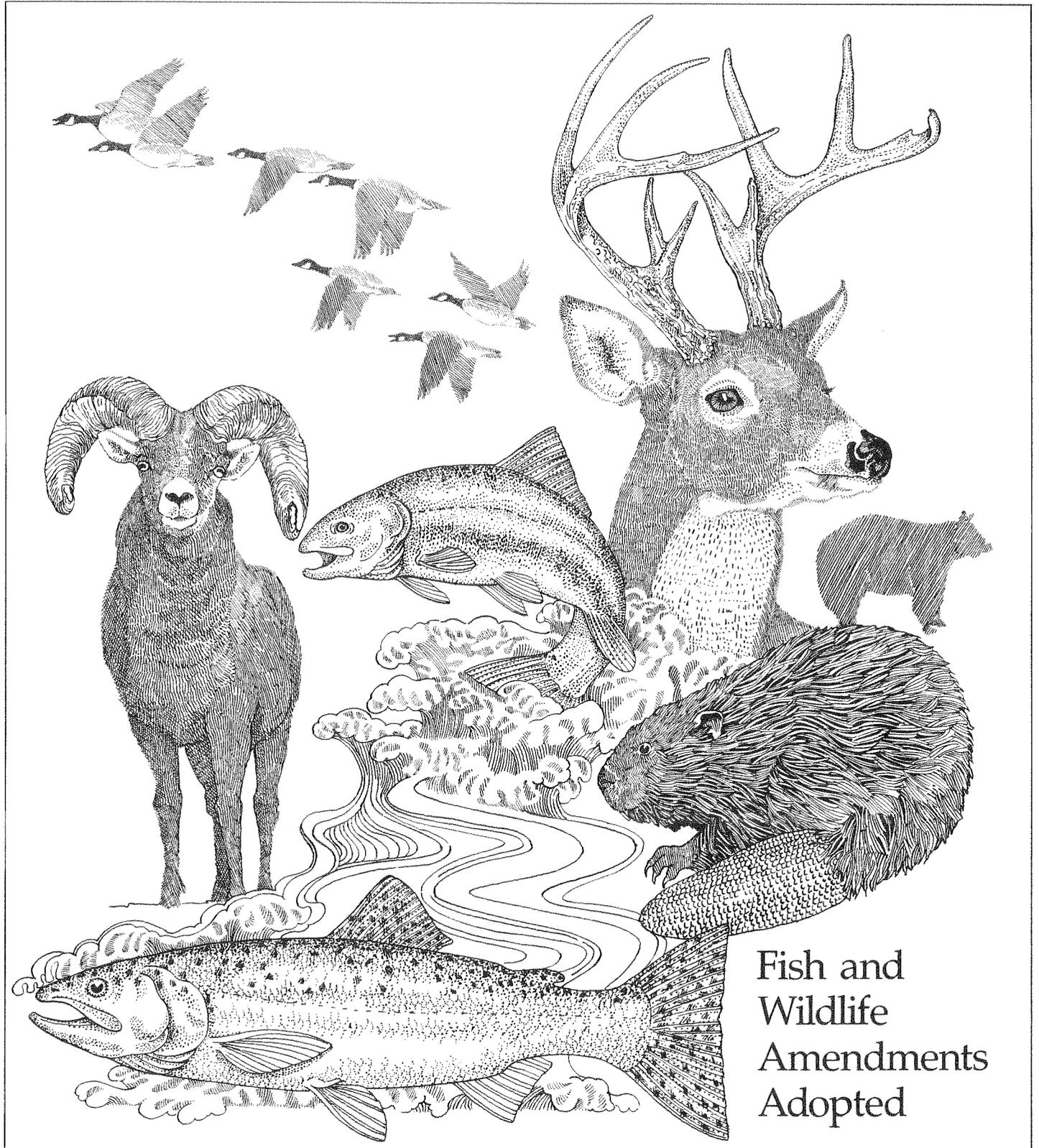


# N O R T H W E S T ENERGY NEWS

Volume 3, No. 6

Northwest Power Planning Council

November/December 1984



Fish and  
Wildlife  
Amendments  
Adopted

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## NORTHWEST ENERGY NEWS

is published bi-monthly by Northwest Power Planning Council,  
850 S.W. Broadway, Suite 1100, Portland, Oregon 97205

The Northwest Power Planning Council is required to develop a  
program to restore the Columbia fisheries and a regional electric  
energy plan, to be carried out by the Bonneville Power Adminis-  
tration, emphasizing cost-effective conservation and renewable  
resources.

Editor: Dulcy Mahar

Graphic Design: Linda Sawaya, Linda Sullivan

# EDITOR'S NOTES

This issue is like the Roman god, Janus, who had two faces — one looking back and one looking forward. Our lead story deals with the closure of the first fish and wildlife amendment process. Our centerfold covers the beginnings of developing the new power plan, a process that will run throughout 1985.

That process is the main reason for the special questionnaire in the centerfold which solicits your help in improving our public involvement and information programs. Please take the trouble to fill it out. And, if your primary interest is in fish and wildlife issues, simply use the questionnaire to discuss those issues and ignore the power topics. We are interested in all viewpoints, not just those dealing with the new power plan.

You may have noted two graphic artists listed. Our resident artist, Linda Sawaya, is recovering from a broken arm (her left fortunately). While she was able to give us direction and oversight, the major design execution was in the capable hands of Linda Sullivan, a free lance designer.

We would like to note a correction to the last issue. A story on the Yakima River Basin referred to an annual agricultural yield of between \$2 and \$4 million. Those figures should have been \$200 and \$400 million. The zeroes, which make quite a difference, were inadvertently dropped when the writer transcribed her notes.

Cover illustration by Sharon Torvik

# CALENDAR

**November 28-29** — Northwest Power Planning Council Meeting in Portland, Oregon.

**November 28-30** — World Energy Engineering Congress in Atlanta, Georgia. Contact Albert Thuman, Association of Energy Engineers, 4025 Pleasantdale Road, Suite 340, Atlanta, Georgia 30340, (404) 447-5083.

**December 11** — Special Northwest Power Planning Council meeting with the region's public utility commissioners in Portland, Oregon. Open to the public.

**December 19-20** — Northwest Power Planning Council Meeting in Boise, Idaho.

**January 9-10** — Northwest Power Planning Council Meeting in Seattle, Washington.

**February 18-20** — Energy Management Congress presented by the Association of Energy Engineers in Los Angeles, California. Contact Association of Energy Engineers, 4025 Pleasantdale Rd., Suite 340, Atlanta, Georgia 30340 (404) 447-5083.

**February 26-27** — Workshop on Measuring the Thermal Performance Characteristics of Windows in Gaithersburg, Maryland. Sponsored by the Building Thermal Envelope Coordinating Council and the National Bureau of Standards. Contact R. P. Tye, Dynatech R/D Co., 99 Erie St., Cambridge, Massachusetts 02139 (617) 868-8050.

Compiled by Ruth Curtis

## We've moved . . .

As of November 1, 1984, the Northwest Power Planning Council's central office address is:

**850 SW Broadway  
Suite 1100  
Portland, OR 97205**

Our phone numbers remain the same.



## Council, PUCs set special meeting

Public utility commissioners from Idaho, Montana, Oregon and Washington will meet with the Northwest Power Planning Council to discuss sales of Northwest electrical power outside the region. The special meeting, the first of its kind in the region, is scheduled for 9 a.m., December 11 in Portland, Oregon at the Council's new offices (see box). The meeting will be open to the public.

"Power sales outside the region are a critical issue for both the Council and the public utility commissions," Charles Collins, chairman of the Council, explained. "Without proper planning, such sales could turn the Northwest into an energy farm for the Southwest, particularly California. The sales could hurt ratepayers, damage our environment, and erode the region's 20-year power plan. On the other hand, the right

kind of sale, with proper planning, could help reduce rates for Northwest consumers over the next several years by having California pay for the Northwest surplus power."

The Council is developing a regional policy on long-term power sales out of the region and on access to the Northwest-Southwest Intertie, the delivery system for the power. Once developed, the policy will become part of the Council's power plan.

Earlier this year, the commissioners had sent a joint letter to the Council supporting the Council's leadership role in developing a policy for such sales. The Council is "the appropriate body to set regional policy on these issues," the commissioners wrote. The letter was signed by Conley Ward, Jr., president of the Idaho Public Utilities Commission; Tom Schneider, chairman of the Montana Public Service Commission; Gene Maudin, Oregon Public Utility commissioner; and Robert Bratton,

chairman of the Washington Utilities and Transportation Commission.

## Council considers exemptions for MCS

Potential exemptions to the model conservation standards are under consideration by the Northwest Power Planning Council. The standards were designed for adoption into building codes for new electrically heated residences and for all commercial structures. Adoption of the standards throughout the Northwest could save the region from two to four coal plants.

Three conditions have been identified as areas which merit discussion over possible exemptions. First, some parts of the Northwest have both low population densities and little new construction. Second, several utilities have significant long-term projected power surpluses.

Third, parts of neighboring states fall within the regional

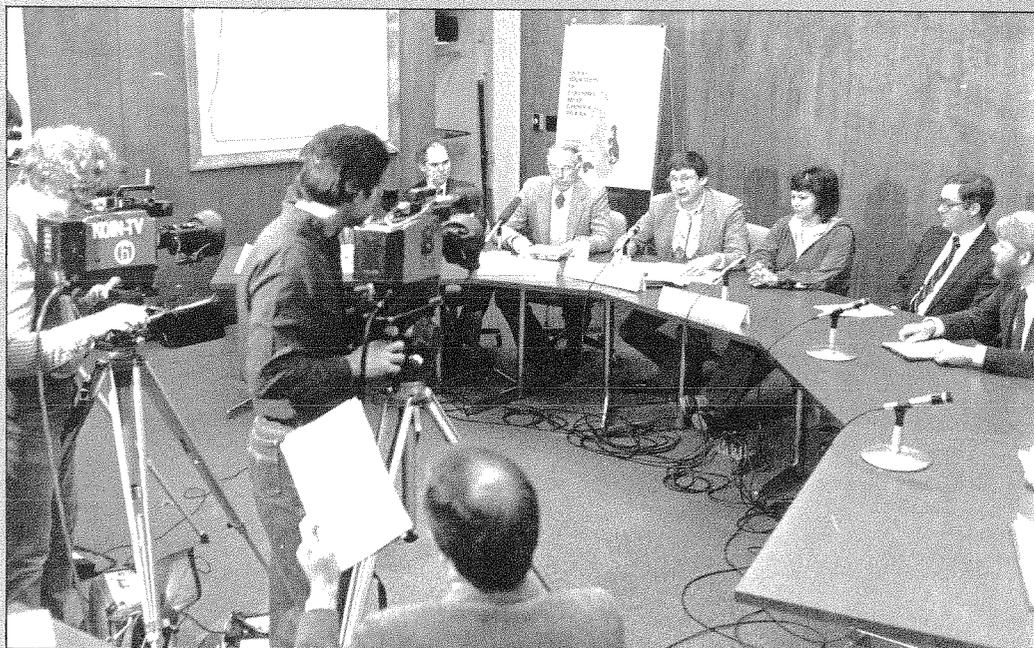
power act's definition of the region but are outside Idaho, Montana, Oregon and Washington. This raises a question about representation since no hearings have been held in these states on the model conservation standards.

The Council has prepared an issue paper on the subject (see back cover for order form) and is considering entering into a rulemaking procedure to amend the power plan. Public hearings and comment periods would precede any final decision.

## Groundbreaking held for Yakima facilities

Secretary of the Interior William P. Clark and members of the Northwest Congressional delegation participated in a groundbreaking ceremony October 25 at Washington's Sunnyside Diversion Dam. The event marked the first of several major projects designed to restore fish runs in the Yakima River Basin. ▶

Treaty talks between the U.S. and Canada aimed at preventing overfishing of anadromous fish in the Pacific ocean are currently underway. Support for the treaty was the subject of a news conference earlier this month cosponsored by the Northwest Power Planning Council (represented by Donald Godard, second from right), the Columbia River Inter-Tribal Fish Commission, and the Oregon Department of Fish and Wildlife.



## IN THE NEWS

continued

Charles Collins, chairman of the Northwest Power Planning Council, was master of ceremonies.

The Yakima fish passage improvements are a key step toward restoring the basin's fish runs, which once ran as high as 600,000 fish annually and now number only about 2,000. The fish enhancement facilities, which are expected to cost up to \$40 million, should increase salmon and steelhead runs in the basin tenfold.

