

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
PUGET SOUND POWER) Nos. STN 50-522, 50-523
& LIGHT CO., et al.)
) (47 Fed. Reg. 5554 (1982))
(Skagit/Hanford Nuclear)
Project, Units 1 and 2))
)

SUPPLEMENT TO AMENDED PETITION OF
THE NATURAL RESOURCES DEFENSE COUNCIL, INC.
FOR LEAVE TO INTERVENE: CONTENTIONS

INTRODUCTION

Pursuant to 10 C.F.R. § 2.714(b), the Natural Resources Defense Council, Inc. (NRDC) submits this supplement to its amended petition for leave to intervene in the above-captioned proceeding. NRDC's amended petition for leave to intervene was filed on April 6, 1982.

CONTENTION 1: THE APPLICANTS WILL NOT NEED THE ELECTRICITY TO BE GENERATED BY THE SKAGIT/HANFORD NUCLEAR PROJECT TO SERVE LOADS IN THE PACIFIC NORTHWEST REGION

Applicants characterize the Skagit/Hanford Nuclear Project as "a regional resource" which "will be operated as a baseload facility." (ASC/ER, p. 1.0-2).^{1/} It follows that assessments of need for the facility must be based on

^{1/} Here and elsewhere in this Supplement citations to Applicants' Application for Site Certification/Environmental Report will be in the form "ASC/ER."

long-term, regional forecasts of firm energy requirements in the Pacific Northwest region.^{2/} At least three such forecasts have been released in 1982; all are substantially lower than those relied on by Applicants, and each refutes the need for power justification that Applicants have developed.

A. WASHINGTON STATE FORECAST [Independent Review of Washington Public Power Supply System Nuclear Plants 4 and 5: Final Report to the State Legislature, Washington Energy Research Center, Washington State University/University of Washington (March 1982)]

In April of 1981, the Washington Legislature directed the joint Washington Energy Research Center of the University of Washington and Washington State University to determine, inter alia, long-term electricity needs in the Pacific Northwest Region (§ 2, Senate Bill No. 3972, passed by the House and Senate on April 28, 1981). The Steering Committee and Liaison Representatives for the study included distinguished representatives of the Northwest utility, industrial, and academic communities. As a state-sponsored need for power analysis prepared by individuals who "can be expected to possess considerable familiarity with the primary factors

^{2/} Thus, forecasts of regional peaking needs are largely irrelevant to the need for power issues in this proceeding. NRDC is prepared to introduce evidence on the lack of need for, and manifest unsuitability of, Skagit/Hanford as a peaking resource, should Applicants seek to change their characterization of the facility.

bearing upon present and future [electricity] demand," the Washington State forecast is entitled to substantial deference from the Nuclear Regulatory Commission. In re Rochester Gas and Electric Co. (Sterling Power Project, Nuclear Unit No. 1), 8 NRC 383, 389 (1978).

The Washington forecast "indicate[s] that the most likely rate of load growth, as measured by total regional electricity sales, over the period 1980 to 2000 is about 1.5 percent/year." (p. 4). Under this "most likely" scenario, no new resources of any kind beyond six plants now under construction (WPPSS Units 1, 2, and 3, Colstrip Units 3 and 4, Valmy Unit 2) would be needed before 1995, assuming "moderate levels of conservation" (pp. 4-5). The need for additional baseload generation is delayed "beyond the end of this century" if "moderate levels of conservation savings" are supplemented by "moderate levels of renewable resource development" plus "more use of combustion turbines and/or imports." (p. 4) These findings contemplate deferral or cancellation not only of the Skagit/Hanford Nuclear Project, but also of two other nuclear plants and four coal plants now slated to come on line at the same time or sooner (WPPSS Units 4 and 5; Creston Units 1, 2, 3, and 4). These six plants have a total capacity in excess of 4500 Megawatts.

