UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
Philadelphia Electric Company	)	Docket Nos. 50-352
	)	50-353
(Limerick Generating Station, Units 1 and 2)	)	
	)	

APPLICANT'S ANSWER TO DEL-AWARE UNLIMITED, INC.'S APPLICATION FOR APPROVAL OF PETITION TO AMEND CONTENTIONS

Preliminary Statement

On August 25, 1982, Del-Aware Unlimited, Inc. ("Del-Aware") filed a motion seeking leave to amend its contentions to include a revision of its previously filed Contention V-16c, which was rejected by the Atomic Safety and Licensing Board ("Licensing Board" or "Board") in its Special Prehearing Conference Order ("SPCO"), dated June 1, 1982. In support of this application, Del-Aware relies upon certain water quality sampling data and studies published since 1979. The thrust of the contention appears to be that trace levels of trichloroethylene ("TCE") and polychlorinated biphenyls ("PCB") in the Delaware River will be diverted at Point Pleasant.

Applicant opposes Del-Aware's request to amend its contentions. First, the proposed contention is still lacking in requisite bases and specificity. The only document

submitted by Del-Aware which is at all relevant to TCE levels (Exhibit B) simply reports the existence of trace elements of TCE (approximately 4 parts per billion) in the Delaware River near Point Pleasant. There is no showing that these traces are any greater than at other portions of the Delaware River upstream or downstream, or that the traces would in any event have any impact upon the ecology of the area. The same is true of the other "toxics" reported (Exhibit A). That there is absolutely no environmental significance to the sampling data furnished by Del-Aware is shown by the fact that the general populace along the Delaware River, for example, Philadelphia and Trenton, utilizes Delaware River water.

Moreover, the degree of specificity to which a contention must be pleaded at this late stage in the proceeding, after the close of discovery and only a few weeks before the submission of testimony and trial briefs, must necessarily be very exacting. There is simply no time left to "flesh out" the details through discovery and research. Del-Aware has not shown "good cause" for its lateness or otherwise met the criteria for submitting late contentions, particularly at the eleventh hour in the proceeding. With one exception, none of the documents cited by Del-Aware is a recent publication so as to constitute "newly available information." The one exception, a computer print out of water quality data, was provided to Del-Aware at depositions on August 6, 1982. Accordingly,

the request to amend Del-Aware's contentions should be denied.

Argument

I. The Proposed Contention Is Wholly Lacking in Bases and Specificity.

Del-Aware has proposed a revised version of Contention V-16c, previously rejected by the Licensing Board, as follows:

> The contention is that (a) the operation of the supplemental cooling water system utilizing Delaware River water will cause industrial heavy metal and organic and inorganic industrial chemical toxic and other pollution of the Perkiomen Creek, which pollution would be unhealthy and unsafe, a violation of water quality laws, and an injury to public health and safety, and (b) as a secondary effect, by enabling construction of the Point Pleasant diversion, would induce and cause diversion of toxics in the Delaware River water into the Neshaminy Creek, and thereby into the public drinking water system proposed to be operated by Neshaminy Water Resources Authority (which will utilize that diverted water), in lieu of other sources available to NWRA. 1/

The purported bases for this proposed contention are certain reports on water quality, which Del-Aware characterizes but does not discuss. Thus, Del-Aware states that the water samples "disclose PCB's in the Delaware River water and sediments upstream and downstream of Point Pleasant. They disclose trichloroethylenes and various

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1/ Del-Aware's Application at 1-2.

pesticides in the Delaware River in the immediate vicinity of the intake." 2/

Although Del-Aware discusses a number of "laws" and "standards" relating to water quality, these references are entirely unclear. For example, it is unclear whether Del-Aware is referring to water quality standards for NPDES discharge permits, safe drinking water or general EPA or State water quality standards. The reference to "toxics" is also vague. 3/ Although Del-Aware makes broad allegations regarding such "toxics," it has not, with two exceptions, identified or attached any portions of these reports which reflect such information. Without specific citations to the material relied upon, it is impossible to refute let alone discuss intelligently the claims which Del-Aware has made. In a number of other cases, the Boards have held that an intervenor is obliged to cite to portions of the license application or other documents upon which it relies in pleading its contentions. Incorporation of voluminous documents without specific explanation of the portions relied upon is prohibited. 4/

2/ Id. at 3.

3/ Although Del-Aware refers to a number of substances as "toxics," this designation is meaningless because the concentration of each substance necessary to achieve toxicity will vary as to each organism. Again, no applicable standards regarding alleged toxicity are specified.

4/ See Tennessee Valley Authority (Browns Ferry Nuclear Plant, Units 1 and 2), LBP-76-10, 3 NRC 209, 216 (1976).

Additionally, Del-Aware has failed to show any basis for litigating environmental impacts associated with any alleged pollutants in the Delaware River. Del-Aware even concedes that the studies upon which it relies disclose the same alleged pollutants both upstream and downstream of Point Pleasant. The Licensing Board may take official notice of the many diversions of Delaware River water upstream and downstream of Point Pleasant, including major uses of consumptive water for highly populated residential areas. Obviously, the mere fact that traces of certain pollutants may exist in the Delaware River is insignificant from an environmental viewpoint and certainly does not state a litigable issue for this proceeding. No attempt has been made by Del-Aware to demonstrate any environmental impact whatsoever associated with these trace measurements at their reported levels.

Specifically, Del-Aware's reliance upon certain sampling data in the vicinity of Point Pleasant (Exhibit B) fails to demonstrate any litigable issue. For the dates on which trace measurements existed, the chart in question indicates a number of samplings in the Delaware River downstream from the Tohickon Creek (site 11263), upstream from the Tohickon Creek (site 11260 A, B, C, D, E, F) [5/] and a few hundred feet upstream of the Tohickon Creek (site

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5/ Although not indicated on the chart itself, site 11260A is at the shoreline of the Delaware River. Each successive site (B through F) is 50 feet further out into the Delaware River.