The restoration of the Yakima runs are a high priority in the Council's Columbia River Basin Fish and Wildlife Program. This summer, the U.S. Congress paved the way to fulfilling that program by approving appropriations for the enhancement projects.

The facilities — ladders to move adult salmon and steelhead over the dams and screens to deflect young fish away from irrigation canals — will be built at more than 20 sites along the Yakima River. The Bureau of Reclamation and the Bonneville Power Administration (who cosponsored the groundbreaking event with the Council, the Yakima Indian Nation, State of

Washington and the Yakima River Basin Association of Irrigation Districts) will be the major contributors of funds for the facilities.

Improvements will include work at Prosser Diversion Dam, Toppenish Creek/Satus Unit diversion, Old Reservation Canal diversion, Wapato Diversion Dam, Roza Diversion Dam, and Easton Diversion Dam. A right bank fishway will be installed at Sunnyside Diversion Dam, and a west branch fishway at Wapato. New screens to deflect young fish away from the irrigation canals will be installed at Sunnyside, Roza and other dams.

### Issue paper discusses anadromous fish goals

To what extent are salmon and steelhead losses in the Columbia River Basin due to hydroelectric development? This is the first question the Northwest Power Planning Council will try to determine in a planned goals study. After assessing losses, the Council will determine goals for its Columbia River Basin Fish and Wildlife Program, as well as

methods to achieve those goals.

The Council has issued a major issue paper on "Losses, Goals, and Program Planning" in an attempt to solicit public comment on these subjects. The goals study is part of the fish and wildlife program. A group of fish and wildlife agencies and Indian tribes have responded to the program with a proposal for assessing hydropower-linked fish losses, establishing program goals, and undertaking other program activities.

The Council staff paper will examine that proposal and provide alternatives and related issues. The paper will be presented for public comment at the Council's November 28-29 meeting in Portland, Oregon. The paper can be ordered through the form on the back cover of this issue.

### Power amendments adopted by Council

Two amendments to the Northwest Power Plan were adopted by the Northwest Power Planning Council at its October 31 meeting in Butte, Montana. They affect the methodology for determining

the surcharge to be levied if the Council's model conservation standards or their equivalent are not adopted by January 1, 1986, and the Bonneville Power Administration's Street and Area Lighting Program.

Under the first change, the surcharge would be calculated as 10 percent of the cost to the utility of the firm power purchased from Bonneville. If only a portion of a utility's service area has not adopted the standards or comparable measures, the surcharge amount will be multiplied by the noncomplying jurisdiction's share of the utility's total load. The methodology is in Appendix D of the power plan.

Under the previous methodology, Bonneville would do detailed calculations to determine the costs being imposed on the region by a jurisdiction that failed to adopt the standards or an alternative that achieved equivalent savings. The surcharge could range between the minimum of 10 percent and maximum of 50 percent set by Congress. The amendment simplifies the surcharge calculation and reduces some of the administrative workload.

Also in the power plan, Bonneville's Street and Area Lighting Program was to be terminated due to the current energy surplus. Unlike conservation measures for buildings, street and area lighting improvements have a short lifetime. They can contribute unneeded savings during the surplus, but will not last long enough to offset later deficits.

Bonneville requested continuation of the program at a low budget level through fiscal year 1988 on grounds the program encourages utilities to stock more efficient fixtures and use them for new accounts. Increased inventories of these fixtures should lead to



Groundbreaking ceremonies for the first of several fish passage facilities in the Yakima River Basin were held in Washington state. (See related story)

## IN THE NEWS

continued

conversions to more efficient lighting systems. At that point, Bonneville support could be terminated and the savings would still accrue.

The amendment calls for continuation of the program at a "minimum viable level."

Copies of both amendments are available upon request.

### Washington's Collins elected new chairman

Charles Collins of Washington state has been named chairman of the Northwest Power Planning Council. He succeeds Keith Colbo of Montana. Robert Saxvik of Idaho was named vice chairman succeeding Roy Hemmingway of Oregon.

The unanimous election of the two by their fellow Council members comes at a key time for the Council. During the next year, the Council is redoing the Northwest Power Plan it adopted in 1983.

The new chairman will guide the Council through a re-examination of critical resource questions regarding electric power in the region. "During the next year," Collins explained, "The Council will be dealing with major issues such as WPPSS nuclear plants 1 and 3 and Northwest power sales to California. A major task will be rebuilding the regional institutions and framework for cooperation destroyed by litigation and rapid rate escalations. The price of cooperation has become very expensive, but it is not less important."

Collins is president of Col-sper Corporation, a company involved in solid waste collection and disposal. His experience has been in both the private and public sectors. From 1976 to 1979 he served as director for Seattle Metro Transit. Prior to that he was chief administrator for King County.

Saxvik, who served as chief of staff for Idaho Governor John Evans, was a three-term state senator. Before joining the governor's staff, he was vice president and general manager of KBAR radio in Burley, Idaho.

### Stanwood is second to adopt standards

The city of Stanwood, Washington has become the second city in the region to adopt the Northwest Power Planning Council's model conservation standards. Stanwood is a community of 1,500 people 50 miles north of Seattle.

"Protecting citizens from the rate increases which occur from the surcharge and providing those people building new homes an opportunity and financial assistance to upgrade those homes to energy efficient levels were the prime considerations of the city council in passing the standards," explained Don Glancy, city clerk/treasurer.

Stanwood is currently negotiating with the Bonneville Power Administration for an assistance package.

### Amicus brief filed in Salmon River case

The Northwest Power Planning Council has filed an "amicus curiae" brief in a federal court suit that could affect licensing of hydroelectric projects in the Columbia River Basin. The suit has been brought by the National Wildlife Federation, Idaho Wildlife Federation, and Nez Perce Tribe against the Federal Energy Regulatory Commission (FERC). It is pending before the U.S. Court of Appeals for the Ninth Circuit.

The case involves seven preliminary permits for hydroelectric projects which FERC issued in the Salmon River Basin. The parties to the suit contend the permits were issued without adequate consideration for the proposed development's impact on fish and wildlife. The suit charges FERC did not provide for a comprehensive development plan for the basin, failed to consolidate applications for simultaneous review, and did not require assessment of cumulative impacts of more

than one project on the environment.

The Council's fish and wildlife program recognizes the importance of the cumulative impact assessment. Individually, small projects may have little effect on fish and wildlife. But several such projects taken together within a drainage basin may have considerable impact. In its brief, the Council asserts that FERC has failed to follow the requirements of the Northwest Power Act which stipulates fish and wildlife be given "equitable treatment" in power development and that the Council's program be taken into account to the "fullest extent practicable" in such development.

The Salmon River is considered the single largest producer of spring chinook salmon and steelhead in the Columbia River system. Currently about 50 applications for development in the area are pending.

Charles Collins, right, was elected chairman of the Northwest Power Planning Council, while Robert Saxvik, below, was elected vice chairman. (See story)



**An environmental impact statement is required** for the Bonneville Power Administration's long-term power contracts, according to a federal court ruling. Some 145 20-year contracts are affected as a result of the suit brought by Forelaws on Board, an environmental group. However, the court refused to grant an injunction to stop the contracts while the statement is being prepared.

**It's believed to be a precedent-setting case.** The Idaho Public Utilities Commission is holding hearings to determine if Washington Water Power and Idaho Power Company should "normalize" ratepayer accounts to balance rates between high and low water years. Currently, according to Idaho PUC information officer Dana Howard, ratepayers frequently bear the additional charges of a low water year without reciprocal benefits being passed on in high water years. (Source: Northwest Conservation Act Coalition Report.)

**Cogeneration is the wave of the future,** according to Frost & Sullivan, a market research firm. By the year 2000, national cogeneration should grow from 40,000 to 55,000 megawatts as increasing numbers of businesses begin generating their own power. (Source: Power Line.)

**A major "public information" program has been launched** by the Public Power Council to promote public support of low rates from the Bonneville Power Administration. Both private utilities and the direct service industries have fielded similar promotion campaigns in the past year. (Source: Northwest Conservation Act Coalition Report.)

**A \$2.7 million grant has been awarded to Tacoma** by the Bonneville Power Administration to help the city implement the Northwest Power Planning Council's model conservation standards. Builders will receive \$1.8 million of the amount to make up for increased costs of building to the standards. As the first city to adopt the standards, Tacoma is considered a testing ground for their administration.

**More efficient use of electricity by industry** is the goal of Bonneville's industrial test program. The agency has awarded five contracts in an attempt to get cost and engineering data on potential energy efficiency measures for the industrial sector. The contractors will analyze 25 companies selected for their high energy use.

**October 2 was the day the lights went out** — in nine states. A "disturbance" in Bonneville's 500,000 volt transmission line which runs from Oregon to California left nearly a million utility customers without electricity — some for as long as an hour.

**Selling Bonneville "would simply not be feasible,"** Energy Secretary Donald Hodel told an audience in Portland, Oregon recently. The suggestion to sell federal power marketing agencies was part of the Grace Commission Report on ways to cut government costs. Such an action could double or triple rates, Hodel said. (Source: The Oregonian.)

**About 1.2 million homes will be eligible** for Bonneville's home weatherization program thanks to a program expansion

as of October 1. Previously, only 327,000 homes were eligible for conservation measures that include storm windows, wall insulation, caulking, and weatherstripping.

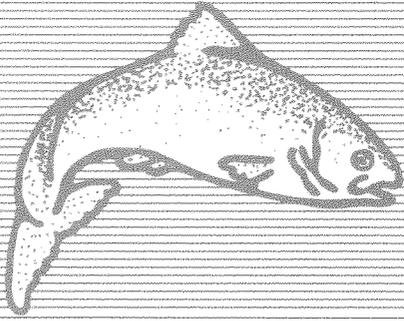
**Utilities must shift their focus from the supply side** to the demand side, according to a study by the American Public Power Association. The study says canceling generating units under construction may be more economical than completing them. It goes on to say utilities can no longer hide from environmental issues and consumers must no longer be taken for granted. All future planning, the report adds, must involve consumer and local government representatives. (Source: Public Power.)

**Rumors of a Northwest office for the Federal Energy Regulatory Commission** have cropped up. Most likely site would be Portland, Oregon. The speculation was fueled during Congressional hearings on FERC. Representatives of the Northwest Power Planning Council also appeared at the hearings to urge a closer working relationship between the Council and FERC in order to better implement the Council's fish and wildlife program.

**Bonneville's long-term intertie policy draft** will be delayed, the agency reports. Previously scheduled for December, the draft is expected in late winter or early spring. Meanwhile, the near-term policy is being reopened for public comment. At the same time, Bonneville is preparing an environmental impact statement on the long-term policy. Public comment closes November 30.

**Artifacts from a railroad labor camp used by Chinese immigrants** in the 1880s have been discovered at the site of a proposed kokanee fish hatchery for Idaho's Lake Pend Oreille. The site, east of the Clark River, is owned by Washington Water Power Company which is building the hatchery along with Bonneville and the Idaho Department of Fish and Game. The Northwest Power Planning Council approved construction of the hatchery, which is expected to produce 750,000 more adult salmon in three to five years, earlier this year.





# Making the Journey safer

Fish and wildlife amendments

*As is often the case, it is the excerpt that gets most of the attention, and not the book. And so it was with the amendments to the Columbia River Basin Fish and Wildlife Program.*

*On the final day of the amendment process, the Council's program received more publicity than it had in the preceding year. Throughout the region, the media reported the Council's decision to close the second powerhouse at Bonneville Dam unless an 85 percent fish bypass efficiency can be reached. The irony about all this attention was that this was but one change among dozens of new or altered program measures.*

*On the other hand, the second powerhouse decision was symbolic of the overall amended program in two important ways. First, it underscores the Council's top priority – to improve mainstem passage for downstream migrant fish. Second, it sent a clear signal to the region that this is an action-oriented program, one based on fixing the problems, not just researching them.*

by Ruth Curtis

**T**his past October, after 11 months of work, the Northwest Power Planning Council adopted amendments to its Columbia River Basin Fish and Wildlife Program.

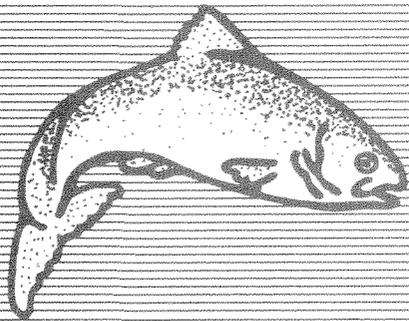
This first-ever amendment process began last November when the Council called for amendment proposals. Over 140 were received from 28 individuals and organizations. In addition, the Council staff itself initiated several amendments.

