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BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF IDAHO POWER COMPANY FOR AUTHORITY TO RATEBASE THE INVESTMENT REQUIRED FOR THE REBUILD OF THE SWAN FALLS HYDROELECTRIC PROJECT.	)	CASE NO. IPC-E-90-2

DIRECT TESTIMONY OF BILL EASTLAKE

IDAHO PUBLIC UTILITIES COMMISSION

NOVEMBER 9, 1990

Q. Please state your name and business address for the record.

A. My name is Bill Eastlake. My business address is 472 W. Washington Street, Boise, Idaho.

Q. By whom are you employed and in what capacity?

A. I am employed by the Idaho Public Utilities Commission as an Economist.

Q. Please describe your educational background and work experience.

A. I received an H.A.B. (Honors Bachelor of Arts) with emphasis in classics and economics from Xavier University in 1965 and completed graduate course work and general examinations in the Ph.D. program in economics at Ohio State University in 1969.

I taught undergraduate economics full-time at Boise State University from 1969 through 1976, with two years on leave as a Fulbright Exchange Professor at Cuttington College, Liberia, West Africa. I have also taught part-time at Boise State University, College of Idaho, and Ohio State University.

I was a part-time Taxpayer Service Representative for the Internal Revenue Service during 1977 and 1978. In 1978, I took a position with the Idaho Office of Energy as an energy economist, with

responsibility for energy conservation planning and then for economic feasibility analysis of geothermal and other alternative energy proposals. When the office became a division of the Idaho Department of Water Resources in 1981, I became responsible for the Idaho Water Resource Board's financial programs, loans and grants as well as industrial revenue bonds for water projects. With the demise of the bond program, I assumed responsibility for the design and implementation of a statewide energy conservation loan program. In addition, I provided economic analysis in support of policy decisions concerning water rights, water planning, and agricultural water uses.

Q. What is the purpose of your testimony?

A. To suggest policy considerations relating to the use of hydroelectric power from an existing dam like Swan Falls for the Commission to use in reaching a decision in this case.

Q. What is the importance of these policy issues?

A. They provide a broader environment in which decisions are made about how much hydroelectric generation is to be procured and at what cost. The main point is that the decision to provide even preliminary approval for construction (or a certificate

of convenience and necessity) for the Swan Falls project is not as simple as merely asking whether its projected cost is greater or less than the published avoided cost.

Q. Why do you say that?

A. Ratepayers are not buying a simple undifferentiated product (electrical generation), the sort of purchase where the product is so standard, the only important factor in the purchase decision is price.

There are subsidiary considerations that are important to the decision as to whether the resources available from the Swan Falls project are preferable to other possible resources. How the projected cost of power from these resources compares to the cost of other potential resources is indeed important, but is not the sole decision factor. Some discretion must be allowed the Commission to consider other factors in making its decision, except in the case where the cost of the proposed resource is radically different from that of competing resources.

Q. Are projected costs from these plants significantly different from avoided cost rates?

A. No, they appear to be approximately the same.

Even when adjustments are made to put avoided costs in the same 50 year time frame, the Swan Falls project actually comes in slightly below avoided cost. Mr. Faull's testimony provides more insight into the specific relationship between the projected cost of electricity from this plant and the newly published avoided cost rates. When the difference is small, as it is here, there are other factors that should enter into the decision process.

Q. What are some of these other factors which should allow the Commission some discretion.

A. There are several. Historical experience with prior hydroelectric installations has some relevance. The probable future course of environmental constraints through federal legislation is important. The policy stance of the State of Idaho as evidenced in prior energy and water matters is also important.

Q. Is hydroelectric power the state's most important native energy resource?

A. In the past Idaho relied solely on hydroelectric power for its electric energy needs. As the state has grown there has been the need to supplement hydro with some thermal generation located outside the state. But it remains the fact that Idaho's hydroelectric base is what has allowed power rates to

remain at or near the lowest in the country. Making optimum use of that hydro, which is essentially Idaho's only significant energy resource, remains a sensible policy to protect the legacy of past low rates.

