11/15/82

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
ARIZONA PUBLIC SERVICE COMPANY ET AL.	)	Docket Nos. STN 50-528 STN 50-529 STN 50-530
	)	
(Palo Verde Nuclear Generating Station, Units 1, 2 and 3)	)	

RESPONSE OF THE NRC STAFF TO WEST VALLEY'S PETITION FOR INTERVENTION AND REQUEST TO REOPEN THE RECORD

I. INTRODUCTION

On October 14, 1982 West Valley Agricultural Protection Council, Inc. (West Valley) filed a petition to be allowed to late intervene in this proceeding, to reopen the record, to have the FES herein revised and for various other relief.[1/]

Notice of an opportunity to intervene in this proceeding was published on July 11, 1980 (45 Fed. Reg. 46941), revised July 25, 1980 (45 Fed. Reg. 49732). Those notices provided that petitions to intervene

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1/ It is noted that various requests for relief in this proceeding ask for matters without the jurisdiction of this Board, such as amendment or revocation of the construction permits for the Palo Verde facility. See Petition, p. 20. A Licensing Board for an operating license proceeding is limited to resolving matters that are raised therein and it does not have jurisdiction over the already authorized construction. Carolina Power & Light Co. (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, & 4), CLI-80-12, 11 NRC 514, 516-517 (1980); Consumers Power Co. (Midland Plant, Units 1 & 2), ALAB-674, 15 NRC 1101, 1103 (1982).

should be filed by August 11, 1980. Hearings in this proceeding have been concluded and the record was closed on June 25, 1982. (Tr. 2710). West Valley bases its October 14, 1982 petition for late intervention and to reopen the record on alleged newly discovered information that there is potential harm to agricultural crops from salt deposition caused by drift from the Palo Verde cooling towers, spray ponds, and evaporation ponds.

For the reason stated below, Staff opposes this motion.

II. QUESTIONS PRESENTED

1. Has West Valley shown good cause as required by 10 C.F.R. § 2.714 for late intervention on the issue of salt deposition when it knew of the project for at least 8 years and the 1975 EIS on this project extensively discussed salt deposition?

2. May West Valley show good cause to reopen this proceeding on the issue of salt deposition when it knew of the project for at least 8 years and the 1975 EIS on this project extensively discussed salt deposition?

3. Are there other means by which West Valley may protect its economic interests in its land than by late intervention and reopening the proceeding?

4. Will reopening the record on the salt deposition issue broaden these proceedings?

5. Does the Licensing Board's findings in the construction permit proceeding regarding harm to local vegetation by salt deposition to be

caused by the Palo Verde facility, prevent West Valley from now raising that issue?

6. Does alleged newly discovered information by West Valley require the NRC to revise its Environmental Impact Statement for Palo Verde Units 1, 2, and 3?

III. STATEMENT OF FACTS

On October 22, 1974, a notice of application for Palo Verde construction permit for Units 1, 2, and 3 and a notice of opportunity to intervene and for hearing was published in the Federal Register (39 Fed. Reg. 37528). The notice provided that one might petition to intervene by November 21, 1974. The Petitioner herein was aware of the Palo Verde project even before the said notice. See e.g. Petitioner's affidavit of Jackie A. Mack, ¶ 3. Notice of the publication of the Draft Environmental Statement on the application for the construction permits (DES-CP) and a request for comments thereon was given on April 15, 1975 (40 Fed. Reg. 16888). Notice of the publication of the Final Environmental Statement (FES-CP) on that application was given on February 23, 1976 (41 Fed. Reg. 8000).

As relevant to West Valley's petition in this proceeding, the FES-CP discussed the subject of salt deposition on vegetation from drift caused by the Palo Verde Nuclear facility in the following sections of that report:

3.6 CHEMICAL EFFLUENTS (p. 3-21)
- 3.6.1 Water Supply (p. 3-21)
- 3.6.2 Drift (pp. 3-21 & 3-25)
- 3.6.3 Airborne Solids (p. 3-25)
- 3.6.4 Demineralizer Wastes (p. 3-25)
- 3.6.5 Evaporation Ponds (p. 3-25)

Chapter 3, References (pp. 3-35 & 3-36)

5.3 EFFECT OF OPERATION OF THE HEAT-DISPOSITION SYSTEM (p. 5-2)
5.3.2 Atmospheric (pp. 5-2 to 5-4)
5.3.3 Terrestrial (p. 5-4)

5.5 NONRADIOLOGICAL EFFECTS ON ECOLOGICAL SYSTEMS (p. 5-9)
5.5.2 Terrestrial (p. 5-16)
5.5.2.1 Station (p. 5-16)
Salt Deposition (p. 5-17)
Soils (p. 5-17)
Vegetation (pp. 5-17 & 5-18)

Chapter 5, References (pp. 5-26 to 5-28)

9.2 COOLING TOWER ALTERNATIVES (pp. 9-12 to 9-16)

10.1 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS (p. 10-1)
10.1.1 Abiotic Effects (p. 10-1)
1.1.1.1 Land (p. 10-1)

11.1 RESPONSES TO COMMENTS (p. 11)
11.1.3.4 Salt Deposition in Cooling Tower Drift (EPA-A32) (p. 11-3)

The following tables and figures in the FES-CP dealt with salt deposition and its effects upon vegetation:

Table 3.6 Predicted Droplet Size from the PVNGS Cooling Towers (p. 3-22).

Figure 3.6 Onsite Solids Ground Deposition Total lb/acre/yr. From ER, Fig. 5.1-18. Corrected to design drift rate of 0.01 percent (p. 3-23).

Figure 3.7 Offsite Solids Ground Deposition Total, lb/acre/yr. From ER, Fig. 5.1-19. Corrected to drift rate of 0.01 percent (p. 3-24).

Figure 3.8 Predicted Annual Maximum 24-Hour Concentration of Airborne Salt Particles From Cooling Tower Drift. From the Applicant (p. 3-26).

Table 3.8	Gaseous Effluents Produced during Operation of the PVNGS (p. 3-28).
Table 5.1	Estimated Concentrations of Airborne Particulates Emitted From Station Cooling Towers (p. 5-3).
Table 5.8	Offsite Solid Deposition from Cooling Towers (p. 5-18).
Table 6.3	Biotic Monitoring Program for PVNGS (p. 6-7).
Table 9.3	Comparison of Social and Environmental Impacts of Alternative Cooling Systems for the Three Palo Verde Nuclear Generating Units (p. 9-13).
Table 9.4	Alternative Cooling Systems Monetized Costs Summary for the Palo Verde Nuclear Generating Units (in thousands of dollars) (p. 9-15).

