

Table J-2. DOE responses to comments on Draft EIS (continued)

Comment number	Comments	Responses
----------------	----------	-----------

STATEMENT OF JAMES A. JOY, III

South Carolina Department of Health
and Environmental Control

2600 Bull Street Columbia, S.C. 29201	<p style="text-align: center;">Board</p> <p>Moses H. Clarkson, Jr., Chairman</p> <p>Gerald A. Kaynard, Vice-Chairman</p> <p>Oren L. Brady, Jr., Secretary</p> <p>Barbara P. Nuessle James A. Spruill, Jr. William H. Hester, M.D. Euta M. Colvin, M.D.</p>
--	--

June 6, 1986

W. E. Wisenbaker
Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, S.C. 29802

Re: Draft Environmental
Impact Statement (DEIS)
Alternative Cooling
Water Systems Savannah
River Plant - General

Dear Mr. Wisenbaker:

The South Carolina Department of Health and Environmental Control has completed its review of the above referenced document received March 31, 1986. The Department has the following comments concerning the DEIS.

Table J-2. DOE responses to comments on Draft EIS (continued)

Comment number	Comments	Responses
BB-1	<p>1. The impact of total residual chlorine on the receiving stream needs to be further discussed because it may effect the alternative selected (i.e., dechlorination vs ponds after the cooling towers). It should be noted that the Ambient Water Criteria for Chlorine Document (EPA/5-40-030) recommends a total residual chlorine of 11 ug/l for an instream concentration. Since the reactor cooling water is basically the stream, the discharge of these waters would need to meet 11 ug/l. If it is felt by SRP that a higher total residual chlorine is warranted other than that above, we would like this topic to be further discussed and justified in the FEIS. It should be noted that a mixing zone other than immediately at the outfall will not be considered.</p>	<p>DOE plans to dechlorinate K- and C-Reactor cooling waters prior to discharge from the cooling towers to onsite streams. Discussion of the method to be used and an assessment of the potential impact based on the results of chlorination/dechlorination studies conducted at SRP have been included in Chapter 4 with additional support information provided in Appendix C of the FEIS.</p>
BB-2	<p>2. Does SRP plan to use corrosion inhibitory compounds and/or additional biocides other than chlorine in the cooling towers, and if so, how will they affect the receiving stream? As stated above since the reactor cooling water is basically the stream, a small amount of a biocide in the cooling water discharge may have a detrimental impact to the stream.</p> <p>3. The Department has advised you previously in a letter dated March 4, 1985 that both recirculating cooling towers and once through cooling towers satisfy state standards. We also stated that for the alternatives chosen in the Thermal</p>	<p>Once-through cooling tower systems would not use corrosion inhibitors. Allowance for injection of a corrosion inhibitor has been made for recirculating systems. A non-chromated, organic-based chemical made by Wright Chemical Company would be used if needed. Currently, this chemical is approved by SCDHEC for use in cooling tower systems and is being used at the Savannah River Plant.</p> <p>Chlorine is the only biocide planned for use in the cooling towers.</p>

J-61

Table J-2. DOE responses to comments on Draft EIS (continued)

Comment number	Comments	Responses
	<p>Mitigation study that 316(a) studies would need to be developed and implemented to assure that the rise above ambient stream temperature (t) would not adversely impact the receiving stream.</p>	<p>In further review of the DEIS some concerns have surfaced from this office on whether or not once-through cooling towers are capable of demonstrating a successful 316(a) study.</p>
	<p>The streams to which the reactor cooling water will discharge are Class B waters. The Water Classification and Standards (Reg. 61-68) for Class B waters concerning temperature state:</p>	<p>"The water temperature of all...Class B free flowing waters shall not be increased more than 5°F (2.8°C) above natural temperature conditions or exceed a maximum of 90°F (32.2°C) as a result of the discharge of heated liquids unless a different temperature standard as provided for in Section E. has been established, a mixing zone as provided in D.(5) has been established, or a Section 316(a) determination under the Federal Clean Water Act has been completed."</p>
	<p>Since the delta 5°F (2.8°C) requirement cannot be met SRP plans to conduct a 316(a) study. In order for this study to be successful SRP must demonstrate that under the operating conditions of the once through cooling towers the receiving stream can meet the requirements for a Class B stream. The Class B requirements are (Regulation 61-68 E.5).</p>	<p>CLASS B - freshwaters suitable for secondary contact recreation and as a source for drinking</p>