B. NRDC FORECAST [A Model Electric Power and Conservation Plan for the Pacific Northwest (Drafts, January and March 1982)]

NRDC will introduce in this proceeding a "Model Electric Power and Conservation Plan" prepared by NRDC staff members. This "Model Plan" projects the results of the implementation of the Pacific Northwest Electric Power Planning and Conservation Act (hereafter "the Regional Act"), which became law in December of 1980. One of the Model Plan's objectives was to determine whether new nuclear or coal-fired power plants would be required to meet the Northwest's energy needs over the next two decades, if -- as the Act expressly contemplates -- vigorous efforts were made to increase the efficiency of electricity use and utilize cost-effective renewable energy resources. The Model Plan develops "high demand" and "low demand" estimates through the year 2000; the "high" scenario assumes somewhat smaller efficiency increases, less rapid "penetration" of conservation measures, and higher industrial growth than the "low" scenario. Even under the Model Plan's high demand scenario, generous surpluses result from 1985-2000, assuming indefinite deferral of the Skagit/Hanford Nuclear Project plus the following plants, ~~most~~ of which precede Skagit/Hanford in the region's transmission pipeline: Colstrip Unit 4; Creston Units 1, 2, 3, and 4; WPPSS Units 1, 3, 4, and 5; and Pebble Springs Units 1 and 2. And these surpluses

were calculated without assuming any reliance on wind-generated electricity; electricity surcharges or "curtailment purchases" in times of threatened supply insufficiency; environmentally acceptable small-scale hydropower projects; geothermal resources; or financial incentives to prevent net growth in irrigated agriculture (and accompanying losses in hydropower generation). The only new plants needed to meet the Model Plan's "high demand" loads are Valmy Unit 2, WPPSS Unit 2, and Colstrip Unit 3.

C. DRAFT BPA REGIONAL FORECAST, AND RELATED BPA DOCUMENTS
[Bonneville Power Administration, Forecasts of
Electricity Consumption in the Pacific Northwest
(April 1982)]

In April 1982, the Bonneville Power Administration released, in draft form, "a long-range baseline forecast of electricity consumption in the Pacific Northwest." (p. 1). That forecast's "baseline case" shows regional loads growing at an average rate of 1.6% from 1980-1990, and 1.7% from 1990-2000 (p. 5). These figures are comparable to those in the Washington State forecast, discussed above. The BPA forecast does not include "savings which might be achieved through future conservation programs budgeted by BPA, by local and state governments, or by utilities." (p. 3). Also excluded are the effects of building and appliance efficiency "standards which may be proposed by the Northwest Power Planning Council,

federal, state or local government, or by public and private utilities." (p. 35). However, "[t]his conservation potential is to be analyzed ... in a separate conservation assessment." (pp. 3, 35). That document has not yet been published.

In addition to its demand forecast, Bonneville also has released projections of potential contributions from alternatives to large-scale nuclear plants such as wind machines, industrial cogeneration, biomass facilities, geothermal resources, and small hydropower projects. In October 1981, BPA submitted to Congress the following "preliminary estimate" for those resource categories:

Preliminary Estimate of Practical Potential for
Commercial Electrical Generation by Resource
(Average Energy in MW)

	<u>1990</u>	<u>1995</u>	<u>2000</u>
Large Wind	175	420	700
Industrial Cogeneration	455	520	520
Biomass/MSW	240	319	370
Geothermal	150	400	550
Small Hydro	550 - 850	1050 - 1550	1750 - 2550

Source: Bonneville Power Administration, "Answers to Questions Posed by Chairmen Dingell and Ottinger in their Letter of October 13, 1981," at 13 (undated).

Under the Regional Act, all of these resources have priority over Skagit/Hanford and other nuclear projects if they are as or less costly to develop. Pub. L. No. 96-501, § 4(e)(1).

Despite its acknowledged omissions, particularly in the conservation area, the BPA forecast is significantly lower than the regional forecast upon which Applicants primarily rely. In fact, the BPA projection of regional loads for the year 2000 is lower than that estimated for 1990-91 by the Pacific Northwest Utilities Conference Committee (PNUCC) (23,333 average Megawatts vs. 23,834 average Megawatts). Compare BPA forecast at 5 with PNUCC, Northwest Regional Forecast of Power Loads and Resources, at I-14 (1981). The BPA baseline forecast of needs in 1991-1992 -- 20,129 average megawatts -- could be met without any contribution from WPPSS Units 4 and 5, Creston Units 2, 3, and 4, Skagit/Hanford Units 1 and 2, or any additional renewable energy, cogeneration, or conservation resources. Compare BPA forecast at 117 with PNUCC, supra at I-17.