For example, § 5.5.2.1 (at 5-17 & 18) in discussing the effects of salt deposition on vegetation, stated:

> Vegetation. Table 5.8 shows the acreages of five vegetational communities expected to receive from 50 to 500 lb/acre/yr of drift salts; shown is deposition of drift salts in the wet form, as in drift itself (droplet deposition), and the sum of this plus the dry powder which will be left over after water evaporates from the drift droplets (total deposition). Very little information is available in the literature on the effects of aerosol salt applied to soils associated with vegetation, or on the vegetation itself, particularly for the arid southwest . . .
>
> * * *
>
> Foliar accumulation of airborne salt on leaf surfaces can cause leaf damage (e.g., necrotic lesions). The staff is unaware of any studies which assess the impact of foliar salt application on desert scrub vegetation. The unique leaf morphology of many desert plants (i.e., thick leaves, heavy cuticle, stomatal distribution, etc.) coupled with the low humidity and sparse rainfall

> characteristic of the PVNGS region invalidates the use of coastal salt water cooling tower studies for comparison purposes. That the applicant will monitor for offsite damage to vegetation due to salt deposition and evaluate and transmit such information to the staff. [sic]

[References omitted].

Table 5.8 (at 5-18) referenced therein separately estimated salt deposition on cultivated and other lands. Similarly the text of the statement recognized that salt deposition could affect crops and other vegetation by deposition both on the surrounding soils and directly on the leaves of the plants. § 5.5.2.1 (at 5-17 & 18).

The FES-CP included a model showing predicted salt deposition caused by drift from Palo Verde cooling towers. FES-CP §§ 3.6.2-3.6.3, 5.5.2; Tables 3.5, 3.6, 3.7, 3.8, 5.8 and Table 9.3. Further, the impacts of off-site salt depositions from alternative cooling systems was particularly favored into the environmental balance as a cost to be considered in choosing a cooling system. (Table 9.3, at 9-13). And in setting out unavoidable adverse impacts, the FES stated: "Chemical deposition, principally salts from the cooling towers, will occur on the site and on some land surrounding the site." (§ 10.1.1.1, at 10-1).

The FES-CP further stated that predictions on the amount of salt deposition could be off by a factor of 10 with observed values, and stated that "Thus, predicted values can serve only as indicators, not rigorous determinations." (§ 3.6.2, at 3-25). Similarly it was recognized that the effect of deposition of salt on vegetation in the Palo Verde area was not fully known. (§ 5.5.2.1, at 5-17, 5-18).

Also relevant to the instant petition is the fact that the FES-CP considered evaporation ponds as a possible source of salt deposition

(FES-CP, § 3.6.5). It further advised that the Applicant would provide monitoring of salt deposition during Palo Verde's operations. (Appendix A, p. A-11, §§ 5.5.2.1, 6.1.3.1).

Following a construction permit hearing for Palo Verde Units 1, 2, and 3 on May 24, 1976, an Atomic Safety and Licensing Board issued its initial decision authorizing the issuance of construction permits for these units. Arizona Public Service Co. (Palo Verde Units 1, 2 and 3), LBP-76-21, 3 NRC 662 (1976). In its decision, the Board found, inter alia, that:

> 81. . .
> Salt dispersed into the atmosphere by the cooling towers (approximately 65 tons per day, dry weight) and deposited near the site may modify floral and faunal species composition on some acreage near the facility. The degreee of impact is presently not predictable (Tr., pp. 840-41). The record supports a finding that these effects will be temporary and/or localized and are expected to be minimal (ER, § 5.4.2; § 5.7.1; FES, § 5.5). 3 NRC at 686.
>
> v. Cost-Benefit Analysis
>
> 119. . .
> d. Chemical deposition, principally salt from operation of the cooling towers, will occur on the site and to a lesser degree on the land surrounding the site and may alter salt sensitive flora and fauna. 3 NRC at 695.
>
> E. Contaminants in Cooling Water
> 144. . .
> In addition monitoring will provide the information necessary for early detection and correction of onsite cooling water treatment procedures in the event that significant amounts of hazardous materials or substances appear. Monitoring will provide the data base necessary for determination of the ecological effects of cooling tower drift on the environment surrounding the facility. 3 NRC at 700.
>
> See also 3 NRC at 682, 687, 693.

During the construction of Units 1, 2 and 3, the Applicant requested a construction permit for Palo Verde Units 4 and 5. Following docketing of that application, the NRC published on May 8, 1978 in the Federal Register notice of an opportunity for a hearing (43 Fed. Reg 19729). As part of that application, the Staff issued a Draft Environmental Statement (DES-CP for Units 4 and 5) in April 1979. That statement, whose availability was published in the Federal Register on May 8, 1978 (43 Fed. Reg. 19728), dealt with both the topic of salt deposition by cooling tower drift (§§ 3.6.2 through 3.6.4 including Table 3.3 and Figures 3.3 through 3.7) and by drift from evaporation ponds (§ 3.6.5). See also §§ 5.3.2, 5.5.1.1 and Table 9.17.

On July 11, 1980 and July 25, 1980, the NRC published in the Federal Register notices of an opportunity for a hearing on the issuance of the Palo Verde operating licenses for Units 1, 2 and 3. (45 Fed. Reg. 49732, 46941). Opportunity to intervene was provided up to August 11, 1980. As part of that application, Staff's Draft Environmental Statement for the Palo Verde operating licenses for these units (DES-OL) was issued in October 1981. That statement's publication was announced in the Federal Register on November 6, 1981 (46 Fed. Reg. 55170). Included in the DES-OL was the entire Final Environmental Statement on the construction permit including all the material on salt deposition and its effects on crops and other vegetation which has been set out above (DES-OL, Appendix A). The DES-OL concluded that, based upon improvements in the design and location of the Palo Verde cooling towers, there would be less salt deposition than that predicted in the FES-CP. (DES-OL at §§ 4.6.2, 5.4.1, 5.5.1.1).

