Western is a power marketing administration within DOE created to carry out Federal power marketing responsibilities. Western's power marketing responsibility includes managing the Federal power transmission system, scheduling power production, and marketing the power produced. The Sierra Nevada Region (SNR), with a marketing area covering

most of northern and central California and Nevada, currently markets approximately 1,480 MW of power from the CVP in California and other sources, and available nonfirm energy from Washoe.

All existing long-term CVP sales contracts expire on December 31, 2004. SNR has examined the environmental effects of alternative ways to fulfill its responsibilities to market CVP and Washoe hydropower in its 2004 EIS. The 2004 EIS examined the impacts of alternatives related to (1) the level and character of capacity, energy, and other services to be marketed beyond 2004; and (2) establishment of eligibility and allocation criteria for the allocations of electric power resources to be marketed under contracts that will replace those expiring in 2004. In implementing its proposed action, SNR desires to achieve a balanced mix of purposes. The purposes of the proposed 2004 power marketing plan are listed below:

- to be consistent with SNR's statutory and other legal constraints,
- to provide long-term resource and contractual stability for SNR and for customers contracting with SNR,
- to provide the greatest practical value of the power resource to SNR and to customers contracting with SNR,
- to protect the human and natural environment,
- to be responsive to future changes in the CVP, Washoe, and the utility industry.

Western prepared its 2004 EIS in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321, et seq.), the Council on Environmental Quality regulations for implementing NEPA (40 CFR Parts 1500-1508), and the DOE regulations for compliance with NEPA (10 CFR Part 1021) to describe the potential environmental consequences of the range of reasonable marketing program alternatives.

Public Involvement

SNR developed a public involvement plan early in the evolution of the 2004 EIS process. The public involvement plan was designed to guide SNR through a collaborative and systematic decision-making process and facilitate input from the public and interested parties and agencies. The primary purposes of public involvement, as set out in the public involvement plan, were to:

- inform the public,
- gather information from the public to identify public concerns and values, and
- responsibly address stakeholder input regarding environmental and allocation concerns and consider such input in decision making.

Through SNR's public involvement process, an extensive effort was made to notify all potentially interested parties about the 2004 EIS and opportunities for involvement. Approximately 25 prescoping stakeholder meetings (involving customers, agencies, interested groups, and individuals) were informally held during the summer of 1993 to provide information and to discuss issues and concerns related to the project. An interested parties mailing list was used to keep track of those showing an interest in the project. The list was expanded to include any new interested parties as they were identified. The Federal Register notice of the scoping period was published on August 10 and 13, 1993 (58 FR 42536 and 58 FR 43105). In conjunction with the notice, a news release was sent to local newspapers, and scoping invitation letters were mailed to those on the interested parties mailing list. Three public scoping meetings were held in August and September 1993 to receive written and verbal comments on environmental and marketing-related issues. SNR held two more public meetings to facilitate information sharing and to obtain further public comment: an Issues and Alternatives Public Workshop on May 18, 1994, and an Alternatives Workshop on January 18, 1995. The draft 2004 EIS was distributed to interested parties and agencies for public review and comment. Notice of availability of the draft 2004 EIS was published in the Federal Register on May 24, 1996 (61 FR 26174 and 61 FR 26177). A public hearing concerning the draft 2004 EIS was held on June 13, 1996.

The public comment period for the draft 2004 EIS closed on July 31, 1996. Additionally, public information and involvement opportunities were supplemented by 12 separate mailings of the project informational bulletin, the 2004 EIS Update, designed to keep all interested groups and individuals apprised of project details and scheduled events.

The final 2004 EIS was distributed to the public beginning in late February 1997. The Environmental Protection Agency (EPA) notice of availability was published on March 7, 1997 (62 FR 10559).