50). Thus, the data indicate that traces of TCE were found by sampling on two occasions downstream of the Tohickon Creek (the highest was three parts per billion), on three occasions upstream of the Tohickon Creek (the highest measurement was four parts per billion), and once in the Tohickon Creek (measured at two parts per billion). Nothing in the chart nor in any other submission for Del-Aware indicates any adverse environmental consequence of these minute traces. 6/ No basis is shown for litigating such inconsequential measurements. 7/

Likewise, Del-Aware has not shown any environmental significance from the measurements disclosed in the Rutgers University report (Exhibit A). The highest level indicated for a PCB in that report is .46 parts per million for Aroclor 1248. Additionally, the sampling was taken from "wet solids" (i.e., sediment) and therefore reflects a higher concentration for PCB's, which tend to sink to the bottom because of weight, in comparison to concentrations in the river itself which would be diverted at Point Pleasant.

6/ It is noteworthy that the instrumentation used to take these measurements will not record traces below two parts per billion. The minuteness of these traces can also be adjudged from the fact that traces measured in the Delaware River at either site on Exhibit B do not reflect a corresponding trace at the other site on the same day.

7/ Cf. Duke Power Company (Perkins Nuclear Station, Units 1, 2, and 3), LBP-78-25, 8 NRC 87, 100 (1978) (barely detectable levels of radioactivity associated with the licensing of the reactor cannot have any significant environmental impact).

Here again, no impact to the ecology of the area from trace sedimentary amounts has been shown. The other reports listed by Del-Aware are not even discussed.

Del-Aware's motion is vague and unsupported in various other respects, for example, the reference to the presence of PCB's and TCE's on an "EPA list of priority pollutants." 8/ No such list is designated by citation, nor does Del-Aware discuss whether such pollutants refer to general water standards or standards for safe drinking water. There is no indication of what is meant by "priority," or whether the EPA list to which Del-Aware refers is derived from the EPA "Red Book" or some other source.

In this regard, Del-Aware refers to safe drinking water standards applicable to the Neshaminy Creek. 9/ As the Licensing Board has already determined, environmental impacts associated with Neshaminy Creek may not be considered. 10/ The East Branch of the Perkiomen Creek is not a source of drinking water. Further, any attempted "analogy" from one pollutant to another is scientifically unfounded; the toxicity of each pollutant must be determined on an individual basis. In short, no basis whatsoever has been provided to support Del-Aware's contention that environmental impacts will result from the diversion of

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8/ Del-Aware's Application at 4.

9/ Id.

10/ Special Prehearing Conference Order at 76 (June 1, 1982); Memorandum and Order at 8-9 (July 14, 1982).

Delaware River water into the East Branch of the Perkiomen Creek.

Thus, it is entirely uncertain exactly what Del-Aware wishes to litigate, i.e., which "toxics," "laws," "standards," or "lists" are relevant to the sources identified by Del-Aware and what environmental impacts are alleged to exist. Because the proposed contention is totally lacking in bases or specificity, it should be denied.

II. Delaware Has Failed to Satisfy the Requirements for Filing Late Contentions.

In addition to its failure to satisfy the requirements of 10 C.F.R. §2.714(b) as to bases and specificity for contentions, Del-Aware has not satisfied the Commission's requirements for late filed contentions under 10 C.F.R. §2.714(a)(1)(i-v). It appears from the documents cited as a basis for the proposed contention that only one such document became recently available to Del-Aware and its counsel. The remaining documents, which Del-Aware has now obtained, were evidently available from a number of public agencies upon their publication months or even years ago. Under these circumstances, no "good cause" has been shown for lateness.

An additional reason why the instant proposed contention is late without "good cause" is that the change in the location of the intake structure, which Del-Aware relies upon as a basis for filing late, occurred in January

1982. 11/ No other change in the location of the intake structure has been made since that time. On February 9, 1982, the Corps of Engineers gave formal notice of this change (copy attached). Moreover, as indicated by a letter dated February 4, 1982 from Del-Aware's counsel to the Pennsylvania Department of Environmental Resources ("PaDER") (copy attached) Del-Aware was fully aware of the proposed change of location and in fact asked PaDER to investigate the possible diversion of toxic pollutants as a result of the change. Del-Aware has failed to explain why it waited until now to raise these matters in its proposed contention.

The destructive impact of late contentions upon a hearing scheduled to commence in the near future has been described by the Appeal Board in the Summer proceeding as follows:

> [Prior to the filing of the late petition], the applicants and the staff had every right to assume that both the issues to be litigated and the participants had been established with finality. Simple fairness to them - to say nothing of the public interest requirement that NRC licensing proceedings be conducted in an orderly fashion - demanded that the Board be very chary in allowing one who had slept on its rights to inject itself and new

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11/ By letter dated January 22, 1982, from E.H. Bourquard to the Corps of Engineers (copy attached), the Corps was formally advised of the change in the application to move the intake structure slightly upstream and further out into the Delaware River channel.

> claims into the case as last-minute trial preparations were underway.
> . . . . . .
>
> By instead remaining on the sidelines while the proceeding moved closer and closer to trial, it voluntarily assumed the precise risk which has now materialized: that its participation in the proceeding could no longer be sanctioned without destructive damage to both the rights of other parties and the integrity of the adjudicatory process itself. 12/

The Boards have consistently disallowed attempts to interject late contentions into the proceeding based upon recent "discovery" of documentation which has long been available to the public. For the sake of brevity, the Board is respectfully referred to the discussion of these authorities in Applicant's earlier pleadings, which Applicant incorporates herein. 13/

With regard to the other factors to be considered for late contentions, it is clear that the interests of Del-Aware's members can be adequately protected by DRBC and the NRC Staff. As noted by Applicant previously, DRBC thoroughly reviewed all water quality issues, including compliance with applicable water quality standards, in

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12/ South Carolina Electric and Gas Company (Virgil C. Summer Nuclear Station, Unit 1), ALAB-642, 13 NRC 881, 886, 895 (1981), aff'd sub nom. mem., Fairfield United Action v. NRC, No. 81-2042 (D.C. Cir., April 28, 1982).