In June, a draft amendment document was produced which recommended adopting or rejecting the various proposals. A public comment period was announced and hearings were held throughout the region on this draft document. Over a hundred groups and individuals commented on the amendments.

After studying the amendments and more than 700 pages of comments, the Council approved about half the proposed

amendments, modified a number of the proposals, and incorporated a variety of changes that were suggested by its staff. "The process was time consuming but resulted in major improvements to the Program," stated Ed Sheets, the Council's executive director.

Major amendments are discussed below. ▶



## Action plan

An action plan has been added as a new program section to set priorities and schedule the implementation of the program over the next five years.

The plan emphasizes two key interim objectives — increasing the production of salmon and steelhead and protecting the ratepayers' investment. This is done by focusing on improving fish passage on the mainstem of the Columbia River, providing adequate water flows, and increasing the upriver production of salmon and steelhead. The ratepayers' investment is protected through setting goals, promoting adequate harvest controls, and requiring work plans, regular reporting and evaluations of implementation work being done.

Although salmon and steelhead are stressed in the action plan, wildlife and resident fish protection are also included, especially in Montana where there are no anadromous fish.

## Mainstem passage

Mainstem passage problems are pointedly addressed in the amendments. As juvenile fish head downstream to the ocean, they must pass through nine (eight if they begin on the Snake River) dams on the mainstem of the Columbia River. If the fish cannot survive passing the dams, all other measures to help them, such as habitat improvements and hatchery breeding, are useless.

At each dam, the juvenile fish face turbines which kill many and stun and disorient others, making them easy prey for predators. The mortality rate for fish passing through turbines is approximately 15 percent.

Measures such as the installation of mechanical bypass systems and interim spill programs can increase the number of survivors. The efficiency of these measures varies at each dam, and some dams have no bypass system at all. McNary Dam's system can deflect 85 percent of the fish

from the turbines and is considered a state-of-the-art mechanical system.

An amendment to the program calls for the Corps of Engineers to begin work immediately to completely solve the juvenile fish passage problems at Bonneville Dam's second powerhouse. Currently only about 21 percent of the young fish are being diverted from the turbines. Until a solution is found, the Council is asking the Corps to deflect 85 percent of the fish from the turbines by operating only the first powerhouse and spilling excess water when the fish are migrating down the river. (There are three exceptions to the closure of the second powerhouse; (1) for fish passage requirements, (2) for testing of the bypass system, and (3) to generate firm power when it is needed and cannot be produced elsewhere in the region.) According to Jim Ruff, Council hydrologist, this interim measure should cut juvenile fish losses in half at Bonneville Dam.

Other amendments dealing with The Dalles, Lower Monumental, and Ice Harbor dams, require the Corps to develop temporary juvenile fish passage plans that will allow at least 90 percent of the fish to survive passing each dam. In addition, the Corps is to install bypass systems to deflect 90 percent of the young fish from the turbines at each dam within the next five years.

## New facilities

The Council has authorized construction of a hatchery on the Yakima Indian Reservation and temporary John Day acclimation ponds.

The original program required adequate controls on ocean and river harvests before construction of the Yakima hatchery could begin. After analyzing the current status of ocean and river fisheries, the Council decided construction can proceed, on the condition that the fish stocks produced do not contribute to uncontrolled fisheries, primarily those off Alaska and Canada.

The acclimation ponds allow short-term holding of juvenile fish to relieve stress suffered in transportation from the hatchery to a release site and to ensure that the fish have learned to identify the chemistry of the river's water, to which they will return as adults. If the temporary ponds show this type of facility improves survival, the Council will consider approving the construction of permanent facilities.

Another amendment provides for Bonneville funding of a trout hatchery on the Colville Indian Reservation. The construction of the Chief Joseph Dam and Grand Coulee Dam ended the salmon and steelhead runs in this area in Washington. The hatchery will partially lessen that loss.

## New research

The Bonneville Power Administration has been called on by an amendment to fund a share of the costs of an electrophoresis demonstration program. Electrophoresis is a technique which has potential for fine-tuning ocean harvest during the fishing season. It will allow harvest management agencies to adjust their regulations to protect weak fish stocks.

## Habitat improvement/ passage restoration

About 27 new sets of habitat improvement and passage restoration projects are added for Bonneville funding as offsite enhancement. They are designed to compensate for the effects of hydroelectric projects on fish and wildlife away from the actual site of the project. Included in the amendments are projects in the Clearwater and Salmon basins in Idaho, the Wenatchee Basin in Washington, and the Hood, Sandy, Clackamas, Grande Ronde, and John Day drainages in Oregon, among others. ■

Interview:

# Randy Hardy

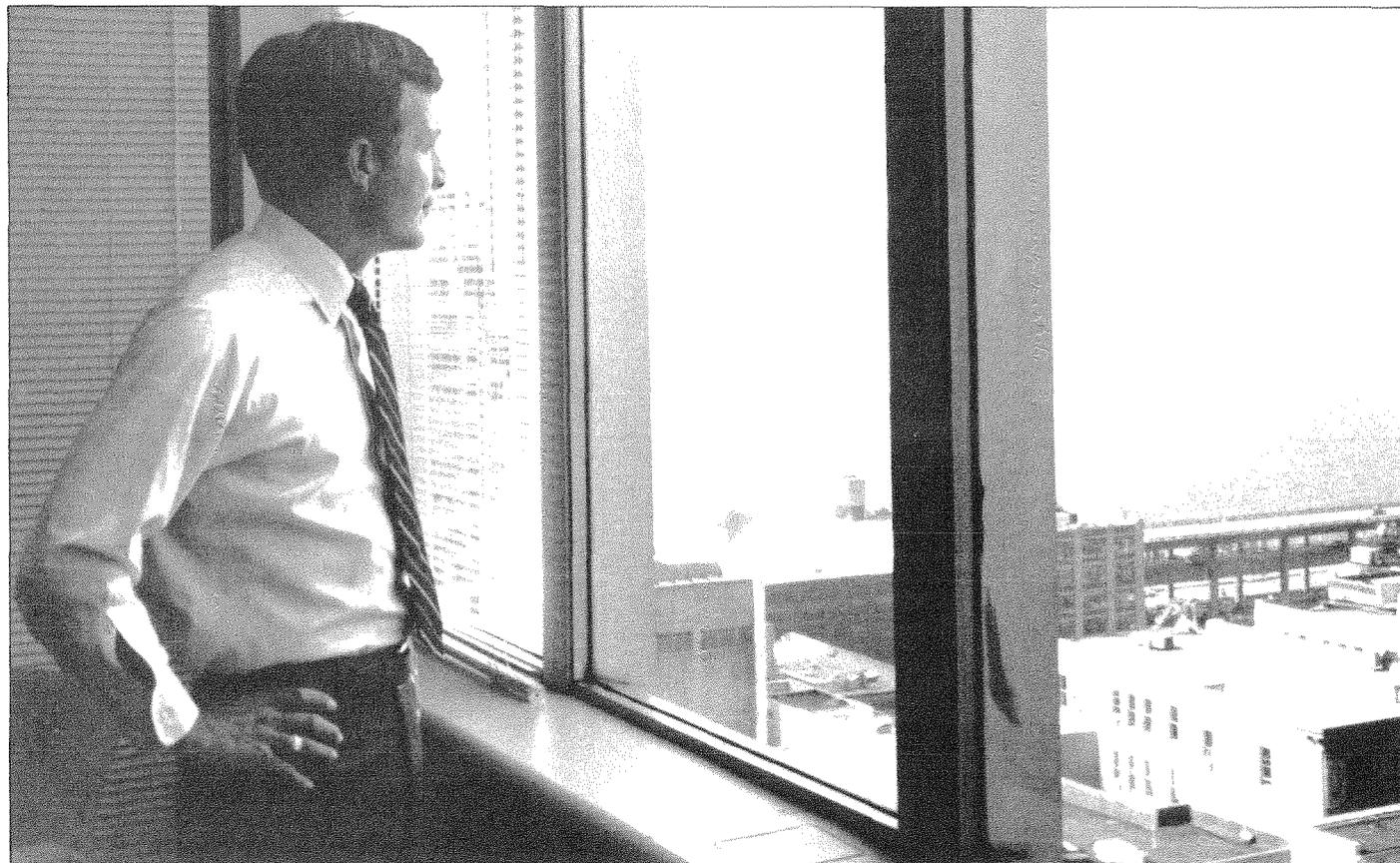
by Carlotta Collette

**E**ditorial writers have applauded the Seattle City Council's choice of Randall W. (Randy) Hardy, former executive director of the Pacific Northwest Utilities Conference Committee (PNUCC), as the new superintendent of that city's municipal electric utility, Seattle City Light. But editorialists have also recommended that Hardy had best bring along "asbestos shorts" for his transition to the "hot seat" at City Light, where he becomes the third mayoral appointee to that position in seven years.

In Hardy, Seattle's City Council and mayor have picked a man who is familiar with both the region's energy issues (having worked with the Bonneville Power Administration before PNUCC) and with building stable organizations in the midst of unsettling circumstances.

Hardy's two-and-a-half years as executive director of PNUCC saw that institution move from a primarily technical orientation to a central position at the table where regional energy policy was in the making.

"PNUCC was needing some direction," Hardy explained in reference to his tenure there. "It started out as a lobbying organization back in the late forties to lobby for Corps and Bonneville appropriations. It was nothing more than a collection of utilities with a law firm providing legal counsel.



Carlotta Collette photos

## Interview: Randy Hardy

"By the mid-seventies it had developed a small staff and was doing load forecasting. With the creation of the Northwest Power Planning Council there was an almost overnight need for some sort of policy organization to be the spokesman for the region's utilities and industries. That was my charge at PNUCC: to form some sort of consensus position among the utilities on these various issues — responsible policy positions that not only represent the region's utilities, but are also responsive to the kinds of legislative demands that are placed on the Power Council.

"A large part of the Council's plan relies on the region's utilities for implementation. We needed some sort of mutual agreement between the planning body, the Council, and the implementing bodies, Bonneville Power and the utilities. That was the role PNUCC played over the last two or three years. I think we've been fairly successful at that."

*There is a lot of talk in energy circles these days about the region, in essence, falling apart . . . of the major participants going their separate ways. From your view at PNUCC which represents the industries and the utilities can you comment on that concern?*

I can understand why some people might be concerned about that, but I think it's a short-term phenomenon. I think the long-term outlook is really pretty good.

I see people being risk avoiders in the long term, even the investor owned utilities (IOUs). I see people purchasing from Bonneville in the 1990s, when they have to start purchasing again, simply because it'll be a lower risk alternative than trying to build their own resources, or entering into a variety of cooperative intertie arrangements which will tie these utilities to Bonneville. I see a lot more cooperative things and a lot more ability (by virtue of that kind of cooperation) of the Power Council's plan to influence what the utilities ultimately will do. They can kind of set, if not the precise path, at least the general direction that we'll follow.

Look at what the Council's done already! Who had ever heard of "options" before, or "forecasting ranges" . . . the whole "planning for uncertainty" concept. If there is a single accomplishment the Council has had it is that they have gotten people to recognize that there really is uncertainty out there. The trick is how to deal with that uncertainty in a responsible way. We still don't know whether the options concept is going to work or not, but at least we're examining that and other kinds of alternatives.

We've done range forecasting. The utilities and Bonneville are doing that. We're building lots of capability in the conservation areas. We're doing lots of things that we probably wouldn't have done without the Power Council being there.

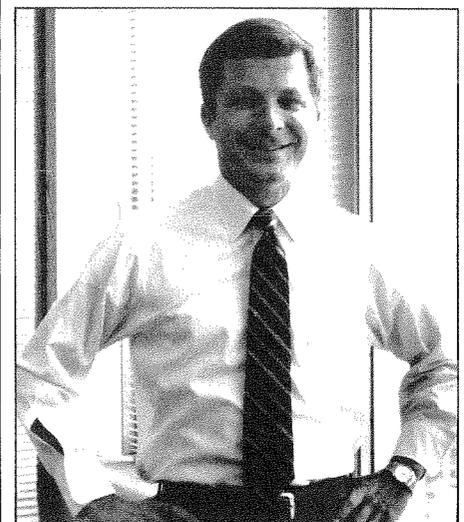
There's the whole fish program . . . it's going like a house-a-fire. It's not going as fast as some of the Council would like it to, but there's no question which direction it's going. We're going to spend lots of money for fish. Whether there'll be a return or not we can debate about. That's fair. That's a debate as it should be. For the first time, you have a real debate in the region, and you've got the Council as a kind of arbiter of the various interests — the utilities, Bonneville, the Conservation Act Coalition and others — in charting a direction based on that input. That's a positive thing.

