

Forelaws on Board

*Our conscience teaches us it is right,
our reason teaches us it is useful,
that men should live according to
the Golden Rule.*

W. Winwood Reade

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***THE FOUR LAWS OF ECOLOGY**
1. Everything is connected to everything else.
2. Everything must go somewhere.
3. Nature knows best.
4. There is no such thing as a free lunch.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)

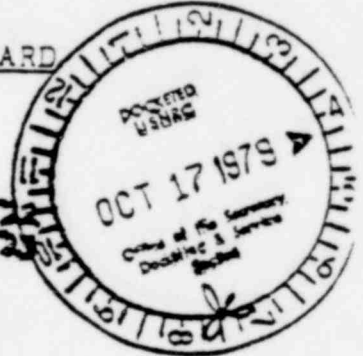
Puget Sound Power & Light)
Company, et al.)

(Skagit Nuclear Power)
Project, Units 1 and 2)

DOCKET NOS. 50-

50-

October 12, 1979



INTERVENOR FOB/CFSP PROPOSED FINDINGS OF FACT AND CONCLUSIONS
OF LAW ON ALTERNATIVE SITES AND EFFECTS OF POSTULATED ACCIDENTS

Alternative Sites

1. The subject of alternative sites was extensively dealt with in this proceeding. The Applicants' site selection process and the independence of staff's alternative site review were addressed in the following SCANP contentions:

c. The studies conducted by Applicant in evaluating alternative sites for the proposed power plant were insufficient. More suitable sites, sites such as Hanford, exist within the State of Washington and these were not fully studied by Applicant. The comparative analysis of the alternative sites that were studied is biased and insufficient.

J.1. The DEIS does not represent the independent work of the NRC.

b. The preparers of the DEIS failed to make their own independent evaluation and investigation with regard to: alternative sites,...

J. 12. The discussion of alternatives in the DEIS is completely inadequate. THE GOLDEN RULE — THE FOUR LAWS OF ECOLOGY

GUIDELINES OF CREATIVE ENVIRONMENTALISM

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completely inadequate.

a. The preparers of the DEIS did not independent evaluation of alternative sites and they included insufficient information about alternative sites. All information that is included about alternative sites was supplied by the Applicant.

b. There is absolutely no discussion of Hanford, which is an obvious and readily available alternative site.

c. The tabular comparison of three sites is grossly inadequate and pre-ordains the outcome. The comparison of sites does not give any weight to the unique scenic and recreational values, which have been nationally recognized, of the Skagit River and its setting. Furthermore, the seismicity values assigned to the Skagit site are clearly erroneous. Even using the tabular comparison presented in the DEIS, if proper values were utilized, the Skagit site would turn out to be the least desirable.

Staff Review of Alternative Sites

2. The Staff review set out to determine whether or not the Applicant's final list of candidate sites were among the best that could reasonably be found in the region. In this regard, the Staff attempted to follow the criteria set forth in their Environmental Standard Review Plan. Tr. 12,651.

3. Staff witness Leech identified a major flaw in the Staff's review that did not conform with the Plan: the Staff was unable to determine how the Applicant narrowed down the number of preferred sites identified in Bechtel's siting studies to three; Skagit, Goshen, and Ryderwood. Tr. 12,654. While the Staff inquired of the Applicant as to how the process was done, they were told it was a matter of judgment between the Applicant and its consultant, Bechtel. Tr. 12,656.

4. Early on, the Board identified Hanford and Pebble Springs as sites it thought should be considered. The Board also requested the Staff to evaluate the costs of moving the Skagit plants to Hanford or Pebble Springs. The Staff's final alternative site analysis attempted to identify these Board concerns. Leech, et. al, fol. Tr. 12,542.

Skagit vs. Hanford or Pebble Springs

5. The Hanford and Pebble Springs sites, both east of the Cascades, have many similarities. Both sites were compared with Skagit on the basis of potential aquatic, terrestrial, and socioeconomic effects at each site.

6. Staff witness Stull assessed Hanford and Pebble Springs as being comparable to Skagit on the subject of aquatic impacts. However, the Board is troubled by several aspects of witness Stull's review. Witness Stull had no contact with any employee of the U.S. Fish and Wildlife Service. Tr. 12,670. Her contact in the Washington Department of Fisheries had expertise in shellfish. Tr. 12,670. She was unable to recall whether anybody in the Department of Fisheries had ever expressed reservations about impingement or entrainment effects of the Skagit intake structure. Tr. 12,673.

7. Thus, we are inclined to place little emphasis on witness Stull's analysis. In fact, the Board feels that there are several factors which make Hanford and Pebble Springs more preferable than Skagit from the aquatic impact standpoint. The salmon population in the Skagit is made up almost completely of native runs, while almost one-half of the Columbia River salmon are hatchery stock. Tr. 13,156. Several small spawning streams will be impacted at Skagit, while none will be impacted at either Hanford or Pebble Springs. Tr. 13,228. Assuming that maximum discharge temperatures would be the same at all sites, the difference between maximum discharge temperature and ambient river temperature would be greater at Skagit than at Hanford or Pebble Springs. Tr. 13,207.

8. This Board feels it should place great weight on the fact that the Skagit River salmon population is almost totally native runs. Tr. 13,308A-13,310A. Thus, this Board finds Hanford and Pebble Springs to be preferable when compared to Skagit from the standpoint of aquatic impacts.