13/ See Applicant's Answer to Application for Reconsideration by Del-Aware Unlimited, Inc. at 7-10 (August 19, 1982).

granting final Section 3.8 approval for Limerick. 14/ Water quality issues lie within the jurisdiction of DRBC and are necessarily part and parcel of its allocation decisions. The Board has correctly determined that "it is precluded from considering matters concerning the allocation of Delaware river water for cooling Limerick." 15/ Having made this determination with regard to Del-Aware's proposed Contention V-16 on water quality issues, the Board should logically reach the same conclusion on the instant proposed contention. The record demonstrates DRBC has fully and adequately considered any possible impacts from the diversion of any pollutants in the Delaware River into the Perkiomen Creek or Neshaminy Creek. 16/

Further, it is also clear that the NRC Staff has an independent responsibility to take all measures necessary to protect the public health and safety. 17/ Just as the Staff must ensure the existence of an adequate basis for each of

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14/ See Applicant's Answer to Supplemental Petition of Coordinated Intervenors at 79-81 (December 7, 1981). One of the documents upon which Del-Aware relies, in fact, is the Environmental Report (February 1979) submitted by Neshaminy Water Resources Authority in conjunction with its Point Pleasant application.

15/ Memorandum and Order at 18-19 (July 14, 1982).

16/ See DRBC FEIS at 23-24, 33, 35-37 (1973); DRBC Final Environmental Assessment at Part III, pp. 2-36, Part IV-45 to 53 (TCE specifically at 49) and Part V-E1 to E5 (1980).

17/ See generally Offshore Power Systems (Floating Nuclear Power Plants), ALAB-489, 8 NRC 194, 202 (1978); New England Power Company (NEP, Units 1 and 2), LBP-78-9, 7 NRC 271, 279 (1978).

the requisite safety determinations, [18] the Staff has the same independent function in assuring that all environmental impacts related to operation of the Limerick Station have been considered. Thus, the NRC will consider DRBC's findings as to any potential impact from pollutants in the Delaware River when conducting its "hard look" review. Additionally, if Del-Aware believes that any new findings justify the imposition of different conditions in the docket decisions granting final approval to the Point Pleasant project, it may request DRBC to grant such relief. [19]

The remaining factors for considering late contentions do not weigh in Del-Aware's favor. Consideration of whether Del-Aware would assist the Licensing Board in developing a sound record is not truly relevant in this instance, since the Board has already indicated, for the reasons discussed above, that the matters which Del-Aware wishes to pursue are beyond the scope of the proceeding. The fourth factor, whether Del-Aware's interests will be adequately represented by the existing parties, has already been discussed above with regard to the independent function of the NRC Staff in assuring that all significant environmental concerns are adequately treated in the environmental statement.

The final factor, whether the proposed contention will broaden the issues and delay the proceeding, weighs heavily

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18/ Summer, supra, 13 NRC at 896.

19/ It is again noted that DRBC expressly provided for such revisions. See DRBC Docket No. D-79-52 CP at 8 (February 18, 1981).

against its admission. The Board has already determined that such matters lie beyond its jurisdiction in view of the decisions by DRBC allocating water for Limerick. In its most recent discovery order, the Board has also ruled that "proposed releases to the Perkiomen Creek are beyond the scope of any of the admitted contentions . . . ." 20/ To admit this contention on the eve of the hearing after the conclusion of discovery would unavoidably create delay in the hearing. Such delay is clearly contrary to the instruction by the Commission "to expedite the hearing process" so that it "moves along at an expeditious pace, consistent with the demands of fairness." 21/

20/ Order (Concerning Motion to Compel Answers to Interrogatories) at 5 (August 24, 1982).

21/ Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, 13 NRC 452, 453 (1981).

Conclusion

For the reasons discussed above, the proposed contention is wholly lacking in bases and specificity. Further, Del-Aware has failed to show "good cause" for its lateness or otherwise to satisfy the requirements for late contentions under 10 C.F.R. §2.714(a)(1). The proposed contention should therefore be rejected.

Respectfully submitted,

CONNER & WETTERHAHN, P.C.

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September 3, 1982

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January 22, 1982

Mr. Roy E. Denmark, Jr.,
Chief, Permits Branch,
U. S. Corps of Engineers,
Custom House,
Second & Chestnut Streets,
Philadelphia, Pa. 19106

Re: Application No. NAPOP-R-80-0534-3
Point Pleasant Pumping Station

Dear Mr. Denmark:

Since submission of the referenced application on July 18, 1980, we have determined that certain revisions should be made in the plans for the project to improve the efficiency of the facility and to reduce to a minimum any environmental impact. These revisions are described in the following paragraphs and the reasons for each are given.

1. Further Extension of Intake into River Channel. The initial plans for the Point Pleasant Pumping Station called for a shoreline water intake with vertical travelling screens. In 1980 and prior to submission of the referenced Application, the intake was changed to one utilizing cylindrical Johnson wedge wire well screens located approximately 200 feet out into the River channel. The 200 foot distance was selected as it placed the intake beyond a back eddy in the River which extended out 150-160 feet from the west bank and, also, put the intake in a position where it would always be subject to positive, or downstream flow velocities. This was verified by RMC Ecological Division during field investigations for a report titled "Biological Evaluation of the Proposed Water Intake in the Delaware River at Point Pleasant, Pennsylvania" (copy furnished by letter of January 28, 1981 to R. E. Denmark), and by River flow velocities measured by RMC on July 23, 1981; which measurements are tabulated on Table No. 1 and discussed later herein. It should be reiterated that, at this location, the intake would not be in the backwater eddy portion of the River and, also, River flows past the screens would be in a downstream direction.

In connection with the above biological evaluation, the slots in the wedge wire screens were reduced from 1/4 inch to 2 mm which increased the diameter and length of the individual screens from 36 inches to 40 inches, in order to maintain a maximum inflow velocity of 0.5 feet per second (fps). This 2 mm slot provided assurance that no shad eggs would be entrained by the screens.

