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SUBJECT: Responds to "Comments of Plains Electric Generation & Transmission Cooperative, Inc. on Antitrust Info, Request for Finding of Significant Change, Request for Imposition of License Conditions," submitted on 861128.

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1. The purpose of this document is to provide information regarding the activities of the [redacted] and the [redacted] in the [redacted] area.

2. The [redacted] has been identified as a [redacted] and is currently [redacted] in the [redacted] area.

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February 6, 1987

Mr. Jesse L. Funches, Director  
Planning and Program Analysis Staff  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Re: Arizona Public Service Company et al.  
Palo Verde Nuclear Generating Station, Unit 3  
Docket No. 50-530A

Dear Sir:

In accordance with the request made by your letter of December 12, 1986, to Mr. E. E. Van Brunt, Jr. and reiterated in a conversation between Mr. Lamb of your staff and Messrs. Royer and Wasiak of El Paso Electric Company, we submit herewith the Response of El Paso Electric Company to "Comments of Plains Electric Generation and Transmission Cooperative, Inc., on Antitrust Information, Request for Finding of Significant Change, Request for Antitrust Hearing and Request for Imposition of License Conditions" submitted by Plains on November 28, 1986.

If any additional information is required, please do not hesitate to contact either myself or Mr. Bodner at the address and telephone number indicated above.

Very truly yours,

  
R. K. Gad III

RKG/ajp  
Enclosure

cc: Benjamin J. Vogler, Esquire w/enc.  
Arthur C. Gehr, Esquire w/enc.  
Frederick L. Miller, Jr., Esquire w/enc.

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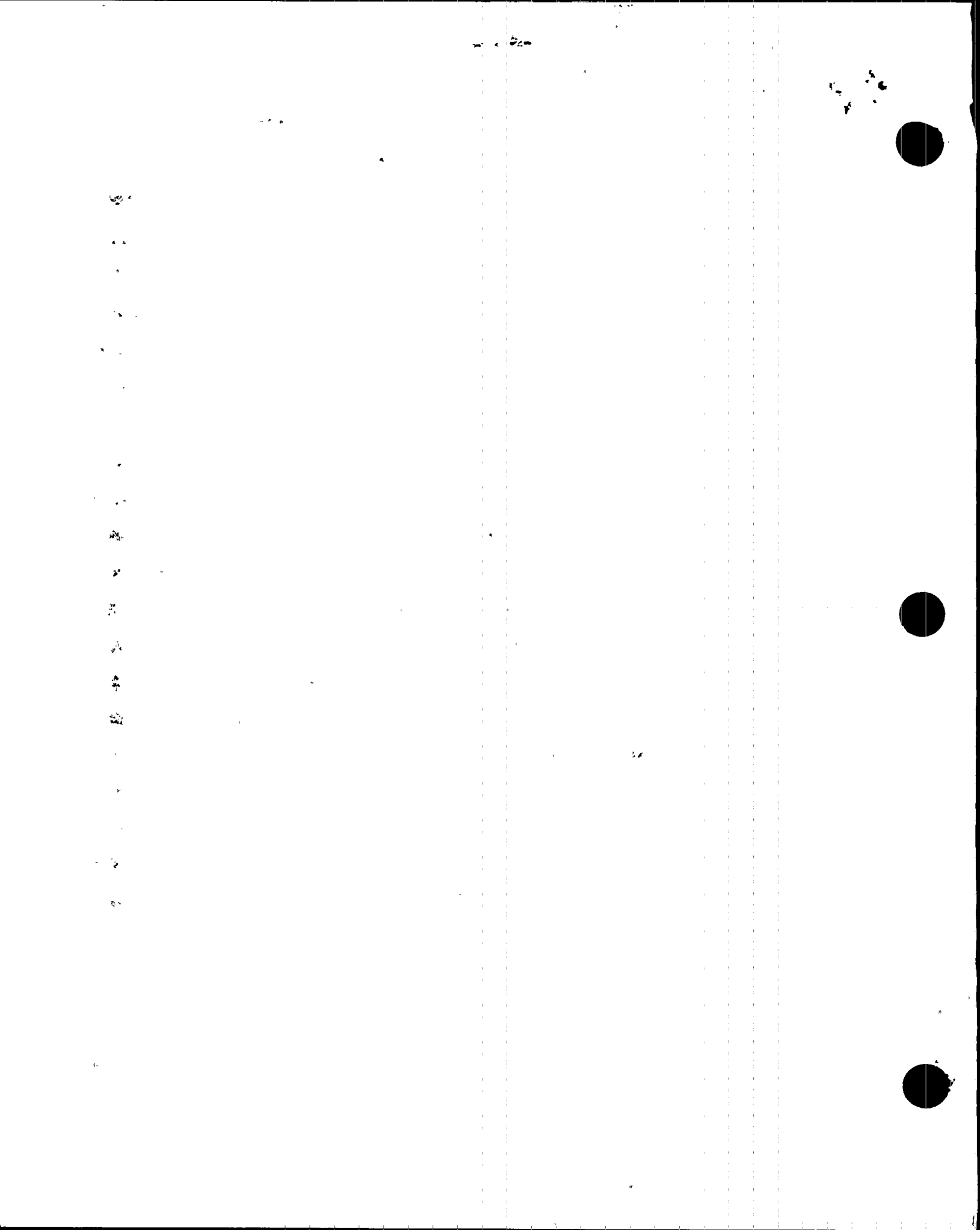
RESPONSE OF  
EL PASO ELECTRIC COMPANY  
TO  
"COMMENTS OF PLAINS ELECTRIC GENERATION  
AND TRANSMISSION COOPERATIVE, INC.,  
ON ANTITRUST INFORMATION, REQUEST FOR FINDING  
OF SIGNIFICANT CHANGE, REQUEST FOR ANTITRUST HEARING  
AND REQUEST FOR IMPOSITION OF LICENSE CONDITIONS"

On October 29, 1986, this Commission announced consideration of an additional antitrust review concerning an aspect of the Palo Verde Nuclear Generating Station ("PVNGS"). 51 Fed. Reg. 39,599. The occasion for this assessment is the imminent issuance of an operating license for PVNGS Unit 3.<sup>1</sup> On November 28, 1986, Plains Electric

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<sup>1</sup> The Commission undertook a full-scale antitrust review in connection with the PVNGS construction permits in 1975; that review covered all of the proposed PVNGS units. The result of that review was a determination that "antitrust conditions" were warranted in the case of certain of the owners of PVNGS other than El Paso, but that no conditions were warranted in respect of El Paso. Arizona Public Service Co. et al., 40 Reg. 17,349 (NRC Staff 1975) (receipt of Attorney General's antitrust advice). On three subsequent occasions, the Staff has considered the issue of whether sufficient changes in the activities or proposed activities of the PVNGS applicants/permittees rendered another antitrust review "advisable." See Arizona Public Service Co. et al., 48 Fed. Reg. 6,060 (NRC Staff 1983) (finding of no significant changes for PVNGS-1 & -2 and time for filing of requests for reevaluation); 46 Fed. Reg. 44,110 (NRC Staff 1981) (receipt of additional antitrust information -- proposed additional ownership participants -- and time for submission of views on antitrust matters); 45 Fed. Reg. 860 (NRC Staff 1980) (receipt of operating license application for PVNGS-1, -2 and -3 and request for antitrust information). On each of these occasions a negative determination was rendered.

El Paso is a 15.8% owner of each of the PVNGS units, and



Generation and Transmission Cooperative, Inc. ("Plains") filed a document entitled "Comments of Plains Electric Generation and Transmission Cooperative, Inc., on Antitrust Information, Request for Finding of Significant Change, Request for Antitrust Hearing and Request for Imposition of License Conditions" (hereinafter "Comments"), in response to this notice. Submitted herewith is the response of El Paso Electric Company ("El Paso") to the Comments.

#### I. Introduction

In its "Comments," Plains maintains that El Paso has recently taken a number of actions that would create or maintain a situation inconsistent with the antitrust laws. Accordingly, Plains seeks an antitrust hearing, prior to the granting of the PVNGS-3 operating license, pursuant to section 105c of the Atomic Energy Act, 42 U.S.C. § 2135c.

In order to obtain a hearing at the present operating license stage, Plains must demonstrate it to be "reasonably apparent" (rather than simply allege), South Carolina Electric & Gas Co. (Virgil C. Summer Nuclear Station, Unit 1), CLI-81-14, 13 NRC 862, 873 (1981), that there has been a change that (1) has occurred since the last antitrust review, (2) is reasonably attributable to El Paso, and (3)

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it has been an owner since the original antitrust review. El Paso has entered into a sale-leaseback transaction with regard to a 15.8% interest in PVNGS-2. Plains filed no comments with respect to any of the prior reviews.



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would warrant imposition of Commission relief because (a) the changes, when viewed on the merits, present a situation inimical to the antitrust laws that (b) has a substantial connection to PVNGS-3. In order to remain consistent with "the statutory intent that antitrust review at the operating stage be the exception not the rule," Central Electric Power Cooperative, Inc. (Virgil C. Summer Nuclear Station, Unit No. 1), CLI-81-26, 14 NRC 787, 790 (1981), Plains must carry its burden as to each of these criteria. As is demonstrated herein, Plains has not done so.

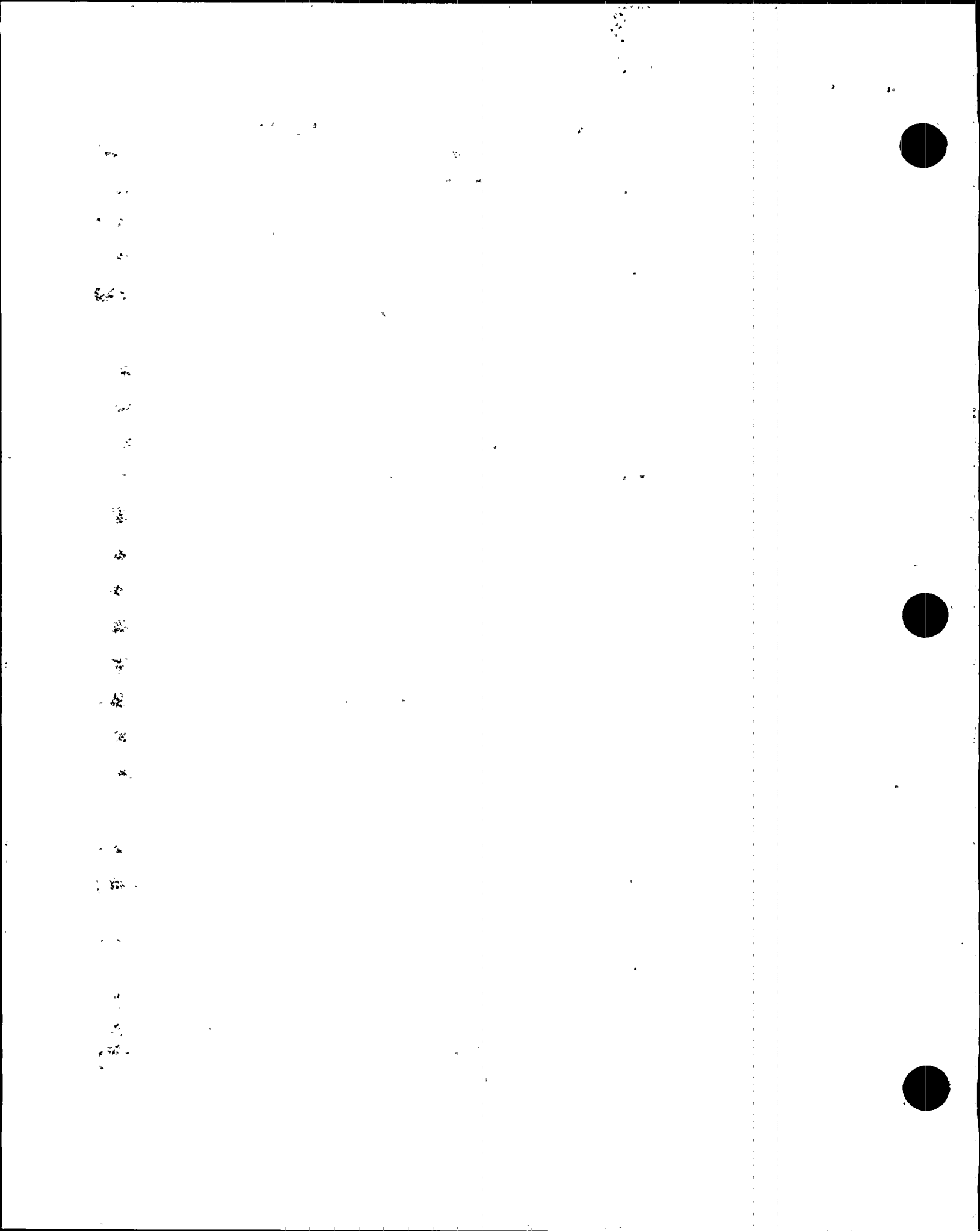
These responses to Plains' Comments are organized with respect to each of the four anticompetitive "changes" alleged by Plains and, for each "change," with respect to each of the "significant changes" criteria. However, this matter can be fully and properly disposed of by reference to a single authority precisely on point: Florida Power & Light Co. (St. Lucie Plant, Unit No. 2), ALAB-665, 15 NRC 22, 33-34 (1982). Whether Plains' allegations are viewed separately or collectively, it is true in this case just as it was in ALAB-665 that:

"[o]ur focus here, for purposes of deciding whether [Plains] has satisfied the statutory nexus requirement, must therefore be on what way [Plains] claims operation of [PVNGS-3] will harm it competitively, not whether access to [El Paso's transmission] grid is an appropriate form of relief to remedy [an alleged] Sherman Act, Section 2, violation. All that [Plains] offers on this score is the claim that [license conditions are required to] cure the anti-competitive situation of [El Paso's supposed] monopolistic hold on the



transmission grid for [the geographic area]. But this is insufficient. . . . There is simply no explanation by [Plains] of how [El Paso's] bringing [PVNGS-3] on line . . . will act to maintain or entrench [El Paso's] alleged transmission monopoly. In essence, [Plains'] argument reduces to the proposition that, where an applicant for a nuclear power plant enjoys a monopoly position, this Commission can take the licensing of the plant as the occasion for remedying the anticompetitive situation, despite the fact that the nuclear power plant has no influence on that situation. That position reads out the nexus requirement of Section 105c(5) [of the Atomic Energy Act] in its entirety. Whatever may be the merits, as a matter of antitrust policy, of [Plains'] position that this Commission should exercise such wide-ranging antitrust authority, Congress has not seen fit to extend NRC's antitrust jurisdiction that far."