The Council's Plan, by merit of its own internal logic and its ability to influence Bonneville directly in terms of programs, is the only tool the Council needs, and the only tool that Congress intended it to have. To the extent that it tries to exert other authorities to become the region's central implementer rather than just the planner, the Council will acquire all that excess baggage that Bonneville has typically had to carry over the years, and engender the same kind of suspicion and hostility from the utilities.

That would be unfortunate. I don't think the Council has to do that in order to achieve 90 percent of what it wants to achieve. Then we can fight about the other 10 percent. The Council, just by virtue of its political clout, can be very effective in exerting its will on the individual issues in that other 10 percent.

It's got to do that by the power of its own reasoning and by the persuasiveness of its own arguments. It can't just say, "This is the way it is." That would end up having just the adverse result we've talked about, that is, everyone pulling away from the coordinated system planning, rather than moving closer to it. It depends very much on the approach the Council uses.

"If there is a single accomplishment the Council has had it is that they have gotten people to recognize that there really is uncertainty out there."



"The region can only succeed to the degree that it forms cooperative arrangements among all the players."

*Can you spell out some of the issues you think the Council should be looking at now, particularly in light of the coming revision of the power plan?*

I think the whole question of model conservation standards and the surcharge is obviously a big issue. The Council is to be commended for taking a very aggressive approach on that. Hopefully, the end result of all this will be that we have a much stronger building code regionwide than we have now. They may not be codes quite to the level the Council now has, but, ultimately, if we can get 90 percent of the way there, and get the states to that point, I think we will have won the battle. I think we'll be in pretty good shape.

The whole question as to whether "options" is a valid planning concept is another issue. They're proceeding ahead with an options paper that pretty much assumes that options are going to work. That's a pretty heroic assumption. The Council will reach a point in this next planning process where they're going to have to honestly face whether they want to rely on options to the extent they relied on them in the last plan. They may want to have options as one of several strategies that they can use to meet the load growth.

I guess the other issue that I would see would be the whole question of system reliability. What kind of reliability standards do you use? Do you move off of critical water planning? Do you use combustion turbines? This is a very sophisticated regional planning question, and I think the Council understands that. I hope they resist the temptation to say, "Well critical water planning is something that happens only once in a hundred years and is a ridiculously conservative standard."

That's not to say that we shouldn't do something besides critical water planning, but there are a lot of serious trade-offs here. Critical water, or low, almost to critical water, happens about once in every five years in this region. Those are Russian roulette odds, and for planning the reliability of your power system, those may not be the best kind of odds to plan with.

The Council cannot mandate this thing and, if it tries to mandate it, it will do nothing more than polarize the region. But to the degree that it can lay out a course that, because of the wisdom of the planning that the Council does, is so compelling that the utilities, Bonneville and the Corps and others will say, "Yes, that's what we should have been doing all along," or "there are changed circumstances and this is now the way we should go . . ." To the degree the Council can do that, it can be the energy leader in the region that I think the Congress envisioned.

*What about WPPSS 1 and 3, and the California sales of firm surplus power, how do you see these factors affecting the power plan and the region?*

I've been widely quoted in the papers saying that WPPSS 1 and 3 are dead. I don't think it's a sure thing, but I don't see the legal tangles being untied even by '87, so I'm pessimistic about them. I don't think we should jettison the things right now, but the Council should be looking at other ways to fill those holes.

We could see the surplus go quite quickly, or we could see it grow. It's all just a part of the uncertainty. If anything, the forecasts are all still too high: ours, the Council's and Bonneville's. It might be that we could lose 1 and 3, and there might not be any particular consequence to that. It's grossly premature to say at this point.

We've been monitoring load growth and we've watched it go down over the past eight months. The question is, is this a long-term trend or is this just something that's going on now.

What this is telling us is that there is a lot of actual permanent conservation, and/or curtailment, and/or fuel switching going on. It can only be one of those three. What it tells me is that there is a lot of permanent structural change going on. If this is a long-term trend, if the growth rate is maybe one percent or 1.2 percent instead of 1.6 percent, then WPPSS 1 and 3 disappearing might not be all that important, and a California surplus sale might acquire significance.

*Continued next page*

## Interview: Randy Hardy

### *What effect do you think WPPSS will have on public power in general?*

Well there have been some serious challenges to public power besides WPPSS. There have been a couple of very concerted attacks on the preference clause which is the basic piece of legislation enshrined in several statutes that gives public power preferential access to low cost federal hydropower. There will continue to be attacks like that, because people will associate public power with things like WPPSS. The credibility that public power once had has suffered because of that.

I would hope that Seattle will exert some influence in the region to show that things like WPPSS are just exceptions to an otherwise good record, very glaring exceptions, but just that, exceptions, and not new norms by which to measure public power's viability as an institution. I hope Seattle can help to demonstrate the kind of responsible regional energy leadership that will show that public power is worthy of the preference clause and the other attributes that have traditionally gone with it.

### *How do you see Seattle doing that . . . what are your goals for City Light?*

I'd like to see City Light continue to be a leader in public power and in regional energy matters as well. Before that is possible, however, we need to cure some of the internal problems that we have within the utility. We need to bring some administrative stability, some management and personnel stability, and with that, some relative rate stability, or at least predictability. Those two things have to be precursors to our launching out into the regional arena in a more aggressive way. We'll continue to be quite active, probably more active, but I'm going to have to devote most of my time to these internal matters.

I think the city may very well adopt the model conservation standards. That's under very active consideration right now in the city. Things seem to be moving in that direction.

I think the utility will continue to be a leader in that area, but for us to continue to deal effectively in that area we have to reach some agreement with Bonneville over funding of conservation programs. There are avoided costs, at least in the short term, with Bonneville's wholesale rate. There's not much we can do on our own. The whole debate over the conservation contracts was unfortunate, but now we have to heal that wound. There's an obligation on us and an obligation on Bonneville as well. I'm optimistic that we can agree, and when we can do that, I think we'll see a lot of progress in the conservation area.

The Public Power Council has put in a lot of work to try to fashion a solution that's acceptable to all the public utilities. Out of that, as well as the input from the IOU's, will come a solution, within a year or so, to resolve this issue. This is just a natural cathartic process that we had to go through. The economic circumstances at Bonneville are better than they were a year ago. They are for the utilities as well. I'm optimistic that we'll get the regional conservation bandwagon back on the road.

We're all in this for the long haul. We're in the business of building institutions; as Chuck Collins is fond of saying, institutions aren't built overnight.

The Council had a remarkable accomplishment in getting its first plan out in that short a time with the quality that the plan exhibited. That quality will continue to improve.

There will be minor detours along the way, but the region can only succeed to the degree that it forms cooperative arrangements among all the players. That's what the coordination agreement is all about. That's what the whole coordinated system operations are all about. I hope that's what the Council's power planning process will turn into. If the Council can evolve that kind of relationship with the region's utilities, a true planning relationship rather than a regulating relationship, then I think it will succeed well beyond even its expectations.

That's the challenge the Council has, and the challenge that the utilities and Bonneville have as well. The onus is equally on all three of those bodies to see that we move in that direction and not get too upset about the short-term twists and turns. ■



*It begins!*

# A new power plan

**I**t made history less than three years ago, when the Pacific Northwest became the first region in the country to study, plan for and embark on a program to meet its energy needs for the next 20 years through a cooperative public process. Big decisions came before the citizens of the Northwest. In open hearings throughout the region's four states of Idaho, Montana, Oregon and Washington, ratepayers testified beside utility board members and industry chiefs. It took two years for the Northwest Power Planning Council to set up shop, develop that first plan and see it through to adoption.

by Carlotta Collette

**W**hen the Pacific Northwest Conservation and Electric Power Plan (now known as the Northwest Power Plan) came out, one of the critical factors it acknowledged was the certainty of uncertainty. Respecting that new consciousness, the Council decided to regularly review its own assumptions and directions. The plan itself called for a revision in two years.

The new version will incorporate lessons learned from the demonstration projects and training programs that were a part of the two-year action plan component of the first plan. The new plan will benefit from two years' experience with a new planning mode and with the uncertainties inherent in anything as big as a nationwide, interstate 20-year plan. The new plan is an opportunity to move the process of nationwide energy planning forward. The region is just beginning to take up the challenge of developing the new plan, a process that will culminate in December 1985.

## Load forecasting

When that first plan was being considered, the region was leaving behind worries over energy shortages (one of the major concerns that led to the regional act in the first place) and developing ways to cope instead with an unexpected firm power surplus. Current economic and load conditions are now monitored by the Council on a semi-annual basis as a way of tracking the factors that affect long-range forecasts. This regular analysis will be folded into a new load forecast and analysis of the region's economic growth potential over the next 20 years.

A draft plan will be published in July 1985. Prior to that time, several issue papers will be released to provide background and focus for the decisions affecting electric load forecasting. Most of these will be available in December 1984. They include reviews of the effects of electricity prices on the economy, the levels of production that can be expected from major energy-intensive industries and descriptions of the demographic and economic assumptions the Council will use in its forecasts.

An issue paper that explores the many financial variables that must be considered and the range of opinions regarding the relative values of choosing one set of assumptions over another will be made available to the public early in 1985. In the analysis of resource cost effectiveness, "discount rates" must be used to convert various costs over time into "present

value." This paper will lay the groundwork for the financial assumptions that will be used in the preparation of the new power plan.

In early spring, four issue papers will be released that deal with the actual demand forecasts for each of the major energy use sectors: residential, commercial, industrial and agricultural. These papers will provide a more detailed understanding of patterns of electricity use anticipated in the next 20 years.

## Resource assessments

Beginning in January 1985, the Council will publish a series of issue papers that attempt to quantify the various renewable and nonrenewable electric energy resources available or already in use in this region. Each paper will look at the feasibility, costs and environmental impacts of using a given resource, whether coal, biomass, hydropower, liquid and gaseous fuels, solar, wind or geothermal.

In addition, the Council will reassess the cost effectiveness of the Washington Public Power Supply System's nuclear-fueled plants 1 and 3. Based on its findings, the Council will determine whether or not these plants should be retained in the power plan's resource portfolio.

The Council will also present environmental criteria designed to protect the region from damage that could result from development of new energy resources.

At least two other resource acquisition questions will be considered and reviewed during the coming planning process. If needed, electricity could be imported from outside the region. An issue paper will address this possibility and cover costs and constraints guiding such acquisitions. Additional energy can also be conserved by improving the efficiency of existing power generating projects. The Council will publish an issue paper analyzing this potential resource in addition to all the others.

## Conservation assessment

Perhaps the most innovative aspect of the original power plan was its treatment of conserved electricity as an additional resource in its own right. The Council designed a package of model conservation building standards for new electrically heated residential construction and all new commercial build-

► Continued on Page 16



# ent questionnaire

You can help us serve you better through more effective public information and involvement programs. Please take a few minutes to fill out this form and mail it to Dulcy Mahar, Director of Public Information and Involvement, Northwest Power Planning Council, 850 S.W. Broadway, Suite 1100, Portland, Oregon 97205. (Please feel free to attach comments if you do not have adequate room here.)

**Optional:**

Your name: \_\_\_\_\_

Organization: \_\_\_\_\_

Where do you get most of your information about the Council and its activities? If more than one, rank in order of importance with #1 the most important.

- Council meetings
- Council special mailings
- Formal consultations
- Informal staff conversations
- Issue papers
- Hearings
- Newspapers, radio, TV
- Northwest Energy News
- Other organizations' newsletters (specify) \_\_\_\_\_
- Other (specify) \_\_\_\_\_

Do you feel you have a reasonable opportunity to participate in Council decision-making?

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Do you have any suggestions for how the Council could improve its public involvement system?

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Does the Council's information system keep you:

- Generally well informed
- Moderately informed
- Poorly informed

Do you have any suggestions for how the Council could improve its information system?

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What kinds of information (or issues) are you most interested in getting from the Council?