Description of Alternatives

In developing alternatives for the 2004 EIS, SNR focused on six key component groups--key elements of the marketing program--that vary across the alternatives. SNR's intent in establishing the ranges for the variable components was to use a "tent stakes" approach to constructing alternatives. Using this approach, the alternatives were designed to cover the range of reasonable options and thus the analyses of their environmental effects would bracket the range of potential impacts. Although the final marketing plan, after completion of the public process, may not be identical with any one of the 2004 EIS alternatives, the values for the final plan and its components will be within the range considered and its impacts will fall within the range of impacts assessed.

The six key component groups that are varied in the analysis of alternatives include the following:

(1) *Baseload Operations* - Within the operational constraints established by DOI, this refers to releasing water from hydroelectric facilities to generate electricity at a relatively constant rate. This approach would emphasize a steady water release rate from dams above regulating reservoirs.

(2) *Peaking Operations* - Within the operational constraints established by DOI, this refers to storing and releasing water from hydroelectric facilities to generate electricity during the relatively short period of maximum demand. This approach would

emphasize periodic water releases from dams above regulating reservoirs timed to produce electricity when it is most needed.

(3) *Power Purchases* - These refer to SNR power purchases used to supplement the Federal hydroelectric resource. Purchases were assumed to be made from markets in California, the Pacific Northwest, and the Desert Southwest. For purposes of modeling and analysis in the 2004 EIS, purchase levels of 0 MW, 450 MW, and 900 MW, each at capacity factors up to 15 percent and 85 percent, are assumed. The no-action alternative has an approximate average monthly purchase level of about 478 MW assuming average hydrologic conditions and no contractual interchanges or exchanges.

(4) *Renewable Resources* - These resource types are emphasized in one alternative and could be acquired through either selective purchases or allocations of Federal resources to SNR's customers active in developing renewable resources.

(5) *Power Cost Analysis* - This refers to analyzing cost impacts to SNR's customers from combining the costs for purchases with SNR's hydropower resources (aggregated), or treating these resources individually, each with its own cost (disaggregated).

(6) *Allocation to Customer Groups* - This refers to assessing the impacts of changing the quantities of power that customer groups currently receive from the SNR. For 2004 EIS analysis purposes, customers were divided into the following three groups, with the customers in each group having similar load characteristics: utilities, agriculture, and other (such as State and Federal agencies).

Nonvariable and independent components were identified which do not vary across alternatives; therefore, the environmental effects attributable to these components are constant under all alternatives. Nonvariable and independent components include eligibility criteria, first preference, preference, marketing area, delivery conditions, transmission requirements, minimum load requirements, executed contract requirements, alternative financing arrangements, termination provisions, and

standard provisions. Such components may be included in the proposed 2004 power marketing plan. Because they are already included in SNR's present activities, they represent no change from the no-action alternative. Environmental impact analyses in the 2004 EIS focus on those components that vary across the alternatives. Constant effects associated with nonvariable and independent components were included in the overall impact assessment.

Components that were analyzed in the Western's 1995 Energy Planning and Management Program (EPAMP) EIS (Record of Decision for EPAMP EIS was published October 12, 1995, 60 FR 53181) were not analyzed in the 2004 EIS. These components include contract length, power planning requirements (such as integrated resource planning for customers), withdrawal provisions, and contract adjustment provisions.

An analysis of allocations to customer groups was done to characterize the impacts that may result from changing the quantity of resources available to different customer groups. Such changes may result if SNR emphasizes sales to a particular type of customer (utility, agricultural, or other) or encourages special actions, such as acquiring renewable resources, or customer allocations change due to resource availability or marketing options. In the analysis, customer allocations are both increased and decreased for each customer group. This approach captures the range of beneficial and negative impacts that may result from changes affecting a particular customer group.

Four alternatives structured around operations of the CVP hydroelectric system were developed for analysis in the draft 2004 EIS. The alternatives were refined following completion of the draft 2004 EIS and receipt of public comments. The key change from the draft 2004 EIS affecting alternative structure is the treatment of the energy market assumed for 2005. In the draft 2004 EIS, each of the alternatives incorporated varying levels of firm capacity purchases at different capacity factors. In these types of contracts, Western would be required to purchase the energy and

capacity even if it were not needed or if it were not the most economic purchase available at any given time.