9. The Staff found both Hanford and Pebble Springs to be clearly preferable to Skagit from the standpoint of socioeconomic impacts. Leech, et. al., fol. Tr. 12,542, pp. 77-90. Aesthetic and cultural impacts were two components of this determination. The Skagit's inclusion under the Wild and Scenic Rivers Act supports Staff's conclusions. Likewise, the concerns raised by the three Native American Tribes regarding Skagit impacts weigh heavily against the Skagit site from a cultural sense.

10. Both the Hanford and Pebble Springs sites have extremely low

population densities and thus rank among the best sites in the nation in terms of remote siting. Id., p. 77. This Board believes such a factor weighs strongly when considered from the standpoint of suitability for evacuation. (A factor overlooked by Staff. Tr.12,735.).

11. The Staff has assigned an overall rating of preferable to both Hanford and Pebble Springs when all environmental impacts are assessed. Id. p. 92. The Board is inclined to agree with that determination. Thus, the costs associated with moving the Skagit plants to either Hanford or Pebble Springs should be viewed carefully.

Costs of Moving

12. The Staff performed an analysis of the costs involved in moving the plants to Hanford or Pebble Springs. Leech, et al., fol. Tr.12,542, pp. 93-110. The Staff found the other sites to be considerably more expensive than Skagit, yet this Board views the Staff analysis with several reservations.

13. A key component of the Staff's cost analysis is the cost of replacement power for the years 1986 through 1989. The Staff made several assumptions along these lines, including:

(1) need for power as forecast by the West Group; (2) participants economic relationship to other members of the West Group and Northwest Power Pool; (3) cost of alternative energy sources and their availability; and (4) expectations regarding utility operating decisions under different hydro conditions. Id. p. 104

14. The Staff's low-cost estimate assumes replacement power will be entirely from available surplus nuclear energy. Id., p. 104. The Staff did not consider conservation as a potential source of replacement power nor did it consider investments that can provide power at a lower cost. Tr. 13,257; 13,304-5; 13,321. Thus the Staff's "low" cost estimate cannot be considered as the lowest possible costs associated with the move.

15. The Applicant erroneously assumes in its findings of fact that replacement power would be totally made up of oil-fired generation. Applicant finding #177. This finding suffers from the same lack of credibility as the Staff's cost estimates.

16. This Board is not convinced by either the Staff's or Applicant's

estimates for replacement power costs. This Board believes that the Applicants' ratepayers, when faced with rising electricity prices, will take the appropriate measures to reduce their consumption. See Tr. 13,264-65. We also believe that reliance upon the West Group forecast for determining the amount of replacement power needed does not produce an appropriate lower bound on replacement power costs. We note that the West Group forecast bias consistently overstated the need for power of the Applicants, as well as the region.

17. Likewise, the Staff's costs for transmission losses may be exaggerated. Witness Eastvedt stated that the Staff assumed these costs to be equal to the costs of oil-fired generation; yet any losses could be replaced by hydro resources. Tr. 12,804.

18. The Board feels a need to note that this record has become confused regarding possible benefits of these plants to be derived by California and the Southwest. This Board does ^{not} feel a desire to weigh the merits of any benefits to Californians, for it is likely that ratepayers in the Northwest would be severely penalized if we were to assume these benefits. The intent of licensing these plants is not to serve California's load. Tr. 13,342A.

19. The Staff gave great weight to consideration of the costs associated with moving the plants. Tr. 12,675. Removing these considerations could change the Staff's conclusions. Tr. 12,677.

20. Staff witness Winters testified that a comparison of his low-cost estimate of replacement power versus the socioeconomic factors was a "close call." The Board has already stated its concerns regarding Staff's handling of replacement power costs. This Board believes that either the Hanford or Pebble Springs sites would be clearly preferable to Skagit. What's more, we feel that Staff reluctance to make such a finding was based on Staff belief that such a determination would necessarily have to be translated as a recommendation that the application be denied. See Tr. 13,097.

21. This Board hereby directs the Staff to make another cost comparison of moving the plants; only this time, the Staff is directed to apply assumptions to its low cost estimate that realistically reflect the ability of conservation measures to serve as a replacement power source.

Effects of Postulated Accidents

22. During the hearings, it became clear that SCANP desired that

class-9 accidents also be considered. In a motion dated December 3, 1975, SCANP sought to amend its contentions in order to encompass class-9 accidents. After responses by Applicants and the Staff and oral argument, the motion was denied. Tr. 4729-45, 4854-55.

23. On April 27, 1979, SCANP renewed its motion, stating, among other things, that the accident at Three Mile Island warranted granting of the motion. However, by Order dated July 11, 1979, the Board denied the motion.

24. Several events have happened since then to change the Board's thinking on these matters. One is recognition of the fact that Staff, in the Salem nuclear plant spent fuel hearings, Docket No. _____, has determined that TMI was a class-9 accident. This knowledge was not available to the Board when it denied SCANP's motion. We are also aware of Staff's recommendation to the Commission that class-9 accidents be evaluated for the purposes of plant licensing.

25. The Board thus feels it only prudent to direct Applicant and Staff to evaluate the environmental effects of a class-9 accident at the Skagit site. The Board feels that any decision not made with this determination as a factor would be wholly deficient and intellectually dishonest.

Conclusions of Law

26. (This paragraph is reserved. Conclusions of law will be filed, as appropriate, upon completion of hearings on LWA subjects and construction permit issues.)

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