Staff's Final Environmental Statement for the Palo Verde operating licenses for Units 1, 2 and 3 (FES-OL) of February 1982 contained the same information (FES-OL §§ 5.4.1, 5.5.1.1) as the DES-OL. It further referenced the FES-CP (Appendix A). The availability of the FES-OL was announced in the Federal Register on March 18, 1982 (47 Fed. Reg. 11791).

Hearings were held in this proceeding during the weeks of April 26, May 25, and June 21, 1982. The record herein was closed on June 25, 1982. (Tr. 2710).

On October 14, 1982, the subject "Petition to Intervene and Request for Preparation of Supplemental or Revised Environmental Impact Statement, Hearing and Other Relief" was filed. With the petition was a memorandum of law in support of the petition, three reports discussing the mechanics and effects of salt deposition, an affidavit from Petitioner's attorney, and a number of very similar affidavits from members of the Petitioner organization (West Valley). The reports referenced in large part scientific studies published prior to the July 25, 1980 Federal Register Notice of Opportunity for Hearing in this proceeding. See report of M. W. Golay, References, pp. 41-44; report of C. L. Mulchi, Literature, ff. p. 20; report of E. A. Davis, p. 4. The affidavits from the Petitioner organization members (see e.g. affidavit of Jackie A. Meck) give gross value of their agricultural production (¶ 2), state that they knew of the Palo Verde project soon after it was proposed (¶ 3), and that they had not read the environmental statements but that they had relied on representatives of Arizona Public Service Co. who had never mentioned salt emissions from the cooling towers in their presentations

to them. (¶¶ 4 & 5). They also state that their support for the Palo Verde project has waivered because of projected electric rate increases and questions of water use (¶ 6 & 7). They further state that a realization of the possibility of greater salt drift than expected earlier arose this year and that in the spring of 1982 (during the hearings) the possible salt drift problems gave rise to a desire to intervene (¶¶ 8-10). Outside consultants were employed to study and report on this matter, and after their reports were received the Petitioner's members, on September 11, 1982, decided to intervene in this proceeding (¶¶ 10-11). The petition to intervene and reopen the hearing was filed on October 14, 1982.

IV. ARGUMENT

A. Petitioner Does Not Meet The Requirements of 10 C.F.R. § 2.714 For Late Intervention

A late intervention petitioner must address the five factors in 10 C.F.R. § 2.714(a)(1) and affirmatively sustains the burden of establishing that on balance these factors favor his tardy admission into the proceeding. Nuclear Fuel Services, Inc. (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273, 275 (1975); Duke Power Co. (Perkins Nuclear Units 1, 2, and 3), ALAB-615, 12 NRC 350, 352 (1980); Houston Lighting and Power Company (Allens Creek Nuclear Generating Station, Unit 1), ALAB-582, 11 NRC 239, 241-24 (1980). The factors to be balanced, as set forth in this Section of the Commission rules, are:

(i) Good cause, if any, for failure to file on time.

(ii) The availability of other means whereby the petitioner's interest will be protected.

(iii) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.

(iv) The extent to which the petitioner's interest will be represented by existing parties.

(v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

An assessment of these factors establishes that West Valley's extremely late petition should be denied since there is no good cause that has been demonstrated for Petitioner's late filing nor has an adequate showing been made that, on balance, the other pertinent factors in 10 C.F.R. § 2.714(a)(1) weigh in its favor.[2/]

1. There is no good cause for late intervention where the alleged new information that is the basis for a Petitioner's good cause is information previously generally available.

Good cause for a petitioner's untimely filing is the most important consideration in deciding whether to grant late intervention. Where the deadline is missed by years, as in the case here, the burden becomes "enormously

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2/ According to its Petition, West Valley is a non-profit association of 56 farmers located in Maricopa County, Arizona. Based upon West Valley's allegations that there may be economic harm to its members' crops and the fact that these members are located in close proximity to the Palo Verde facility, Staff does not challenge West Valley's standing to intervene in this proceeding. Long Island Lighting Co. (Jamesport Nuclear Power Station), ALAB-292, 2 NRC 631, 640 (1975); Virginia Electric and Power Co. (North Anna Units 1 & 2), ALAB-342, 4 NRC 98, 105 (1976). Furthermore, West Valley has also shown that its members have authorized it to represent their interests in this proceeding. See, Houston Lighting & Power Co. (Allens Creek Unit 1), ALAB-535, 9 NRC 377, 389-400 (1979). "Contentions" are also included in the Petition. For the reasons set out below these contentions are impermissable.

heavy." Puget Sound Power & Light Co. (Skagit Nuclear Power Project, Units 1 & 2), ALAB-599, 10 NRC 162, 172-173 (1979). Good cause is not established by a petitioner simply claiming that it has new or differing information which disagrees with earlier conclusions by the Applicant and the Staff. Id at 168.

Public policy and fairness to other litigants demand that any petition to intervene late be jaundicedly viewed. As the Commission stated in Nuclear Fuel Services, Inc.; 1 NRC at 275:

> Obviously, an important policy consideration underlying the rule [on late intervention] is the public interest in the timely and orderly conduct of our proceedings. As the Commission has recognized, "fairness to all parties . . . and the obligation of administrative agencies to conduct their functions with efficiency and economy, require that Commission adjudications be conducted without unnecessary delays." 10 C.F.R. Part 2, Appendix A. Late petitioners properly have a substantial burden in justifying their tardiness. And the burden of justifying intervention on the basis of the other factors in the rule is considerably greater where the latecomer has no good excuse.

This was recently reiterated in South Carolina Electric & Gas Co. (Virgil C. Summer Nuclear Station Unit 1), ALAB-642, 13 NRC 881, 886 (1981), where the Appeal Board held it an abuse of discretion to admit a late petitioner two months before the commencement of hearing. It stated:

> . . . This being so, the validity of the grant of the petition so close to the start of the hearing perforce hinges upon whether a compelling showing has been made by FUA on the other four factors. Once again, by March 9 when the hearing date was set (if not long before), 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 claims into the case as last-minute trial preparations were underway.

In Houston Lighting & Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-671, 15 NRC 508, 511 (1982), it was emphasized that the above quote, "has yet greater force where not merely trial preparation but also the hearing itself has already taken place by the time the belated petition is received." See also, Duke Power Co. (Cherokee Nuclear Station, Units 1, 2 & 3), ALAB-440, 6 NRC 642, 645 (1977).