The River flow velocity measurements mentioned above showed that further extension of the intake into the River would increase the flow velocities past the screens, which should, in turn, lessen the likelihood of debris and aquatic life being impinged on or entrained in the intake screens. The small screen opening of 2 mm, combined with a definite River flow past the screens, precludes the entrainment of the vast majority of fish eggs and larvae and essentially eliminates impingement. It was felt, however, that consideration should be given to utilizing higher flow velocities to reduce even further the possibilities of entrainment. In this connection, reference is made to a paper* titled "Studies of Three Cylindrical Profile-Wire Screens Mounted Parallel to Flow Direction" by Brian N. Hanson, a Research Biologist with RMC Delmarva Ecological Lab., Middletown, Del. This paper presents the results of actual flow tests on cylindrical wedge wire screens with 2 mm slots, which tests measure the entrainment and impingement of fish eggs for three flow velocities. The test results indicated that as flow velocities increase from 0.5 to 1 foot per second (fps), the percentage of eggs entrained or impinged is drastically reduced, but higher velocities do not appreciably lessen this percentage. To provide for a flow velocity of 1 fps past the screens, the intake location is changed from Station 8+17 to Station 8+62, which positions the intake 45 feet further into the River, or about 245 feet from the west bank. The flow velocities at the new location, Station 8+62, may be noted by examination of Exhibits Nos. 1, 2 and 3 attached. Exhibit No. 1 is a plot of flow velocities measured in the River at the intake site on November 7, 1980 when the River flow was about 3,000 cfs and the water surface was at Elevation 70.8. Exhibit No. 2 shows flow velocity measurements on July 23, 1981, when the River flow was approximately 4,500 cfs and the water surface elevation was 71.4. The horizontal stationing used on the exhibits is that of the centerline of the River intake facilities, with the 0+00 Station located at the intersection of this centerline and a line connecting two permanent monuments on the Project site along State Route No. 32. (The stationing and the monuments are shown on Exhibit No. 5.) The transverse position of the intake assembly, both where originally proposed and where now planned, has been indicated on these exhibits by marking each with its centerline stationing, 8+17 and 8+62, respectively. Exhibit No. 3 is a plot of flow velocity measurements on November 7, 1980 and July 23, 1981, at the proposed intake site (Station 8+62) and at the elevations at which they were taken. There will be two rows of screens, as can be seen on Exhibit No. 5, and the velocities at the centerline of both rows are shown on Exhibit No. 3. The west screens are those in the row nearest the Pa. shore and the east screens are in the row furtherest away. Also shown on Exhibit No. 3 are the top and bottom elevations of the intake screens; thus indicating the range of flow velocities which will pass the screens. The Exhibit reveals that even with a low flow of 3,000 cfs, the flow velocities past the screen will range from 1.0 to 1.3 fps which is twice, or more, the maximum screen inflow velocity of 0.5 fps. In this connection, it should be noted that low flows do not normally occur during the major

* A copy of this paper has been furnished Richard Hassel, District Biologist.

fish spawning period of March thru June and, during that period, greater flows can be anticipated with even higher River flow velocities. In fact, flow velocities during the spawning period should be higher than those plotted on Exhibit No. 3 for a flow of 4,500 cfs which velocities are indicated by the lines marked "7-23-81" at the top.

The velocity measurements plotted on Exhibits Nos. 1, 2 and 3 were made by the Environmental Services Division - RMC on the days indicated.

Exhibit No. 4 is a cross section of the River channel at the intake and the various components of the intake are shown thereon, together with the approximate rock line.

2. Shift of Building Location and Intake Alignment. The pump station building was moved about 18 feet further away from State Route No. 32 and will be extended about 15 feet to the southeast. This provides more working space for placement of the Combined Transmission Main under the highway, reduces the amounts of earth and rock excavation required for the building installation, and provides a larger setback from the highway, permitting more landscaping at the front of the building to improve the general appearance of the facility. The building was lengthened to provide for a stairway and for additional equipment related to the River intake. The intake alignment was shifted as a result of the building movement and, also, to provide a straight run of pipe before entering the transition section of the pump sump. The straight run will give improved flow conditions in the pump sump, resulting in better pump operation and higher pumping efficiencies.

In conformity with suggestions of representatives of the Pennsylvania Historical and Museum Commission, the roof of the pumping station building was changed from a gambrel to a ridge roof, and some exterior architectural features were changed.

The original intake plans provided for the 42-inch intake pipes to be spaced 22.5 feet apart. In order to reduce the amount of earth and rock excavation in the channel and on shore for the installation, the pipes are now spaced 6 feet apart and will be installed in a single ditch. This will reduce the area of channel bottom that will be disturbed by the installation. With this closer pipe spacing, the size of the gate well was reduced. Also, the fill around the gate well was shifted landward lessening the volume and areal coverage. With the reduced fill and landward movement, the stone riprap on the fill has been eliminated and erosion-resistant vegetation will be utilized.

Exhibit No. 5 shows a general plan and profile of the pumping station and the water intake with the above revisions. The revisions will reduce the areas of wetlands affected to less than an acre and improve the appearance of the facilities when viewed from River Road and from the Delaware River. The

Pennsylvania Canal crossing will be shifted about 18 feet northward but the construction procedure will be the same as originally planned and the crossing, when complete, will restore the Canal to prior conditions.

3. Revised Water Level Elevations. A very preliminary stage-discharge curve was developed in 1969 on the basis of selected (2 consecutive days of about same flow) recorded flows at Reigelsville and recorded gage heights (gage washed out in 1955 Flood, and never replaced) at the Point Pleasant-Byram Bridge. Extrapolation of this data indicated that the water level at Point Pleasant might go as low as Elevation 68, and this was utilized in the preliminary studies as the minimum water level. However, actual water level readings at the intake site in 1980 and 1981, when related to recorded River flows at Trenton showed that even with low flows of less than 3,000 cfs, the water level at the site is above Elevation 70. A new stage-discharge relationship was developed in 1981 using recorded flows at Trenton and water level readings at the intake site. To confirm this relationship, the U.S.G.S. was requested and did make flow measurements of the Delaware River and the Raritan Canal at the Lumberville Bridge, and of Paunnacussing Creek at State Route No. 32. Attached as Exhibit No. 6 is a copy of the data provided by the U.S.G.S. Exhibit No. 7 tabulates and gives the sources of the discharge-water level relationship data for the Delaware River at the Intake site and includes a rating curve plotted from the data. Exhibit No. 8 is a sample of the computations which developed this data. On Sheet No. 3 of this exhibit, it will be noted that the drainage area of the Delaware River at the River intake is 97% of that at the Trenton gage.

