

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
PUGET SOUND POWER & LIGHT )  
COMPANY, et al. )  
 )  
(Skagit Nuclear Power )  
Project Units 1 and 2 )

) Docket Nos. 50-522  
50-523



Denial of SCANP's Motion for Reconsideration

1. At paragraph 6 of its Miscellaneous Orders dated September 13, 1979, the Board sustained Applicants' objections, dated August 27, 1979, to SCANP's interrogatories and requests for production served on August 21, 1979.

2. At the hearing on August 29, 1979, when the Applicants' objection to SCANT's discovery attempt was the subject of oral argument between the two parties, SCANP took the position that before the Board rules it should give consideration to an affidavit which SCANP would present the next day. According to SCANP, this affidavit would answer the Applicants' then pending objection of the untimeliness of SCANP's proposed discovery by showing newly discovered information. Tr. 14, 587-14, 594. But the affidavit was not submitted on August 30, 1979, as promised; instead, on that day, SCANP represented that the affidavit would be circulated on the following day. Tr. 15, 043-15, 046. The following day, August 31, came and went, and there was still no affidavit from SCANP. Sometime thereafter,

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on September 13, 1979, after the hearing had been adjourned, the Board received in the mail from SCANP an affidavit dated August 30 by one David Stensby which related to the subject matter of the requested discovery. No explanation of the untimeliness of the affidavit was forthcoming from SCANP.

3. On the same day that the Board received the David Stensby affidavit, the Board issued its Miscellaneous Orders, which at paragraph 6 thereof ruled against SCANP on the discovery issue in question. Later, by motion dated September 27, 1979, SCANP moved the Board to reconsider its Miscellaneous Orders at paragraph 6, citing that SCANP had mailed copies of the David Stensby affidavit to the Board and the parties on September 12, 1979 and alleging that the Applicants had not voluntarily come forward with the information affirming or contradicting Mr. Stensby.

4. The Applicants filed its reply, dated October 9, 1979, to SCANP's motion for reconsideration. The Applicants' reply indicated the history of the current controversy and placed the David Stensby affidavit in fair perspective in the context of this proceeding.

5. Looking to the merits of the David Stensby affidavit, the Board's attention was drawn to SCANP's claim that the affidavit indicates information which "is newly learned and was not available to us at an earlier time, at the time of the hearings on this matter." Tr. 14, 594. Further,

Mr. Stensby swore at page 3 of his affidavit: "In July 1979, I felt it my duty to communicate this information to SCANP and its attorney, which I did, since I believe it important."

6. The central thrust of Mr. Stensby's affidavit is to question whether the Applicants can meet the required 12 cycles of concentration of the cooling water system in view of the minerals found in the proposed supply of make-up water.

7. Mr. Stensby's position as reflected in his affidavit was nothing new and had already been considered in hearings by the Applicants and the NRC Staff. Through its own release dated December 6, 1977 (Attachment A), SCANP pressed its contention that the Applicants were unable to meet the 12 cycles of concentration requirement. Related news articles ensued the following day (Attachment B). The prominence in these news articles given to the affiant David Stensby and SCANP views on Applicants' capability, or lack thereof, to meet the 12 cycles of concentration requirement is self-evident.

8. Applicants observed that even prior to SCANP's December 1977 press conference, SCANP wrote a memorandum of June 30, 1977 to the Department of Agriculture alluding to the possibility that a 12-cycle cooling system operation might not be feasible because of higher than expected mineral content in the makeup water. SCANP followed up with a letter dated November 1, 1977 to the Assistant Secretary of the Department of Agriculture. Applicants replied to SCANP's memorandum and its letter by memoranda dated August 8, and December 23, 1977. Copies of the letter

and memoranda by SCANP and Applicants had been made available at the time to the Board and parties by Applicants.

9. By its letter dated November 14, 1977, the Board requested Applicants and the NRC Staff to analyze and comment on SCANP's assertions regarding the makeup water for the plant. Applicants responded by filing affidavits of Frederick C. Mikels and Keith E. Anderson on December 23, 1977. Both affidavits were received into evidence at hearings on June 21, 1978, Tr. 10,688, and on June 22, 1978, Tr. 10,735. Both affiants were extensively cross-examined.

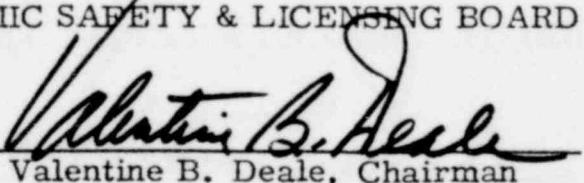
10. The NRC Staff responded to the Board's request with a report by Messrs. Schreiber, Zussman and Marmer which was received into evidence on July 18, 1979, Tr. 12,226, followed by cross-examination of the affiants.