CONTENTION 2: THE APPLICANTS' PROJECTIONS OF REGIONAL ELECTRICITY DEMAND ARE UNREASONABLE

Applicants concede that "the electric utilities of the Pacific Northwest form, in effect, a single regional system" and that the Skagit/Hanford Nuclear Project is planned as a "regional resource." ASC/ER at 1.0-4, 1.0-2. Therefore,

forecasts for individual utility systems are largely irrelevant (but cf. ASC/ER at 1.1-2 to 1.1-20), although the Applicants' summary is enlightening in its revelation of glaring inconsistencies in individual utilities' methodologies.^{3/} The crux of Applicants' need for power case is the regional forecast prepared annually by the Pacific Northwest Utilities Conference Committee (ASC/ER 1.1-20 to 1.1-24). The following considerations demonstrate that the PNUCC projections should be accorded no weight in these proceedings:

(1) Although Applicants nowhere allude to the fact, PNUCC forecasts have failed conspicuously (a) to accurately project actual regional loads and (b) to provide a stable indicator of future needs. On the former point, as the Washington State forecast notes:

the difference between the February 15, 1969 [PNUCC] forecast for the 1979-80 water year energy load and the actual 1979-80 energy load is larger than the energy output of three 1200 megawatt nuclear power plants. The difference between the February 5, 1979 forecast for the 1979-80 water year energy load and the actual 1979-80 water year load is about the same as the output of a 1200 megawatt nuclear power plant.

Washington Energy Research Center, supra, at 76-78.

^{3/} Without any justification cited in the ASC/ER, the four participants employ significantly different assumptions about conservation, price elasticity, and end use needs in the major consumption sectors. The participants also differ in their choice of basic forecasting methodologies, employing idiosyncratic mixes of trend extrapolation, econometric projections, and end use analysis.

Projections of future loads have exhibited still greater variance. Between 1974 and 1981, PNUCC's annual estimates of regional loads in 1990 dropped seven consecutive times, by a total of more than 8700 average megawatts -- the reliable output of more than twelve 1200 megawatt nuclear plants operating at 60% capacity. Between 1980 and 1981 alone, the decline in projected 1990 loads equalled the reliable output of three such plants (2127 average megawatts). Public Power Council, Power Planning Primer: An Introduction to Pacific Northwest Electric Power Planning Issues and the Role of Public Power 26 (1981).

(2) The current PNUCC projections are far higher than those of the Washington State and BPA forecasts, discussed earlier. The 1.5-1.7 percent annual growth rates derived in those comprehensive assessments refute Applicants' contentions that average annual growth will be "2.9 percent with a 90 percent confidence interval ranging from 2.0 percent to 3.7 percent," and that "there is an 88% probability that the region will be unable to meet its firm energy loads during at least one four-month period between now and the end of the 1991-92 operating year." (ASC/ER at 1.1-21, 1.1-24). In fact, in anticipation of regional surpluses, BPA is now studying deferral of two nuclear units currently under construction (WPPSS Units 1 and 3) and has refused repeated requests by the sponsors of WPPSS Units 4 and 5 to acquire the capability of those plants.

(3) The PNUCC load and resource balances are based on the assumption that every future year is part of a "critical water" period in which the output of the regional hydropower system is constrained by droughts that produce the lowest water flows ever recorded. The difference in annual energy production by the region's dams between an extremely wet year and a critical water year is more than 7000 average megawatts. PNUCC, supra at Table IX-14. The Washington State forecast recommended that the region's utilities "change planning criteria to permit increased Pacific Northwest utilization of secondary hydropower in combination with combustion turbines, imports, and/or exchange agreements." Washington Energy Reserch Center, supra, at 7. PNUCC -- and the Applicants -- have yet to heed that proposal.

(4) Further inconsistencies and errors in Applicants' presentation reinforce the conclusion that their need for power case is totally implausible. For example, Table 1.1-5 (ASC/ER) projects a one-year energy consumption growth rate of 14.6% for 1981-82. This adjustment, positing an unprecedented one-time surge of demand during a year of deep recession that is now almost complete, was obviously made necessary by the failure of recent loads to keep pace with PNUCC's expectations. This strained effort to override uncomfortable realities with patently unrealistic assumptions speaks volumes about the credibility of Applicants'

analysis. Also, Applicants' tables -- here and elsewhere -- neglect to remove nonfirm loads from projections of regional energy needs. These loads -- which exceed 1000 average megawatts in each year of the forecast^{4/} -- constitute regional reserves; they are completely out of place in forecasts used for resource planning purposes, as Congress recognized in relevant parts of the Regional Act and its legislative history. See P.L. No. 96-501, § 5(d); H. Rep. No. 96-976, Part II, at 48 (1980); H. Rep. No. 96-976, Part I, at 61-62 (1980).

Recognizing that the forecaster's tools are at best imperfect, the deficiencies of the PNUCC forecast are overwhelming and more reliable alternative analyses are available (see Contention 1 above). The Nuclear Regulatory Commission should find that Applicants have not met their "burden of showing that [their] projections of demand are reasonable." In re Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), 4 NRC 397, 405 (1976).