Id. For precisely the same want, Plains' Comments should be dismissed as insufficient to trigger an Operating License antitrust review under the Atomic Energy Act.



## II. Allocation of Capacity Entitlements on the Parallel Transmission Lines

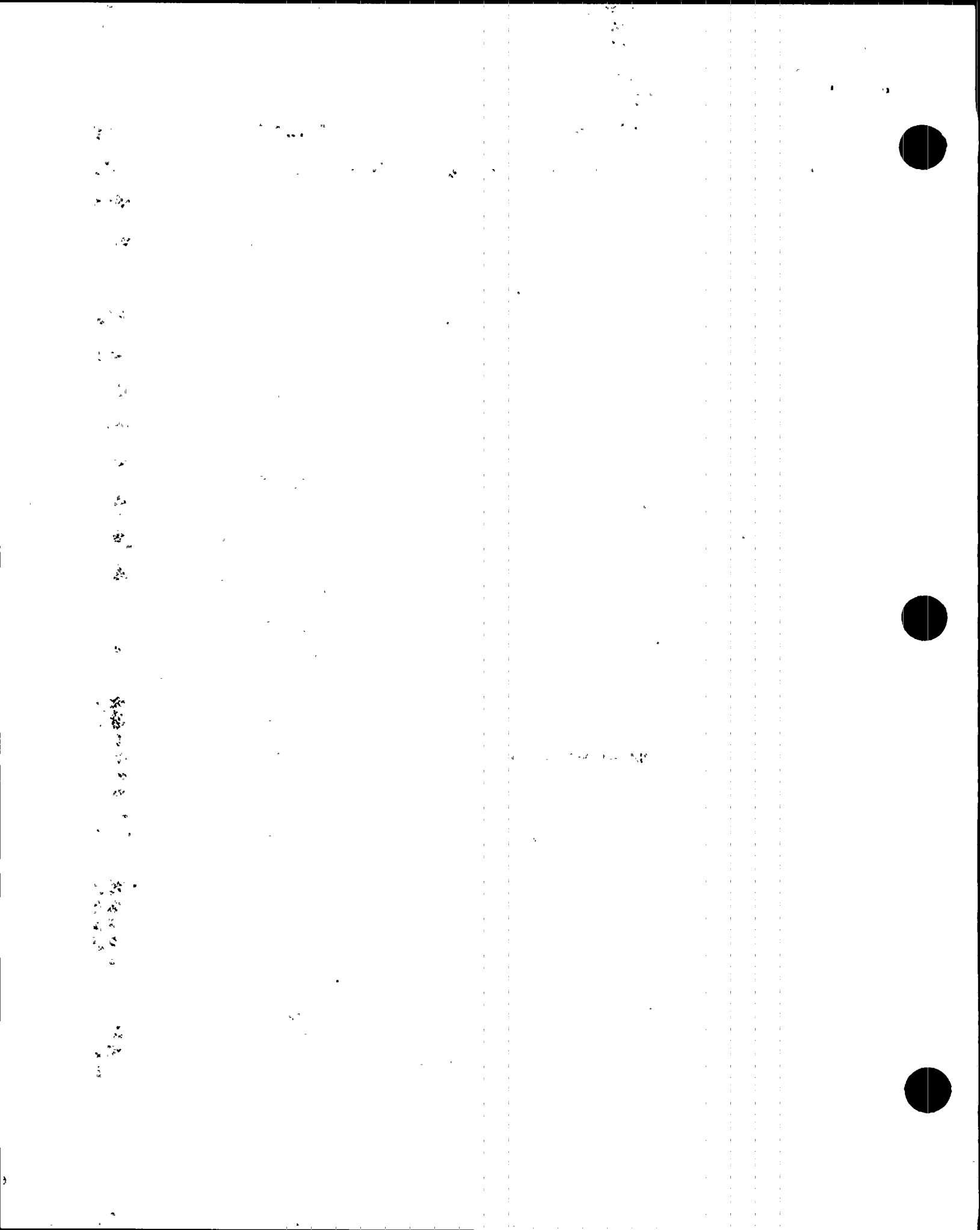
### A. Factual Background

As the Comments note (at 6-7), one of the lines comprising one of the two existing north-south transmission systems in New Mexico is Plains' West Mesa-Dona Ana Line. See Exhibit A.<sup>2</sup> Plains maintains that the physical capacity of this 115 kV line is 60 mW and that El Paso has (i) heretofore recognized and admitted that capacity and (ii) recently nonetheless asserted without basis that Plains is entitled to employ only 35-40 mW of power importation capacity. Plains asserts that El Paso's "recent" contentions are both a breach of section 7(c) of the governing Interconnection Agreement (Contract No. 14-06-500-1605) ("Contract 1605") (Comments, Exhibit 11) and a product of an anticompetitive effort to limit transmission access into southern New Mexico. As shown below, however, El Paso's actions were entirely consistent with the terms of Contract 1605 and with the requirements of the antitrust laws.

Although the actual, stand-alone physical capacity of Plains' West Mesa-Dona Ana line is a matter of dispute

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<sup>2</sup> Attached hereto as Exhibit A for convenience is a schematic representation of the transmission lines that are discussed in this Response. It should be noted that the Dona Ana substation and the Las Cruces substation are adjacent.



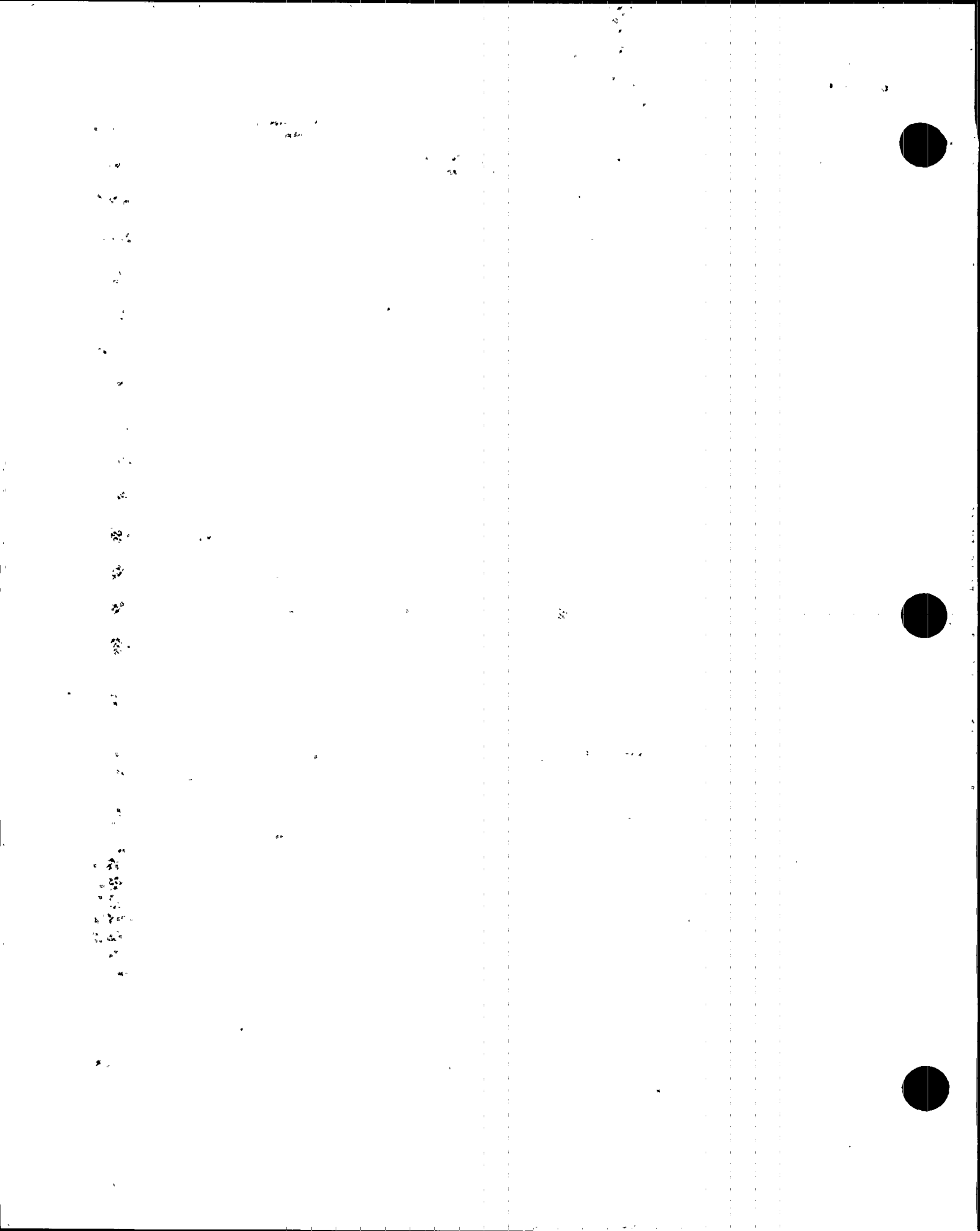
between the parties, it is not the principal bone of contention.<sup>3</sup> This line was originally built by the United States Bureau of Reclamation ("Bureau") in the 1930's or 40's; it was declared available for sale in 1971 and purchased by Plains in 1978.

Running parallel to Plains' West Mesa-Dona Ana line is El Paso's 345 kV West Mesa-Arroyo line. On the same scale on which Plains claims its line to have a capacity of 60 mW, the physical (continuous thermal) capacity of El Paso's West Mesa-Arroyo line is approximately 700-800 mW. The El Paso line was constructed in 1968, and in that year the two lines were electrically interconnected.<sup>4</sup> Plains acquired the 115 kV line ten years later.

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<sup>3</sup> Plains contends that the physical capacity of its West Mesa-Dona Ana Line is 60 megawatts. El Paso believes that, were it important, an engineering analysis of the line would reveal a physical capacity somewhat less. However, the precise measure of the physical capacity of the West Mesa-Dona Ana line is a subject that has never been determined between the parties or by any third party. Nor is that line's physical capacity the reason why system curtailments are required.

<sup>4</sup> As a result of the electrical interconnection, power scheduled by either company to flow over its own line can in fact flow over both lines, as electrical conditions dictate. In fact, because (among other things) the physical capacity of El Paso's line is so much greater than that of Plains' line, virtually all (in excess of 90%) of the power transmitted by Plains will actually flow over the El Paso line. This fact was recognized by El Paso and the Bureau when the lines were interconnected, and it was, among other things, to accommodate the "inadvertent flow" phenomenon that section 7 of Contract 1605 was written.





Both El Paso's West Mesa-Arroyo line and (by virtue of its electrical interconnection with it) Plains' West Mesa-Dona Ana line operate as parts of the interconnected and coordinated New Mexico transmission system. This system is operated by members of the New Mexico Power Pool ("NMPP"), consisting of the Western Area Power Administration ("WAPA"),<sup>5</sup> Public Service Company of New Mexico ("PNM") and Texas-New Mexico Power Company, as well as El Paso and Plains. The NMPP has been in existence since 1956. Under the NMPP approved operating procedures, the interconnected transmission system in New Mexico must be operated according to an "N-minus-1" reliability criterion, viz., the system must be operated in a manner capable of withstanding the loss of the most critical transmission facility.<sup>6</sup> Although Plains is a member of NMPP, it appears

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<sup>5</sup> An agency of the United States Department of the Interior. (WAPA is the successor to the Bureau.)

<sup>6</sup> Reliability of an electrical transmission system is a complex subject. Insofar as it involves capacity, the "N-minus-1" criterion specifies that the maximum load that can be placed on a transmission system may not exceed the capacity of the system with its most critical single element out of service: by so limiting load, a failure of any single component of the system can be tolerated without either causing other components to trip out or requiring that load be shed. The "N-minus-1" operating criterion is the transmission system functional equivalent of the single failure design criterion required of nuclear power plant safety systems by 10 C.F.R. Part 50, Appendix A, Criterion 17.

One way of visualizing the concept is by analogy to a



that Plains does not subscribe to this "N-minus-1" criterion for its own 115 kV West Mesa-Dona Ana transmission line.<sup>7</sup> Presently the "N-minus-1" reliability criterion

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truck with a large number of wheels enabling it to carry large loads. If the truck is loaded to the maximum capacity available with all wheels and tires intact, a single blowout causes an overload (and probably an accident). If, however, a limit is imposed at that load that could be carried with the most critical (most highly loaded) wheel missing, then the truck can sustain a blowout of any tire without causing it to be overloaded.

In neither the electric transmission business nor the truck business, however, does such reliability come without a cost: the cost is that larger systems than can be used must be constructed (or, stated a different way, a portion of the load-carrying capacity for which construction and maintenance costs are incurred must be held in reserve and not used for ordinary operations).

When originally constructed, the Bureau's (now Plains') West Mesa-Dona Ana line operated with no backup transmission path (sometimes referred to as "N-minus-zero" reliability); consequently, any loss of the line would cause its capacity to diminish to zero and load would be lost. By virtue of its interconnection, however, the Plains line enjoys complete "back up," both because in theory any load it might be carrying at the time of failure could (and would) shift to the El Paso line and because in practice virtually all of the load scheduled by Plains over its line at any time is in fact already flowing over the El Paso line. Moreover, by virtue of the interconnection of the El Paso line to the balance of the New Mexico system, Plains enjoys that reliability enhancement even if the El Paso line should be unavailable. El Paso provides Plains with this backup service without compensation and without reciprocal benefits. Whereas El Paso's 345 kV line can accommodate the additional load should Plains' 115 kV line suddenly shut down (it already carries more than ninety percent of that load because of inadvertent flow), the reverse is not true.

<sup>7</sup> The Operating Nomograms were only based on the 345 kV system.



requires that the aggregate of power imported into southern New Mexico be limited to approximately 550 mW,<sup>8</sup> even though the maximum physical capacity of the system's components exceeds 1400 mW.

This 550 mW safe importation limit has been established by Operating Nomograms, which, as Plains notes (Comments at 7-8), are empirically derived through a series of computer simulations to measure performance at given load and generation levels with the critical facility removed from service. As the applicable Nomogram demonstrates (see Plains Comments, Exhibit 5), if imports to southern New Mexico were to exceed 550 mW, the transmission system would not be capable of maintaining a minimally acceptable voltage level (should the critical facility be lost) without overloading and damaging the remaining New Mexico import system.