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Out of all of this will come a reconsidered resource portfolio for the region based on the cost effectiveness of each potential resource. Most importantly, it will produce a strategy for managing uncertainty and risk in the region's future.

## Public involvement

A major purpose of the Northwest Power Act was to place decision-making for the region's energy future into an openly accountable public body. The Act specifically directs the Council to "insure widespread public involvement in the formulation of regional power policies."

In its opening statement, the Act lists public participation and consultation as one of its major purposes along with promoting conservation and efficient use of electrical power, development of renewable resources, and assuring the region an adequate and reliable power supply. In response to that mandate, the Council has always operated in the public forum. This policy will continue during the coming development of the next power plan.

All above-mentioned issue papers and any additional ones which are developed will be made available to the public. The back cover of each issue of *Northwest Energy News* will carry a list of publications currently available along with an order form. The sequence of events will allow several opportunities for public comment.

First, an issue paper will be presented at a Council meeting, which like all such meetings is open to the public. Public comment will be scheduled at the following meeting three weeks later. A preliminary decision will be made at the meeting following that second meeting. Anyone wishing to comment on the issues being discussed who cannot attend a meeting may submit written comments during scheduled periods.

Since Council meetings are regularly three weeks apart, the Council will have six weeks in which to receive, review, and consider public testimony before even a preliminary decision. By June of 1985, the Council will have heard comment on all the issues and will publish a draft plan. Another public comment period on the draft will be scheduled and will include public hearings in each of the four Northwest states. The hearings are in addition to regular Council meetings.

Throughout the process, the Council will consider both oral and written comment and will consult with those groups and individuals involved in regional energy issues. After all comment is considered, the Council will adopt the final plan in December of 1985.

The Council is currently updating its mailing lists and refining its public involvement process. Please take the time to fill out the questionnaire on the preceding pages.

*Power Plan continued . . .*

ings that, if adopted regionwide, could provide substantial savings of electricity. During the coming plan development, the assumptions and expectations upon which these standards were based will be carefully reviewed.

The new plan will also provide the region the opportunity to re-examine conservation in the industrial, commercial and agricultural sectors. Demonstration projects that have trained builders, farmers and utility personnel in methods for conserving energy will be evaluated, as will Bonneville's progress and experience in implementing the action plan.

## Electrical system analysis

Lest it appear that the Council is only studying the trees without looking at the whole forest, several large institutional, systemwide issues will also be explored during the coming year. One of these is what is often called the "big region/little region" question. Due primarily to the rapid drop in load growth just after the signing of the Northwest Power Act, the institutional relationships expected by the authors of the Act have never fully materialized.

For example, most of the region's major utilities failed to sign long-term conservation contracts with the Bonneville Power Administration. Such actions limit the effectiveness of regional planning overall. This concern will be discussed in an issue paper which should be available next spring.

Other topics such as the reliability of the hydro system and critical water as a planning base, the promise of California sales of firm surplus power and the upgrading of the intertie over which that power is moved, and the usefulness of combustion turbines as supplements to the hydrosystem will also be covered in issue papers and discussions before the Council.

**The Northwest Power Planning Council wants to ensure that citizens of the region have ample opportunity for involvement in Council programs. Please take a few minutes to fill out the questionnaire on the preceding page and mail it to:**

**Dulcy Mahar  
Director of Public Information and Involvement  
Northwest Power Planning Council  
850 S.W. Broadway, Suite 1100  
Portland, Oregon 97205**

# New advisory committees will guide new power plan

by Ruth Curtis

The Council has formed three new advisory committees to assist with developing the new Northwest Power Plan. These committees serve two purposes. They allow the Council to take advantage of the expertise within the region, and they enable the parties directly concerned to have more impact on the new plan. Committee meetings are open to anyone who would like to attend and time is provided for public comment. Contact the Council's central office to find out when and where meetings are being held.

## Demand Forecasting Committee

At the foundation of the power plan is the forecast of electricity demand for the next 20 years. To be sure the best possible models, assumptions and data are used to develop this forecast, a Demand Forecasting Advisory Committee has been formed. Through it, knowledgeable people in the region assist in this part of the Council's work.

Members of this committee include: Steve Aos, Washington State Energy Office; Kenton Corum, Northwest Power Planning Council; John Duffield, University of Montana; Scot Hannigan, Pacific Power and Light Company; David Hoff, Puget Sound Power and Light Company; Don Hoffard, Bonneville Power Administration; Boyd Jack, Tektronix Corporation; Mike Mace, Idaho Power Company; Gordon McDonald, Pacific Northwest Utilities Conference Committee; Terry Morlan, Northwest Power Planning Council; Don Reading, Idaho Public Utilities Commission; John Savage, Oregon Department of Energy; Ed Whitelaw, ECO Northwest, Ltd.; Lincoln Wolverton, Public Power Council; and Robert Young, Direct Service Industries, Inc.

## State Agency Advisory Committee

As the Council develops the power plan, it looks at the Northwest as a whole in order to minimize energy costs for the entire region. But individual states often have different perspectives and concerns on some issues. If the plan is to be effective, these views must be integrated with the Council's. The State Agency Advisory Committee was formed to provide this integration and to increase communication between the Council and the state agencies. The

committee helps identify issues that should be considered in developing the plan and shares information on each state's activities related to the planning process.

State agencies represented on this committee include: Washington Utilities and Transportation Commission; Oregon Public Utility Commission; Idaho Public Utilities Commission; and Montana Public Services Commission.

## Economic Forecasting Committee

The most important determinant of the Northwest's future electric demand is the growth of the region's economy. The economic forecast in the Power Plan will consist of a range of possible economic futures. It will be developed with the assistance and guidance of the many regional experts who make up the Economic Forecasting Committee.

The following people are members of this committee: Charles Allcock, Portland General Electric; Byron Ansel, Washington Department of Revenue; William Beyers; Charles Broches; Phillip Brooks, Montana Department of Commerce; Phil Carver, Oregon Department of

Energy; Susan Doolittle, Port of Seattle; Mike Ferguson, Idaho Division of Financial Management; Debbie Kitchin, Northwest Power Planning Council; Eugene Lewis, Montana Power Company; Gordon McDonald, Pacific Northwest Utility Conference Committee; Lynn Michaelis, Weyerhaeuser Company; John Mitchell, U.S. Bancorp; Geoff Moorman, Bonneville Power Administration; Terry Morlan, Northwest Power Planning Council; Bill Nicholson, Potlatch Corporation; Ron Oliveira, Oregon Executive Department; Lincoln Wolverton, Public Power Council; and Robert Young, Direct Service Industries, Inc.

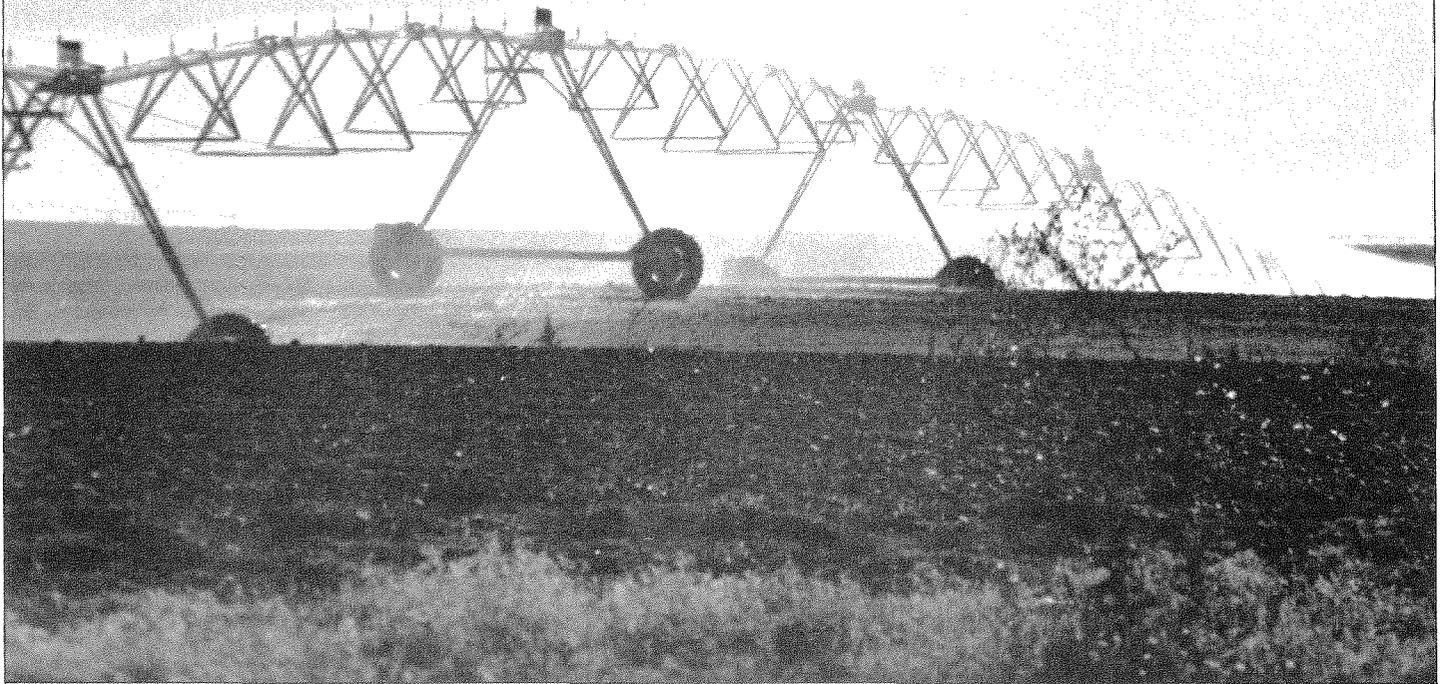
## Other Advisory Committees

The Council's other advisory committees include: Hydropower Assessment Steering Committee, Options Steering Committee, Hydropower Options Task Force, Coal Options Task Force, Cogeneration Options

Task Force, Options Evaluation Task Force, Industrial Conservation Advisory Committee.

See the March/April 1984 issue of *Northwest Energy News* for information on these committees.

# Energy Efficient Irrigation: hope for Northwest farmers



by Carlotta Collette

**T**he sign on the highway says that there'll be "blowing dust" for the next 40 miles, and in recent years there have been complaints of sand dunes crossing onto the interstate near Umatilla in Eastern Oregon. It seems an unlikely place to set up farming operations. But just past the sign, at the Boardman exit, there's a green field, and down the frontage road there's a new orchard and vineyard. It's like the age-old fantasy of gardens in the desert, and it is almost entirely due to the technologies of irrigation.

Frank Lamb's family farm corporation, a 12,000 acre spread that he manages for his relatives, borders the frontage road at the Boardman exit. Pretty much everything in view on his side of the road is part of his Eastern Oregon Farming Company.

It's a business venture that took close to

\$10 million to start and runs almost another million each year just in electricity. But, without the power to run the pumps to draw water from the Columbia River a few miles to the north, Frank Lamb's family farm wouldn't last long. A day without the pumps could cause enough damage to send a potato crop off to be shredded for french fries instead of sold over the counter for a premium price. When you produce an average of 240 million potatoes each year, or about 60,000 tons, you lose sleep over the water that makes it all viable.

"The soil here only holds about three-fourths of an inch of water," Lamb explains, shaking a fistful of the stuff onto the road. "Most soils hold four-to-five inches. Without irrigation water, the land was incapable of supporting any form of

farming and was marginal grazing for only a few months each year."

Calling the growing medium at Lamb's farm "soil" is an overstatement. There is no humus in it at all. It is sand, pure and simple. Lamb's family farm is in a desert, a desert supplied with fertilizers and water, and founded with the understanding that electricity in the Northwest was an inexpensive given.

Then came the Washington Public Power Supply System (WPPSS) debts and rate hikes which threatened to price electricity out of the reach of farmers like Lamb and his family. "We were looking at WPPSS 4 and 5 debts that would have brought our electricity costs up to \$180 per acre each year. When we started the farm we were paying only \$25 an acre a year." Eastern Oregon Farming Company was

facing a power bill in 1983 that would have been greater than any profit they had made in the 12 years they'd been farming.