^{4/} See PNUCC, supra at I-14 (separate presentation of firm and nonfirm loads).

CONTENTION 3: THE APPLICANTS WILL NOT BE ABLE TO MARKET
SURPLUS OUTPUT FROM THE SKAGIT/HANFORD PROJECT OUTSIDE THE
PACIFIC NORTHWEST REGION

Perhaps in recognition of the inherent weakness of their need for power case, Applicants at one point suggest that "from time to time the output of the Project will be used to displace more costly oil-fired generation in ... adjoining regions, thus saving money and oil." (ASC/ER, p. 1.2-1).

This unsubstantiated contention finds no support in recent, comprehensive analyses of export markets accessible to the Northwest. Both Arizona-New Mexico and Western Canada are net exporters of electricity, and are likely to remain so for the foreseeable future. See Washington Energy Research Center, supra, at 94; California Energy Commission, Analysis of Power System Integration Between California and Neighboring Southwest States (January 1982). Efforts to market anticipated Northwest nuclear power surpluses to California already have met with a frigid reception from that State's Energy Commission, which cites numerous countervailing strategic and economic considerations. See California Energy Commission, Staff Comments on Bonneville Power Administration's Proposed Resource Option Agreements (June 11, 1981) (disputing contention that California is "a likely market for the power from [WPPSS Units 4 and 5]"); California Energy Commission, Electricity Tomorrow: 1981 Final Report (comprehensive analysis of the conservation and supply alternatives for meeting California's future

electricity needs and reducing oil and gas consumption). These authorities compel the conclusion that California does not need, and will not purchase, 140 mills/kWh electricity from the Skagit/Hanford Nuclear Project to meet demand growth or reduce oil and gas consumption (cost estimate from ASC/ER at p. 11.4-1).

CONTENTION 4: APPLICANTS' APPLICATION FOR SITE CERTIFICATION/
ENVIRONMENTAL REPORT DOES NOT ADEQUATELY DISCUSS REASONABLE
ALTERNATIVES TO THE SKAGIT/HANFORD NUCLEAR PROJECT

In their treatment of "Alternative Energy Sources and Sites," Applicants devote less than five pages of analysis to conservation, cogeneration, wind-generated electricity, small-scale hydropower, and geothermal resources. Applicants ignore altogether effects on demand of increases in the efficiency of the electricity delivery system and adjustments in wholesale and retail rate structures, and do not discuss abandonment or modification of "critical water year" planning.

In elaborating on these omissions below, we are mindful of the Licensing Board's expression of willingness "to determine in a licensing proceeding if a utility is complying with" a "regional energy policy." In re Public Service Co. of New Hampshire (Seabrook Station Units 1 and 2), 3 NRC 857, 932 (1976). In the Regional Act, Congress clearly enunciated such a policy, calling inter alia for (1) "encourag[ing], through

the unique opportunity provided by the Federal Columbia River Power System, ... conservation and efficiency in the use of electric power, and ... the development of renewable resources within the Pacific Northwest"; (2) promulgation of a regional energy plan giving priority "first, to conservation; second, to renewable resources; third, to generating resources utilizing waste heat or generating resources of high fuel conversion efficiency; and fourth, to all other resources"; (3) inclusion in the regional plan of "model conservation standards," which "shall include, but not be limited to, standards applicable to new and existing structures, utility, customer and governmental conservation programs, and other consumer actions for achieving conservation"; (4) the award of a 10% bonus to conservation measures in cost-effectiveness comparisons with other resources; and (5) the encouragement of conservation-oriented rate structures. Pub. L. No. 96-501, §§ 2(1), 4(e)(1), 4(f)(1), 3(4)(D), 9(j)(1). Thus, Congress has made clear that it views all the alternatives listed below as essential aspects of Northwest energy policy, which take priority over new nuclear power development. In addition, NRDC is prepared to demonstrate that these alternatives are all environmentally preferable to the Skagit/Hanford Project. See, e.g., NRDC, Quantifying Environmental Costs: A Methodology for Electric Power Planners (November 1981).