This governing Nomogram was prepared and is administered by Public Service Company of New Mexico for and on behalf of all members of NMPP. As a result, whenever transmission levels threaten to exceed 550 mW, PNM issues a warning requiring power importation to be curtailed (reliability curtailments). This curtailment is accomplished by reducing

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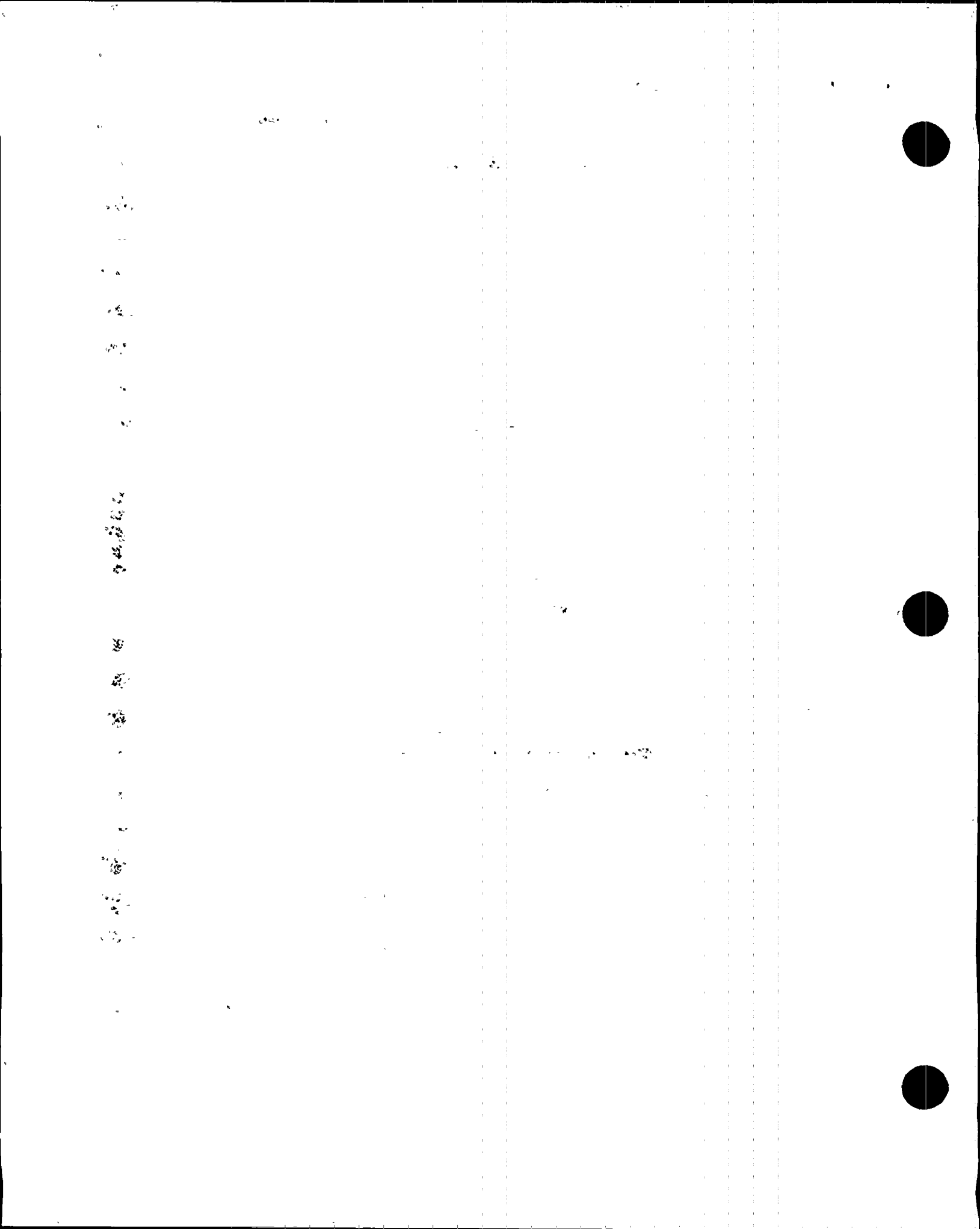
<sup>8</sup> The members of NMPP have agreed that the maximum reliable importation limit into southern New Mexico is 550 mW under the best operating conditions. In actual practice, El Paso has been required by PNM to curtail importation at levels as low as 470 mW. Such curtailment requires El Paso to increase local, more expensive gas and oil fired, generation.



scheduled power flows on the transmission system and replacing that power with local generation. In that way, operating reliability can be maintained or re-established.

It is clear that Plains is both aware of and benefits from this "N-minus-1" operating criterion and the governing PNM Operating Nomogram. See Comments at 7-8. Moreover, as is explained above, the interconnection of Plains' 115 kV line to El Paso's 345 kV line assures Plains of a reliable "back-up" in the event that Plains' line were suddenly to cease functioning, a service El Paso provides without compensation. Nevertheless, Plains contends, with regard to the Plains-El Paso parallel lines, that El Paso is legally obligated to bear the entire transmission capacity sacrifice that must be made in order to assure overall system reliability. El Paso respectfully disagrees.

Although this dispute over transmission entitlements has been implicit in the interconnected system since the Operating Nomograms were promulgated, it became especially pressing once import loads approached the 550 MW limit. As reliability curtailments became a reality, Plains asserted in effect that it is exempt from any such cut-backs, notwithstanding its benefits from the "N-minus-1" operating norms. El Paso, however, has maintained that it should not absorb one hundred percent of the transmission sacrifices at West Mesa because such a result is neither fair nor legally required. Plains now responds that El Paso's position





constitutes a Section 105c significant change. It does not for the reasons set forth below.

B. The Significant Changes Determination

Plains must survive a "significant changes determination" before any section 105c hearing is permissible at the operating license stage. Subsection 105c(2) states explicitly that the antitrust review required at the construction permit stage "shall not apply" to an operating license application unless the Commission determines that

"significant changes in the licensee's activities or proposed activities have occurred subsequent to the previous review by the Attorney General and the Commission under this subsection in connection with the construction permit for the facility."

42 U.S.C § 2135c(2).

This threshold determination of significant changes consists of three criteria, all of which must be met before a further antitrust review may be undertaken. "The change or changes [must] (1) have occurred since the previous antitrust review of the licensee(s); (2) [be] reasonably attributable to the licensee(s); and (3) have antitrust implications that would likely warrant some Commission remedy." South Carolina Electric & Gas Co. (Virgil C. Summer Nuclear Station, Unit 1), CLI-80-28, 11 NRC 817, 824 (1980). With regard to Plains' allegations in the present context, each of the criteria must be addressed separately.



1. Occurrence since the previous antitrust review.

As appears in the above-mentioned facts, the allegations relevant here concern the parties' disputed proportionate entitlements to the limited reliable transmission capacity available to the entire NMPP for importing power into southern New Mexico. That situation has existed since the decision by the members of NMPP to operate the interconnected transmission system subject to reliability constraints. The "N-minus-1" operating criterion was first utilized in 1968 in northern New Mexico with the installation of the second 345 kV transmission line from the Four Corners Generation Station to the West Mesa Switching Station. During outage conditions of one of these lines, members of the NMPP were required to curtail imports into New Mexico. In 1978, with completion of the Southwest New Mexico Transmission Line (the second 345 kV transmission line in southern New Mexico), the "N-minus-1" operating criterion was extended into southern New Mexico, which occurred subsequent to the Construction Permit full-scale antitrust review for the Palo Verde project. (The Attorney General's letter is dated April 8, 1975.)

If the Staff were to take the position that the operative date for assessing whether a "change" has occurred must run back to that construction permit review, then the situation of which Plains complains is a "change."



(Regardless, however, it is not a "significant change" as defined in CLI-80-28.)

On the other hand, El Paso respectfully submits that a more appropriate approach looks to the policies underlying the temporal "change" requirement. It is important to the policy objectives intended to be achieved by treating CP antitrust reviews and subsequent OL antitrust assessments differently that intervenors raise potential antitrust matters as early in the licensing process as possible, so as to assure "fairness to utilities engaged in long range planning." Houston Lighting & Power Co. (South Texas Project, Unit Nos. 1 and 2), CLI-77-13, 5 NRC 1303, 1321 (1977). Without such a policy, a potential exists for employment of last-minute "antitrust" assertions to gain negotiating leverage (even on matters unrelated to the nuclear facility itself) once licensing for the nuclear unit has become a critical path item. In the instant case, the situation regarding the NMPP operating reliability criteria, and all of the arguments Plains now raises regarding system importation capacity entitlements, were fully capable of being raised and considered during the 1983 significant changes determination for PVNGS-1 and -2, in which Plains filed no comments.<sup>9</sup>

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<sup>9</sup> See Arizona Public Service Co. et al., 48 Fed. Reg. 6,060 (NRC Staff 1983) (negative significant changes



To allow Plains to inject its Comments at this late date (fuel load for PVNGS is set for March, 1987) would work the very sort of inequity that was intended to be foreclosed in CLI-77-13. (South Texas Project, supra, 5 NRC at 1321.) These "considerations of fairness to parties and conservation of resources," id., are especially cogent where the allegations have no connection to the nuclear facility being licensed (discussed later).

2. Reasonably attributable to licensee(s)

In order to warrant a further antitrust review, the asserted recent change must be attributable to the "licensee" (permittee), in this case El Paso, for otherwise reopening the question of antitrust considerations previously considered and resolved at the construction permit stage is neither fair nor consistent with Congressional intent. South Carolina Electric and Gas Co. (Virgil C. Summer Nuclear Station, Unit 1), CLI-80-28, 11 NRC 817, 834 (1980). Accordingly, pursuant to legislative intent, this second criterion "provides the latitude for a common sense determination of when it is or is not fair to subject particular licensees to a second review." Id.

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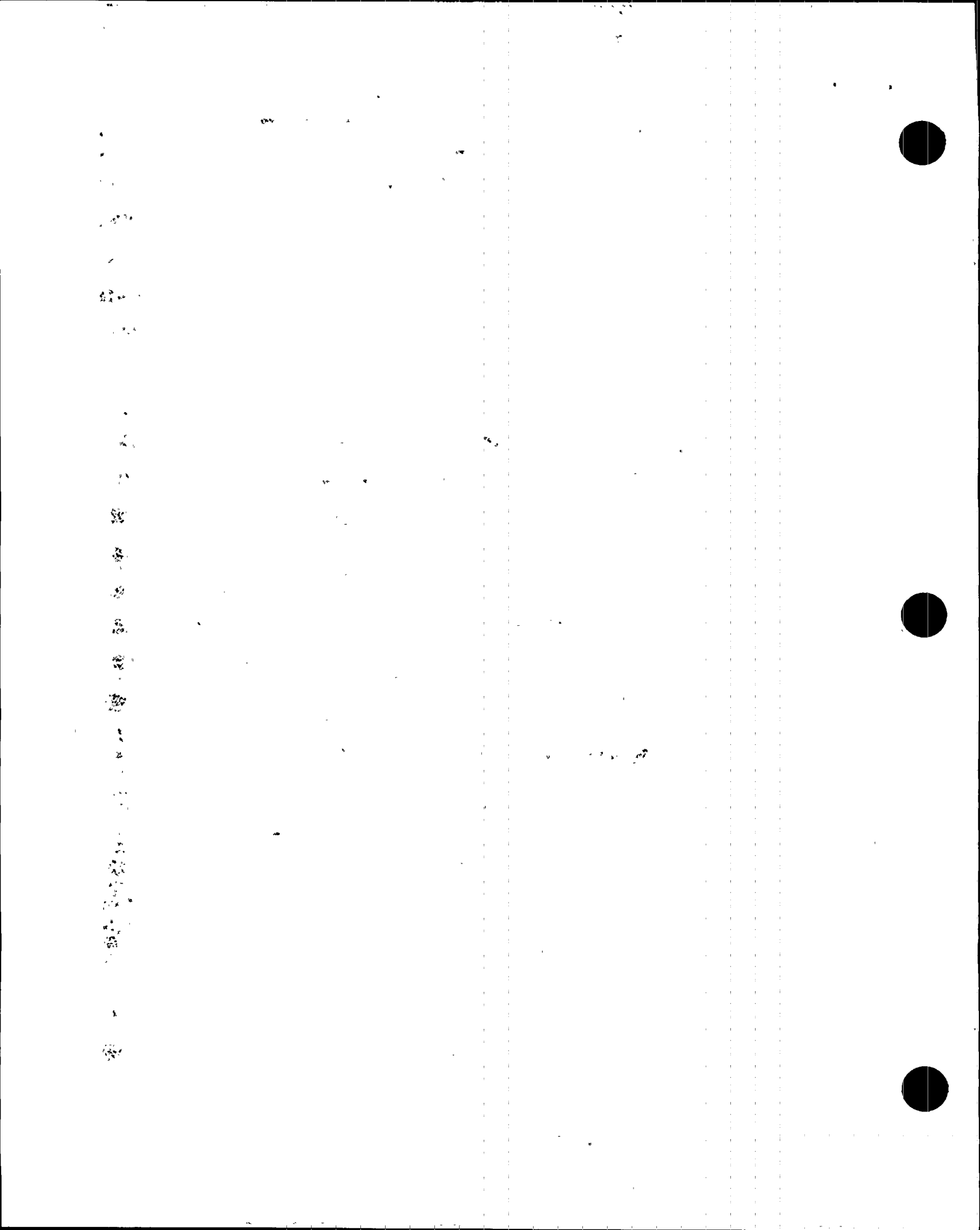
determination). Of course, one of the principal reasons why Plains' allegations could have been raised just as easily with regard to PVNGS-1 and -2 as to PVNGS-3 is that Plains' assertions actually have no connection whatsoever to any of these nuclear facilities. This separate issue of "nexus" is discussed infra.





As appears from the foregoing discussion, that which Plains asserts to be a change flows not from conduct unilaterally undertaken by El Paso, but rather from the coordinated decision by all of the members of the NMPP that the interconnected transmission system should be operated at the "N-minus-1" reliability level, and from the resulting limitations on the ability of any of the member utilities to employ the full physical capacity of the transmission system. As a member of the Pool, Plains participated in that decision and enjoyed the resulting benefits, in terms of system reliability, no less than any of the other members of the Pool.

Where the advanced complaint of one member of a power pool seeking a reopening of antitrust review in connection with nuclear plant licensing stems from a systemwide operating decision made by the pool, for the benefit of the pool and the customers of all the members, El Paso doubts that the concern for fairness underlying the "attributable-to-the-licensee" requirement has been met even if the complainant could show that it actively opposed the systemwide decision. Where, as here, however, the complainant has supported the decisions -- and enjoyed the resulting benefits -- its complaint as to a side consequence of the decision deserves to be regarded with skepticism.