11. Aside from the unsatisfactory way SCANP handled David Stensby's affidavit of August 30, 1979, the Board concludes that that affidavit affords no basis for allowing SCANP to pursue further the already well worn cycles of concentration issue through untimely interrogatories and requests for production. SCANP's motion for reconsideration is without merit. The Board affirms paragraph 6 of its Miscellaneous Orders.

Done on this 30<sup>th</sup> day of November 1979 at Washington, D.C.

ATOMIC SAFETY & LICENSING BOARD

By \_\_\_\_\_

  
Valentine B. Deale, Chairman



SKAGITONIANS CONCERNED



ATTACHMENT A

ABOUT NUCLEAR PLANTS  
BOX 137 BURLINGTON  
WASHINGTON 98233  
AND  
104-2127 WEST 40TH AVE.  
VANCOUVER, B.C.

FOR IMMEDIATE RELEASE

PRESS RELEASE - DECEMBER 6, 1977

The Skagit Nuclear Project is inadequately designed at present to meet Puget Power's obligations under its rezone agreement with Skagit County. Specifically, in all of Puget's submissions to State and Federal authorities they have steadfastly maintained that they can operate their Ranney well system and that the amounts of water to be taken and discharged were firm figures. These numbers are based upon the assumption that the cooling water for the reactors can be recycled up to 12 times without causing scaling and other problems in their heat exchange equipment. Based upon the following evidence, it appears that Puget will not be able to concentrate the water more than 5 to 7 times, and this may cause them to eliminate the Ranney well system and take more water directly from the river in order to meet the outfall temperature limitations.

Information from the local refineries shows that they can operate their cooling systems, which are very similar to Puget's, at only 8 to 9 cycles of concentration, and they use chemicals for treatment which Puget is not allowed to do, and they utilize purer water, both of which minimize the scaling problem. Therefore, on that basis alone it appears that Puget will not be able to use 12 cycles of concentration as planned.

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Additionally, evidence received in August of 1977 detailing several months of water quality collection also shows that the water quality from the Ranney wells will be different from that from the river, and will probably cause considerable scaling problems at 12 cycles of concentration. This data, collected by Puget from December 1974 to June 1975 has never been previously submitted in either State or Federal hearings, and the State hearings occupied



ATTACHMENT A

# SKAGITONIANS CONCERNED ABOUT NUCLEAR PLANTS

BOX 137 BURLINGTON  
WASHINGTON 98233  
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PRESS RELEASE, December 6, 1977, page 2

a period from early 1975 through early 1976. The only data that Puget has previously submitted is shown in attached Table C, which are three grab samples from the Ranney wells. It is easy to see why Puget withheld this information for so long since it shows conclusively that the water quality from the Ranney wells has a much higher hardness than the river, increasing the likelihood of scaling problems.

The fact that this data existed was brought to our attention by Mr. Stensky, a mechanical engineer whose former job with Puget Power consisted of reviewing the adequacy of the water systems for their project.

To summarize, the data just released from Puget Power now shows that their Ranney well water samples have hardness and silica contents, etc., roughly double that of the Skagit River itself, which is the source for the Anacortes refineries. The refineries operate on this purer water and utilize some chemical treatment but can achieve only 8 to 9 cycles of concentration. Therefore, it is extremely doubtful that Puget will be able to operate at its officially projected 12 cycles of concentration. This will mean a much larger volume of hot blowdown from the cooling towers, which will raise the temperature of the effluent considerably, probably violating the temperature limitations set by the County rezone agreement and raising the possibility of greater fish kills. Puget's alternative is to abandon the Ranney well system so they can take purer water directly from the river. However, in that event they would probably be limited to the same figures of concentration as the refineries. Furthermore, this would mean a massive surface water intake system which would imperil young salmon fry being drawn into its inlet.

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In summary, no matter which method Puget elects to try to solve their problem, it will mean a greater hazard to salmon in the river and will raise the outfall temperature. S.C.A.N.P. has brought these matters to the attention of the Atomic Safety and Licensing Board, and a special hearing on them has been requested. The Skagit River Salmon Protection Committee, of which S.C.A.N.P. is a part, will be present at the hearing.

Post Intelligence  
December 7, 1977

# N-plant Foes See a Threat To the Skagit

By Wayne Jacobi

Opponents of Puget Sound Power & Light's proposed twin nuclear power plants in the Skagit Valley charged yesterday that "poor design" of the cooling towers will lower the water quality in the Skagit River.