Description of Draft 2004 EIS Alternatives

The four original alternatives include the following:

- The no-action alternative refers to a continuation of SNR's present approach to marketing power, meeting 2005 loads that are comparable to SNR's 1996 load patterns. Within operating constraints, hydropower facilities are operated close to maximum peaking. For modeling purposes the no-action alternative includes an average monthly purchase of about 478 MW assuming average hydrologic conditions and no contractual interchanges or exchanges.
- Maximize hydropower peaking (the peaking alternative) refers to operating the CVP hydropower facilities to maximize power generation during peak load periods within operating constraints. Federal CVP hydropower is dispatched first, before any customer hydropower resources. Five purchase cases were considered including no power purchases, 450 MW at 15-percent capacity factor, 450 MW at 85-percent capacity factor, 900 MW up to a 15-percent capacity factor, and 900 MW up to an 85-percent capacity factor.
- The baseload alternative refers to operating the CVP hydropower facilities for relatively constant power output within operating constraints. The same five purchase cases were examined as with the peaking alternative described above.
- Renewable resource acquisition (the renewables alternative) refers to operating the CVP hydropower facilities to maximize power generation during peak load periods within operating constraints, and power purchases were set at 50 MW of capacity to support the use of renewable resources. Generation was assumed to be equally distributed among biomass, wind, solar and geothermal facilities. A sensitivity test was run without biomass in the resource mix for purposes of analyzing air quality and non-CVP impacts of land use, water quality, and wastes.

Changes to Alternatives in the Final 2004 EIS

Because of utility industry restructuring presently taking shape nationally and in California, in the final 2004 EIS the energy market is assumed to operate with open access for both wholesale and retail customers. Further, power could be purchased on an hourly basis, as needed. Because of this flexibility, when Western makes purchases, it is unlikely that customers would make a similar purchase to meet the same need. In addition, because both Western and its customers would have equal access to the market, purchases would be under similar terms and conditions. Thus, a purchase by Western would be offset by purchases foregone by Western's customers and vice versa. The results of these assumptions about equal access and hourly pricing include the following:

- Purchase levels described in the alternatives would be the maximum purchased in any 1 hour by the SNR.
- SNR could purchase up to the maximum capacity factor noted but need not purchase more than it requires.
- All purchases in the final 2004 EIS are assumed to be made from power markets. The SNR's market costs would be passed on to its customers, meaning there would be no difference between an SNR purchase and a customer's direct market purchase. The no purchase option represents the effects of SNR disaggregating costs associated with any purchases. Purchase options were also analyzed on an aggregated basis.

For renewable resources, the final 2004 EIS assumed that prices incorporating technological advancements will be available in 20 percent of the renewable resources that would be available in 2005. This assumption was based on the Western System Coordinating Council 1995 Summary of Estimated Loads and Resources. The final 2004 EIS analyses placed the amount of capacity from renewable resources that could be economically supported at 50 MW.

Western's Preferred Alternative

In the final 2004 EIS, Western's preferred alternative was described and analyzed. The preferred alternative is similar to the maximum peaking alternative. In

this alternative additional power will be purchased if requested by customers to meet their load requirements. This alternative was chosen to provide the greatest flexibility to meet customer needs in making purchases and to economically optimize the operation of Western's and its customers' power resources.

Environmentally Preferred Alternative

The maximum peaking alternative was also determined to be the environmentally preferred alternative. This alternative was so designated because it would provide the greatest load-carrying capacity and best offset the need for additional powerplants. This alternative generally results in the greatest benefits or least impacts to the environment when impacts are quantified. Peaking with no purchases results in the greatest environmental benefits.