3. Antitrust implications that would be likely to warrant Commission remedy

Plains fails to meet this final significant changes criterion for two reasons -- first, Plains has not and cannot establish the requisite nexus between the "activities under the license" and any "situation inconsistent with the antitrust laws;" second, Plains simply has no case on the antitrust merits.

a. The Nexus Requirement

Because Plains has not mentioned this statutory requirement, it deserves some elaboration. The specific standard for NRC antitrust review under section 105c of the Atomic Energy Act, 42 U.S.C. §2135(c), is "whether the activities under the license would create or maintain a situation inconsistent with the antitrust laws as specified in subsection [105(a)]." (Emphasis added.) The Commission has recognized that this standard has inherent boundaries:

"[Section 105c] does not authorize an unlimited inquiry into all alleged anticompetitive practices in the utility industry. The statute involves licensed activities, and not the electric utility industry as a whole. If Congress had intended to enact a broad remedy against all anticompetitive practices throughout the electric utility industry, it would have been anomalous to assign review responsibility to the [then] Atomic Energy Commission, whose regulatory jurisdiction is limited to nuclear facilities. It is the status and role of these facilities which lie at the heart of antitrust proceedings under the Atomic Energy Act."

Louisiana Power & Light Co. (Waterford Steam Electric Generating Station, Unit 3), 6 AEC 619, 620 (1973) (emphasis



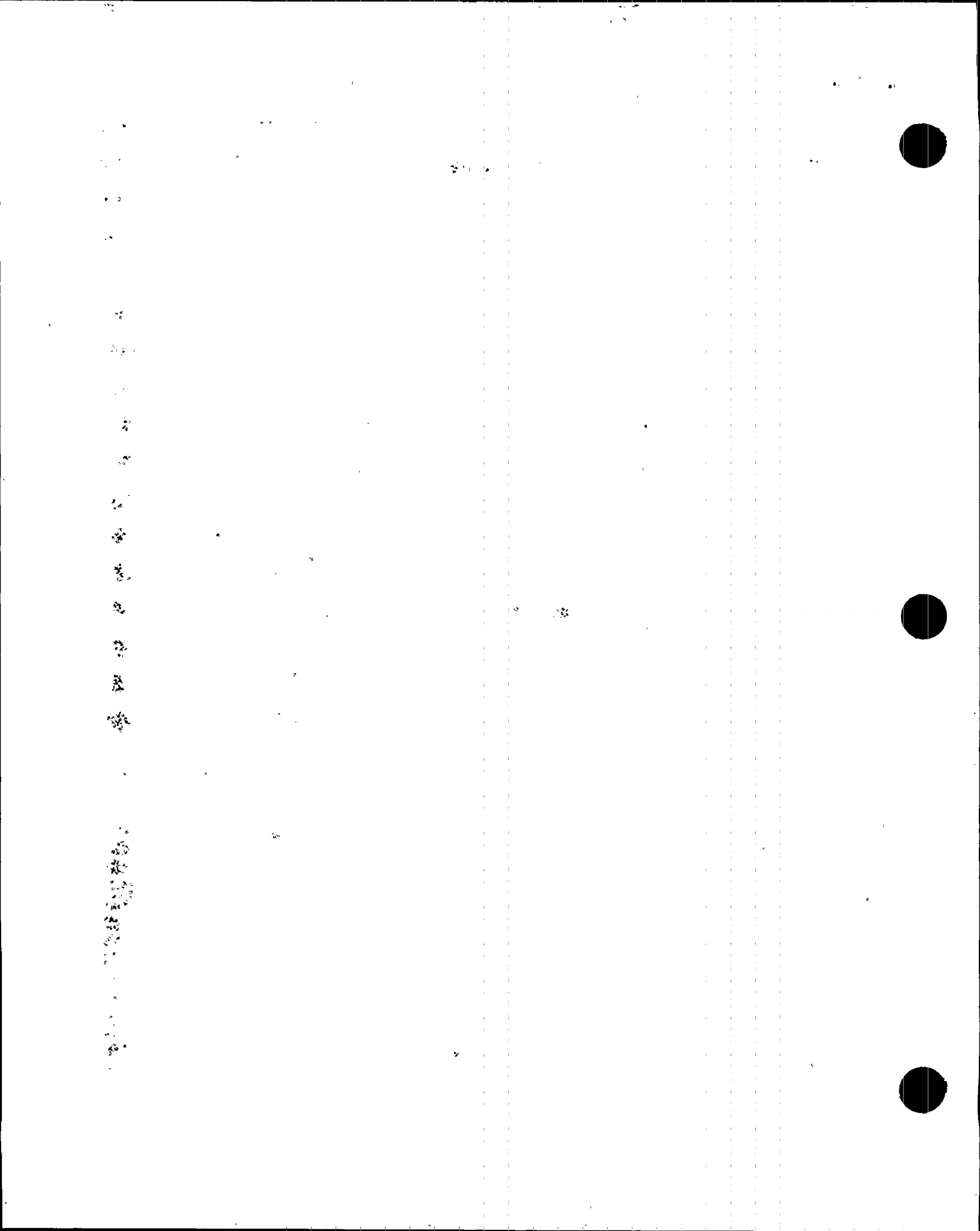
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in original). Accordingly, "alleged anticompetitive practices -- however serious -- which have no substantial connection with the nuclear facility, are beyond the scope of antitrust review under the Atomic Energy Act." Id. at 621.

According to the Appeal Board's interpretation of section 105c, "the licensed activities must play some active role in creating or maintaining the anticompetitive situation. Put another way, the nuclear power plant must be an actor, an influence, on the anticompetitive scene." Florida Power & Light Co. (St. Lucie Plant, Unit No. 2), ALAB-665, 15 NRC 22 (1982).

Because of this clear statutory limitation on the NRC's jurisdiction, an intervenor seeking a section 105c hearing must plead (with particularity and specificity) and prove "a meaningful nexus between the activities under the nuclear license and the 'situation' alleged to be inconsistent with the antitrust laws." Waterford, supra, 6 AEC at 621 & n.2. If that nexus cannot be established, "there is no need for a hearing . . . ." Id.

In the instant case, Plains has failed to show (in fact has not even plead) any nexus between El Paso's activities under the operating license and the disputed allocation of transmission entitlements on the West Mesa parallel line system. Rather, the anticompetitive "act" alleged here, like the other three "acts" alleged by Plains and addressed

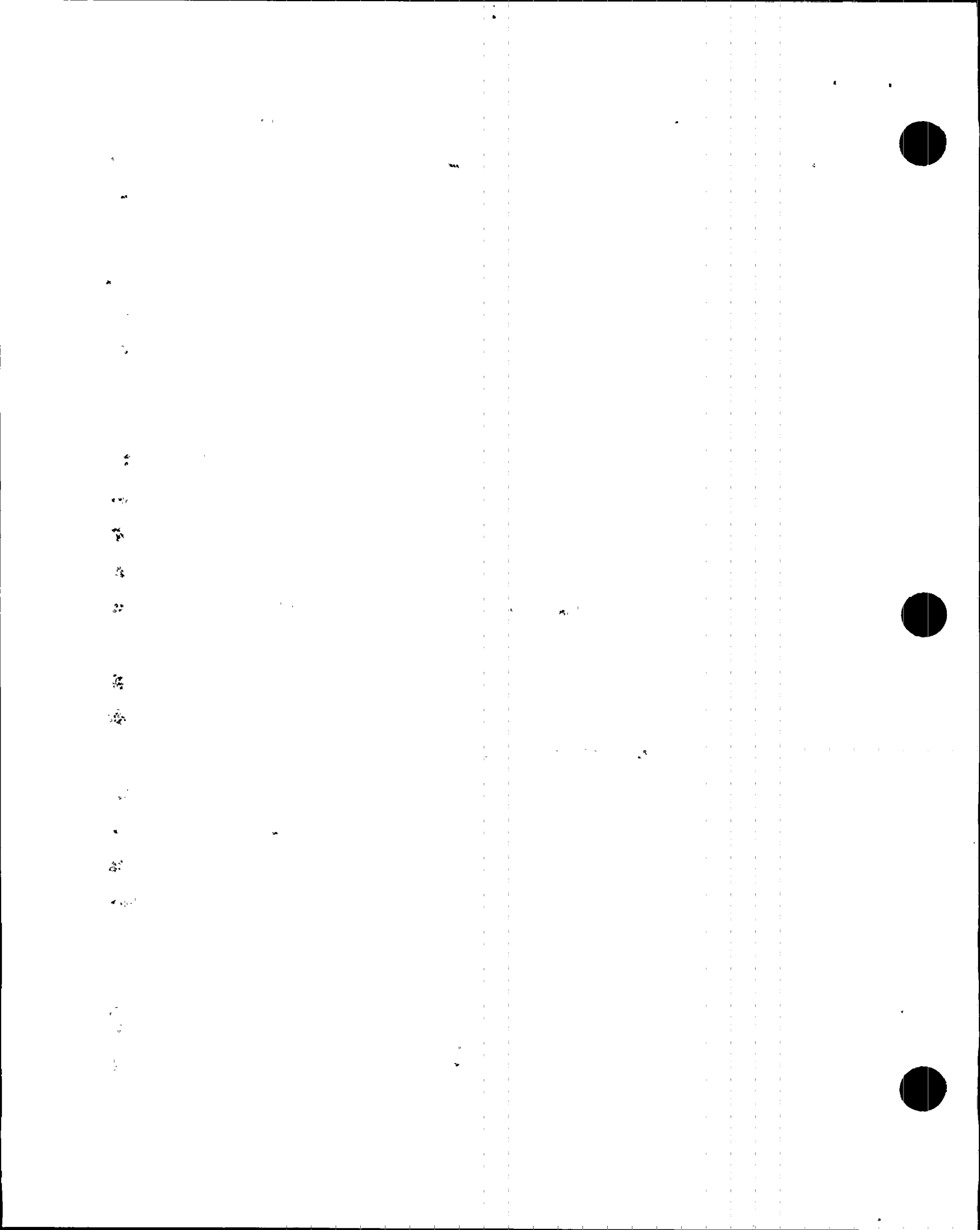


individually below, relates exclusively to El Paso's transmission system and reflects no "active anticompetitive role" of PVNGS-3 itself, the nuclear facility being licensed. As the cases establish, that is insufficient. ALAB-665, supra, 15 NRC at 33-34.<sup>10</sup>

The absence of nexus in this case is especially apparent in light of those Appeal Board decisions that have found the nexus requirement met. See Alabama Power Co. (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-646, 13 NRC 1027 (1981), aff'd sub nom. Alabama Power Co. v. NRC, 692 F.2d 1362 (1982), cert. denied, 104 S.Ct. 72 (1983); Toledo Edison Co. (Davis-Besse Nuclear Power Station, Units 1, 2 and 3), ALAB-560, 10 NRC 265 (1979); Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-452, 6 NRC 892 (1977); Kansas Gas & Electric Co. (Wolf Creek Generating Station, Unit No. 1), ALAB-299, 2 NRC 740 (1975); Kansas Gas & Electric Co. (Wolf Creek Generating Station, Unit No. 1),

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<sup>10</sup> Thus, while it is well settled that under certain circumstances, denying transmission access to a competitor may violate the antitrust laws, e.g., Otter Tail Power Co. v. United States, 410 U.S. 366 (1972), it is equally well settled that in order to invoke the Commission's antitrust jurisdiction, an intervenor must link the alleged anticompetitive situation created by the denial of transmission services with the nuclear facility being licensed. ALAB-665, supra, 15 NRC at 33-34. Even if Plains had portrayed a situation within the ambit of Otter Tail Power (which, for the reasons set forth in the next section, it has not), establishing only half of what is required to trigger (or permit) an OL-stage antitrust review is to fail to carry one's burden.





ALAB-279, 1 NRC 559 (1975). All of the above-cited cases involve facts and circumstances that are very different than any of the allegations advanced here and elsewhere by the Comments.

Referring to its Farley, Davis-Besse and Midland decisions, the Appeal Board in ALAB-665 declared that "in each of our cases the focus has been on the claim that the cheaper power of the nuclear plant being licensed would actively support the dominant competitive position of the license applicant." 15 NRC at 32. Yet Plains has not made any contention that El Paso's share in the power generation from PVNGS-3 (whether or not cheaper) would create or maintain, in any way, an El Paso monopoly either in the wholesale power market or in north-south transmission services.

In the Wolf Creek cases (ALAB-299 and ALAB-279, supra), the intervenor succeeded in establishing a section 105c nexus between the applicant's anticompetitive refusal to "wheel"<sup>11</sup> and activities under the nuclear license. Unlike the present situation, however, the intervenor in Wolf Creek was able to demonstrate that the applicant's refusal to wheel power related substantially to the nuclear facility

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<sup>11</sup> Wheeling is the "transfer by direct transmission or displacement [of] electric power from one utility to another over the facilities of an intermediate utility." Otter Tail Power Co. v. United States, 410 U.S. 366, 368 (1973).

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being licensed. In Wolf Creek, the applicant, which was the dominant utility and controlled all essential transmission facilities in the area, offered the intervenor-cooperative an opportunity to obtain an ownership interest in the Wolf Creek nuclear plant. But the applicant refused to agree to wheel supplemental power to the cooperative. Without assured access to a source of supplemental power, which only the applicant could provide, the intervenor could not obtain the necessary backing from the financial community to secure an interest in the nuclear facility. The practical effect of the applicant's refusal to wheel, therefore, was "to prevent the cooperative from gaining access to the nuclear facility, and accordingly, from competing with the applicant." ALAB-279, supra, 1 NRC at 563.

Plains can present no such argument linking El Paso's actions (either as alleged here or in the other three contexts below) with any inability on Plains' part to participate in the PVNGS project. Plains declined earlier offers to purchase an interest in the nuclear facilities; thus Plains' participation in, and access to, the PVNGS-3 facility is not and has never been a factor.<sup>12</sup> Nor does

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<sup>12</sup> It should be noted that access to, and participation in the entire PVNGS project has been made genuinely available since the beginning. As the Attorney General concluded during the antitrust review at the construction permit stage, "PVNGS was initially planned as a joint venture between APSC [Arizona Public Service Co.], TG&E [Tucson Gas



Plains contend that the current shortage of transmission capacity is the result of bringing PVNGS-3 on line.<sup>13</sup>

Accordingly, Plains' request for a Section 105c review and hearing should be denied on the ground that, inter alia, Plains cannot establish the "overriding requirement," Waterford, supra, 6 AEC at 621, of a meaningful tie between the activities under the license (here, operation of PVNGS-3) and the alleged anticompetitive situation (in this case, El Paso's claimed monopolistic control over the

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and Electric Co.] and SRP [Salt River Project Agricultural Improvement and Power District]. Access was offered to other G&Ts and eventually to all electric utilities in Arizona and New Mexico. . . . No complaints were received and no other evidence was found of any refusal by any of the joint applicants to provide coordinating services to the smaller systems.'" Arizona Public Service Co., et al., 40 Fed. Reg. 17,349 (NRC Staff 1975) (quoting Attorney General's antitrust advice letter to Commission regarding construction permit for PVNGS-1, -2 and -3).