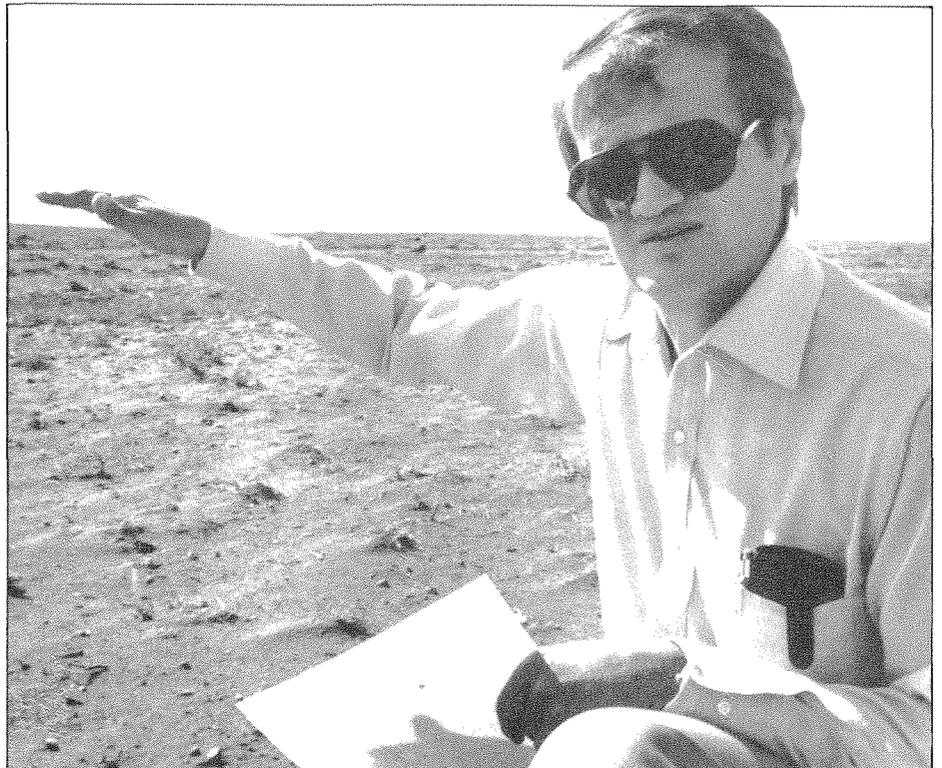
Farm costs had climbed, while the prices paid to farmers for their produce stayed at record low levels. Profits, which are often marginal on farming operations anyway, dried up like the fields themselves. Some farmers around the Eastern Oregon Farming Company switched back to dry land farming where they could. Others gave up and left the land.

Lamb argued before the World Affairs Business Forum in 1983 that farmers were not alone in having to face the rate increase catastrophe. "The processing industry which depends on irrigated agriculture would find shortages of raw products forcing them to curtail production. Farm and processing jobs would be lost and the rural communities would slip further into recession as the multiplier effect spread the impact. To top it off," Lamb added, "significant reductions in electricity consumption would force the utilities to further increase their rates to cover their fixed costs."

The impact on regional utilities is a significant one according to Steve Levy at the Bonneville Power Administration. "Although irrigation sales [of electricity] for the region as a whole are less than three percent of the total sales, for many individual utilities irrigation accounts provide the major load, ranging up to 80 percent." Tom Waggonhoffer, another Bonneville employee in charge of irrigation programs, noted that loads at some utilities serving irrigators were down by as much as 50 percent, due in large part to the loss of irrigating farmers.

In 1979 and 1980 Bonneville began to tackle the farm related energy problem. From the early days of the Bonneville system irrigation had been encouraged by the power administration. Irrigation offered a natural off-peak load when the river supplied the most water and the region had the least use for it. During the winter when the region's need expanded, the farms were dormant.

The Northwest Power Planning Council gave impetus to the idea of energy conser-



Frank Lamb

Photos by Carlotta Collette

vation in irrigation when it published its power plan in 1983. The plan called for water application scheduling improvements and more efficient water application systems to reduce consumption and for financing programs to help purchase new more efficient watering systems. The Council found that development of conservation in irrigation could cut the anticipated demand for agricultural energy by as much as 30 percent in the next 20 years.

In its two-year action plan, the Council called upon Bonneville to develop a regional agricultural conservation program, provide technical assistance and training for irrigators, and initiate demonstration projects. The plan projected a savings of

35 megawatts within the next five years through these actions.

With the cooperation of irrigating utilities, Bonneville sponsored a pump testing program to determine pump efficiencies and offer suggestions to farmers on ways they could cut their energy use and, consequently, their losses. These tests indicated that most of the pumps measured were operating well below achievable efficiencies. "Some of these were so low," noted Levy, "that the pumps were using two-to-three times as much energy as required for an efficient pump."

Focusing on both mechanical improvements and scheduling changes aided by computers and communication satellites, the irrigators, the utilities and

Bonneville have begun to bring the costs of pumping water onto arid fields down.

They have in most cases found that converting from high-pressure to low-pressure sprinklers, modifying the pumping plants to compensate for the reduced pressure, sealing leaks in the system, and using larger pipes with fewer angles in them to decrease the friction of the water and increase the flow, have been the most effective measures taken with existing equipment.

At Frank Lamb's farm, energy consumption per acre inch of water delivered went from 98 kilowatt hours in 1981 to 72 kilowatt hours per acre inch in 1983 when their farm equipment and watering patterns were changed. "The state-of-the-art irrigation system installed at Eastern Oregon Farming Company should be able to deliver one acre inch of water with 50.62 kilowatts per hour," Lamb reasoned after a lengthy calculation. That's about half of the electricity required in 1981.

After the equipment itself is tightened up, a whole package of technological devices are brought into play to help schedule watering only when it is needed. The new system relies on automatic, solar-powered weather stations set up in fields like those at Frank Lamb's. The weather station reads wind, temperature (both air and soil) and sunlight data, feeds these to an on-site computer which in turn relays the information via satellite to a station in Boise, Idaho. From Boise it is transferred through a computer back to the electric utilities where it is translated into an irrigation schedule for each field and crop.

Participating farmers can call up this information on their home computers. It will help them decide when to water, and how much water is needed at that time. Such accuracy can save farmers thousands of dollars in excess electricity each year.

Bonneville's Waggonhoffer feels that programs like these are important to the region as much as to the farmers themselves. "Our ultimate goal," he argues, "is to come up with an electric rate for irrigators. We recognize the importance of farming and feel an obligation to keep it a



viable industry. The multiplier effect of agriculture is four to one, much higher than, say, aluminum companies."

In the interest of finding a way to supply irrigating farmers with a reduced rate, at a time when surplus electricity would otherwise be sold at bargain prices to California, Bonneville followed a recommendation of the Battelle Pacific Northwest Laboratories. Battelle determined that over 500 average megawatts of secondary (non-firm) power would be available during the period May 1 to July 31 about 80 percent of the time. This coincides with the spring "fish flush," when water is passed through the dams to aid the migration of salmon and steelhead smolts down the river.

Battelle suggested that Bonneville could offer this excess power to irrigating utilities at special rates. The power would come when the irrigating farmers most need it, during the spring planting season. In its first year Bonneville's program met with mixed success. "Non-firm" power is by definition interruptible. "Farmers can't plan on that kind of uncertainty," Waggonhoffer explained. "The use of non-firm power for them has limited application. As an interim it's an offer of lower cost power to keep farmers in business

and re-establish farm-related loads on the rural utilities."

"The program was too difficult for most farmers to figure out or qualify for," counters Lamb, and that argument seems to run through much of the criticism of Bonneville's efforts.

"Many utility personnel and irrigators have become frustrated because of the growing complexity and ongoing uncertainty . . . new requirements are being placed on participating utilities every month." That's the evaluation of Aaron Jones, coordinator of Northwest Irrigating Utilities (NIU). NIU represents 18 public utilities that are preference customers of Bonneville and distribute power to nearly half the irrigators in the region.

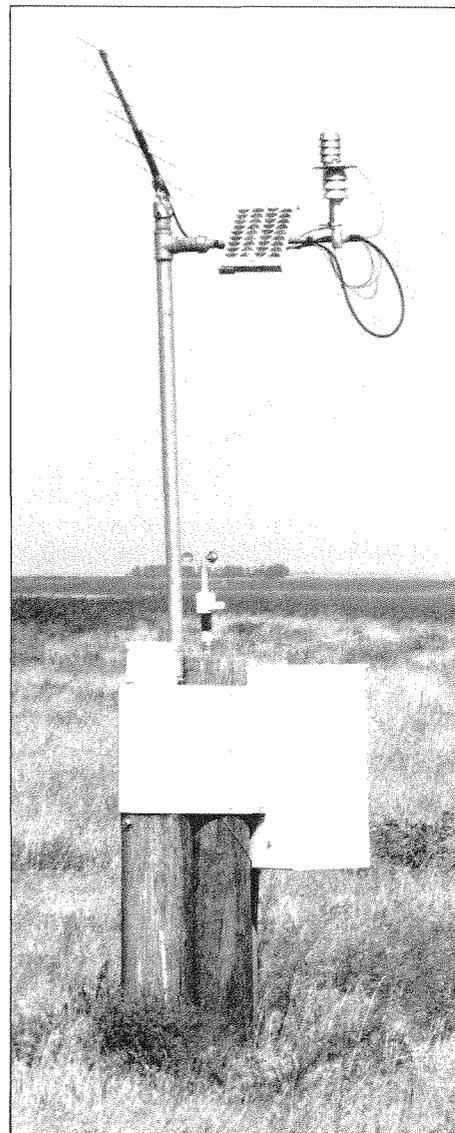
"What we have right now is a complex program that few people really understand and almost no one can feel comfortable with," continues Jones. "Unless a real effort is undertaken to follow a common sense, simplified approach, I'm afraid we'll see most of the utilities drop out or continue on a very limited scale."

The seeming complexity worries Waggonhoffer, too. "We're trying to get smarter about the whole farming industry," he admitted. "Aluminum companies are easier to understand than agriculture.

There are so many variables in farming."

As imperfect as the existing projects may be, they are already having an impact on the survivability of the region's farms. A combination of these exercises in efficiency should be able to cut farm use of electricity with only small losses in production. With seven percent of all employment in the region tied to either food production or food processing, the goal of keeping this industry thriving is critical to the overall economic health of the Northwest. ■

Weather station



# MCS delay would prove costly to region

by Dulcy Mahar

A \$200 million price tag — that's the finding of a preliminary study showing the likely cost to the Northwest region of delaying the model conservation standards just two years. The standards are energy-efficient measures proposed by the Northwest Power Planning Council for new electrically-heated homes and all new commercial buildings. Those jurisdictions which fail to adopt the standards by January 1, 1986, may incur a 10 percent surcharge on firm power purchased from the Bonneville Power Administration.

The study was conducted by the Council's power planning staff in answer to a request from several utilities to delay implementing the standards by two years — from 1986 to 1988. The preliminary figures will be checked out exhaustively and will be subject to public comment, according to Jim Litchfield, director of the power planning division. (See back cover to order the issue paper.)

To determine just what a two-year delay would mean to the region, the power staff calculated the cost of building a coal plant (the most likely replacement) to produce the same number of megawatts that would have been supplied by homes built to the standards during 1986 and 1987.

For example, the standards are expected to save the following amounts of electricity in their first two years depending on the Council's four forecasts\*:

- High — 100 mw
- Medium High — 76 mw
- Medium Low — 53 mw
- Low — 27 mw

In the high forecast a new coal plant would be needed by 1987, a deadline

\*The Council has a forecast range rather than a single forecast. That range runs from low to high with two intermediary forecasts — medium low and medium high — between. Resources are scheduled to meet any possibility within this broad range.

which could not be met realistically. The plant would be needed by 2001 in the low forecast. The costs of the coal plant in each forecast were pro-rated so that they reflect only that portion of a plant required to replace the electrical power the standards would have made available to the region. For example, in the high forecast, the costs represent 100 megawatts or 20 percent of a 500 megawatt coal plant.