Where possible it makes sense to keep local control of that resource, so that the real benefits of low cost hydropower are reaped by utilities and ratepayers in Idaho rather than out-of-state.

Q. What has been the relevant policy stance of the State with respect to the sort of hydro projects proposed here?

A. The most comprehensive policy statement in this regard comes from the Idaho State Energy Plan, a study commissioned by the Governor in 1980. The Idaho Energy Resource Policy Board, a diverse group of fifteen persons representing a cross-section of interests within the state, heard testimony from various energy experts and held public hearings over an eighteen month period. The Energy Plan, which came out in February of 1982, was an outline of how the state could assist in supplying adequate energy for the future.

Q. What sorts of policy direction were contained in this plan?

A. The plan stated generally that there was to be a high priority placed on conservation and renewables, with an emphasis on improving existing resources.

With respect to renewables, it stated that "the state should give a high priority to hydro-electric projects, in particular the upgrading of current facilities within the state."

In its formal policy implementation guidelines, the plan stated that "priority should be given to the review of sites and approval of projects related to hydroelectric generation and existing hydroelectric upgrades."

In the section on hydro, the plan notes the presence of many non-power dams with the capability to accept generation equipment and some existing power projects which can provide increased capacity through upgrading of generation facilities. The plan even has a range of anticipated costs, from 50 mills in 1985 to 75-100 mills in 2000, which seems commensurate with the projected costs contained in the company's applications.

Q. Does this Plan have force of law?

A. No. The only purpose of citing it here is to indicate that the upgrades proposed by the

company seem quite consistent with the policy guidance provided on this issue by a formal board convened to look to Idaho's energy future.

Simply put, the Resource Policy Board recognized that hydro has been very good for the state and recommended continuing to exploit that known resource where possible.

While it recognized the potential for some new small hydro development (and, in retrospect, understated the difficulty of getting new projects permitted) the Board rather clearly indicated a preference for getting more of the hydropower potential available at existing dams.

The proposed project, since it makes use of an existing dam with generation facilities, is aligned with that preference.

Q. What was the reason the Board seemed to prefer hydro from existing structures?

A. From my recollection of staff work (as an employee of the Energy Bureau of the Idaho Department of Water Resources) for the Board, there was reason to believe that power from existing dams would be less costly than that from new dams. These were large old infrastructure projects that would have been inordinately expensive to replicate in current

dollars. With the water diversion works already in place the only cost was the additional cost of adding generation.

Q. Does the same reason to prefer old hydro still hold today?

A. I believe the rationale for preferring existing sites would be somewhat different, but the preference would remain.

Q. Why would the rationale be different?

A. The rationale would still emphasize the lower cost to be expected from upgrading of existing facilities, but it would not be based so much on an expected difference in the physical cost of construction and equipment. The lower cost expectations would today probably focus more on the lack of institutional barriers that face an already existing dam. New dams and diversions face extraordinary obstacles in the way of permitting requirements, especially environmental considerations.

The Board's initial deliberations took place in an era when it appeared that there were lots of viable small hydro projects available. As time has passed there has been an increase in the number of regulations and in the stringency with which they are enforced. What looked like a flood of easily available

small hydro has become more of a trickle as one after another has failed to clear the institutional obstacles associated with permitting.

Q. Does the current legislative climate seem likely to become less restrictive?

A. Just the opposite. Growing concern for endangered species, recreational, and fish and wildlife values associated with the use of the water resource by hydroelectric projects makes it ever more difficult for a new project to be approved. Though in some cases mitigation is now being required of older projects permitted in an era when there was less concern for these values, in any case the environmental obstacles facing upgrade of existing facilities are substantially less than that facing a new project. These trends translate into lower projected costs for pre-existing projects, or the absolute inability to even get a new project permitted.