Here the invitations to intervene in this proceeding were published on July 11, 1980 and July 25, 1980, and a period of up to August 11, 1980, was given to intervene. 45 Fed. Reg. 46941, 49732. Some two years later, after this hearing had been concluded, the Petitioner comes forward and files its petition. Absent the "most convincing showing" of good cause for a delay until after hearing to seek to intervene, such intervention may not be allowed.

The principal justification furnished by Petitioner for its late intervention in this proceeding is that its members did not know that there could be damage to their crops caused by salt drift from the Palo Verde facility until this potential problem was brought to their attention in the spring of 1982 by newspaper articles quoting a Palo Verde Intervenor, Ms. Patricia Hourihan. Prior to this time, according to the Petitioner, the farmers in the area had not been concerned about salt deposition since the Applicant had not mentioned salt deposition problems to them.[3/]

3/ See e.g. affidavit of Jackie A. Mack, ¶ 4, Exhibit E to Petition.

This alleged newspaper account does not establish good cause for the Petitioner's late intervention, however, since that article contained no information not long available to the public.

The purported fact that the Petitioner's members were not aware of possible damage to their crops from salt deposition does not establish "good cause" for late intervention as a matter of law. In Project Management Corp. (Clinch River Breeder Reactor Plant), ALAB-354, 4 NRC 383, 390 (1976), it was delineated that the test is not whether a late petitioner had knowledge of a basis to intervene, but whether that knowledge could have been ascertained:

> What petitioners are thus left with are their claims of unfamiliarity with NRC procedures; failure of early appreciation of the possible effects upon them of Clinch River construction; and lack of technical and professional resources. See p. 386, supra. We find these claims unimpressive. Petitioners' governing officials surely must be assumed to have been cognizant from the very outset that the construction of a facility of this magnitude might bring a sizeable number of persons--workmen and their families--to the area and that these individuals would impose demands for governmental services upon the communities in which they settled. In these circumstances, it was incumbent upon petitioners to take some measures to protect their interests. Cf. Jamesport, supra fn.6, 2 NRC at 647. . . .

See also, South Carolina Electric & Gas Co., 13 NRC at 887 n.4, Houston Lighting & Power Co., 15 NRC at 512.

Thus the test is not whether the Petitioner's members earlier actually knew of potential salt damage to crops, but whether they could have learned of that phenomenon. The subject of potential salt damage to crops by power station drift was not a new phenomenon in the spring of 1982. Rather, as reflected in the references to reports of West Valley's

own consultants, numerous articles had been published for many years regarding salt deposition from power plant cooling towers and its affects on vegetation.[4/] In addition, extensive discussion in the Staff's Environmental Statements for the Palo Verde facility at the CP stage of this proceeding, the discussion of the CP Licensing Board, and the re-printing of the FES-CP in the DES-OL all provided Petitioner's members with information on this subject in sufficient detail to have enabled them to have identified this potential problem had they inspected these statements during the times provided for timely intervention. The availability of the environmental statements had been published in the Federal Register. See pp. 3, 6, 7-8, supra. The Petitioner's members are charged with this knowledge. See, Federal Crop Insurance Corp. v. Merrill, 332 U.S. 380, 385 (1947); Long Island Lighting Co. (Jamesport Nuclear Station, Units 1 & 2), ALAB-292, 2 NRC 631, 646-647 (1975). The Appeal Board recently stated, ". . . an intervention petitioner has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question . . . ." Duke Power Company (Catawba Nuclear Station, Units 1 & 2), ALAB-687, Slip Opinion at 13, August 19, 1982.[5/]

4/ See Petition to Intervene: Exhibit B, Report of Edward M. Davis, Reference Section at 4; Exhibit C; Report by Charles L. Mulchi, Literature Section; and Exhibit D, Report by Michael W. Golay, Reference Section at 41-44.

5/ In setting out this obligation of a petitioner, the Catawba Appeal Board was specifically referring to uncovering information that could serve as a foundation for new contentions. This same requirement would appear equally applicable as an obligation for timely intervention. (Slip Opinion at 13).

West Valley's members cannot escape responsibility for not being aware of this information in the Environmental Statements by the expedient of not reading the statements. They accordingly cannot contend that the salt deposition issue was new information to them in the spring of 1982. Houston Lighting & Power Co., 15 NRC at 512.

Nor can the allegations that the Applicant never told the Petitioner of the problems of salt deposition aid them in a showing of "good cause." In Puget Sound Power & Light Co. (Skagit Nuclear Power Project, Units 1 & 2), ALAB-552, 10 NRC 1, 7-9 (1979), it was alleged by an Indian tribe which sought to intervene in the NRC proceeding that they had relied on "Federal trustees" who had assured them of the minimal impact of the facility upon them. In rejecting this argument as a basis for intervention, the Appeal Board stated (10 NRC at 9):

> Neither the NRC nor Interior purported to guarantee the correctness of their ultimate conclusions regarding impact upon the tribes. And our examination of the relevant jurisprudence discloses no basis upon which such a warranty might be implied as a matter of law. Thus, it is not enough for the tribes simply to assert that they were lulled into a false sense of security by the appraisals of impact given them by Interior or reflected in the FES prepared by the NRC staff. What the tribes must additionally establish is that, whether because of inadequate investigation on the part of the Federal agency or for some other reason, they were furnished erroneous information on matters of basic fact and that it was reliance upon that information which prompted their own inaction . . .

The fact that Petitioner's members in this proceeding claim at p. 9 of their Memorandum to have been "lulled into a false sense of security" by the Applicant's silence or by the environmental appraisals provides no ground to late intervene. See also, Puget Sound Power & Light Co., 10 NRC

at 165-168; Duke Power Co. (Perkins Nuclear Station, Units 1, 2 & 3), ALAB-615, 12 NRC 350, 353 (1980).