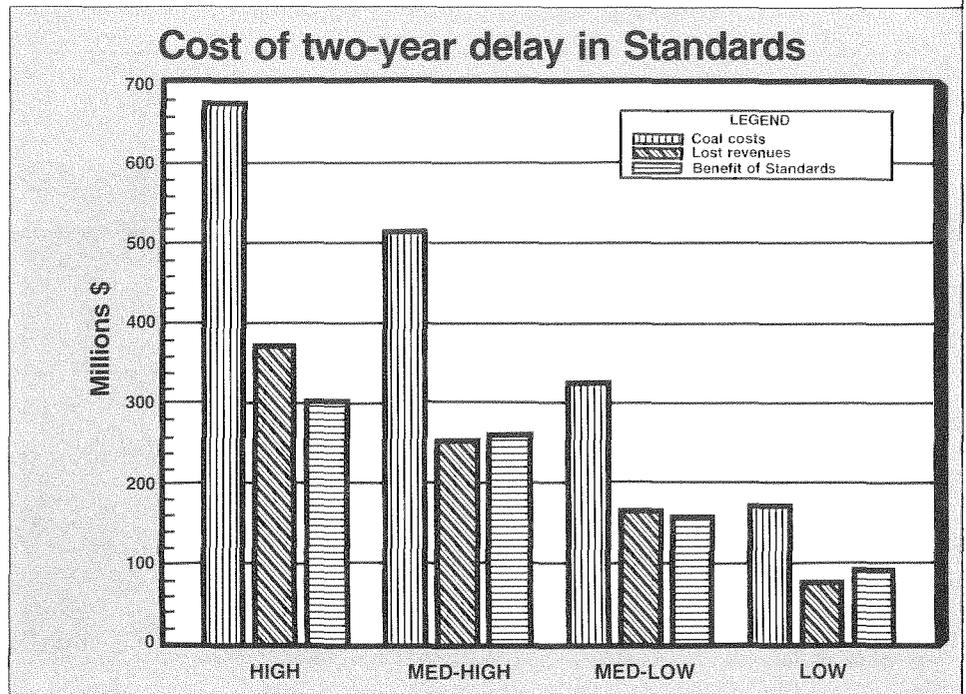
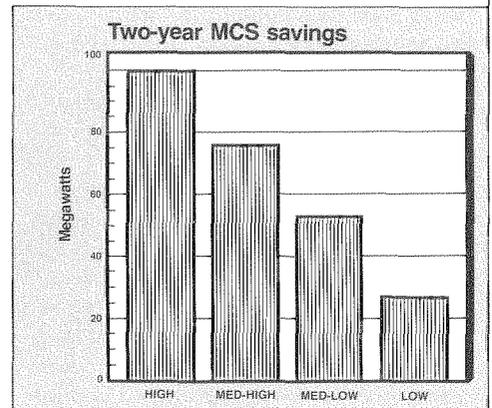
Given that breakdown, costs of replacing the energy savings of the standards with the output of a new coal plant would run:

- High — \$677 million
- Medium High — \$517 million
- Medium Low — \$328 million
- Low — \$173 million

From these costs the staff subtracted the costs of lost revenues from the coal plant to get the net cost to the region's utilities of delaying the standards.

- High — \$303 million
- Medium High — \$262 million
- Medium Low — \$160 million
- Low — \$94 million

Given that the most likely scenario will fall between the medium high and medium low forecasts, the Council staff



estimated a delay of two years in the standards would cost the region \$200 million.

The staff also calculated the costs of coal versus the utility inspection costs for the standards. In the high forecast, inspection costs would run approximately \$15 million ranging to \$4 million in the low forecast. Using the high range, therefore, for a \$15 million investment a utility could save avoided costs of \$677 million. In the low range, a \$4 million investment would save \$173 million. These avoided costs represent the costs of using coal to replace the equivalent amount of energy the standards would have saved.

Another calculation compared the costs of coal against the "society" costs of the standards for the two-year proposed delay period. Society costs refer to all costs (to ratepayers, utilities, homebuyers, etc.) of the model conservation standards.

This means that the region would realize a \$259 million savings through the standards — as opposed to coal — in the high forecast. In the low forecast, the savings would be \$60 million. Again, that is for a two-year period.

The energy savings from the model conservation standards alone over a 20-year period vary with each forecast, but all are significant, according to Litchfield.

**High — 1573 mw**  
**Medium High — 936 mw**  
**Medium Low — 572 mw**  
**Low — 284 mw**

"If we can't achieve the standards and given everything else stays the same (i.e. WPPSS 1 and 3 are built), the Council will have to add 572 megawatts in the medium low," Litchfield explained. "This could mean major thermal investments."

Taking the standards out of the regional power plan entirely also affects when the

region will go from a surplus electrical power supply to a deficit in supply. Without the standards, the region will see deficits in:

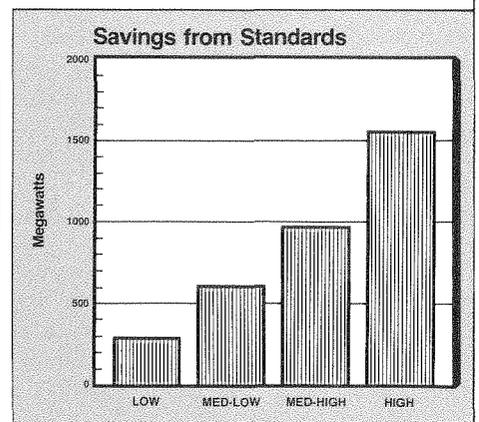
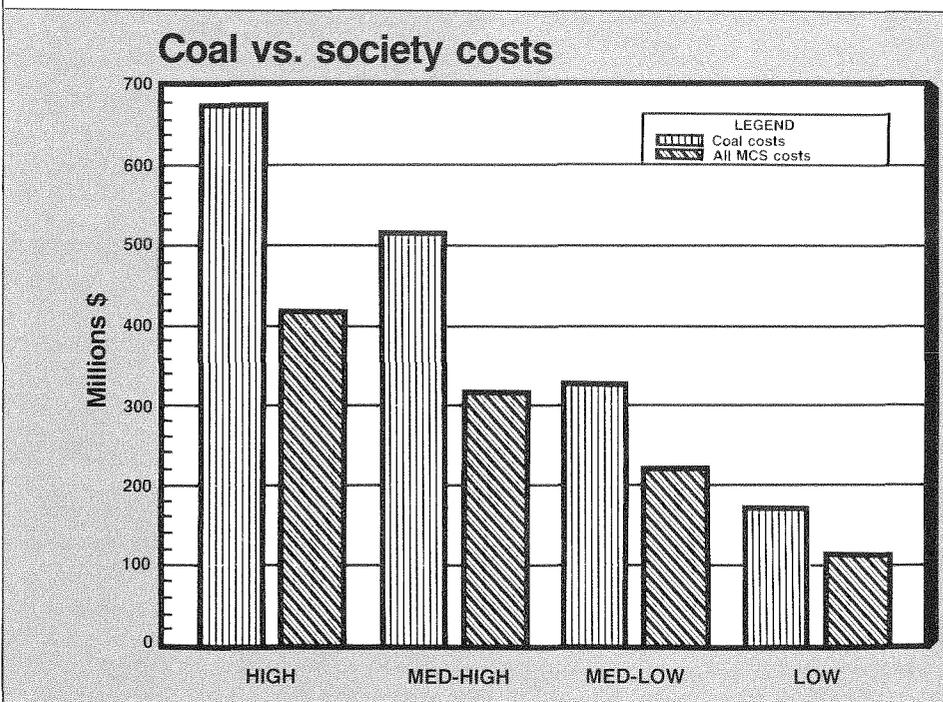
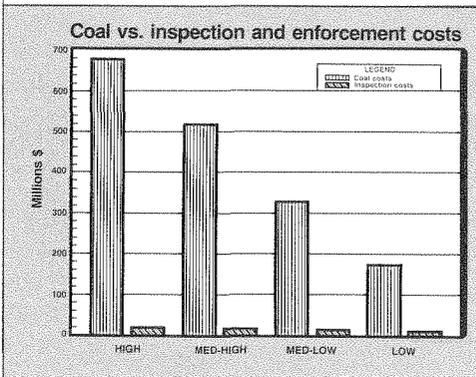
**High — 1987**  
**Medium High — 1989**  
**Medium Low — 1993**  
**Low — 1997**

Litchfield also said his staff has done studies taking a home built to current standards and retrofitting it to meet the model standards. The analysis showed that, with the possible exception of storm windows, most retrofit features would not be cost effective to the region\* because of the high fixed costs of auditing and inspection.

"These opportunities (the model conservation standards) are unique. You have to do it when the house is built. If you do, you get savings for the life of the house. If you don't, you have to build more expensive resources to serve the inefficient house," he said.

"The real question," according to Chuck Collins, Council chairman, "is not whether or not we should be weatherizing new buildings, but who pays. Codes put the costs on the homebuyers who get the direct benefits of energy savings. If we were to go to utility incentives, the region's ratepayers would pay — but they'd still save \$200 million (by adopting the standards now)."

\*They could still be cost effective to the consumer.





# It makes *Super Good Cents* to build it right

by Jim Nybo

Starting this month, billboards proclaiming the "Super GOOD CENTS" energy conservation program will be sprouting up throughout the Northwest. "Super GOOD CENTS" is a program launched by the Bonneville Power Administration to promote the construction and purchase of energy-efficient new homes built to the Northwest Power Planning Council's model conservation standards. It is a voluntary marketing program made available to electrical utilities who buy power from Bonneville.

In examining the resources that could be used to serve the electrical needs of the Pacific Northwest, the Council found that conservation — in the jargon of power planners — is regionally cost effective. That means it is as reliable as other sources of electrical energy available to the utilities of the region, but costs less. Other sources include, of course, coal and nuclear power plants, hydro power, wind power, gas combustion turbines as well as others.

But does conservation make sense to the consumer as well? Indeed it does, say both the Council and Bonneville. In fact, in the words of Bonneville's newest conservation program, buying energy efficient new homes makes "Super GOOD CENTS." In

the 1983 regional energy plan, the Council called on Bonneville to offer a program that includes certifying and marketing homes which meet the standards and training for those in the shelter industry. "Super GOOD CENTS" is the keystone of these elements of the plan.

By participating in this voluntary program, homeowners can save up to two-thirds of their annual heating costs and live in a home that is warmer in the winter, cooler in the summer, and quieter all year round. Builders and realtors gain the advantage of a distinctive product in a tight housing market, and lenders are beginning to appreciate that energy savings translate directly into more income for the buyer. Electrical utilities benefit because efficient homes provide power at lower cost than alternatives and place less strain on the system during the coldest days of the year. The electrical utility is helped to expand or maintain its share of the home heating market because electrically heated homes cost less to maintain, thus making electricity a more attractive fuel source to the consumer.

In October, Bonneville held orientation meetings on the program around the region for electrical utilities. Utilities were told that the two major aspects of the re-

gional "Super GOOD CENTS" program are an inspection and certification program to be carried out by the utilities, and a regional promotional campaign to be carried out by Bonneville in conjunction with the utilities.

## **Certification and inspection**

Participating utilities will review builder plans, inspect homes during construction and after completion, and certify that the finished home complies with "Super GOOD CENTS" standards. The utility will be responsible for quality control and for promoting building, buying, and living in "Super GOOD CENTS" homes.

Some local government representatives have raised questions about how a utility inspection program relates to local building code enforcement. "Bonneville is encouraging utilities to invite local code officials to the technical training sessions," said Ernie Bonner, Bonneville's chief of the Consumer Products and Services Branch of Residential Conservation. "We will get local government association people involved in the utility training as well," he added. "In the utility curriculum there's a



# Super Good Cents

In Tacoma  
Soon



Look for this billboard in Tacoma

special section on utilities getting informed and coordinated with the local building permit process."

## Advertising

Bonneville's regional advertising campaign will include print, radio and television media along with direct mail and other means. For those utilities who have signed long-term Bonneville conservation contracts, Bonneville has offered to reimburse up to half of the utility's costs for local advertising. Bonneville will coordinate all advertising and promotion done to assure consistent use of the logo and slogans. The promotion campaign is expected to begin around May 1985, and will run through the 1986 and 1987 building seasons. According to Bonner, the detailed advertising plan will be developed over the coming months.

## Training and education

Personnel from participating utilities will be trained in both the technical criteria for the "Super GOOD CENTS" home and in sales and marketing techniques. The technical seminar will include the Council's model conservation standards, acceptable construction techniques, and computer software for reviewing building plans. According to Bonner, the sales and marketing training will concentrate on ways to motivate builders and ways to work with banks and realtors. The initial training will be conducted by Southern Electric International (SEI), the originator of the marketing program, and will sub-

sequently be offered by the Northwest Public Power Association (NWPPA) on a regular basis. NWPPA will draw on Oregon's Energy Extension Service for technical training.

The basic package of products available to the utility includes manuals on construction, marketing, graphics, and advertising; guides for builders and home buyers; and a computer software package.