Environmental Consequences

The impact analyses followed three basic steps. Historic hydrological conditions were analyzed using the PROSIM (CVP simulation model) model. The PROSIM outputs (in the form of monthly water flows and available hydropower capacity and energy) were input to the PROSYM model, a production cost simulation model of electric utility operations. PROSYM outputs (in the form of estimated levels of electric generation, production costs, and hourly water flows in the CVP) were used to assess the environmental impacts.

The manner in which hydropower generating plants would be operated is one of the fundamental differences across the alternatives. The PROSYM analyses show that, when operated to provide electricity at peak times (the peaking alternative), the hydropower system can offset up to 317 MW of electric generating capacity from other sources when compared to the no-action alternative. The replacement capacity needed to offset the difference between the baseload and no-action alternatives is 581 MW of load-carrying capacity. The amount of replacement capacity needed to offset capacity losses from any alternative when compared to the no action alternative is an important vector identified in the analyses for determining the extent of possible impacts. Building

new capacity causes land-use impacts and uses physical, natural, and financial resources needed to build the powerplant and connect it with the interconnected transmission grid. Western is not presently planning to build such a powerplant, but Western's actions could cause such a powerplant to be constructed if the baseload alternative were selected.

The CVP hydropower system does not require additional facilities or modifications to change from baseload to peaking operations or vice versa. Thus, the lost load-carrying capacity from baseload operations would be retrievable for CVP operations if a decision to subsequently implement peaking operations was made. However, if the baseload alternative is implemented and replacement capacity is built, replacement capacity is expected to remain in place. If this occurs, a potential shift from baseload back to peaking CVP operations would likely result in temporary surplus capacity in the region.

Impacts resulting from CVP water releases within SNR's discretion are limited. In comparison to the no-action alternative, the peaking alternative results in only slightly greater pool-level fluctuation in regulating reservoirs. Impacts are restricted to the regulating reservoirs at Lewiston, Keswick, Lake Natoma, and Tulloch because the regulating dams are operated to control releases downstream. The baseload alternative would result in constant water releases from the main dams that would avoid pool-level fluctuation and potentially improve recreation and resident fisheries slightly in the regulating reservoirs.

The hourly water releases from the main dams, whether operating for peaking or baseload, affect temperature fluctuation a very minor amount. The temperature differences are so small that, although they can be calculated, they could not be measured in the regulating reservoirs or the rivers downstream.

Given these findings about pool-level and temperature fluctuations, in comparison with the no-action alternative, no alternative would result in adverse impacts

to fisheries, threatened and endangered species, recreation, the terrestrial environment, or cultural resources.

The more constant flows of the baseload alternative may result in minor beneficial effects to fisheries, recreation, and cultural resources associated with the regulating reservoirs. A reduction in pool-level fluctuation may improve habitat for resident fish and improve boating conditions. Stable pool elevations could also reduce erosion at shoreline cultural resource sites, but may increase exposure to other sources of erosion such as wave action.

Impacts to air quality, solid waste, and wastewater would be related to the generation of electricity at powerplants apart from the CVP. The variation across the alternatives comes from changes in operation of combustion turbines (CTs) and combined-cycle combustion turbines that may be located throughout northern and central California, the Pacific Northwest, or the Desert Southwest. The most substantial air quality impacts would come from changes in hourly operations of other nonhydropowerplants in response to the manner in which the CVP hydroelectric facilities are scheduled (peaking or baseload). Generally, compared to the no-action alternative, scheduling the hydropower system as a baseload system would result in an increase of emissions from other powerplants during the day when ambient levels are high because thermal generation would be needed for peaking. Peaking the hydropower system offsets daytime thermal production and reduces daytime emissions, but increases nighttime thermal production and emissions, when ambient levels are less. This can be important for areas having problems meeting air quality standards during summer afternoons when industrial, utility, and transportation emissions are at their peak. During summer afternoons, the difference in oxides of nitrogen emissions between the peaking and baseload alternatives would reach over 400 pounds per hour. These emissions are equivalent to those from a 400-MW combustion turbine plant.