The test for misrepresentation is whether one "misrepresented or withheld any material facts pertaining to the fruits of its inquiry." Puget Sound Power & Light Co., 10 NRC at 168. No misrepresentation of any fact can be shown here, where as the FES-CP and the DES-OL stated, the predictions of the amount of salt deposition could be in error by an order of magnitude and "Thus, predicted values can serve only as indicators, not rigorous determinations." FES-CP § 3.6.2, (at 3-25); DES-OL § 3.6.2 (at A-3); DES-CP for Units 4 & 5 § 3.6.2 (at 4 & 5). Further, the EIS stated that the effect of salt on vegetation and leaf surfaces in the Palo Verde area was not fully known. FES-CP § 5.5.2.1, (at 5-17). See also, FES-CP §§ 5.5.2.1 (at 5-17 & 18), 10.1.1.1 (at 10-1) and Table 9.3 (at 9-13).6/

Moreover, the Petitioner's delay from the time its members claim they first became aware of the possible salt deposition problem in the spring of 1982, during the hearing, until October 14, 1982, when they filed their petition to late intervene and reopen the record, alone prevents a finding of good cause to allow late intervention. The Petitioner seeks to excuse this delay in petitioning until after the hearing had been concluded on the ground that it had to hire consultants and employ a lawyer. But these excuses do not suffice. In Long Island Lighting Co.,

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6/ In addition, as we detail in Point C, infra the matter of salt deposition, its affects on vegetation and programs to monitor these matters were dealt with in the CP proceeding for Palo Verde. Arizona Public Service Co., 3 NRC at 682-87, 693-95, 700.

2 NRC at 647 (1975), very similar excuses for delays stemming from preparations to intervene were rejected:

> I find no better footing to OHILI's assertion that the additional delay, once it had belatedly learned of the notice of hearing, can be justified on the basis that it needed time to employ counsel to represent it and to obtain from its members the necessary funds to compensate him. It is readily understandable why OHILI might not have wished to file a pro se petition. What is much less apparent, however, is why, upon discovering that the time deadline for filing its intervention petition had already passed, OHILI did not promptly take at least the step of apprising the Commission of its interest in the outcome of the proceeding and of its intent to acquire counsel to pursue that interest on its behalf. In this connection, it is not unreasonable to attribute to an organization such as OHILI some degree of sophistication in the discharge of its function of protecting and furthering the interests of the business enterprises which constitute its membership.

Cf. Virginia Electric and Power Co. (North Anna Station, Units 1 & 2), ALAB-289, 2 NRC 395, 397 (1975).

On no basis can "good cause" be found for late intervention herein.

2. Other means exist to protect Petitioner's interests.

The second factor to be considered under 10 C.F.R. § 2.714(a) in determining whether late intervention should be allowed is an examination of whether there are other ways to protect the Petitioner's interests. In Florida Power & Light Co. (St. Lucie, Unit No. 2), CLI-78-12, 7 NRC 939, 943 (1978), the Commission considered that suits or proceeding in other forums were another means to protect the Petitioner's economic interests. The Petitioner's claims here center around the allegation

that its members will suffer economic harm as a result of salt deposition. See Petition ¶¶ 2-4. No showing is made that the Petitioner cannot sue for damages or bring some other legal action to protect the lands and crops purportedly involved. See, Jersey Central Power & Light Co (Oyster Creek Nuclear Generating Station), LBP-77-58, 6 NRC 500, 512 (1977); cf. Marshall v. Consumers Power Co., 65 Mich. App. 237 (1975). It is noted that the damage claimed is not from radiation or the basic operation of the facility, but from salt deposition from cooling towers and evaporation ponds. See Atomic Energy Act of 1954, as amended, §§ 274(c) & (k), 42 U.S.C. §§ 2021(c) & (k); Northern States Power Co. v. Minnesota, 447 F.2d 1143, (8th Cir. 1971), aff'd mem. 405 U.S. 1035 (1972); Pacific Legal Foundation v. State Energy Resources Conservation & Development Commission, 659 F.2d 903 (9th Cir. 1981), cert. granted, 73 L.Ed 1348 (1982).

In sum, means exist for the Petitioner to protect its interest other than by late intervention after the record is closed.

3. The Petitioner's participation would not assist in developing a sound record.

It does not appear from the papers annexed to the petition to late intervene that Petitioner could assist the Board on a salt deposition issue. Although the Petitioner has annexed the reports of consultants dealing with the salt deposition to its petition, it does not appear that these consultants could assist in changing the conclusions of the analyses in

the environmental statements. As stated by Petitioner's consultant Golay in his Summary of Conclusions: "The degree to which [specified] omissions constitute serious inadequacies in the assessments embodied in the ES's remains to be established. . . . " [Exhibit D to Petition at 2]. See Points B2 & B3, infra.

4. The extent Petitioner's interests will be represented by existing parties.

The hearings have been concluded and the salt deposition issue was not a contention in this proceeding. Therefore, it does not appear Petitioner's interests were represented by another party.

5. The Petitioner's participation in this proceeding will broaden the issues and delay the proceeding and may even delay the operation of Palo Verde Unit 1.

Because the delay factor is of particular significance, an inexcusably tardy petition stands very little chance of success if its grant would likely occasion an alteration in hearing schedules. Long Island Lighting Co. (Jamesport Units 1 & 2), ALAB-292, 2 NRC 631, 651 (1975); see also Project Management Corp. (Clinch River Breeder Reactor Plant), ALAB-354, 4 NRC 383, 394-95 (1976); Detroit Edison Co. (Greenwood Energy Center, Units 2 & 3), ALAB-476, 7 NRC 759, 762 (1978).

As conceded by Petitioner, the consideration of salt deposition in this proceeding will both broaden the issues and delay the proceeding. (Memorandum at 13-14). The petition not only requests a reopening of the hearing, but also calls for new lengthy studies of salt deposition,

and redesign that could involve reconstruction of the facility itself. See Petition, e.g. at 10, 16-19. See also Petition Exhibit B, at 2 and 16, calling for a monitoring program to establish baseline data and further studies of indeterminate length. Since the new projected fuel load date for Palo Verde Unit 1 is August 1983, if the record is reopened and the hearing is resumed, there is a strong possibility that the operation of Palo Verde may be delayed not only by the studies and reengineering requested, but by the very length of the hearing and hearing preparation.