<sup>13</sup> Any such argument would be belied by the very facts of which Plains complains -- namely, that there is a shortage of transmission capacity today, before the Unit is even on line. Furthermore, if Plains were to attempt (albeit unsuccessfully) to establish nexus by attributing capacity shortage to PVNGS-3, it would foreclose the possibility of any case on the merits, for Plains would then be unable to claim that there is transmission capacity in excess of El Paso's own legitimate needs (to which excess Plains might assert a right of access). It is fundamental to the antitrust doctrine of "essential facilities" that the owner of the asserted essential facility is not required to curtail his own use in order to make the facility available to others. Hecht v. Pro-Football, Inc., 570 F.2d 982, 993 (D.C. Cir. 1977), cert. denied, 436 U.S. 956 (1978); Gamco, Inc. v. Providence Fruit and Produce Building, Inc., 194 F.2d 484, 487-88 & n.3 (1st Cir. 1952), cert. denied, 344 U.S. 817 (1952). See also Seesen v. Professional Golfers' Association of America, 358 F.2d 165 (9th Cir. 1966), cert. denied, 385 U.S. 846 (1966).

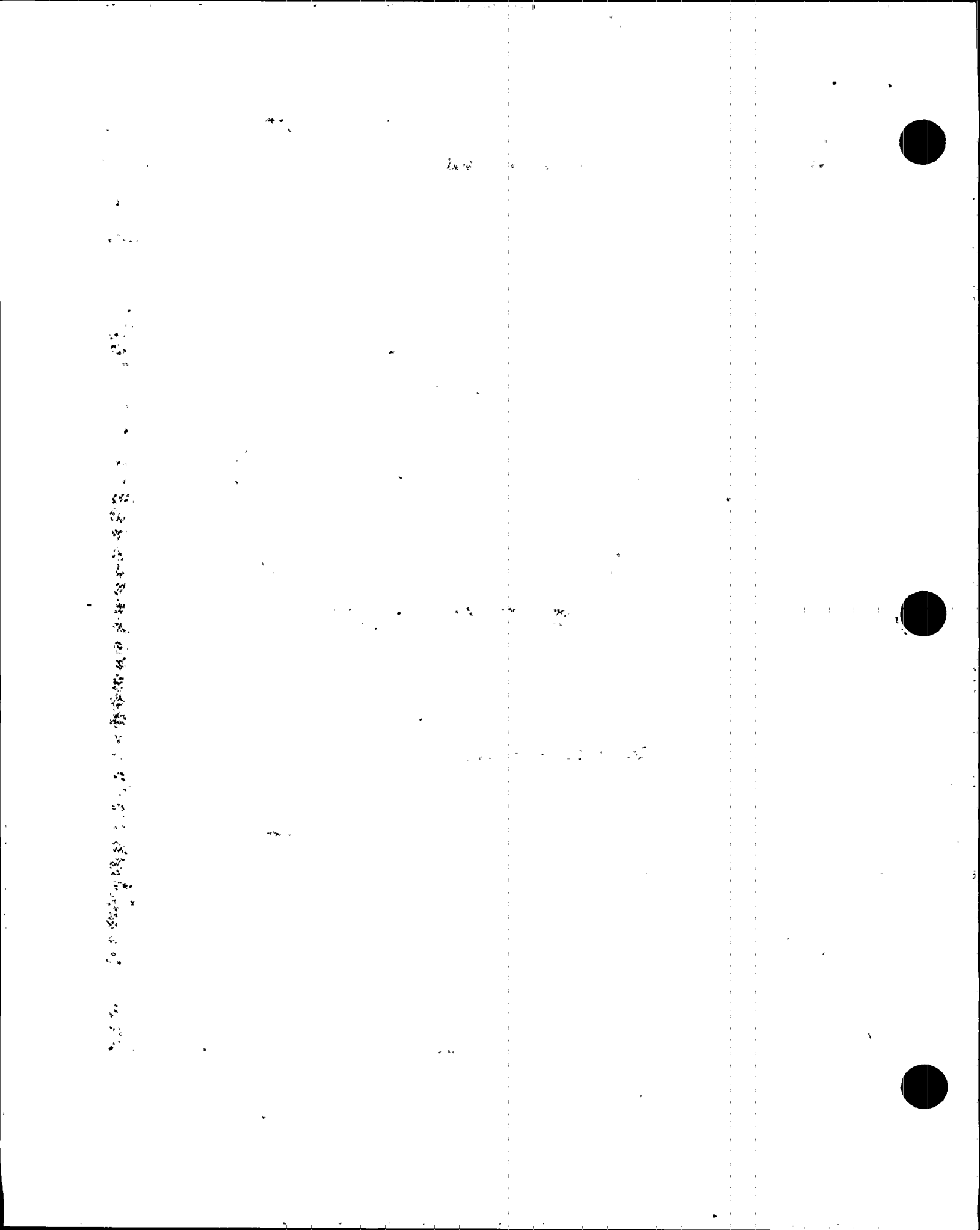


transmission of electric power from northern to southern New Mexico). ALAB-665, supra, 15 NRC at 31.

b. The Antitrust Merits

Plains has failed not only to establish the statutory nexus requirement but also to make any case on the merits. Plains attempts to establish an anticompetitive "situation" regarding the disputed allocation of transmission entitlements on the West Mesa system by making an argument that sounds in contract, not antitrust law. More importantly, Plains' argument of contract interpretation misses the factual mark -- it does not even address the very facts that have precipitated the entitlement dispute.

Briefly recapped, Plains notes that Contract 1605, originally made between the Bureau and El Paso, remained in force after Plains purchased the Bureau's West Mesa-Dona Ana line in 1978. Plains argues that El Paso's refusal to recognize Plains' full 60 mW of physical transmission capability violates Clause 7(c) of Contract 1605 (Comments, Exhibit 11 at 12), which allegedly assures Plains' (though presumably not El Paso's) "right to the full use and enjoyment of its line." Comments at 13-14. Plains then maintains that El Paso's "breach" is based on an improper business reason -- in essence that it is so colorless as to be pretextual -- and therefore manifests El Paso's monopolistic intent to restrict competition for new load in southern New Mexico.





Plains' argument lacks foundation as a matter of contract interpretation, let alone as a basis for a second full-scale antitrust review. The full text of Clause 7 of Contract 1605, upon which Plains makes its argument, reads as follows:

"7. (a) The parties hereto recognize and acknowledge that the 345-kV line of El Paso normally will be interconnected at Albuquerque, New Mexico, resulting in a parallel operation of the transmission systems of El Paso and the United States between the Albuquerque and Las Cruces areas.

"(b) The United States and El Paso each agree, except during emergencies or as otherwise mutually agreed upon, to limit quantities of power normally scheduled for delivery over their respective transmission facilities so as not to exceed the nominal capability of such facilities; Provided however, that while it is not the intent of either El Paso or the United States to provide transmission service for the other between the Albuquerque and Las Cruces areas, it is recognized that from time to time power and energy may flow inadvertently over the system of either party between these areas, and for such inadvertent flow no transmission charge shall be made by either party to the other; Provided further, that in the interest of achieving the maximum system reliability available under the interconnected system operations recognized by this contract, the United States and El Paso each agree that in the event of a breakdown, emergency, or planned outage on the transmission system of either party, the other party shall without charge make every effort to furnish, during the period of such breakdown, emergency, or planned outage, any and all transmission requirements of the party affected; however, the owner of the transmission facilities to be so utilized shall be the sole judge of its ability to furnish the required transmission service.

(c) Nothing herein contained shall obligate either El Paso or the United States to reserve a portion of their respective transmission



capability for the use of the other, or restrict the party owning the paralleling line from enjoying its full usage and capability."

The intent of the above provision, when it is read in its entirety, is clear enough. Clause (a) recognizes that the parties' transmission lines are to be interconnected and operated in parallel between Albuquerque and Las Cruces. Clause (b) limits each party's use to the nominal capability of its own line. Clause (b) recognizes that, in the character of interconnected operations, inadvertent flows of one party will occur on the lines of the other party. Clause (b) further commits each party to use its best efforts to provide backup transmission service in an emergency to the extent that it deems itself able to do so. Neither party is to charge for inadvertent flows or emergency backup service. The final clause, Clause (c), provides that nothing in the contract -- the reference obviously is particularly to the immediately preceding Clause (b) -- is to create a reservation or dedication of a portion of the capability in either party's line for the use of the other party or is to prevent either party from enjoying the full usage and capability of its own line.

These provisions are typical of arrangements for interconnected operations of electric transmission systems in parallel. It is usual for such systems to permit inadvertent flows without charge; it is also usual for such systems to provide emergency backup service to each other

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without charge. But such exchange of services does not reserve or dedicate capability in either system.

Clause (c) is explicitly cast to take precedence over any provisions of the contract that might produce a contrary result. This intent is expressed in the opening words of the clause, "Nothing herein contained shall," etc. By reason of those words, in the event of a conflict between the claims of one party under Clause (b) and those of the other party under Clause (c), the Clause (c) claims prevail.

In Clause (b) the parties "recognize" that inadvertent power flows will occur on the lines of the other party and agree not to charge one another for such flows. But, under Clause (c), the obligation to accommodate the inadvertent flows of the other party is conditional: it ceases when the first party has to reserve capability on its line to accommodate the inadvertent flows or if the flows interfere with full usage of the line. Clause (c), it will be observed, is perfectly evenhanded in its proscription against encroachment on usage and capability. Plains, no less than El Paso, is subject to its strictures.

Under Clauses (b) and (c), so long as permitting one party's "inadvertent flow" does not require that capacity on the other party's line be reserved, each party may enjoy access to the other party's line for inadvertent flows without encroaching upon that party's full usage of its line. But once the total capability of the interconnected

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lines is limited under the Operating Nomograms to less than the sum of their individual capabilities, the situation reverses. In that case, El Paso must limit its usage of its line in the interest of regional reliability, and Plains' inadvertent flows on El Paso's line prevent El Paso from making full usage of the line that it otherwise might make. In effect, to accommodate Plains' inadvertent flows, El Paso today must reserve capability on its line for Plains' usage and reduce its own usage of the line. Under Clause (c), El Paso cannot be compelled to make such reservation of capability or to accept such restriction in usage. While the Operating Nomogram limitations apply, if Plains were to propose to increase its inadvertent flows over El Paso's lines, it lies within El Paso's prerogative under the contract to decline to accommodate the flows.

Because of Clause 7(c), Plains' suggestion that El Paso must sacrifice the transmission capability of its line so that Plains can realize the full capability of its line deeply offends the terms of the contract. The very heart of Plains' assertion is that El Paso is required to (1) reserve a portion of its line for the use of Plains and (2) restrict its enjoyment of the full usage and capability of its line to accommodate Plains. All of this is claimed so that Plains not only will have the full usage of its line in the face of the region-wide constraints imposed under the Operating Nomograms, but will have the benefit of the

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reliability conferred under those Nomograms without bearing any burden whatsoever -- either in terms of constrained use or payment. Plains thus reads the contract as making El Paso the guarantor of its full, reliable usage of its line. But nothing in the contract imposes on El Paso any such role. To the contrary, Clause 7(c) explicitly forecloses that role. Even Plains seems to recognize that its reading a Section 7(c) is tenuous. Comments at 14-15 n.3. As a matter of contract law, then, Plains has no foundation for its position.

Nor does its position have a foundation as a matter of equity. Both Plains and El Paso benefit from, and as members of NMPP have agreed to, the increased system reliability effected and maintained by the "N-minus-1" operating criterion. This benefit, however, can be achieved only by operating the system at less than its maximum capacity. It is eminently fair that Plains, like every other member of NMPP, should bear its respective fair share of the concomitant costs. Plains' position that it should enjoy the full, stand-alone capacity of its line while El Paso incurs all the costs of effecting system reliability (including those attributable to Plains), is hardly reasonable. Plains seeks to attain full, stand-alone capacity while, at the same time, reaping the reliability benefits of being part of an integrated transmission



system.<sup>14</sup> It has no claim to this right as a matter of law and has no claim to it as a matter of equity, either.

In yet a third respect, Plains' position lacks foundation: quite aside from its merits as a matter of law or equity, the claim is advanced in the wrong forum. Plains' contentions relate to the allocation of capability in parallel transmission lines under an interconnection contract. At core, the matter is one of applying the words of the contract to the facts posed. The issue has nothing to do with the Palo Verde project or El Paso's operations as a joint owner of the project. While the legal and equitable points against Plains are telling, the most telling point of all, for the purposes immediately at hand, is the jurisdictional point -- just as ALAB-665 establishes that the Commission was not intended by Congress to police aspects of the antitrust laws that manifest no nexus to nuclear facility licensing, a fortiori the Commission was not intended to be the forum in which all manner of

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<sup>14</sup> Of course, there is a means by which Plains could maintain the original capacity of its line it insists is its due despite the passing of the original conditions of operation. That would be for the interconnection between Plains' line and the El Paso line to be severed, which, incidentally, would also re-establish the original lack of redundancy and line reliability under which the Plains' line was constructed and operated at the time Contract 1605 was drafted. See id., section 7(b) (last clause).



contractual and power-pool-related disputes might be settled.



### III. The Potential Sale to Rio Grande

#### A. The Facts

Plains' second allegation of anticompetitive activity by El Paso relates to a prospective sale of power by Plains to Rio Grande Electric Cooperative ("RGE"). Comments at 11-15. Once again, Plains oversimplifies the relevant facts.

RGE is a long-standing wholesale customer of El Paso's for full requirements power supply for RGE's Van Horn and Dell City service areas. These service areas are remote, sparsely populated agricultural districts which depend on pumping water from 100 to 300 feet underground for surface irrigation. RGE's load in these service areas consists largely of irrigation pumping load. The general depression in the prices of agricultural products has adversely affected farming operations at Dell City and Van Horn. Many farming operations may no longer be economic, regardless of the price of pumping power. Others will be affected by rate increases for pumping power.