J-62

Table J-2. DOE responses to comments on Draft EIS (continued)

Comment number	Comments	Responses
BB-3	<p>water supply after conventional treatment in accordance with the requirements of the Department. Suitable for fishing and the survival and propagation of a balanced indigenous aquatic community of fauna and flora. Suitable also for industrial and agricultural uses.</p> <p>Based on our further investigation and discussions with EPA, it is felt that SRP may not be able to demonstrate that indigenous species are able to reproduce in the receiving stream due to elevated temperatures. Therefore, if SRP should propose any alternative cooling technology which would require a 316(a) variance, it will be necessary that the Final Environmental Impact Statement (FEIS) provide predictive biological data which substantiates a reasonable probability that Section 316(a) requirements can be achieved.</p>	<p>Substantive Section 316(a) Demonstration - type information relating to K- and C-Reactors and the D-Area powerhouse has been included in Chapter 4 of the FEIS and a complete predictive Section 316(a) Demonstration will be provided to SCDHEC at an agreed-to date.</p> <p>In addition, per Consent Order No. 84-4-W between DOE and SCDHEC, if the selected cooling water systems discharge temperature does not comply with the 2.8°C T above ambient temperature requirement, DOE will conduct Section 316(a) Demonstration studies to assess directly during plant operations whether thermal discharge conditions will ensure the protection and propagation of balanced indigenous populations of fish and wildlife in the affected areas.</p>
BB-4	<p>4. In the May 20th meeting attended by SRP, EPA, and DHEC personnel concerning the DEIS, SRP personnel described the sequence of events for reactor shut downs. The reactor shuts down for a five day period after every 30 days of operation, along with a 20 day shut down after every sixth cycle. This office feels that this flow variation may cause detrimental effects on the receiving stream and feels the FEIS should further discuss the flow variation and shut</p>	<p>See response to comment BB-3. Potential impacts from reactor shutdown and the associated flow variability have been addressed in Chapter 4 of the FEIS.</p>

Table J-2. DOE responses to comments on Draft EIS (continued)

Comment number	Comments	Responses
BB-5	<p>down effects on the aquatic habitat. It is felt that the above should be addressed in the predictive biological data requested to be provided in the FEIS.</p> <p>5. This office would also like predictive biological data to be in the FEIS for the D-area powerhouse which would substantiate a reasonable probability that Section 316(a) requirements can be achieved.</p> <p>In conclusion, the recirculating cooling tower alternative as expressed in the DEIS appears capable of meeting the state standards. However, the once through cooling tower alternative needs to be further discussed in the FEIS, specifically whether or not the once through cooling tower alternative is capable of demonstrating a successful 316(a) study.</p> <p>Based on the information provided in the DEIS we feel recirculating cooling towers for C and K reactors will provide a higher degree of certainty of meeting the state stream standards than that of the once through cooling tower alternative.</p> <p>We appreciate the extra time you have given us to comment on the DEIS and if you would like to discuss the above comments please call (758-5483).</p>	<p>Substantive Section 316(a) Demonstration - type information relating to the D-Area powerhouse has been included in Chapter 4 of the FEIS. In addition, a complete predictive Section 316(a) Demonstration will be provided to SCDHEC at an agreed-to date. Should the selected cooling water systems discharge temperature not comply with the 2.8°C rise above ambient temperature criterion, Section 316(a) Demonstration studies will be conducted during plant operations to assess directly whether the protection and propagation of balanced indigenous populations of fish and wildlife are maintained in the affected areas.</p> <p>The Record of Decision prepared by DOE on this EIS will present the alternatives DOE considered in reaching its decision and will specify the alternative(s) that were considered to be environmentally preferable.</p>
	<p>Sincerely,</p> <p>James A. Joy, III, P.E., Director Industrial & Agricultural Wastewater Division</p>	

J-64

Table J-2. DOE responses to comments on Draft EIS (continued)

Comment number	Comments	Responses
JAJ/JBR/jf	cc: Kin Hill, Lower Savannah Russ Sherer, Division of Water Quality & Enforcement Mike Marcus, Biological Section Harry Gaymon, Biological Section John Marlar, EPA	