Sheet No. 3 of Exhibit No. 7 explains how the minimum, normal, and maximum water levels were derived for the Delaware River at the PPPS site. The term minimum water level, as used herein, refers to a design condition; that is, this is the lowest water level when the withdrawal rate would be at the maximum.

4. Revisions to Pump Sump and Intake Conduit. As mentioned previously, the initial plans for the PPPS called for a shoreline intake having vertical travelling screens with 3/8-inch wire spacing. The change to a channel intake with circular wedge wire screens with 2 mm slots was made in order to provide the most environmentally advanced type of water intake. However, the new installation involved additional waterway structures: the gate well, three 42-inch pipes, the screen assembly piping, and the screens. All of these result in additional hydraulic losses over those of the shoreline intake and, to compensate for these losses and to provide for necessary submergence of the pumps, the pump sump was lowered and the conduit between the gate well and the transition was increased from 5-foot diameter to 6-foot diameter.

Exhibit No. 9, attached, are computations which calculate the hydraulic losses through the intake system and establish the floor elevation of

the pump sump. Developed below is the invert elevation of the 42-inch pipes at the connection to the screen assembly piping. Exhibit No. 10, attached, is a drawing showing the intake screen assembly in plan and section. Refer to Sheet No. 2 of Exhibit No. 9 when reviewing the tabulations below.

Minimum Water Surface Elevation			70.00
Minimum Water Cover over Screens			4.00
Elevation of Top of Screens			66.00
One-half Screen Diameter			1.67
Elevation of Screen Centerline			64.33
Piping Assembly -	To ℄ 36" Vert. Pipe	5.50'	
	To Flange of 36-Inch Tee	1.00	
	To ℄ of 36-Inch Tee	2.33	
	Total		8.83
Elevation of Centerline of 36-Inch Tee			55.50
One-half Diameter 42-Inch Pipe			1.75
Invert Elevation of 42-Inch Pipe at Intake Assembly			53.75

The above invert elevation of 53.75 may be noted on Exhibits Nos. 4 and 5.

In 1980, Converse Ward Davis Dixon, a firm of geotechnical consultants, made an investigation relating to the impact of using explosives in the construction of the proposed Point Pleasant Pumping Facilities and submitted a report to DRBC thereon dated 20 May 1980. In essence, the firm found that required blasting to install the pumping station and the pipe lines can reasonably be controlled so as to result in no noticeable damage to nearby structures or water wells. The installation of the channel intake and lowering of the pump sump constituted changes in plan so the firm was requested to make a new evaluation taking the changes into account. Also, additional subsurface information had been obtained and the data was provided the firm. Attached hereto, as Exhibit No. 11, is a letter report on this evaluation wherein it is stated that the conclusions and recommendations of their 20 May 1980 report are still valid. Also, attached as Exhibits Nos. 12, 13 and 14 are letters from the firm which provide additional information or clarify questions asked concerning their report. As may be noted, the firm has changed its name to Converse Consultants.

The previously described revisions will make no change in the construction procedures which were submitted to the District Engineer by letter dated

September 9, 1981. In fact, all except the further extension of the intake into the River were taken into account when the procedures were developed and this further extension does not alter the procedures.

In conjunction with discussions with DER regarding the construction activities within the Canal, DER has indicated it believes it would be convenient to perform repairs to Lock No. 13 at the same time as NWRA constructs the intake conduit under the Canal. These repairs are part of DER's continual routine maintenance program for the Canal and are not at all related to or caused by NWRA's proposed construction activities. To enable DER to accomplish these repairs, DER has indicated a desire to have a cofferdam constructed below Lock No. 13 with water delivered below the dam by NWRA. This cofferdam has been shown in plans submitted to the Bucks County Conservation District. It is, however, NWRA's intention for DER to obtain all necessary reviews, approvals and/or permits incident to the construction of the cofferdam. Only if DER obtains these approvals will the cofferdam be constructed.

The design of the Project, as shown on Exhibit Nos. 5 and 15, minimizes the impact on the wetlands at the Project site. In November 1980, RMC performed a field vegetation survey of the site and, based on the survey, prepared a report entitled "Vegetation of the Point Pleasant Intake Site" which was submitted both to DRBC and the Corps of Engineers. The report concluded that the wetland vegetation at the site is "typical" and "widely distributed throughout the Northeastern United States". According to RMC's description, the wetland habitat at the Point Pleasant Pumping Station appears to fall within Resource Category No. 4 of the United States Fish and Wildlife Service's mitigation policy guidelines for habitats that may be affected by Federally permitted land and water resource developments (The guidelines were published in the Federal Register of January 23, 1981). Category No. 4 habitats are characterized as of "medium to low value", and the mitigation goal set for these habitats is the minimization of the loss of habitat value, rather than the creation of compensatory habitat.

In accordance with this goal, NWRA has made every effort to minimize the impact of construction on wetlands. In order to give full consideration to the effect of the installation on the wetlands, the actual limits of the wetlands on the Project site were staked out by a biologist and these limits were then surveyed and placed on the site plan. They are shown on Exhibit No. 5, and on Exhibit No. 15. Through judicious design and planning, the total area of affected wetlands is only 0.30 acre which is about 1/3 of the 0.93 acre of wetlands at the site. Of this, only 0.22 acre of wetlands will be permanently affected by placement of fill. The ground surface of the remaining 0.08 acre of affected wetland will be restored to original grade and should return to pre-construction conditions.

As shown on Exhibit No. 15, the alignment of the intake conduit passes between the two principal wetland areas, minimizing the amount of wetlands affected. The fill around the gate well and for the access road covers some of the wetland area but these facilities are essential for the operation of the Project. Also, some wetland area must be excavated for installation of the intake conduit. There will be a settling basin in the upper part of the property near the Canal towpath, during the construction period. The settling basin will affect only 0.01 acre of wetlands and is an essential structure for sediment control. There will be no temporary stockpiling of excavated materials on wetland area.