Without biomass, the renewables alternative results in the most beneficial effects on annual air emissions. Including biomass with the other renewables sources in the renewables alternative would produce the greatest levels of annual air emissions.

In comparison with the no-action alternative, all of the other alternatives would result in beneficial effects on wastewater production. As with annual air emissions, the renewables alternative without biomass would result in the greatest benefit in reducing wastewater production. Renewables with biomass would produce the least benefit but would still result in a reduction in wastewater production in comparison with the no-action alternative.

Solid waste production also would be most changed by the renewables alternative. Biomass-fueled plants that burn municipal solid waste produce a great deal of ash as solid waste but also reduce the quantity of solid waste requiring disposal in a landfill. For every pound of ash produced by biomass combustion, municipal solid waste is reduced by about 5 pounds. When this reduction is taken into account, solid waste would be reduced by nearly 40,000 tons with the renewables alternative. In comparison, the other alternatives (including renewables without biomass) are very similar to the no-action alternative.

The baseload alternative results in about 90 acres of land needed for replacement capacity. The renewables alternative would result in land-use impacts. Renewables, such as solar photovoltaic and wind, may require up to about 30 times the land area per megawatt of capacity of thermal resources such as CTs. In comparison to the no-action alternative, the renewables alternative would require an additional 70 to 90 acres of land for powerplants.

SNR's 2004 power marketing plan would influence the overall power costs of its customers. The alternatives were structured to determine the maximum range of impacts to gauge socioeconomic effects in the areas of output, employment, and labor income. When compared to the economy of northern and central California, or of any one of four economic regions analyzed within northern and central California, the

estimated impacts are very small. Based on results from the power production cost analysis described in Section 4.2 of the 2004 EIS, the associated economic impacts of the alternatives are nearly indistinguishable in all cases and in all regions. The economic effects of the preferred alternative and all other alternatives are not significant; however, some indication of their positive or negative direction is possible. Western's preferred alternative results in economic impacts that are slightly positive in comparison to the no-action and the peaking alternatives.

All of these socioeconomic effects reflect averaging across regions and customer groups and do not capture the effects on individual customers. Economic effects on SNR's customers who lose or gain allocations may be substantial in individual cases but cannot be determined because specific allocations have not been made. In general, however, customers who lose allocations would be balanced by other customers who gain equivalent allocations. Specific allocations will be made in a separate public process under the APA.

Across the alternatives and the affected economic regions, economic impacts are minimal, and are not disproportional across income or race groupings of the population. In the case of agriculture customers, low-income and minority groups make up a larger proportion of the employment in that sector. The impacts identified do not affect agricultural gross revenues or production levels. Thus, employment levels are not affected, and the impacts of alternatives do not disproportionately affect low-income or minority groups.

The effects of emphasizing the use of renewable resources (assuming technological improvements) in the generation mix have a negative economic impact compared to the same quantity of thermal purchases. Improvements in technology should occur prior to 2005 that reduce the cost of the renewable resources. The amount of renewables to be included in the renewables alternative was determined by melding the anticipated cost of renewables in 2004 together with the anticipated 2004 hydropower cost. The renewables share of the mix was increased until the

combined rate for SNR energy equaled the anticipated market rate in 2004. This resulted in melding the CVP hydropower operated to maximize peaking with 50 MW of renewable resource purchases.

Summary of Public Comments

A number of comments were provided by agencies, stakeholders, and the public during the public review period of the draft 2004 EIS. Some customers suggested that SNR may have underestimated the future cost of energy generated from renewable resources and overestimated the market price of power in post-2004 projections in the draft 2004 EIS. It was also suggested this may have resulted in SNR's projections of unrealistically high amounts of renewable resource power in its future resource mix. Comments also noted a concern to reflect the most current industry developments. Western revised these estimates in the final 2004 EIS, provided updated model assumptions and the analysis of alternatives to more accurately represent these developments. The resulting decision takes these factors into account.