Facing major wholesale rate increases, RGE approached El Paso with a plea for rate mitigation. The basis for RGE's plea was that its pumping load was highly price-elastic and possibly would virtually disappear if wholesale rates were significantly raised. This would leave RGE with substantial sunk investment in transmission and distribution facilities no longer needed.





In making its approach, RGEN made clear to El Paso that it was interested in either lower rates from El Paso or lower cost power purchases from other utilities to be delivered by El Paso. In so doing, RGEN was using, as it was entitled to do, competitive considerations to induce El Paso to lower its wholesale rates below the cost of service level. RGEN requested that El Paso provide service at a rate of 4.7¢ per kilowatt-hour, but indicated that a rate of 5¢ per kilowatt-hour would be acceptable. It also requested El Paso to advise whether it would provide transmission service from Plains to the Dell City service area. RGEN was interested in transmission service to Dell City because its power supply contract with El Paso for that area was terminable as of the beginning-of-year 1987. By contrast, its power supply contract for the Van Horn service area was not terminable before 1989.

El Paso has a history of cooperation with other utilities in the provision of transmission services and power supply services. As the Staff itself noted in its negative significant changes determination for PVNGS-1 and -2:

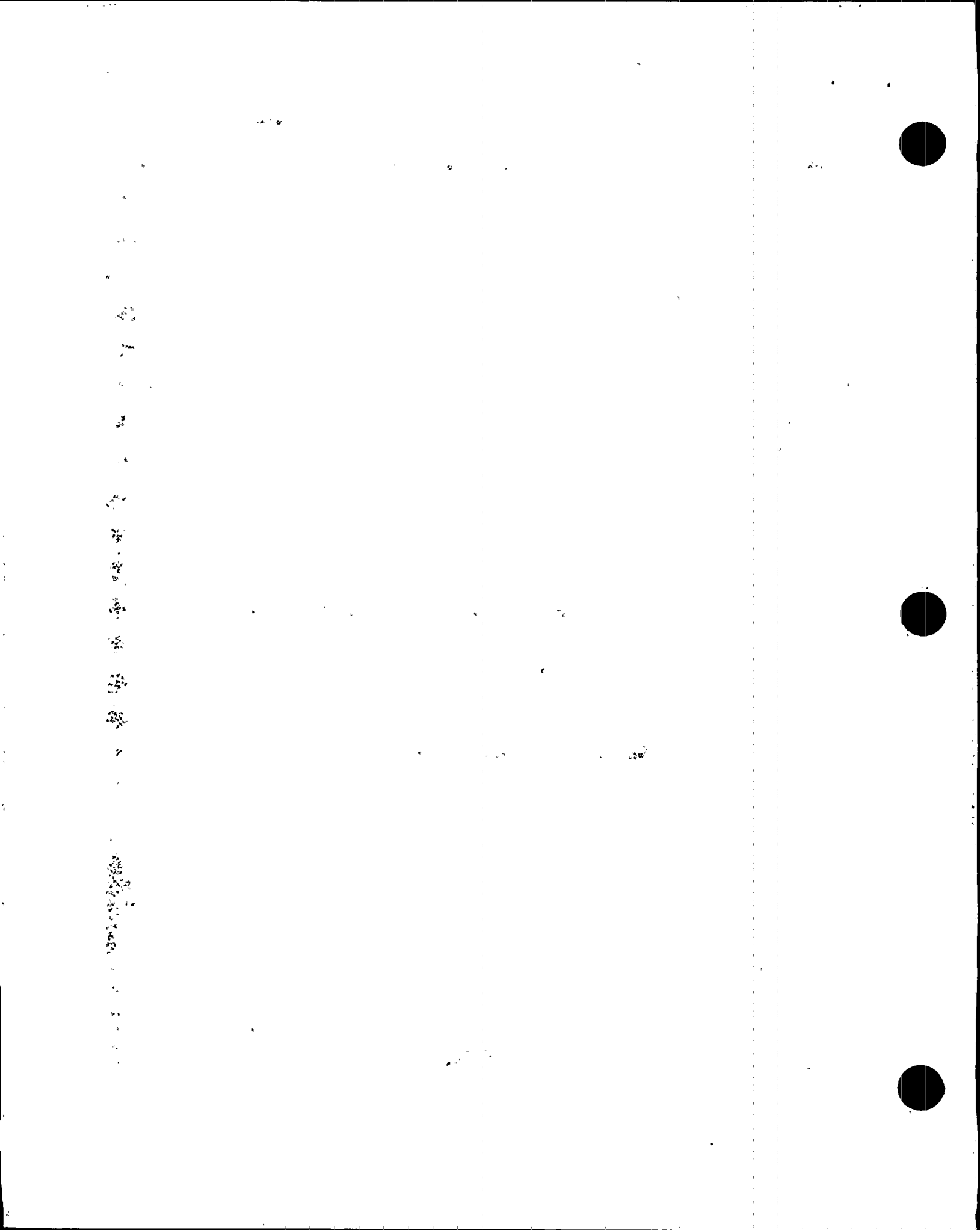
"El Paso [has] continued to offer and provide to small utilities wholesale power service, wheeling service and various other coordinated services on a scale comparable to, and perhaps even larger than, that undertaken prior to the construction permit stage."



Arizona Public Service Co. et al., 48 Fed. Reg. 6,060

(1983). In responding to RGEN's request for transmission service, El Paso was mindful of its policy to offer transmission service to any utility of available capacity within the transmission system under transmission rates filed at the Federal Energy Regulatory Commission. The question was whether there was any transmission capacity available on the transmission path from Plains to Dell City. In assessing this question there were two separate segments of the transmission system that were separately considered. The first segment was from West Mesa to Las Cruces, the segment in which Plains and El Paso operate parallel transmission lines, as previously described. The second segment was from Las Cruces to Lane, a segment in which only El Paso operated transmission facilities.

El Paso concluded that there was no available capacity on either segment of these transmission facilities. El Paso utilizes any available transmission capacity in the West Mesa to Las Cruces 345 kV line to supply imported power that is less expensive than the locally generated power. If El Paso were to transmit power for RGEN from Plains over this 345 kV line, the consequence would be to preempt these imported power deliveries. That would necessitate the operation of higher cost generation in the El Paso area and thereby would result in a higher cost of power to El Paso's



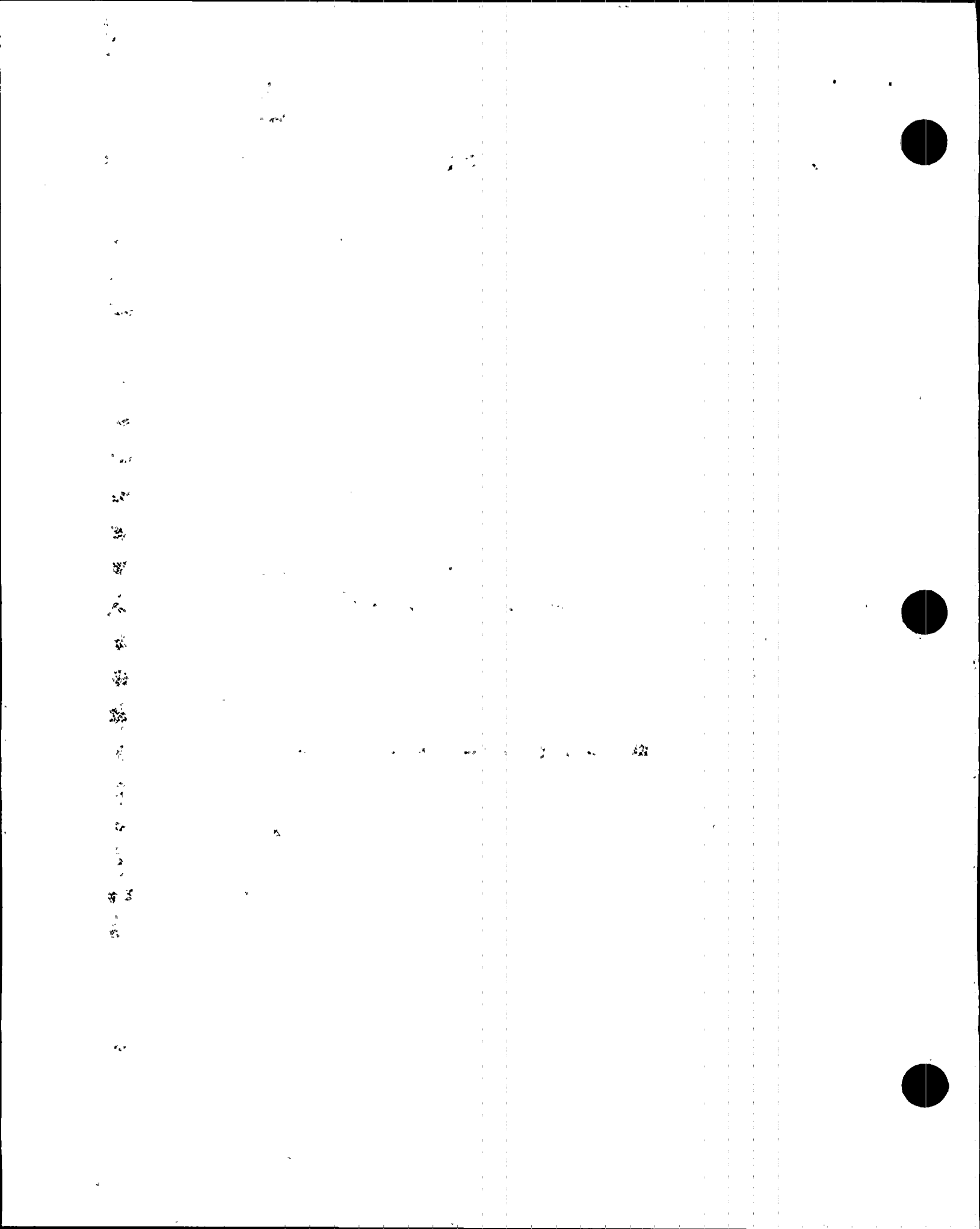
retail and wholesale customers than if the transmission service were not rendered.

The situation was similar with respect to the second segment, Las Cruces to Lane. There, too, the transmission capacity was limited, so that, even if Plains were able to deliver the power to Dona Ana (the southern terminus of its 115 kV line) without interfering with El Paso's use of its 345 kV line, the costs of power supplied to El Paso's remaining wholesale and retail customers would be higher than otherwise. In the case of the second segment, as in the case of the first segment, the provision of such transmission service would necessitate the operation of higher cost generation in the El Paso area and thereby would result in a higher cost of power to El Paso's retail and wholesale customers than otherwise would be experienced.<sup>15</sup>

El Paso thus had need of the limited capacity on both segments of the facilities between Plains and Dell City to provide economic service to its power supply customers. In

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<sup>15</sup> The load exists on the transmission system because the power being delivered at the Lane end of the system is generated at or east of the Las Cruces end. Generation capacity between the two points (notably El Paso's Rio Grande station) is not used because the incremental cost of the imported power is lower. However, when the reliable capacity of the importation system is reached, generating power at the intermediate station reduces the aggregate power the import transmission system is required to carry and hence reduces the extent to which prudent reliability constraints are exceeded. "Ordinary" wheeling charges do not include the costs of such local generation.



its letter of October 21, 1986 responding to RGEN's request for transmission service (Comments, Exh. 10), El Paso noted that the requested transmission service would cause El Paso to replace energy transmitted over the affected lines with generated energy at a significantly higher cost and therefore declined to provide the service "in the circumstances which you have proposed."

This letter was given to counsel for RGEN at a prehearing conference on October 23, 1986 at the Federal Energy Regulatory Commission in the wholesale rate increase proceeding. Immediately following the prehearing conference, counsel for RGEN discussed the response with representatives of El Paso. Counsel for RGEN understood the letter to mean that El Paso was willing to provide transmission service if RGEN was willing to pay a rate that would recover El Paso's additional generation costs as well as its transmission costs. El Paso had previously determined that the service would be offered under such make-whole rates if it were requested. RGEN made no such request. Plains itself never requested transmission service to RGEN.

El Paso continued its negotiations with RGEN over a mitigated power supply rate. It reached an agreement to supply service to RGEN at a maximum of 5¢ per kilowatt-hour at both Van Horn and Dell City for a period of not less than one year from October 7, 1986. This rate is well below El





Paso's fully allocated cost of service but above its variable cost of service. El Paso further agreed that RGECE could terminate its power supply at Dell City on October 6, 1987 by giving 30 days' notice prior to that date. This agreement both met the rate level that RGECE had indicated would be acceptable to preserve its pumping load in the short term and allowed RGECE a further opportunity to consider its power supply options at Dell City in the fall of 1987. The above arrangements were incorporated in a settlement agreement between El Paso and RGECE in the wholesale rate case and have been submitted to the Federal Energy Regulatory Commission for its approval. See Exhibit B. There are no outstanding disputes between El Paso and RGECE.

El Paso did not, as Plains claims, "flatly refuse[]" to provide transmission service to RGECE. Comments, at 12. El Paso's policy was, and is, to offer transmission service on its transmission lines if capacity is available. In the case at hand, there was no transmission capacity available for the service requested, and El Paso therefore was within its rights in declining to supply the service. Nonetheless, it stood prepared, and RGECE understood that it stood prepared, to render the service under a make-whole transmission rate should RGECE so request. RGECE never requested.