Notwithstanding the successful efforts to minimize impacts of the Project on wetlands, NWRA is willing to provide compensatory wetlands if the Corps believes this is necessary. It should be noted that DRBC, after taking into account the marginal value of these wetlands and the small amount affected, did not consider this necessary.

It should be stressed that none of the above described revisions increase the pumping capacity of the Project. Attached as Exhibit No. 16 is a chart which shows the pumping capacity of the Station with one, two, three and four pumping units operating. These pumping units will be operating within the limits of the two relatively horizontal lines marked "Maximum Head" and "Minimum Head". The "Maximum" line is based on pumping against the highest operating pool level in Bradshaw Reservoir and the minimum low water level in the Delaware River. The "Minimum" line is based on the lowest operating pool level in Bradshaw Reservoir and an above normal water level (Elev. 75) in the River. With all four pumping units operating, the total production of the Station will range from 3.95 to 4.00 million gallons per hour and the maximum possible pumpage in a 24-hour day will be 94.8 to 96.0 million gallons. These amounts of pumpage are based on factory pumping tests which may be high and, also, the amounts are expected to decrease with wear on the pumps.

If additional information is desired, please advise.

Sincerely yours,

E. H. Bourquard

E. H. Bourquard

EHB/bs
Encl.

LIST OF EXHIBITS

Exhibit No.	Title
1	PPPS - Delaware River Flow Velocities at Intake Site - November 7, 1980.
2	PPPS - Delaware River Flow Velocities at Intake Site - July 23, 1981.
3	PPPS - Delaware River Flow Velocities with Intake at Station 8+62.
4	PPPS - Delaware River Channel Section at Water Intake.
5	PPPS - Location and Layout Plan, General Profile, Dec. 22, 1981, Fev. Jan. 13, 1982.
6	Forwarding Memo and Discharge Measurement Notes - Pennsylvania District, USGS, U. S. Dept. of the Interior.
7	Development of Relationship between Water Discharge and Water Surface Elevation, Delaware River at PPPS Site, Point Pleasant, Pennsylvania, January 4, 1981.
8	PPPS - Preliminary Design, Discharge-Stage Data at Intake Site, RES, 6-10-81, 4 Sheets.
9	Point Pleasant Pumping Station - Preliminary Design, Intake Screens, JJP Jr., 1-9-81, 10 Sheets.
10	Point Pleasant Pumping Station, Intake Screen Assembly and Piping Details, Sept. 1, 1981, Rev. Jan. 13, 1982.
11	Converse Ward Davis Dixon Letter of 28 August, 1981, to E. H. Bourquard Associates, Inc.
12	Converse Ward Davis Dixon Letter of October 13, 1981 to E. H. Bourquard Associates, Inc.
13	Converse Consultants Letter of October 27, 1981 to E. H. Bourquard Associates, Inc.
14	Converse Consultants Letter of November 27, 1981 to E. H. Bourquard Associates, Inc.
15	PPPS Site, Limits of Wetlands and Effected Areas.
16	PPPS - Head vs. Capacity Curves with 66/60 CTM and Peerless 28 HXB

Table No.	Title
1	Velocity Measurements of Delaware River Flow along PPPS River Intake Centerline.

THIS IS NOT A PAID ADVERTISEMENT

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
CUSTOM HOUSE - 2D & CHESTNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106

FEB 22 1982

IN REPLY REFER TO
NAPOP-R-80-0534-3
Supplement Number 1

9 February 1982

PUBLIC NOTICE

This is a supplement to the public notice bearing the above number issued 6 April 1981 concerning the application by Neshaminy Water Resources Authority, 2875 Old York Road, P.O. Box 378, Jamison, Pennsylvania 18929, for a Department of the Army permit to build a water intake structure in the Delaware River, at Point Pleasant, Bucks County, Pennsylvania, as more fully described in the basic notice. Notice of a public hearing was issued on 10 August 1981, and the hearing took place on 15 September 1981.

The applicant has made engineering revisions in its plans, as shown on the attached drawings numbered E-1 and E-2 dated January 1982. The revisions in brief are:

1. Relocate the intake structure 45 feet further channelward in the Delaware River.

2. Place three intake pipes (42 inch diameter) under the Delaware River 6 feet apart instead of 22.5 feet apart.

3. Relocate the intake pipe crossing under the Pennsylvania Canal approximately 18 feet northward, and increase the diameter of this pipe from 60 inches to 72 inches.

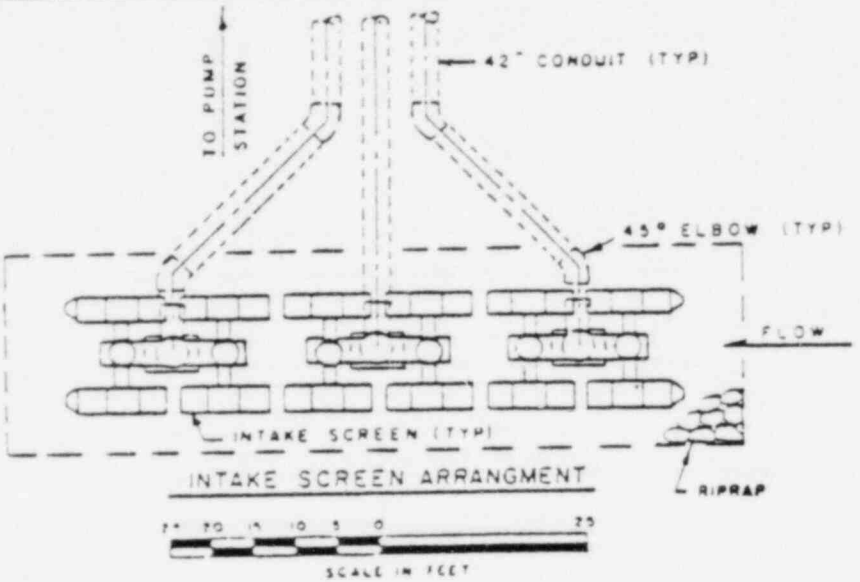
4. Lower the pump sump and the entire length of intake pipes from invert elevation 58.00 feet to invert elevation 53.75 feet.