Moreover, all this delay is directly chargeable to Petitioner's members. At the CP stage, as we have detailed, the environmental statements discussed the effect of salt deposition on vegetation and crops, including plant leaves, and specifically advised that the estimates of the amount of salt deposited might be in error by a factor of ten and that the affect on vegetation could not be predicted. The Petitioner's members did not comment on the EIS or choose to intervene in the CP proceeding. At Palo Verde operating licensing stage, the DES-OL republished the FES-CP, including the many scientific references therein. In addition, as Petitioner's consultants indicate, extensive additional literature was published on the effect of salt deposition on crops. See fn. 4, supra. Again the Petitioner's members did not comment on the EIS or seek to intervene until after the hearing record was closed. Any delay in the proceeding would be directly attributable to Petitioner's members not timely taking advantage of the repeated Federal Register notices inviting timely participation in this proceeding.

6. A balance of the factors of 10 C.F.R. § 2.714(a) require that the late petition to intervene be denied.

In the instant matter the petition is inexcusably tardy, there exist other means for the Petitioner to obtain relief, it does not appear the Petitioner could materially assist in further developing the record, and if the petition is granted there will be delay in the conclusion of these proceedings which could delay Palo Verde from beginning operation on time. The only factor under 10 C.F.R. § 2.714(a) which the Petitioner has in its favor, that its interests have not been represented by existing parties, cannot carry the day when compared to these other factors. Public policy considerations in the timely, orderly and efficient conduct of NRC proceeding and fairness to all parties require the petition for late intervention be denied. Nuclear Fuel Services, Inc., supra.

B. No Ground for Reopening the Record Exists Where No New Information Is Shown and It Is Not Shown That the Outcome of the Proceeding Could Be Changed

One who seeks to reopen a record has a heavy burden of first establishing:

> 1) that he has new information which could not have been discovered earlier;
>
> 2) that this new information addresses a significant safety or environmental issue; and
>
> 3) that this new information would lead to a change in the result of the proceeding should it be considered.

As stated in Kansas Gas & Electric Co. (Wolf Creek Generating Station, Unit No. 1), ALAB-462, 7 NRC 320, 338 (1978):

> As is well settled, the proponent of a motion to reopen the record has a heavy burden. Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-359, 4 NRC 619, 620 (1976). The motion must

> be both timely presented and addressed to a significant safety or environmental issue. Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-138, 6 AEC 520, 523 (1973); Id., ALAB-167, 6 AEC 1151-52 (1973); Georgia Power Co. (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, 2 NRC 404, 409 (1975). Beyond that, it must be established that "a different result would have been reached initially had [the material submitted in support of the motion] been considered." Northern Indiana Public Service Co. (Bailly Generating Station, Nuclear-1), ALAB-227, 8 AEC 416, 418 (1974).

See also, Duke Power Co. (Catawba Nuclear Station, Units 1 & 2), ALAB-359, 4 NRC 619, 620 (1976); Pacific Gas & Electric Co. (Diablo Canyon Units 1 & 2), ALAB-598, 11 NRC 876, 879 (1980).

1. No new information is shown which could not have been discovered earlier.

As to the first element concerning previously unavailable information, it has been emphasized that the test is whether "the issue presented could have been presented earlier prior to the close of the hearing . . ." Vermont Yankee Nuclear Power Corp." (Vermont Yankee Nuclear Power Station), ALAB-138, 6 AEC 520, 523 (1973). A delay of one month, during which a hearing concludes, may bar a party from reopening a record to consider such information. Id. at 524. As detailed above the information and the purported problems which Petitioner seeks to raise were dealt with in detail in the publicly noticed 1975 CP environmental statements. The Findings on the CP application dealt with these very matters. Arizona Public Service Co., 3 NRC at 682, 686, 687, 693, 695, 700. The publicly noticed 1980 OL environmental statements again repeated these matters. There is no newly discovered information that could not have been learned prior to the 1982 hearing herein.

Morever, Petitioner's members admit to being aware of the purported problems they now seek to raise after the close of the record during the hearing in this proceeding. See pp. 17-18, supra. Waiting from the spring of the 1982 until October, some 4 months after the record closed, alone bars them from now having the record reopened to have these purported problems considered.

2. No new evidence addressing a signif cant issue is shown.

The second test to reopen a record involves whether the new information addresses a significant safety or environmental issue. Consumers Power Co. (Midland Plant, Units 1 & 2), CLI-74-7, 7 AEC 147, 148 (1974); Georgia Power Co. (Alvin W. Vogtle Nuclear Plant, Units 1 & 2), ALAB-291, 2 NRC 404, 410 (1975). The material petitioner seeks to have considered does not involve a safety matter. It does involve salt deposition and its affect on vegetation in the area of the plant. As detailed above, these matters were considered in the CP hearing for Palo Verde, and in the environmental statements for both the CP and the OL. The question is, therefore, whether there is any significant new information not there considered.

A review of the consultants' reports annexed to the motion and the Petitioner's affidavits show no new significant environmental information not considered before. The report of consultant Davis recognizes that the model used in the environmental studies "is typical of that used in the trade", and could be in error by a factor of ten (Exhibit B, p. 1). The environmental statements recognized this band of error. See FES-CP § 3.6.2 (at 3-25). He recognizes that the affect of salt deposition on

crops is not certain, and concludes that more study and modeling is needed. He states that: "This effort could provide data on which to base measures to mitigate undesirable effects on crops." (Exhibit B, p. 2). Similarly, in his conclusions to the report no significant new environmental matter is presented, but only a call for further study and modeling (Exhibit B, pp. 16-17). The environmental statements on Palo Verde similarly called attention to the uncertain affects of salt on vegetation and crops, and call for continued studies. (FES-CP, § 5.5.2.1. (at 5-17 & 5-18), § 10.1, (at 10-1), Figure 6.3 (at 6-7). See also CP Findings, Arizona Public Service Co., 3 NRC at 686, 693, 695, 700. No new information is presented on a significant environmental issue.

Consultant Mulchi points to studies he conducted on the effects of cooling tower salt emissions on crops in his publications in the period 1973-1978, and his observation on a visit to the Palo Verde area in 1982 (Exhibit C, pp. 2-8). He concludes that salt deposition from Palo Verde will, in his judgment, "cause damage to some crops in the region." As did consultant Davis, he recommends more studies (Exhibit C, pp. 19-20). As indicated, the FES-CP of 1975 similarly called attention to the damage that would be caused to vegetation by salt deposition, and called for further monitoring of that adverse environmental affect. (FES-CP, § 5.5.2.1. (at 5-18), § 10.1 (at 10-1), Figure 6.3 (at 6-7). See also CP Findings, 3 NRC at 683, 685, 695, 700. Again there is no new information on a significant environmental issue.