Q. How is hydropower considered in the State Water Plan?

A. The State Water Plan was created in 1976 to help formulate and implement the optimum development of water resources in the public interest. Adopted by the Idaho Water Resource Board, it is periodically updated and reviewed by the Legislature.

The first State Water Plan was in 1976, with revisions in 1982 and 1986. The Plan was altered in its most recent revision to account for changes needed to reconcile it with the agreement entered into between the State and Idaho Power Company concerning water rights at Swan Falls Dam.

Policy 1C of the Water Plan lists various non-consumptive uses of water considered to be "beneficial uses" of water recognized under Idaho law. More specifically, Policy 5E recognizes hydro generation as beneficial and acknowledges a public interest in maintaining minimum river flows at Swan Falls. This is a striking charge from the earlier narrow conception of "beneficial use" which emphasized removal of water from the river, usually for irrigation.

Policy 5A actually raised the minimum flows to 3900 cfs (April-October) and 5600 cfs (November-March) at the Murphy gauge in recognition of the importance of those flows to hydrogeneration. Amounts between those flows and the 8400 cfs originally claimed by Idaho Power are now held in trust by the state for allocation according to the more extensive set of public interest criteria set out by revision to the *Idaho Code*, partly in recognition of the fact that

hydrogeneration was a valuable use of water, foregone by its withdrawal from the river for other purposes.

Q. Is there anything about the existing structure of water rights that appears to favor the use of pre-existing facilities for hydrogeneration?

A. The whole Swan Falls controversy arose because a group of individuals sued Idaho Power to force the company to assert its water right for power generation vis-a-vis the claims of irrigators. Though this is neither the time nor the place to revisit that controversy, with existing dams there is already a water right in place, with particular rights and responsibilities. New hydropower facilities face a more stringent set of requirements and a general climate in which most of the available water is already allocated.

New facilities bear the burden of proof that their use of water, in this case for the purpose of hydroelectric generation, will create no adverse impact on prior appropriators of water. That burden, of proving that new uses of water are in the public interest, of adhering to the expanded set of criteria established in *Idaho Code* Section 42-203C to implement the Swan Falls Agreement, creates a formidable and costly process for new hydro developers.

Q. Has the Idaho Legislature recognized the value of protecting existing hydropower generation through its resolution of the Swan Falls controversy?

A. Yes, and there are a variety of sources from which to quote their obvious desire to protect a valuable hydro resource in existing dams. In the formal Framework Agreement signed before negotiations resulted in the final agreement, there is a statement that non-irrigation season flows are of critical importance to prevent the loss of Idaho's low cost hydropower base. In light of this statement the agreement called for a seasonally-differentiated minimum flow, with 5600 cfs in this critical non-irrigation season and 3900 cfs during the irrigation season. And as part of the new public interest criteria specified in the agreement, there is obvious intent to prevent significant reduction of water available to holders of water rights used for power production.

Q. Idaho Power has asserted that part of the reason to accept its planned Swan Falls Project is the need to protect an existing water right. Do you find that contention persuasive?

A. Yes, I do. The Swan Falls controversy resulted in recognition of the fact that water in

Idaho is valuable for power production, not just for irrigated agriculture.

Q. In general terms, is there a way to put a value on that water right, to provide an indication of the value of hydropower which would be lost if Idaho Power did not rebuild and forfeited its existing water right at Swan Falls through non-use?

A. Arriving at a specific valuation is a somewhat contentious issue due to disagreements over exactly how to quantify the right in cfs and over the conversion of this cfs figure to kwh and then to value in dollars.

However, I believe a rough estimate can be arrived at by taking the 5600 cfs mentioned above as "critical" to preserving our hydro base. Published data done by agricultural economists at the University of Idaho and Washington State University contains an acceptable figure of 520 kwh/acre foot as the loss of generation at Swan Falls and downstream through Hells Canyon if an acre foot of water is removed above Swan Falls Dam.