5. Change the designation of the minimum water level elevation of the Delaware River from 68.0 feet to 70.0 feet.

The stated purpose for revisions 1 through 4 is to increase the operating efficiency of the water intake facility and to lessen any environmental impact. Revision number 5 reflects up to date hydrologic information and data. The purpose of the intake structure and its capacity are unchanged.

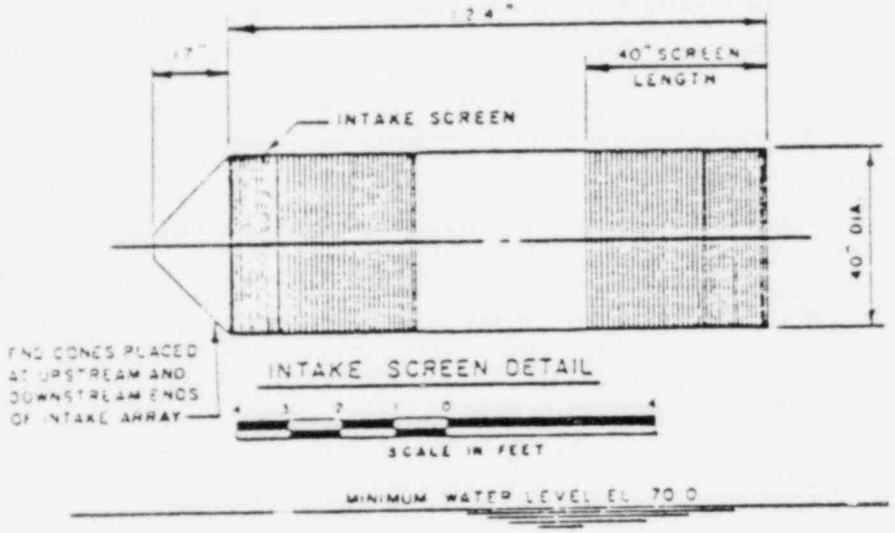
ROGER L. BALDWIN
Lieutenant Colonel, Corps of Engineers
District Engineer

Copy To: V.S. BOYER
J.S. KEMPER
E.C. KISTNER/J.ALLEN
D MARANO
D L. MORAD
E.J. BRADLEY



INTAKE SCREEN ARRANGMENT

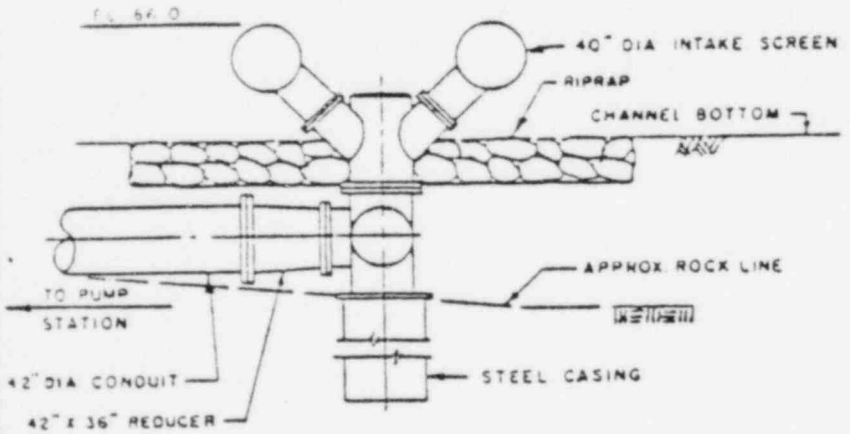
SCALE IN FEET



INTAKE SCREEN DETAIL

SCALE IN FEET

MINIMUM WATER LEVEL EL 70.0



ENLARGED INTAKE DETAIL

SCALE IN FEET

NESHAMINY WATER SUPPLY SYSTEM

POINT PLEASANT PUMPING STATION INTAKE SCREENS

PLUMSTEAD TOWNSHIP

BUCKS COUNTY, PENNSYLVANIA

JAN. 1982

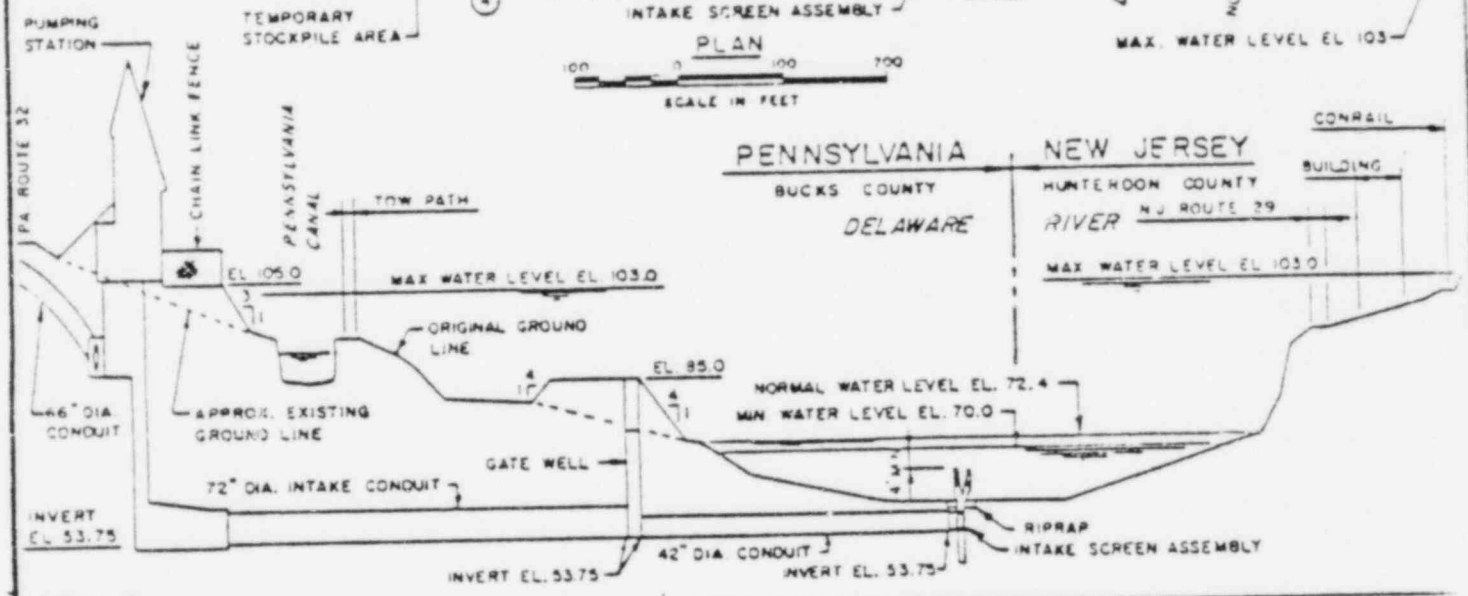
E 2 · (3)