Consultant Golay presents no new information on significant environmental matters. His conclusions concerning the difficulties in measuring and modeling cooling tower drift are addressed in the FES-CP. (Cf.

Exhibit D, p. 2 & FES-CP § 3-6 (at pp. 3-21 to 3-26)). The uncertainties connected with measurements are emphasized. (FES-CP § 3.6.2 (at 3-25)). Alternative cooling tower designs are weighed partially in terms of the salt deposition they might cause. (FES-CP, Table 9.3. (at 9-13)). Salt deposition from spray ponds is also considered. (FES-CP, § 3.6.5 (at 3-25)). See also CP Findings, 3 NRC at 686, 693, 695, 700.

Consultant Golay ends his Summary of Conclusions with the statement that:

> The degree to which these omissions [in environmental statements] constitute serious inadequacies in the assessments embodied in the ES's remains to be established. However, I find that they cause what has been done in this direction to fall short of what is required for a comprehensive accurate assessment. (Exhibit D, p. 2)

Again, as in case of the other consultants, no new evidence addressing a significant environmental matter is shown.

The affidavits from the members of the Petitioner organization (Exhibit E) similarly do not provide any showing of significant environmental information that can lead to a reopening of the record. The only environmental matter they address, not also addressed by the consultants, concerns the farm land in the vicinity of Palo Verde (See e.g., affidavit of Jackie A. Mack, ¶ 2). But like the matters pointed to by the consultants, the agricultural use of land in the area was addressed in the environmental statements. (FES-CP, § 2.2.2. (at 2-5)).[7/]

7/ Petitioner also attaches an affidavit of its attorney purportedly summarizing matters in other affidavits and in the consultants' reports (Exhibit A).

In sum, the Petitioner has failed to show the existence of any significant new safety or environmental information which has not been already addressed in this proceeding.

3. No information is shown which could cause a different result in this proceeding.

The third test which must be passed to reopen a record is whether the new information would cause a different result to be reached in the proceeding. Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), ALAB-422, 6 NRC 33, 81-82 (1977), aff'd, CLI-78-1, 7 NRC 1 (1978); Northern Public Service Co. (Bailly Generating Station, Nuclear-1), ALAB-227, 8 AEC 416, 418 (1974). The Petitioner also fails to sustain this burden. Consultant Davis calls for further studies and modeling, but does not indicate that any conclusions will be changed by any present information. Similarly, consultant Mulchi calls for more studies, but does not say they will cause any change in conclusions in regard to the licensing of Palo Verde. Consultant Golay's ultimate conclusion is that the degree to which there may be "serious inadequacies in the assessments embodied in the environmental statement remains to be established." No information is pointed to which would affect the outcome of this proceeding, and no ground exists to take the extraordinary step of reopening the record.

Moreover, the Petitioner has not attempted to show that a reexamination of the issue of the affect of salt deposition on agriculture could change the cost-benefit balance on licensing of the Palo Verde facility or could change the methods of cooling. Absent such a showing the record may not be reopened. See Georgia Power Co., 2 NRC at 415-416;

Northern Indiana Public Service Co., 8 AEC at 418-419. The environmental statements factored in environmental degredation to be caused by the cooling towers and salt deposition (FES-CP, § 10.1 at 10-1). The amounts of salt deposition were weighed in choosing a cooling system (FES-CP, Table 9.3 (at 9-13)). Although there is conjecture that after further studies some lessening of salt deposition might be possible, there is no demonstration that reopening the hearing in regard to salt deposition could change the cost-benefit balance or change the cost-benefit determination on the cooling system for the facility.

In sum, not one of the three prerequisites for the reopening of the record is shown as:

> 1) No newly discovered evidence is shown which could not have been discovered before the record was closed.
>
> 2) No new information relevant to a significant safety or environmental issue is shown to exist.
>
> 3) No showing is made that the alleged new information could affect the outcome of the proceeding or cause a different result herein.

C. This OL Proceeding May Not Be Reopened to Consider A Matter Already Considered In the CP Proceeding

The issue Petitioner seeks to raise concerning salt deposition was considered in the construction permit proceeding for Palo Verde. Arizona Public Service Co., 3 NRC at 682, 686, 687, 693, 695, 700. Under Commission regulations implementing the National Environmental Policy Act (42 U.S.C. § 4321, et seq.), the environmental review at the operating license stage is, as a general matter, limited to a consideration of relevant information which has arisen since the authorization

of the construction permit.[8] Thus, the Commission has barred litigation of issues at the OL stage which were considered at the CP stage for the same facility absent (1) "significant supervening developments having a possible material bearing" upon previously adjudicated issues or (2) "the presence of some unusual factor having special public interest implications." Alabama Power Co. (Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 216 (1974); remanded on other grounds CLI-74-12, 7 AEC 203 (1974). Although the Farley decision was posited upon the doctrines of res judicata and collateral estoppel, other NRC decisions have limited the scope of OL or construction permit amendment proceedings on the jurisdictional ground that the scope of the OL (or license amendment) proceeding should not reach back to include matters previously determined in the prior proceeding in the absence of materially changed circumstances or special public interest factors.[9] While there is now some doubt as to whether collateral estoppel can be invoked against a person who was neither a party nor privy to a litigant in the prior construction permit

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8/ 10 C.F.R. §§ 51.21, 51.23(e); see Union of Concerned Scientists v. AEC, 499 F.2d 1069, 1079 (D.C. Cir. 1974).

9/ See e.g., Detroit Edison Company et al., 9 NRC 439, 465 (Enrico Fermi Atomic Power Plant), LBP-79-1, 9 NRC 73, 86 (1979) (OL Proceeding); Northern States Power Company (Prairie Island Nuclear Generating Plant, Units 1 and 2), ALAB-455, 7 NRC 41, at 46 n.4 (1976) (CP amendment proceeding limiting environmental inquiry). Accord, Georgia Power Co. (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, 2 NRC 404, 415 (1975); Detroit Edison Company (Enrico Fermi Atomic Power Plant, Unit 2), LBP-78-11, 7 NRC 381, 393 (1978). Cf. Houston Lighting and Power Company (South Texas Project, Units 1 and 2), LBP-79-1, 9 NRC 459, 464-65 (OL Proceeding).

proceeding,[10/] no persuasive reasons have been advanced by Petitioner as to why the general rule of the Farley decision should not bar the litigation of environmental issues involving salt deposition in this operating license proceeding, which was considered in the CP proceeding. See 10 C.F.R. §§ 51.21, 51.23(e).