A. CONSERVATION: Applicants claim to have incorporated existing utility-sponsored conservation programs in their forecasts (ASC/ER, pp. 9.1-2 to 9.1-3). This contention is rendered dubious by the much lower demand rates projected in the Washington State and BPA forecasts, and it does not illumine the extent to which the PNUCC regional forecast -- of which Applicants' loads are only a part -- makes simialr accomodations. More important -- as the NRDC Model Plan makes clear -- existing utility programs barely scratch the surface of the Northwest's cost-effective conservation resource. Examples, which Applicants do not assess, include, but are not limited to:

- (1) Utility-financed residential retrofits, with payment levels sufficient to create an incentive for effecting all feasible and cost-effective improvements in the efficiency of space and water heating, lighting, and appliances;

- (2) Utility-financed commercial sector retrofits, with payment levels sufficient to create an incentive for effecting all feasible and cost-effective improvements in the efficiency of lighting, cooling, space heating, and water heating;

- (3) Appliance efficiency standards that significantly reduce electricity needs of new appliances;

(4) Utility incentives and building code revisions that spur construction of high-efficiency residential and commercial buildings, which minimize life-cycle costs (construction costs plus lifetime energy costs);

(5) Cost-effective, utility-financed improvements in the efficiency of irrigation and industrial processes.

As NRDC's Model Plan will demonstrate, the Regional Act creates both financing and regulatory mechanisms that take such measures out of the realm of the hypothetical. The Model Plan forecast -- and its BPA and Washington State counterparts -- decisively refute Applicants' contention "that the [conservation] estimates reflected in their demand forecasts represent the reliable potential and that additional conservation is not a reliable alternative to the [Skagit/Hanford Nuclear Project]." (ASC/ER, pp. 9.1-2 to 9.1-3). See, e.g., Washington Energy Research Center, supra, at 85-91 (quantifying regional conservation resources).

B. COGENERATION: In a response to an NRC question, Applicants stated that "[t]he planned cogeneration projects in the region have been included in the resource base when assessing the need for power from the [Skagit/Hanford Nuclear Project] as indicated in ASC/ER Table 1.1-7." (ASC/ER, p. N-43). Applicants are unwilling to predict any additional development. Id.

The Table in question is taken directly from PNUCC's 1981 forecast. That forecast assumes an annual cogeneration contribution of only 31 average megawatts from three units, through the close of the forecast period. PNUCC, supra at IX-3, III-5. By contrast, a recent BPA-sponsored regional assessment of cogeneration potential -- limited to existing industrial sites -- identified 1645 Megawatts of cogeneration that could be provided at costs substantially less than that of the Skagit/Hanford Units. See Rocket Research Company, Industrial Electrical Cogeneration Potential in the BPA Service Area (1979 and 1980). See also Washington Energy Research Center, supra at 89 (projecting production of 627 average Megawatts through cogeneration by 1990). In the face of these comprehensively documented conclusions, and the Regional Act's financing mechanisms for cogeneration, Applicants' three-paragraph dismissal is clearly inadequate.

C. WIND-GENERATED ELECTRICITY: While the lead Applicant concedes in its Annual Report that "[w]ind turbine technology ... shows promise as an alternative resource,"^{5/} the ASC/ER declines in a two-paragraph assessment even to speculate on the potential contribution of wind generation (pp. 9.2-4 to 9.2-5). There is an extensive literature in this area, which

^{5/} Puget Power, Annual Report 1981: Meeting the Challenge of Change 12.

is reviewed in NRDC's Model Plan and relied on for the conclusion that 170 and 984 average megawatts can be realized from wind energy conversion systems by 1990 and 2000, respectively. Comparable BPA estimates are noted above at page 6. The suggestion that development must wait to "the early to mid-1990s" (ASC/ER, p. 9.2-5) is refuted by these sources and Puget Sound Power and Light's 1981 Annual Report, which notes: "we are presently working with other electric utilities in the region to site a windfarm project capable of producing 50,000 kilowatts ... (emphasis added). Puget Power, supra at 12.

D. SMALL-SCALE HYDROPOWER: The current surge of interest in "small hydro" projects has produced many proposals that could seriously harm the region's fish and wildlife resources. However, such damage can be minimized where facilities are installed at existing dams and irrigation systems. If properly managed and sited, these resources offer an additional alternative to the Skagit/Hanford Nuclear Project for meeting future electrical energy needs in the Northwest. Applicants make no effort to quantify future contributions by small-scale hydro (see ASC/ER at 9.2-6 to 9.2-7); BPA projects a "practical potential" in excess of 1000 average megawatts by 1995. See page 6 above.