John Ellis, Puget Power president, said the company is in "full compliance" with all laws governing the discharge of water into the river.

Larry Carstens, president of the Skagitians Concerned About Nuclear Power, accused Puget of withholding water quality data for three years because it "was very damaging."

Carstens and Dave Stensby, a mechanical engineer formerly employed by a consultant hired by Puget to review the design, said the original plans called for recirculating hot water through the cooling towers 12 times before discharging it back into the river.

That, Stensby said, was based on the assumption that the water from a system of wells, from which Puget intends to draw water to cool the hot reactor, was of about the same chemical content as the river itself.

It turns out, he added, that the well water has more minerals in it than the river. Minerals form scale and sediment in the cooling system and could not be recirculated 12 times without flushing.

Stensby said he brought this to the engineering staff's attention and that there was "verbal agreement" that seven cycles might be the maximum. He contended that would raise the water temperature of the discharge into the river.

Carstens said that would violate Puget's zoning agreement with Skagit County, which calls for a maximum point-of-discharge temperature of 73 degrees Fahrenheit.

Both the state and federal government licensing agencies have water temperature standards for nuclear power plants, with which Puget must conform, in addition to the county ordinance.

Neither the state nor the federal Nuclear Regulatory Commission has granted Puget a license for the project, estimated by Puget to cost \$2.1 billion but which SCANP now says may cost \$4.1 billion.



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# N-plant utility scolded by foes

By JOHN WOLCOTT  
Business Editor

BURLINGTON — "I don't think there was a cover-up (at Puget Sound Power and Light Co.) ... but I think they should have made the information public," says David Stensby, a mechanical engineer fired nearly two years ago by Puget Power.

He claims the company has withheld environmental studies about its planned Sedro Woolley nuclear power plants.

Company vice president Warren Ferguson emphatically denies that charge.

Stensby says his company supervisors did not share his concern that the plant would never be able to recycle its cooling water 12 times — as planned — without clogging pipes with mineral deposits.

Stensby talked at a press conference Tuesday at First Federal Savings and Loan in Burlington. It was called by foes of the nuclear plant.

He said he told his supervisors in mid-1975 that tests had discovered twice as much mineral content in water from test wells at the nuclear plant site as in Skagit River water.

"Puget was maintaining at that time that the well water they were going to use for cooling had the same amount of minerals as the river it would be discharged into. My supervisors discussed my views — some of them even decided verbally that the water should only be recycled seven times.

"But nothing was done about it and the information was never released to the regulatory agencies by Puget Power. I told them in late December that refineries in Skagit County could not recycle cooling water more than eight or nine times, even using de-scaling chemicals Puget won't be able to use."

"On Jan. 2, I was fired because my files were not being kept up properly. That's what they told me," Stensby said.

Skagitians Concerned About Nuclear Power called the press conference to reveal the "withheld" documents.

"We have 25 pages of water studies that we requested from Puget Power, through the Nuclear Regulatory Agency. The studies convince us the nuclear plant at Sedro Woolley is inadequately designed," said SCANP member Ronald Carstens, a chemical engineer whose company is based in Bellevue.

Carstens said that if Puget could not recycle its cooling water (used to condense steam that turns power generators in the plant) up to 12 times it would be faced with "expensive measures to change the plant design ... or they might ask permission to draw water off the surface of the Skagit River or dump hotter water into the river."

Drawing water off the surface could kill small salmon and ruin future harvests of fish, he said.

Carstens said the existence of the "withheld" information came from Stensby, who discovered it while reviewing the design of the plant's cooling system for Puget Power as an employee of Engineering Corp. of America.

Ferguson, vice president in charge of the Skagit nuclear project for Puget Power, said Tuesday: "There is no basis to the charges ... Stensby was let go because he did not measure up to the qualifications we were looking for in permanent engineering positions we were filling at that time."

He said the company often hires engineers under contract for short-term, peak work periods to meet deadlines with technical studies and other paperwork.

"He was not fired because of any differences of opinion on the plant design," Ferguson said, acknowledging that Stensby had brought the water study to the attention of Puget engineers.

Stensby, a 1972 graduate of the University of Washington, agreed that he and the senior engineers looked at the same information and drew different conclusions.

He is now working as a carpenter in Seattle.

Ferguson said, "I'm confident the wells will work and that our design will meet all state and federal and Skagit County requirements and standards."

"We have never maintained that the well water was purer than the river water."

"The point is, we're committed to meet temperature limits for the warm discharge water from the plant and mineral content levels established by the regulatory agencies."

"That's what we will meet. We believe we've designed the facility to meet those standards."