The Licensing Board in the CP proceeding involving Palo Verde found:

> Salt dispersed into the atmosphere by the cooling towers (approximately 65 tons per day, dry weight) and deposited near the site may modify floral and faunal species composition on some acreage near the facility. The degree of impact is presently not predictable (Tr., pp. 840-41). The record supports a finding that these effects will be temporary and/or localized and are expected to be minimal (ER, § 5.4.2; § 5.7.1; FES, § 5.5). 3 NRC at 686.

See also, 3 NRC at 682-87, 693-95, 700.

As we have detailed, the Petitioner, although not a party to the CP proceeding was well aware of the proposed Palo Verde project. See e.g. Petitioner's affidavit of Jackie A. Mack, ¶ 3. The DES-CP and the FES-OL had been published and notice had been given of their publication to Petitioner's members as to others through the Federal Register. See 44 U.S.C. § 1508; Federal Crop Insurance Corp. v. Merrill, 332 U.S. 380, 388 (1974); Long Island Lighting Co. (Jamsport Nuclear Station, Units 1 & 2), ALAB-292, 2 NRC 631, 646-247 (1975). These documents gave ample notice of questions involving salt deposition. See pp. 3-9, supra.

10/ See Southern California Edison Company (San Onofre Nuclear Generating Station, Units 2 and 3), supra, n.2, Slip Op. at 9-15; see also Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit No. 2), ALAB-486, 8 NRC 9, 50-51 (1978), (separate opinion of Mr. Sharfman, concurring in part and dissenting in part).

Petitioner is thus foreclosed from raising the salt deposition matters that were particularly considered in the CP proceeding and findings after the close of the OL hearings. As stated in Public Service Co. of New Hamphire (Seabrook Station, Units 1 & 2), Docket Nos. 50-433 OL & 50-444 OL, Memorandum and Order at 102, involving a petitioner trying to raise an issue in an OL proceeding that had been considered in the CP proceeding concerning the same facility:

> . . . whether the Society was a party to the hearing is "legally irrelevant". The notice to parties wishing to intervene in hearings before this Commission are published in the Federal Register and as such there is a notice to all the world. A party wishing to intervene at a later time, as the Society does here, cannot complain that they were not in existence at the time of the publication of the notice and be heard to complain about the litigation involved in the notice previously published. In other words, the litigation of the issue . . . either by the Society, or since it did not exist, some other agency or groups of agencies, has exhausted the issue and there is nothing for this Society to litigate in this operating license proceeding.

Public policy also argues against reconsideration of the salt deposition issue here. Persons with knowledge of the facility who were put on notice of salt deposition issues should not be permitted to wait on the sidelines until after these issues have been considered and raise the issue after authorization of the construction of the facility. To permit reconsideration of this issue, which was known and publicized at the time of the CP hearing, would be unfair to the other parties to this proceeding and the public.

Thus, the Petitioner is foreclosed from reopening this OL proceeding to raise issues which were considered in the prior CP proceeding.

D. The Alleged Newly Discovered Information By Petitioner Does Not Provide a Basis for the Board to Order the Staff To Revise Its Environmental Impact Statement

There is no requirement under NEPA that a new or revised impact statement be prepared simply because a Petitioner is not in agreement with certain aspects of the Staff's Environmental Statements. In the event the Staff's environmental findings are challenged in an adjudicatory proceeding, all that need be undertaken is for the trier of facts to consider whether the area of disagreement would bring about significant environmental consequences beyond those previously assessed and, if appropriate, to order suitable remedies. Cf. Northern States Power Company (Prairie Island Nuclear Units 1 & 2), ALAB-455, 7 NRC 41, 46 at fn.4 (1978).

Moreover, the environmental impact statement is a Staff document, and the Board has no jurisdiction to direct the Staff in the preparation of such documents. See, Offshore Power Systems (Floating Nuclear Plants), ALAB-489, 8 NRC 194, 201-202 (1978); New England Power Co (NEP, Units 1 & 2), LBP-78-9, 7 NRC 271, 279-81 (1978). Therefore, this request for relief could not be granted by this Board.

V. CONCLUSION

For the above stated reasons, West Valley's petition to intervene, to reopen the record and for other relief should be denied.

Respectfully submitted,

Lee Scott Dewey

Lee Scott Dewey
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 15th day of November, 1982.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
ARIZONA PUBLIC SERVICE COMPANY, ET AL.	)	Docket Nos. STN 50-528 STN 50-529 STN 50-530
	)	
(Palo Verde Nuclear Generating Station, Units 1, 2 and 3)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of RESPONSE OF THE NRC STAFF TO WEST VALLEY'S PETITION FOR INTERVENTION AND REQUEST TO REOPEN THE RECORD in the above-captioned proceeding have been served on the following by deposit in the Unites States mail, first class or, as indicated by an asterisk, through deposit in the Nuclear Regulatory Commission's internal mail system, this 15th day of November, 1982.

Robert M. Lazo, Esq., Chairman*
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Richard F. Cole*
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dr. Dixon Callihan
Administrative Judge
Union Carbide Corporation
P.O. Box Y
Oak Ridge, TN 37830

Arthur C. Gehr, Esq.
Charles Bischoff, Esq.
Snell & Wilmer
3100 Valley Center
Phoenix, AZ 85073

Rand L. Greenfield
Assistant Attorney General
P.O. Drawer 1508
Santa Fe, New Mexico 87504-1508

Ms. Lee Hourihan
6413 S. 26th Street
Phoenix, AZ 85040

Atomic Safety and Licensing
Board Panel*
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Atomic Safety and Licensing
Appeal Board*
U.S. Nuclear Regulatory Commission
Washington, DC 20555

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

Lynne Bernabei, Esq.
Harmon & Weiss
1725 I Street, N.W.
Suite 506
Washington, D.C. 20006

Mr. Kenneth Berlin
Winston & Strawn
Suite 500
2550 M Street, N.W.
Washington, D.C.

Edwin J. Reis
Asst. Chief Hearing Counsel