Bonneville is coordinating its State and Local Government Technical Assistance Program with "Super GOOD CENTS" to deliver training for builders and local code officials. From December through May, approximately 15 builder training workshops will be offered through state energy offices in the region. Bonner reports the states and NWPPA will coordinate these parallel training efforts, with participating utilities requesting builder training sessions from the states. Bonneville has told state energy agencies that the State and Local Government Technical Assistance Program will begin placing major emphasis on technical support of the standards.

## Eligibility

Bonneville has purchased the right to use the "Super GOOD CENTS" name from 1984 through 1987. Bonneville will offer the rights to use "Super GOOD CENTS" to all utilities in the region during that period. Those utilities that have not signed long-term conservation agreements may participate in the seminars and training programs and may request technical and advisory support from Bon-

neville, but they will not be eligible for the partial reimbursement of their local advertising costs.

## What about "GOOD CENTS"

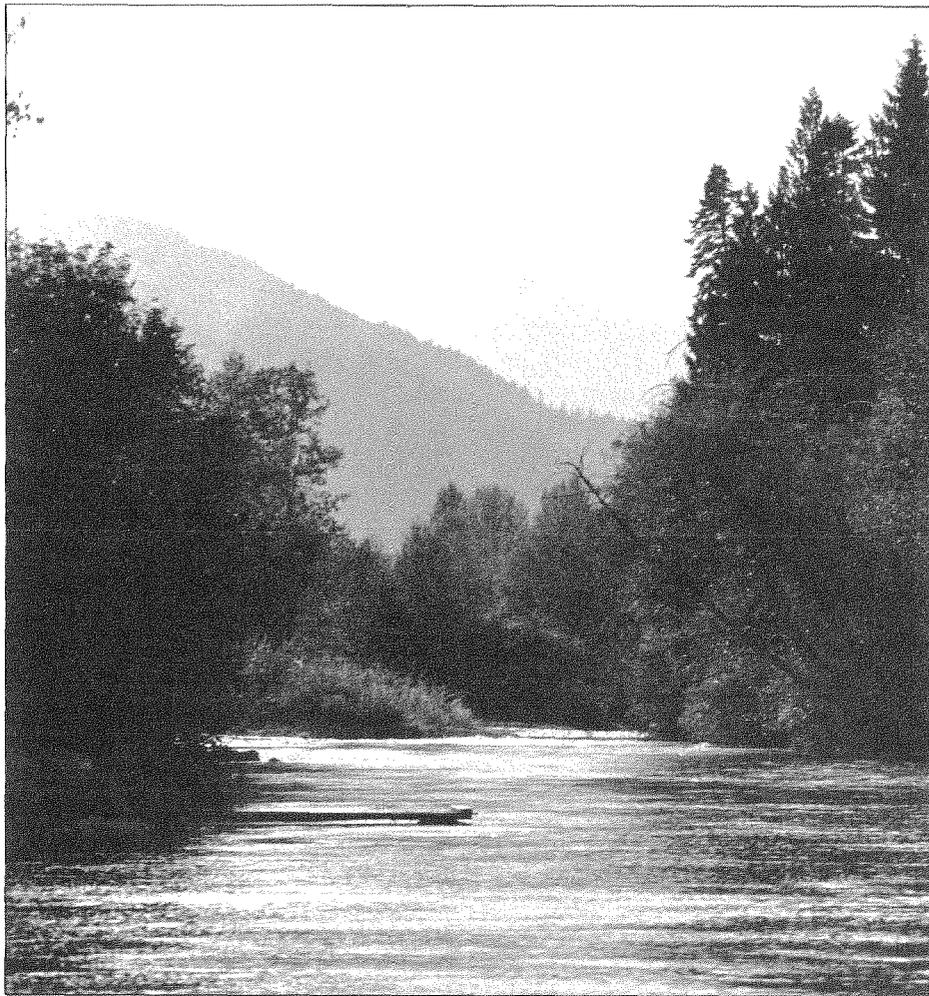
SEI developed its efficient homes marketing program under the name "GOOD CENTS" for use by its member utilities in the Southeast. Because the program is a voluntary utility-based program, SEI has offered the "GOOD CENTS" program to electrical utilities throughout the country. Several investor-owned electrical utilities in the Northwest have signed a contract with SEI, and are offering the "GOOD CENTS" program in their service areas.

The principal difference between the two, besides the name and logo, is that the "Super GOOD CENTS" program markets homes that meet the Council's model conservation standards, while the "GOOD CENTS" home does not save as much energy. Both programs, however, are voluntary programs designed to encourage the construction and purchase of new electrically heated homes that are substantially more energy efficient than current building practices. ■



# Developing the river – protecting the future

## Two studies will guide the way



by Carlotta Collette

**I**t's hard to tell the value of a river. It can be said that the Columbia and its tributaries produce more than 12,000 megawatts of energy, and that figure can be turned into dollars, which will tally up one value for one river system.

But there's another real value. It's in the old fish, whose numbers are badly depleted now. Certainly a river teeming with pink and silver salmonids has a value.

And a river to swim in, to sail on or camp beside, to irrigate a field with or carve an ancient history in the cliffs along its banks, those are all values to be reckoned. In the Northwest they all exist, and

in some critical ways, they are values that conflict.

This fall, the Northwest Power Planning Council voted to begin two studies of all rivers and streams in the Pacific Northwest — the Hydro Assessment Study and the Cumulative Impacts Study. The first study will attempt to determine the value of each river system in terms of its potential for supporting fish and wildlife, recreational activities, cultural heritages and hydroelectric generating capability.

It will be used to rank potential hydro development sites according to their fish and wildlife effects and to identify areas

where those effects would be so critical that the site should be protected from any development. The information contained in the study will help the Council determine how much cost-effective hydroelectricity is available to be integrated into its new 1985 power plan.

The region boasts over 250,000 miles of year-round rivers and streams. All of these will appear in the eventual matrix of values and concerns that will be one of the products of the study. In the future, if you want to build a dam anywhere in the Northwest region, you will be able to go to a computer, call up a map of the area you want to develop, and see on that map the effects on the fish runs and other wildlife your proposed dam will have. Some dams may be prohibited because they will come within the boundaries of "protected areas," a designation for particularly delicate habitats. Sites will be ranked into three categories.

Category I will describe those sites where hydroelectric development will have no significant adverse effect on fish and wildlife. Category II will cover those sites where hydroelectric development can be carried on if steps are taken to prevent potential damage to fish and wildlife habitats in the vicinity. Category III will designate those areas where hydroelectric development will seriously damage existing habitats or fish runs and should therefore not be permitted.

Part of the Northwest study is similar to one that was conducted in Maine. The Maine Rivers Study led to legislation prohibiting dam construction on certain rivers in that state. Other rivers were cleared for development when it was demonstrated that few long-term negative effects outweighed the advantage of the renewable resource of hydroelectricity. The Maine study was designed by the National Park Service.

It took many months and many people to come to an agreement about how to approach this project. There were issues about which values to explore, whom to delegate the work to and how to implement the findings once the study is completed. The Council's Hydropower As-

assessment Steering Committee (HASC) and other interested participants worked hard to generate ideas on the direction the study should take.

This committee includes members from the National Marine Fisheries Service, the Army Corps of Engineers, the Federal Energy Regulatory Commission, the Columbia River Inter-Tribal Fish Commission, the Northwest Indian Fisheries Commission, other tribes, the Pacific Northwest Utilities Conference Committee, the Bonneville Power Administration, the Bureau of Reclamation, fish and wildlife agencies from each state, small hydro developers and environmental groups.

The Northwest study is expected to take up to 15 months to complete at an estimated cost of \$1.5 million. The study has been divided into two primary parts — anadromous fish, and all other river values — with a third section for identification of sacred and cultural Indian grounds.

The anadromous fish half of the study is being coordinated by the Council. The Council has hired Jack Damron, who most recently managed the Columbia River Estuary Data Development Program, to direct the compilation of data on the region's critical basins for migrating fish. "Many anadromous fish runs have been devastated by past hydropower development," commented Damron. "We can avoid this for future hydropower development by taking a more balanced approach that protects the most important stream reaches in the basin."

The remaining river values will be analyzed under the direction of the Bonneville Power Administration. This analysis will be carried out by each of the individual states. Everything from the endangered plants in a given area to its archaeological sites will be included in the studies.

In addition, a complementary study, the Cumulative Impacts Study, will be done to

assess the collective effects of developing more than one hydro facility in a given river system. "In some cases a single dam on a river might not have serious effects on the salmon runs in that area," explained Peter Paquet, manager of project operations and development at the Council. "But, when you put several dams in that basin you might be looking at something more critical. Once we have criteria for evaluating each stream in the Columbia River Basin, we hope to be able to look at all the hydro development in a given reach and assess the impacts of all of them together."

For the Pacific Northwest, both the hydro assessment study and the cumulative impacts study will provide a reliable basis for future decisions regarding any hydroelectric development along the rivers in the region. ■

## S T A T E M E N T O F P O L I C Y

### STATEMENT OF POLICY CONCERNING ANTITRUST AND OTHER LEGAL CONSIDERATIONS RELATING TO TRANSFERS OF ELECTRIC POWER FROM PACIFIC NORTHWEST TO PACIFIC SOUTHWEST

This statement of policy is adopted with reference to the following facts:

A. Electric power generated in, but not required to meet the needs of, the Pacific Northwest region has for many years been marketed outside the region, particularly to purchasers in the Pacific Southwest. While such surplus power has been marketed both as "firm" power and "nonfirm" power, historically, and in large part because of the purchasing patterns of the Pacific Southwest purchasers, the bulk of such power has been sold as "nonfirm."

B. At the present time, the Bonneville Power Administration (Bonneville) has under active consideration and development certain actions, including development of a policy with respect to access to certain electric power transmission lines, commonly known as the "intertie," between the Pacific Northwest and Pacific Southwest, and development of a program of serving as an "agency"

for the joint marketing of power by Pacific Northwest sellers to Pacific Southwest purchasers ("the proposed policies"). Such actions, if implemented, could (1) increase the ratio of "firm" to "nonfirm" sales of electric power by Pacific Northwest sellers to Pacific Southwest purchasers; and (2) by increasing the ratio of "firm" sales to "nonfirm" sales, increase the average per unit cost of electric power to Southwest purchasers.

C. A question has arisen as to the appropriate role and function of the Council in the development, adoption and implementation of the proposed Bonneville actions; and it is in order to clarify that role and function, both for the guidance of the Council's own staff and others, that this statement of policy is adopted.

Now, therefore, in consideration of the foregoing premises, it is hereby resolved as follows:

1. The sole interests of the Council in the proposed policies and the implementation thereof is (1) to promote, to the extent that the Council is responsible therefor, the purposes of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 ("the Act") as defined in Section 2 thereof and (2) to assure that any policies which are adopted and implemented are consistent with both the Act and the Northwest Conservation and

Electric Power Plan ("the Plan") including, in particular, Chapter 10, Paragraphs 15 and 16 thereof, and the Columbia River Basin Fish and Wildlife Program ("the Program").

2. The provision of Paragraph 1 notwithstanding, the Council (a) while favoring for the reasons set forth in the Plan the sale of "firm" power to the Pacific Southwest and the sale of "nonfirm" power in the Pacific Northwest consistent with the requirements of the Plan and the Northwest Power Act, takes no position whatsoever with regard to the actual price at which either "firm" or "nonfirm" power is sold by Pacific Northwest sellers to Pacific Southwest purchasers; (b) the Council advocates and will support the achievement of its goals only in so far as those goals are achieved by means consistent with applicable law including state and federal antitrust laws; and (c) will continue to work with other interested governmental agencies, including but not limited to the Bonneville Power Administration and appropriate state public utility commissions, to assure that any policies or programs ultimately adopted by the Bonneville Power Administration will advance the interests of the Council as described in Paragraph 1.

Adopted by the Council September 20, 1984.

## COUNCIL PUBLICATIONS ORDER FORM

Please send me a copy of the following publications of the Northwest Power Planning Council.

- Columbia River Basin Fish and Wildlife Program (1984 revised edition, will be available in January 1985. Those who received the draft will automatically receive a copy.)
- Issue Paper on Losses, Goals, and Program Planning (Fish and Wildlife Program)
- Issue Paper on the Value of Increased Direct Service Industry Interruptibility
- Staff Report on Decision Analysis Modeling
- Issue Paper on Economic Forecasts and Assumptions
- Issue Paper on Direct Service Industry Load and Planning Assumptions
- Issue Paper on Effects of Electricity Prices on the Economy
- Issue Paper on Costs of Delaying the Model Conservation Standards

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