More information was requested on how alternatives would be formed into a cohesive power product, including purchase levels and capacity factors that are specifically tailored to customer needs. Western will be able to better identify these products as they are addressed within the APA process. The final 2004 EIS focused on the environmental impacts from the resources needed to develop products and services. The final 2004 EIS identified the most aggressive range of actions possible to determine the potential boundaries of environmental effects and to establish a high degree of flexibility for Western's decisions.

Another comment requested that referenced documents, such as the EPAMP EIS, be summarized in the final 2004 EIS. Western added information to better describe the findings of referenced documents.

Some comments pointed out errors and differences of perception in the descriptions of various CVP facilities and operations. These errors and differences were corrected or explained in the final 2004 EIS.

Concerns were raised about the level of detail given to the analysis of customer group allocations and to results for the utility customer group. Refinements in modeling to better reflect the changing utility industry addressed these issues.

Decision

Western has decided to develop and implement a marketing program for marketing Federal electric power resources from the CVP and Washoe that is within the range of actions defined in Western's preferred alternative described in the 2004 EIS, to replace power contracts expiring in the year 2004. This alternative is based on peaking the hydropower system in an integrated (economically optimized) fashion with Western's customer's hydropower resources. In addition, each customer can choose the level of firming purchases it would like Western to make on its behalf to supplement the CVP hydropower generation. Although the marketing of Federal power from Washoe may change, operation of the Stampede Reservoir and generation facilities will not, so no environmental effects are expected. The modified program for CVP power will apply to power marketing contracts superseding those that expire December 31, 2004. Western's preferred alternative falls within the tent stakes established in the 2004 EIS, and is the alternative selected in the development of Western's proposed 2004 power marketing plan.

Rationale

Western's decision considered comments received from customers and stakeholders throughout the processes and the analyses related to the draft and final 2004 EIS that were issued for the project (DOE/EIS-0232) in May 1996 and March 1997, respectively. This decision is within the scope of the alternatives discussed in the final 2004 EIS and addresses concerns by customers and stakeholders in those documents. The environmental effects of the environmentally preferred and the agency preferred alternatives are nearly identical, although the selected alternative provides economic advantages over the environmentally preferred alternative.

A 2004 Power Marketing Plan is needed to fulfill Western's Federal power marketing responsibilities to market Federal CVP power beyond the year 2004.

In addition, the purpose and need for the 2004 EIS provides factors which were used to gauge the alternatives. The purposes and their relationship with the alternatives and other analyses are described in the following sections and summarized in Table 1.

Legal Obligations

The first of the listed purposes was met by all of the alternatives. This first purpose reads as follows: to be consistent with SNR's statutory and other legal obligations. This purpose does not favor any one alternative and is met by the decision.

Resource and Contractual Stability

The second purpose to provide long-term resource and contractual stability for SNR and for customers contracting with SNR applies to contract length and the quantity of resources that are allocated to customers. Both issues were analyzed in the EPAMP EIS. The EPAMP EIS analysis found that longer-term contracts reduced uncertainty in power planning and were of greater value to Western's customers. All of the alternatives could have been implemented with different contract lengths.

The 2004 EIS analyzed impacts from extreme changes in allocations to customer groups. The 2004 EIS analysis found that the most adverse effects on cost and socioeconomic effects come from reducing allocations to the utility customer group. Reducing the allocation to the utility customer group to nothing results in adverse socioeconomic effects.

The EPAMP EIS also analyzed reducing allocations of available resources in order to create resource pools. These pools could be used for allocations to new customers or to support desired policies, such as customers who are willing to implement conservation or develop renewable resources. The manner in which the resource pool is used was not assessed because allocations have not yet been determined.