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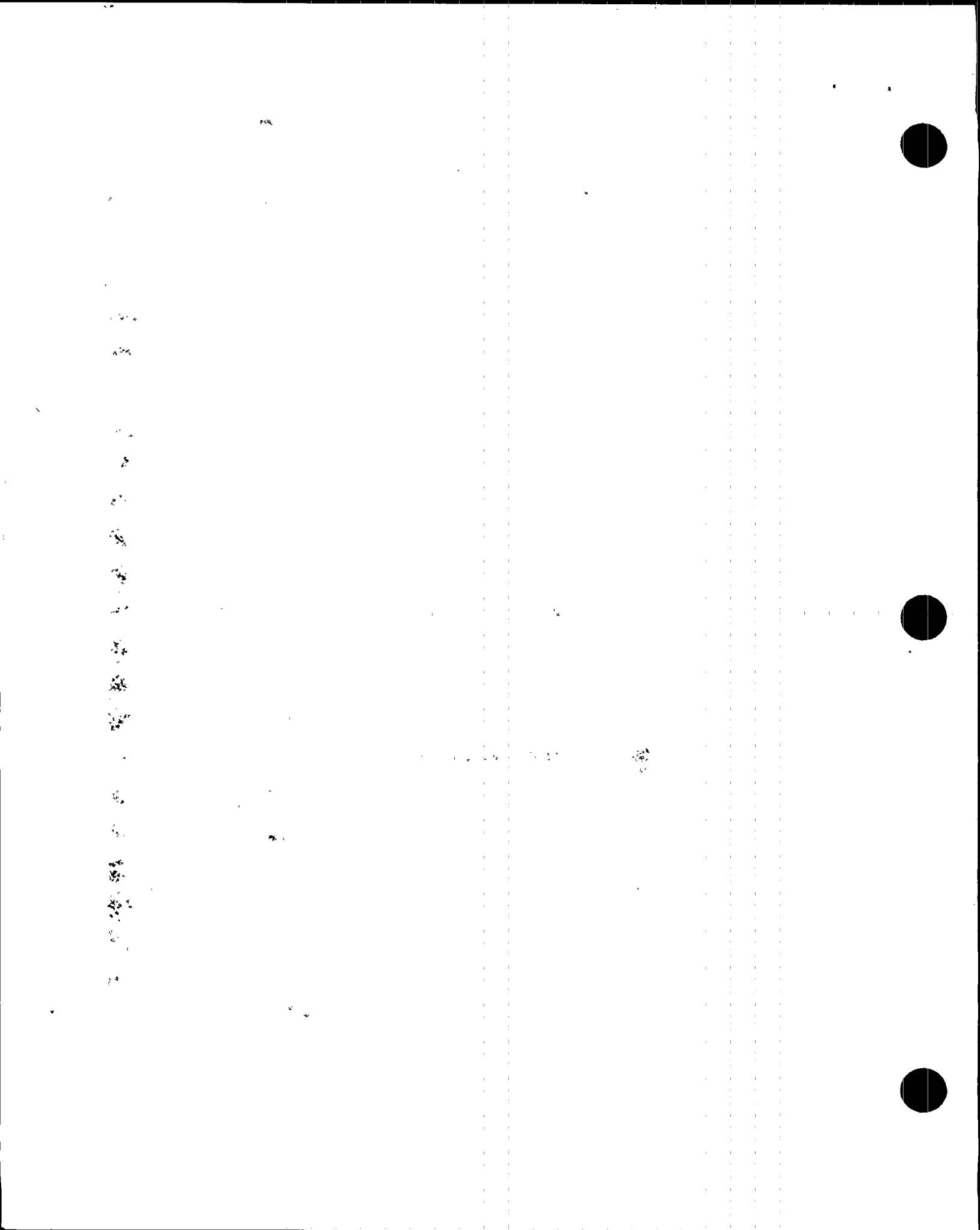
B. Significant Change

(1) Occurrence of Change Since Last Antitrust Review.

Insofar as Plains uses the RGEC episode as a restatement of the NMPP importation entitlements dispute, for the reasons set forth above El Paso submits that no "change" has been shown. Insofar as it involves the question of the willingness of El Paso to wheel Plains' power through the Las Cruces-Lane system, El Paso submits that there has been no substantive change, but acknowledges that the precise set of facts could not have been raised at any earlier antitrust assessment stage.

(2) Attributable to El Paso.

Insofar as Plains uses the RGEC episode as a restatement of the NMPP importation entitlements dispute, for the reasons set forth above, El Paso submits that it is unfair to attribute that situation to El Paso. Insofar as it involves the question of the willingness of El Paso to wheel Plains' power through the Las Cruces-Lane system, El Paso believes that there has been no substantive change, but acknowledges that the precise set of facts relate only to the capacity of its own system and the conditions under which El Paso is able and willing to make that system available to others.



(3) Likely to Warrant Commission Remedy.

(a) Nexus. As with the entitlements matter discussed above, Plains abjures even the attempt at demonstrating that anything of which it complains bears even the remotest nexus to PVNGS-3. Consequently, regardless of all other considerations, invocation of an additional antitrust review on the basis of the RGEK assertions of Plains is barred.

(b) Antitrust Merits. Assuming for purposes of analysis that the El Paso Las-Cruces-Lane system could be considered an "essential facility," no violation of any duty owed to others by the owner of the facility can be established since (i) El Paso did not deny RGEK access to the system but rather only insisted that the costs associated with that access be paid; and (ii) given that that system is already operating at capacity for El Paso's own purposes, El Paso is not obligated under the "essential facilities" doctrine to curtail its own use in order to provide access to others. See Hecht v. Pro-Football, Inc., 570 F.2d 982, 993 (D.C. Cir. 1977), cert. denied, 436 U.S. 956 (1978); Gamco, Inc. v. Providence Fruit and Produce Building, Inc., 194 F.2d 484, 487-88 & n.3 (1st Cir. 1952), cert. denied, 344 U.S. 817 (1952); see also Seesen v. Professional Golfers' Association of America, 358 F.2d 165 (9th Cir. 1966), cert. denied, 385 U.S. 846 (1966).



#### IV. The Springerville-Luna Line

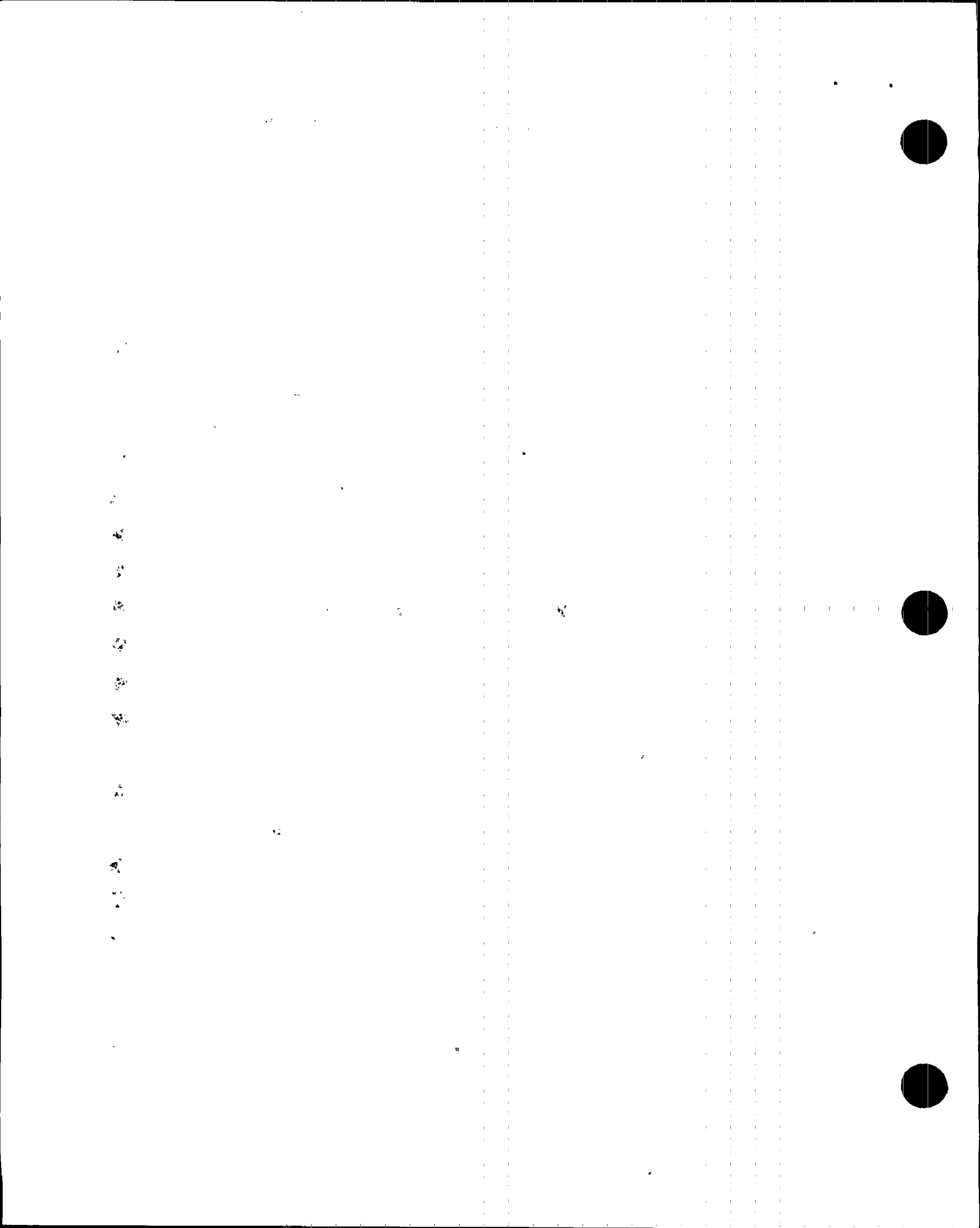
El Paso is in the process of constructing a new 345 kV line running from the Springerville substation in eastern Arizona to the Luna substation in southern New Mexico. This line is presently scheduled to be in service by June, 1989, assuming prompt and favorable regulatory action. Once completed, the Springerville-Luna line will be used, in part, to transmit El Paso's share of power generation from Four Corners Units 4 and 5 and PVNGS-1, -2 and -3.<sup>16</sup>

Plains contends that El Paso has denied Plains any access to this new line. This denial, Plains asserts, violates the Sherman Act because it is "a simple and improper refusal to grant access to an essential facility." Comments at 22.

Even assuming that the Springerville-Luna line is an "essential facility", an assumption El Paso rejects, Plains has not, in fact, demonstrated a cognizable "denial" of access. El Paso's position, which it reiterates here, has been (and continues to be) that it is willing to make any excess capacity on its lines -- including Springerville-Luna -- available to any utility desirous of taking it up. Thus, regardless of whether

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<sup>16</sup> The mere fact that, once built, Springerville-Luna will carry some of the power generated by PVNGS-3 does not, of course, supply the required nexus. See supra note 13 and accompanying text.





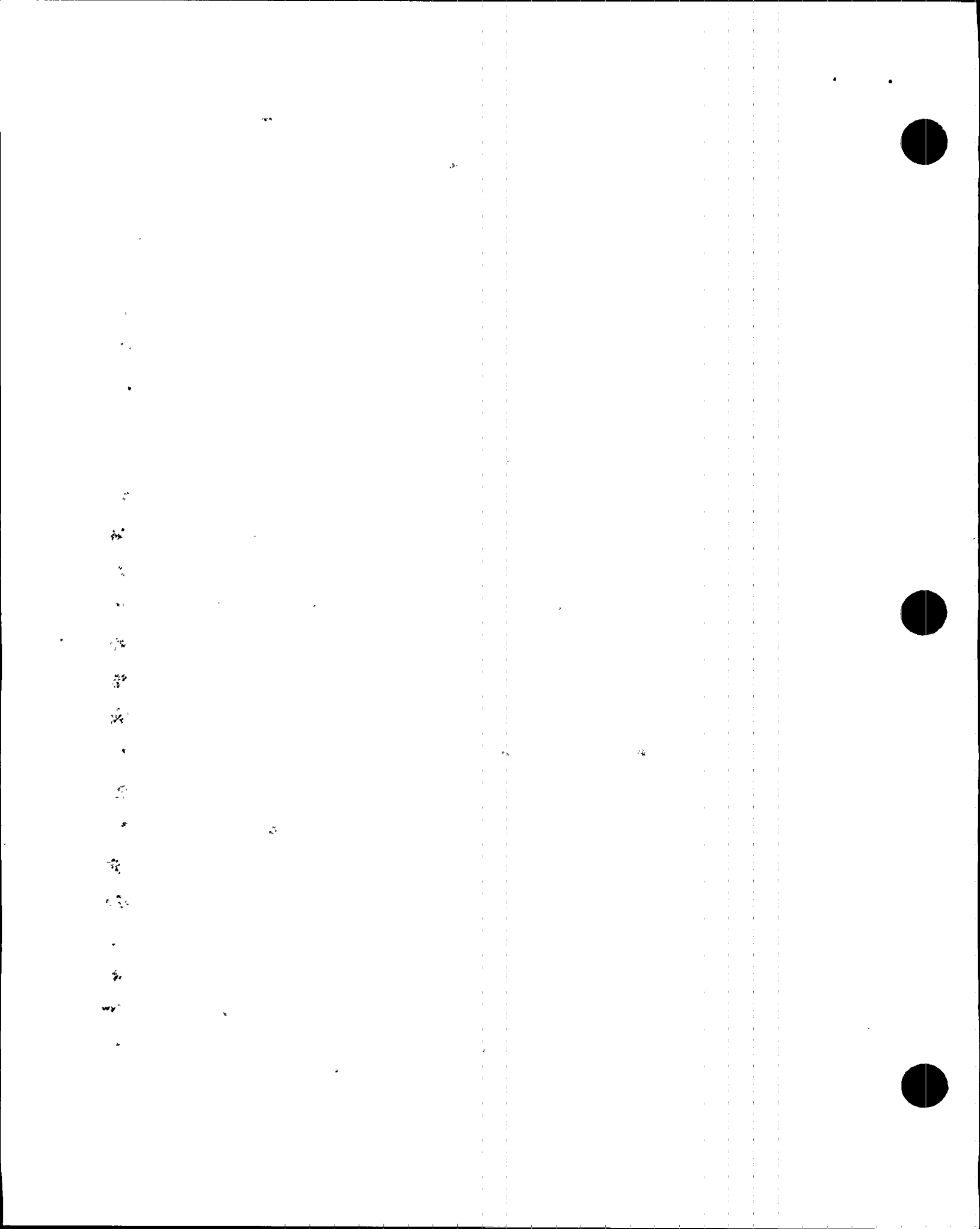
Springerville-Luna might properly be considered to be an "essential facility," there has not and never will be any "denial" of the facility to any extent beyond that needed to meet El Paso's own needs.

Whether or not excess capacity will exist on the new line will depend upon such factors as (i) the resulting New Mexico system importation limits in 1989, given the availability of Springerville-Luna plus any other enhancements to the system that may be in place at that time, (ii) the load and capacity situations of El Paso and the other members of the NMPP then, (iii) commitments made to others for capacity on the line and (iv) the availability from time to time of economy energy to El Paso from areas north and west of southern New Mexico. Plains is apparently confident that there will be available capacity in the line; El Paso is less certain. But, in any case, if there is available capacity, it will be made available to Plains and other utilities.