E. GEOTHERMAL RESOURCES: Once again, Applicants convert uncertainties about a resource's total contribution into an

inexplicable refusal to rely upon or even project any contribution (ASC/ER, pp. 9.2-5 to 9.2-6). Yet at least one Applicant's 1981 Annual Report declares an "objective" of "build[ing] a plant by 1990 capable of producing 50,000 kilowatts" "if it proves economically feasible." Puget Power, supra, at 12. BPA pegs the "practical potential" of geothermal resources, circa 1995, at 400 average megawatts. See page 6 above.

F. INCREASES IN THE EFFICIENCY OF THE ELECTRICITY DELIVERY SYSTEM: Applicants totally ignore this promising option. The Washington State forecast projects savings in excess of 200 average megawatts by 2000 from "a reduction in transmission and distribution line losses which is accomplished by upgrading and thereby increasing the efficiency of the electricity delivery system." Washington Energy Research Center, supra at 86.

G. ADJUSTMENTS IN WHOLESALE AND RETAIL RATE STRUCTURES: Price-induced changes in electricity consumption are only partly a function of a consumer's total bill; also significant is the rate structure through which the bill is calculated. A recent Washington State Senate study concluded:

A baseline inverted rate structure would result in a more efficient (e.g., less wasteful) use of electricity. A baseline inverted rate structure would price the initial or "base block" of electrical energy at the cost of inexpensive hydroelectric power to the utility. Electric energy consumed in excess of the base block would be priced

at a level more closely approximating the marginal cost of electric energy; that is, the cost of power from new thermal plants. Such a rate structure would provide the vast majority of consumers with more accurate price signals by pricing energy consumption over the base block closer to its marginal cost and closer to the cost of alternate fuels.

Watson et al., Residential Baseline Inverted Rates: Analysis of Their Application in Washington State 2 (Washington State Senate Committee on Energy and Utilities, 1981). That study further notes that "inverted" retail rate structures are now appearing for the first time throughout the Northwest. Id. at 2-3. The ASC/ER makes no attempt to analyze the extent to which such rates may be expected to increase consumers' demand elasticities. The Washington Senate study notes that at least two utilities have discerned significant reductions in space heating and other electricity-intensive uses following adoption of inverted rates. Id. at 54 and 56 (Pacific Gas and Electric Co., Central Vermont Public Service Corp.).

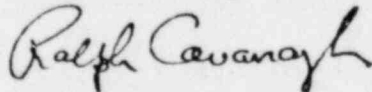
H. ABANDONMENT OR MODIFICATION OF CRITICAL WATER YEAR PLANNING: This issue was discussed at page 10 above. Options for "firming" Northwest hydropower include, in addition to combustion turbines, reliance on spot market purchases from other regions, "buybacks" of electricity from Northwest industrial customers, and temporary surcharges. Applicants should assess the cost-effectiveness of all these options,

which are reviewed in J. Lazar, "Does it Still Make Sense to Plan for Critical Water?" (mimeo, 1981); NRDC's Model Plan; and Washington Energy Research Center, supra, at 4, 96 and 118.

I. CONCLUSION: Applicants' analysis of the alternatives reviewed above -- to the extent any discussion can be found -- is characterized by refusals to quantify the potential contributions of alternatives to the Skagit/Hanford Project, coupled with repeated assertions that the Project will be needed regardless of the magnitude of those contributions. As this Supplement demonstrates, neither of these approaches is acceptable. Applicants -- and the NRC -- must develop a detailed inventory of cost-effective, environmentally preferable alternatives to the Skagit/Hanford Project. See, e.g., 10 C.F.R. §§ 51.20 and 51.23; 40 C.F.R. §§ 1502.14 and 1502.16; 42 U.S.C. § 4332(2)(C). NRDC will assist that effort through its participation in this proceeding and its submission of the "Model Electric Power and Conservation Plan" summarized in this Supplement.

Dated this 20th day of April, 1982.

Respectfully submitted,



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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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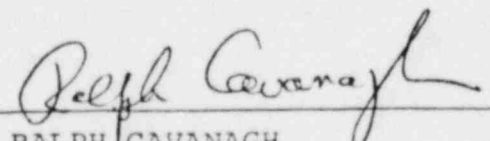
PROOF OF SERVICE

I hereby certify that I have this day served upon the persons listed below the Supplement to the Amended Petition of the Natural Resources Defense Council, Inc. for Leave to Intervene in the above-captioned proceeding by depositing copies thereof in the United States mail on April 20, 1982 with proper postage affixed for first class mail:

Richard L. Black, Esq.
U.S. Nuclear Regulatory Commission
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Washington DC 20555

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Dated at San Francisco this 20th day of April, 1982.



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