ADJACENT PROPERTY OWNERS:

1. GALLAS, EDWARD C. & NESTA M
   RIVER ROAD, BOX 335, POINT PLEASANT, PENNSYLVANIA 18950
2. KINSMAN, GRAHAM & MICHELE
   RIVER ROAD, BOX 357, POINT PLEASANT, PENNSYLVANIA 18950
3. YAX, CHARLES G. & JOAN C.
   RIVER ROAD, BOX 238, POINT PLEASANT, PENNSYLVANIA 18950
4. SCHNEIDER, LANCE A.
   POINT PLEASANT, PENNSYLVANIA 18950

PLAN

SCALE IN FEET



DATUM 40

DELAWARE RIVER INTAKE
QUANTITIES WITHIN NORMAL WATER LEVEL LIMITS

COMMON EXCAVATION	3454 C.Y.
ROCK EXCAVATION	736 C.Y.
BACKFILL	3397 C.Y.
ROCK RIPRAP	155 C.Y.

PENNSYLVANIA CANAL CROSSING
QUANTITIES UNDER CANAL

COMMON EXCAVATION	1958 C.Y.
ROCK EXCAVATION	454 C.Y.
BACKFILL	2295 C.Y.

PROFILE

HORIZONTAL
100 0 100 200
SCALE IN FEET

VERTICAL
20 0 20 40
SCALE IN FEET

PURPOSE: INSTALLATION OF WATER SUPPLY SYSTEM
DATUM: N.G.V.D. OF 1929

E-1-(1)

NESHAMINY WATER SUPPLY SYSTEM

POINT PLEASANT PUMPING STATION WATER INTAKE

PLUMSTEAD TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

JAN. 1982

SUGARMAN & DENWORTH
ATTORNEYS AT LAW
SUITE 910
NORTH AMERICAN BUILDING
121 SOUTH BROAD STREET
PHILADELPHIA, PA 19107
(215) 546-0161

ROBERT J. SUGARMAN
JOANNE A. DENWORTH

February 4, 1982

Regional Planning Engineer
Department of Environmental Resources
1875 New Hope Street
Norristown, Pa. 19401

Dear Sirs:

I represent Del-AWARE Unlimited, Inc., which is concerned about the Neshaminy Water Resources Authority's requested issuance of a water quality certificate to accompany the application to the Corps of Engineers for Permits to locate intakes and withdrawals from the Delaware River at Point Pleasant, and to withdraw water from and modify the Neshaminy North Branch Creek and Pine Run. We believe there is serious concerns regarding the water quality impacts as well as the secondary impacts, of these projects, which we believe must be considered by DER pursuant to Article 1, Section 27 of the Pennsylvania Constitution.

With regard to water quality effects, we wish to note that, to our knowledge, there has been no public hearing by DER of any aspect of this project. We understand that Associate Deputy Under Secretary Weston conducted certain hearings for the DRBC, but he is not within the appropriate branch of DER for purposes of this proceeding, and in any event, and perhaps most importantly, there is information available, and the project has changed, in ways that have created facts that did not exist at the time of any previous hearings. These include (1) the relocation of the intake into the middle of the channel, and the potential adverse effects on the important spawning and nursery area, through increased turbidity, temperature impacts, and disturbance of the river bottom. It also includes recent information, not previously available to DER, apparently, concerning toxic pollution of the Delaware River water from the Lehigh River and other upstream sources, which would adversely affect both public water supply consumers of NWRA water, and the instream uses along the north branch of the Neshaminy, Pine Run, the Neshaminy mainstem, and the Perkiomen Creek, if the project is permitted to proceed. Also, no

previous consideration has been given to the impact on water quality arising out of the periodic destruction of the intake through ice collisions and debris, with the attendant dredging. Finally, no consideration has been given to water quality effects arising from blasting in the wet of six foot trenches 250 ft. out into the river.

The impacts on water quality are not only those identified above as having arisen as a result of decisions made, or new facts arising, since DER previously considered this project. There are additional water quality impacts which have previously been considered, but as to which DER has never held a public hearing. These include the downstream effects on the Delaware River water quality of the consumptive withdrawal and the semiconsumptive withdrawal (replacement but much further downstream), the effects on salinity in the estuary and the groundwater downstream, the effects of the withdrawal on the Delaware and Raritan Canal Public Water Supply, and the effects of the water quality of the Pennsylvania Canal through dredging and blasting.

Del-AWARE is presently engaged in preparing written comments concerning this project, and will attempt to provide them to you as quickly as possible. However, in the meantime, we request that a public hearing take place concerning these issues.

Sincerely,

Robert J. Sugarman

RJS:nsw

cc: Louise Thompson, Esq.
Bureau of Litigation

Maxine Wolfling, Esq.
Office of Regulatory Counsel

C/RRR Mail

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Philadelphia Electric Company	)	Docket Nos. 50-352
	)	50-353
(Limerick Generating Station, Units 1 and 2)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicant's Answer to Del-Aware Unlimited, Inc.'s Application for Approval of Petition to Amend Contentions," dated September 3, 1982 in the captioned matter, have been served upon the following by deposit in the United States mail and by Federal Express, as indicated below, this 3rd day of September, 1982:

* Judge Lawrence Brenner (2)
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

* Judge Richard F. Cole
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

* Judge Peter A. Morris
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing Appeal Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

* Stephen H. Lewis, Esq.
Ann P. Hodgdon, Esq. Elaine I. Chan, Esq. Counsel for NRC Staff Office of the Executive Legal Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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Robert M. Rader

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