Converting the 5600 cfs to acre feet and multiplying to get the loss of generation gives a figure of just over 2 million kwh. Valuing those kwh

at a current avoided cost figure of roughly 5 cents/kwh yields about $105 million dollars annually.

Even valuing this lost generation at a much lower variable cost of 1.5 cents/kwh yields about $31 million annually. That number is of course just the first year's loss. Losing that water permanently generates losses whose value would rise with the increasing cost of alternative power generation.

Q. What has been the stance of prior Commissions in their deliberations concerning certificates of public convenience and necessity for other hydroelectric projects contemplated by the Company?

A. Several cases seem to give evidence of a general leaning toward hydroelectric projects as being in the public interest.

In U-1006-70, a request for a rate increase in anticipation of the Company's participation in the Jim Bridger Plant, in Order No. 10049, there is notation that "... it is evident that the power generated by hydropower projects will become increasingly more valuable." The quotation is vis-a-vis the proposed steam generation plant but nevertheless indicates a belief that hydropower seems to improve with age.

In U-1006-107, requesting a certificate of convenience for a new powerhouse at American Falls in connection with rebuild of the dam, the Commission used Order No. 12631 to summarily approve this proposed plant that "will permit greater utilization of waters being released" to meet existing and future loads.

In U-1006-154, issuing a preliminary certificate for the addition of generation to the existing Cascade Dam, the Commission noted in Order No. 15296 that after installation the economics of hydroelectricity generally improve significantly in comparison with thermal and that the environmental impact will likely be very slight since the proposed development will merely replace an existing structure.

Q. Was the decision to grant or refuse a certificate to any of these proposed facilities a simple one of comparing the proposed cost to the cost of alternative resources?

A. No. The Commission is charged with considering the need for additional power to serve the utility's load and with the cost of alternative means of serving such need.

In U-1006-136, requesting a certificate for South Fork of the Payette projects which were

ultimately turned down, in Order No. 15580 the Commission noted the "process necessarily required the weighing and balancing of numerous (and often competing) considerations, many of which cannot be quantified." In other words, it took judgment, not mere following of a rule.

In U-1006-154, the order cited above, there was explicit recognition that thermal generation would cost approximately the same per installed KW as the proposed hydro project, but that consideration of issues beyond first cost of construction were more important in determining what was the best resource decision.

Q. Does this conclude your testimony?

A. Yes, it does.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 9TH DAY OF NOVEMBER, 1990, SERVED THE FOREGOING **DIRECT TESTIMONY OF BILL EASTLAKE**, CASE NO. IPC-E-90-2, ON ALL PARTIES OF RECORD BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

LARRY D. RIPLEY, ESQ.
IDAHO POWER COMPANY
P. O. BOX 70
BOISE, ID 83707

STEVEN L. HERNDON
IDAHO POWER COMPANY
P. O. BOX 70
BOISE, ID 83707

AFTON ENERGY, INC.
C/O OWEN H. ORNDORFF
ORNDORFF & PETERSON
SUITE 230
1087 W. RIVER STREET
BOISE, ID 83702

JAMES N. ROETHE
PILLSBURY MADISON & SUTRO
P. O. BOX 7880
SAN FRANCISCO, CA 94120

GRANT E. TANNER, ESQ.
DAVIS WRIGHT TREMAINE
SUITE 2300
1300 S.W. FIFTH AVENUE
PORTLAND, OR 97201

PETER J. RICHARDSON, ESQ.
DAVIS WRIGHT TREMAINE
400 JEFFERSON PLACE
350 N. NINTH STREET
BOISE, ID 83702

HAROLD C. MILES, CHAIRMAN
IDAHO CONSUMER AFFAIRS, INC
316 FIFTEENTH AVENUE SOUTH
NAMPA, ID 83651

R. MICHAEL SOUTHCOMBE
CLEMONS COSHO & HUMPHREY
815 W. WASHINGTON STREET
BOISE, ID 83702

SECRETARY

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