Ferguson discounted the suggestion that Puget Power could have withheld any important information from regulatory agencies, particularly on such a significant issue as cooling water cycles and mineral content affecting both the plant and the river.

Ferguson said that more Nuclear Regulatory Agency licensing board hearings are due on the plant in January and March and that the chairman, Samuel Yensch, has said he wants to review the water recycling issue during one of those hearings.

Skagitians Concerned About Nuclear Power requested the NRC review of the issue through its attorney, Roger Leed of Seattle. SCANP has an official status as intervenor in all Skagit plant hearings and is represented by legal counsel at all hearings.

# SCANP again attacks N-plant cooling

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RON CARSTENS

By SPENCER HATTON  
*Staff Writer*

BURLINGTON — Present designs for the cooling system at the proposed Skagit nuclear power project will damage the water quality of the Skagit River, opponents of the twin-unit plant charged Tuesday at a press conference here.

Criticism of the cooling system is nothing new for Skagitians Concerned About Nuclear Plants (SCANP). The anti-nuclear group has repeatedly attacked Puget Sound Power and Light Company, main sponsor of the nuclear project at Bacus Hill near Sedro-Woolley, for the utility's failure to protect the nearby Skagit River from possible contamination.

Puget Power, on the other hand, has defended its plans, saying the cooling system for the \$3.1 billion project falls well within federal and county specifications.

The arguments, both pro and con, revolve around the Ranney well collectors designed for the plant's water cooling system.

Water required to cool the hot uranium rods would be drawn from four Ranney well collectors, located about four miles above the plant and about 100 feet from the Skagit River. A Ranney well, named for its inventor, is a wide-shaft well with finger pipes radiating into the water table.

According to Puget Power's designs, the

water coming from these wells would be recirculated 12 times through the cooling system before being pumped back into the Skagit River through a diffuser pipe. The recirculation would result in less water being pumped from the river and less discharge returning to it.

It was the recirculation cycle that came under attack yesterday.

Dave Stensby, a mechanical engineer formerly employed as a consultant by Puget Power to review the plant's designs, said there were serious flaws in the Ranney well system.

He said Puget Power will not be able to recirculate the cooling water 12 times as previously planned. The reason for this, he said, is due to higher concentrations of minerals in the well water as opposed to the water coming from the Skagit River.

A table of test samples, taken during a six month period in 1975, indicate that the mineral content in the Ranney wells is nearly twice as high as the samples coming from the river, Stensby explained. This higher mineral content would mean that the plants could only recycle the water about 7 times, he said, resulting in a higher temperature of water being discharged into the Skagit River.

In January 1976, coinciding with his discovery of this information, Stensby said he was fired by Puget Power.

The former mechanical engineer, however, said he was not aware that Puget Power was withholding this information.

"During my time at Puget Power, I didn't think that there was any cover-up," said Stensby, who had worked for the utility for 20 months.

Ron Carstens, former president of SCANP, said that if Puget Power reduces the recirculation cycle, as Stensby contends the utility will probably have to do, the increased temperature of the discharge water will probably violate temperature limitations set by Skagit County's rezone agreement with Puget Power.

The problem with the Ranney Wells, however, can be fixed, Carstens admitted.

"It is fixable, but it creates new cost cycles," he said.

Carstens said SCANP has sent the new table of figures to the Atomic Safety and Licensing Board for review.

The licensing board, which rules on all construction permits for nuclear power plants, has already addressed itself to the possibility of contamination from the Ranney Well collectors.

In July, the board ordered the Nuclear Regulatory Commission to make an in-depth study of the Ranney well system, to review specifically the effects that the water discharge might have on the river's

fish population.

As a way of alleviating the problem, Carstens said Puget Power may drop the Ranney wells from its designs and elect to draw its cooling water directly from the Skagit River.

Puget Power, however, has repeatedly ruled out this possibility.

In a report issued this summer, the utility said that SCANP's warning of a breakdown in the Ranney wells is "purely speculative."

"Failure of the wells, however, is purely speculative and contrary to the history of successful operation with Ranney Collectors," the report states. "Moreover, Site Certification Agreement does not permit such an intake system (at the Skagit River)...A surface intake is neither proposed, nor being considered."

The argument over the Ranney wells and the recirculation cycles has particular importance on the ruling by the Department of Agriculture over whether the Skagit nuclear project will have any adverse effect on the inclusion of the Skagit River into the federal Wild and Scenic Rivers System.

A ruling from the Secretary of Agriculture is expected before the end of the year. For any construction to begin at the Bacus Hill site, Puget Power must first get clearance from the Secretary.