Table 1

	Preferred	Peaking*	Baseload	Renewables	No Action
Alternative Description	Peaking optimized with customer operations - customers choose purchases	Peaking operations with purchase options	Baseload operations with purchase options	Peaking operations coupled with a 50 MW purchase from renewables	Existing operations - similar to peaking - 478 MW average monthly purchases
Legal Obligations	Met by all alternatives				
Resource and Contractual Stability	Analyzed in the EPAMP EIS and the analysis of allocation to customer groups within the 2004 EIS may be applied to all alternatives				
Greatest Practical Value	Lowest cost Federal resource, available load-carrying CVP customer capacity similar to peaking	Low cost but does not economically optimize resources- greatest CVP customer load-carrying capacity	High costs - least available CVP customer load-carrying capacity	Greatest costs - CVP customer capacity same as peaking	Costs similar to baseload - midlevel CVP customer load-carrying capacity
Protect the Human and Natural Environment	Similar to peaking - most beneficial socioeconomic effects	Most beneficial or least adverse physical effects - socioeconomic effects depend on purchase levels -no purchase similar to preferred alternative	Adverse effects except for least pool fluctuation in reregulating reservoirs - some adverse socioeconomic effects	Same as peaking for pool fluctuation - physical effects range from least to most depending on presence of biomass in resource mix - Least favorable socioeconomic effect	Similar to peaking physical effects - unfavorable socioeconomic effects
Responsiveness	Greatest flexibility for customers	Less flexibility	Less flexibility	Less flexibility	Less flexibility

*Environmentally Preferred Alternative

Greatest Practical Value

The third purpose was to provide the greatest practical value of the power resource to SNR and to customers contracting with SNR. The 2004 EIS analysis found that Federal hydropower is a good value on the power market. However, the structure and cost of supplemental purchases can change the cost of the Federal resource and result in very small socioeconomic effects. The baseload alternative was considered and not selected because it represented the least-effective use of the CVP hydropower resource in the overall energy market. The preferred alternative was found to result in the lowest costs and most beneficial socioeconomic effects.

Protect the Human and Natural Environment

The fourth purpose was to protect the human and natural environment. The baseload alternative was considered but not selected because of the adverse environmental effects of constructing and operating necessary replacement capacity to maintain existing load-carrying capability in the northern and central California region. In addition, no significant positive benefits were identified to environmental resources that would offset the negative impacts of construction and operation of new generation capacity.

Although designated as environmentally preferred, the peaking alternative was not selected because it does not economically optimize integrated scheduling of Western's hydropower generation with the generation of its customers. The preferred alternative provides nearly identical environmental benefits as the peaking alternative, but provides greater economic benefits, and has no major negative environmental impacts.

The no-action alternative was not selected because it is not consistent with customers' needs in a restructured utility industry environment. Many of Western's customers have indicated they would like the hydropower priced separately from purchases, and would like to make their own purchases without incurring economic penalties. The no-action alternative includes substantial firming purchases with the purchased power cost melded with the hydropower cost, contrary to these customers' preference and to price optimization in a restructured utility environment.

The renewables alternative was not selected because it does not economically optimize the use of CVP power resources and because the preferred alternative allows purchases of power generated from renewable resources. In the preferred alternative, Western can make power purchases on behalf of customers at the customers' request, and these purchases can be from renewable resource generation if costs are competitive or if the customer is willing to pay the added cost. The renewables

alternative is based on costs of hydropower and purchases being melded, while the preferred alternative is based on the hydropower and purchased power costs being disaggregated, allowing more freedom of choice among customers whether to take delivery of purchased power. The latter approach is considered to be more compatible with the developing competitive marketplace resulting from electric industry restructuring.

Responsiveness

Regarding responsiveness to future changes in CVP, Washoe, and the utility industry, the preferred alternative provides the greatest flexibility to customers and keeps the Federal resources at their highest, practical economic value while having no measurable impact on the environment.

Mitigation Action Plan

No Mitigation Action Plan will be prepared, as the 2004 EIS did not identify any significant environmental effects associated with Western's selected alternative that warrant the adoption of a monitoring program or mitigation measures.

Documents Available

For a copy of this Record of Decision or a copy of the final 2004 EIS and supporting documents, write to the 2004 EIS Project Manager at the address listed above.

Dated:

J. M. Shafer
Administrator