Second, even were El Paso not willing to commit to making excess capacity available, predicated a Commission OL-stage antitrust review thereon would be precluded because of the lack of any "meaningful tie" between PVNGS-3 itself and the anticompetitive situation alleged by Plains. As pointed out earlier, Plains has made demands solely on El Paso's existing or proposed transmission facilities; it has not attempted to (and indeed cannot) establish any nexus



between those allegations and the operation of PVNGS-3. Plains can make and has made no assertion showing how the nuclear facility itself will actively promote or sustain any alleged anticompetitive situation, either in the electrical transmission market or elsewhere. Accordingly, ALAB-665 (supra, 15 NRC 22 (1982)) must control.



## V. Cooperative Transmission Enhancements

Finally, Plains asserts that in late August, 1986, it suggested to El Paso that system studies be conducted to see if additional apparatus could be installed or modified on the transmission system either on the proposed or existing lines to increase the import capability to southern New Mexico. Plains maintains that El Paso to date has not responded to its systems-studies proposal or expressed any desire to explore the need for such studies. What Plains then characterizes as a refusal to cooperate is claimed to reveal El Paso's scheme to perpetuate Plains' reliance on El Paso and to limit effective competition for new load in southern New Mexico.

Once again, Plains' allegations relating exclusively to El Paso's proposed and existing transmission systems does not address or satisfy the statutory nexus requirement.

Prescinding from this defect, Plains' misportrays El Paso's willingness to engage in cooperative studies. The entire NMPP exists because of the efforts of El Paso (among others) to engage in such studies and bring their potential to fruition. El Paso for some time has been engaged with PNM in joint studies of the effect of the proposed Springerville-Luna line and the OLE line on transmission conditions in New Mexico. El Paso believes that its joint studies with PNM have been taken as far as is feasible and that a wider participation among New Mexico utilities is

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necessary for the studies to be brought to a satisfactory conclusion. As set out in the letter included herewith as Exhibit C, El Paso has proposed that the studies be transferred to the auspices of the NMPP with participation by all New Mexico utilities and an Arizona utility, Tucson Electric Company, in its role as a participant in the Springerville-Luna line. If this proposal is accepted, Plains and all other affected utilities would be included in the further studies. One potential use of the studies would be to determine the effect of the Springerville-Luna line upon the Operating Nomogram.

El Paso's preliminary analysis suggests that the line will increase capacity to transmit power from north to south by over 70%, from 550 mW to 950 mW. The Springerville-Luna line is scheduled for service in June 1989. Thus, the limitations on north-south transmission capacity in New Mexico, which lie at the base of Plains' complaint, are expected to be resolved within 30 months.

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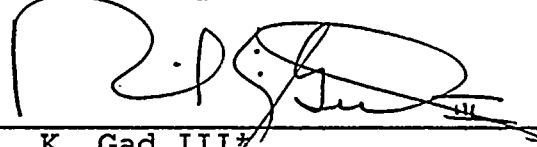
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Conclusion

For the foregoing reasons, the Staff should determine that no significant changes in El Paso's activities or proposed activities have occurred and that no operating license antitrust review is advisable.

Respectfully submitted,



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Randall W. Bodner  
Ropes & Gray  
225 Franklin Street  
Boston, Massachusetts 02110  
(617) 423-6100

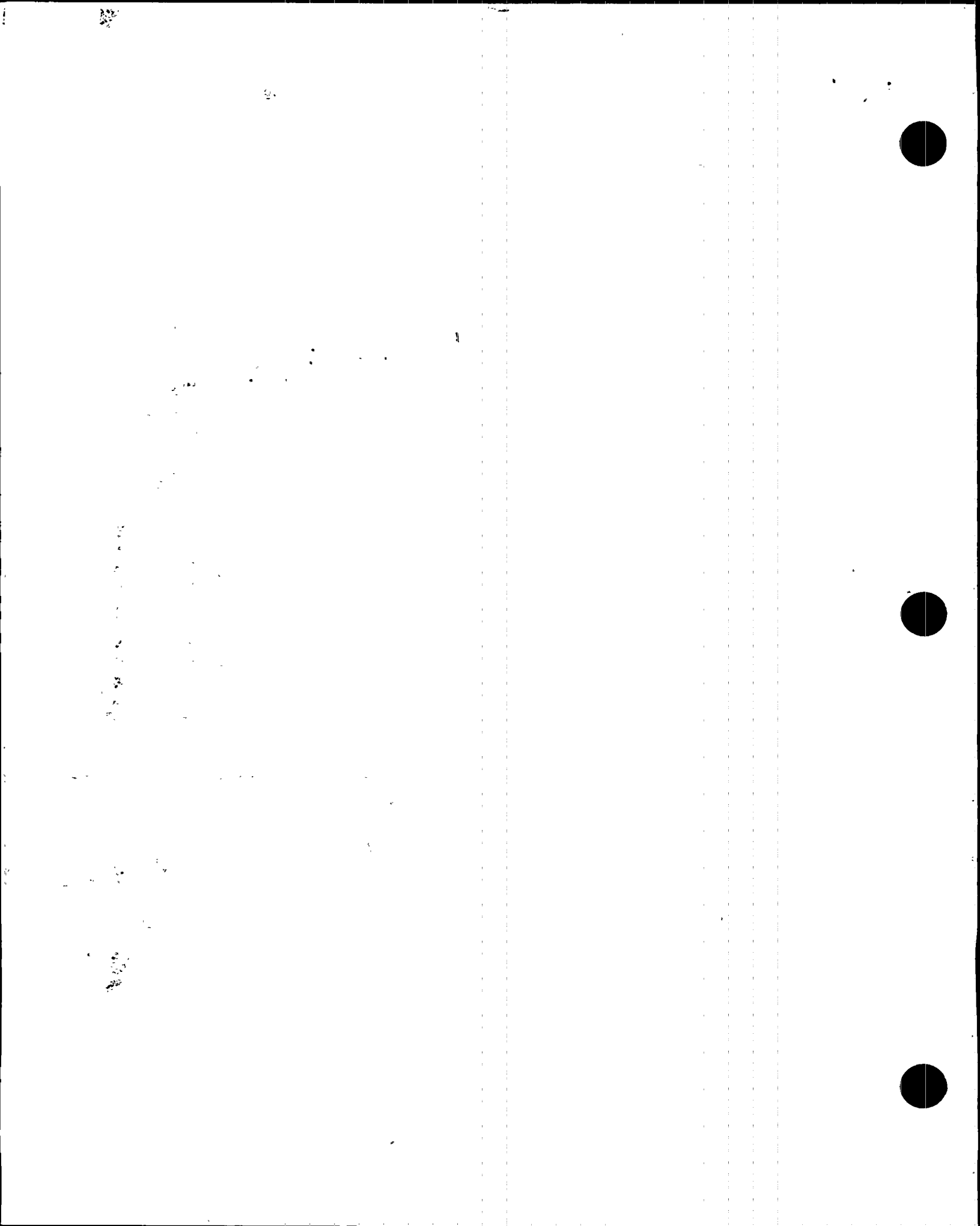
George F. Bruder  
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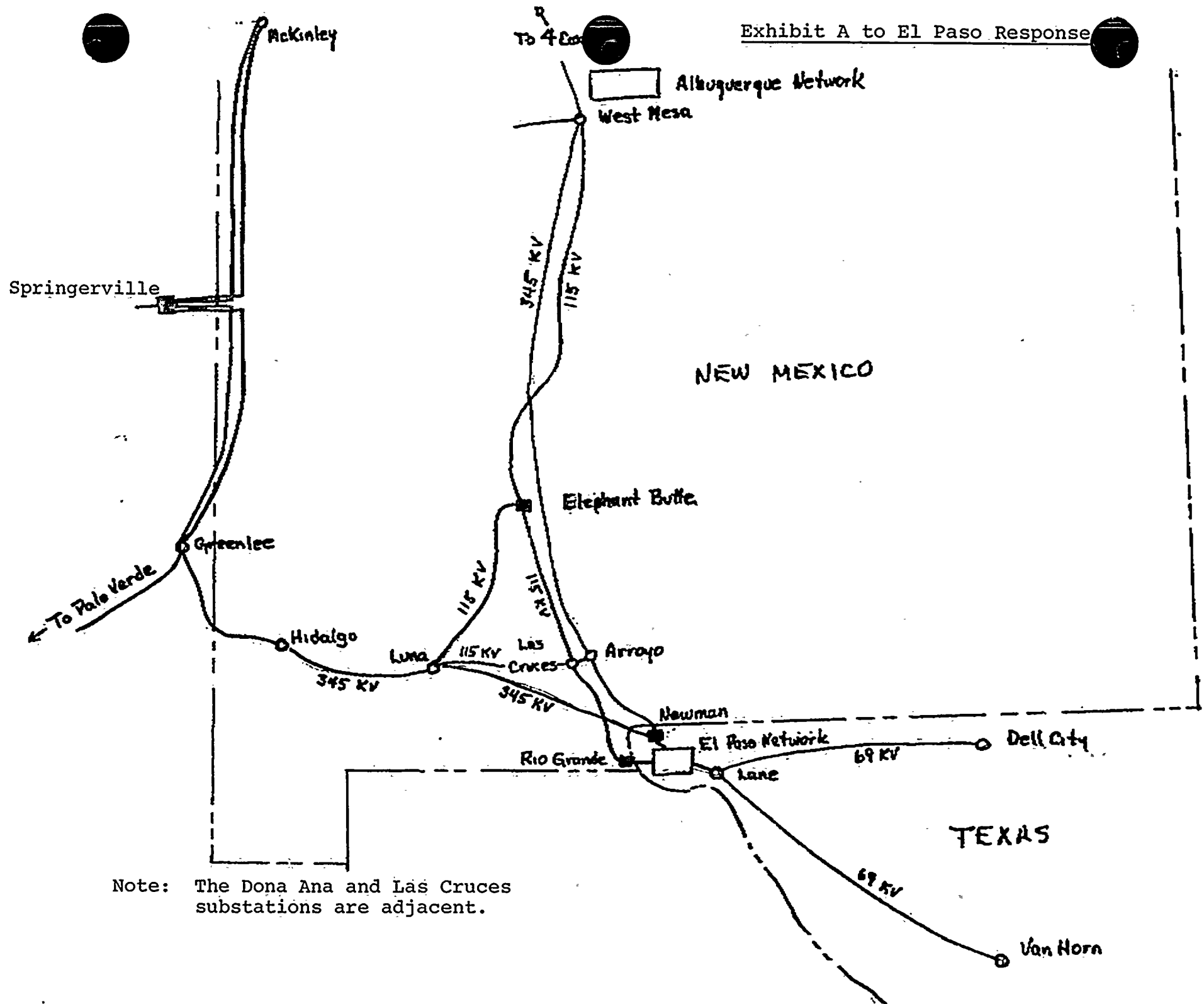
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Attorneys for El Paso Electric  
Company

\*Person upon whom service should be made.







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OF COUNSEL  
HOWARD E. WAHRENBROCK  
(INACTIVE)  
JAMES E. HICKEY, JR.

January 13, 1987

The Honorable Kenneth F. Plumb  
Secretary  
Federal Energy Regulatory Commission  
825 North Capitol Street, N.E.  
Washington, D.C. 20426

Regarding: El Paso Electric Company, Docket Nos.  
ER86-368, ER86-638 and ER86-709

Dear Mr. Plumb:

Pursuant to Rule 602 of the Commission's rules of practice and procedure, El Paso Electric Company submits as an offer of settlement the enclosed executed Settlement Agreement dated January 9, 1986 between itself and Rio Grande Electric Cooperative, Inc. The Settlement Agreement should be transmitted to Presiding Judge Charles E. Bullock.

The Settlement Agreement resolves all issues in these proceedings between El Paso and Rio Grande. Upon approval of the Settlement Agreement, the proceedings may be terminated between El Paso and Rio Grande.

Enclosed are an original and 14 copies of the following documents:

1. A motion to Judge Bullock asking him to transmit the Settlement Agreement and certify the record to the Commission.
2. The executed Settlement Agreement.
3. A statement explaining the Settlement Agreement.
4. A proposed letter accepting the Settlement Agreement.



The Honorable Kenneth F. Plumb  
January 13, 1987  
Page 2

5. A copy of a letter to the parties to be served with these settlement materials advising them of the date on which comments are due.

6. A list of the parties served with these settlement materials.

Please let me know if other information or materials are required in connection with this Settlement Agreement.

Very truly yours,



Albert R. Simonds, Jr.  
Attorney for El Paso Electric  
Company

Enclosures

cc: Attached List





UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

El Paso Electric Company

)  
)  
)

Docket Nos. ER86-368  
ER86-638  
and ER86-709

EL PASO ELECTRIC COMPANY'S MOTION  
TO TRANSMIT SETTLEMENT AGREEMENT AND  
TO CERTIFY RECORD

Attention: The Honorable Charles E. Bullock

El Paso Electric Company ("EPE") today filed with the Secretary of the Commission for transmission to the Presiding Administrative Law Judge an executed Settlement Agreement resolving all issues between itself and Rio Grande Electric Cooperation, Inc., in the above dockets.

Any comments on the Settlement Agreement are due to be filed with the Commission on or before February 2, 1986, pursuant to Rule 602(f)(2) of the Commission's rules of practice and procedure. The settlement between Rio Grande and the Company is not contingent on settlements with either of the other wholesale customers, Texas-New Mexico Power Company and Imperial Irrigation District.

El Paso and Rio Grande desire to have the Settlement Agreement between themselves approved by the Commission and placed into effect as promptly as possible. They therefore request the Judge to certify the



Settlement Agreement to the Commission independently of any other settlement agreements submitted in this proceeding.

WHEREFORE, El Paso Electric Company requests that the Presiding Judge, upon receipt of comments, transmit the Settlement Agreement to the Commission and certify the record to the Commission.

Respectfully submitted,

BRUDER & GENTILE

By Albert R. Simonds, Jr.  
Albert R. Simonds, Jr.

Bruder & Gentile  
1350 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005  
Telephone: (202) 783-1350

Attorneys for El Paso Electric Company

January 13, 1987



CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing EL PASO ELECTRIC COMPANY's MOTION TO TRANSMIT SETTLEMENT AGREEMENT AND TO CERTIFY RECORD upon each person designated on the official service list compiled by the Secretary in this proceeding in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure.

Dated at Washington, D.C. this 13th day of January, 1987.



---

Albert R. Simonds, Jr.

Bruder & Gentile  
1350 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005  
Telephone: (202) 783-1350

Of Counsel for:

El Paso Electric Company

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UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

El Paso Electric Company )

Docket No. ER86-368  
ER86-638 and ER86-709

SETTLEMENT AGREEMENT BETWEEN  
EL PASO ELECTRIC COMPANY  
AND  
RIO GRANDE ELECTRIC COOPERATIVE, INC.

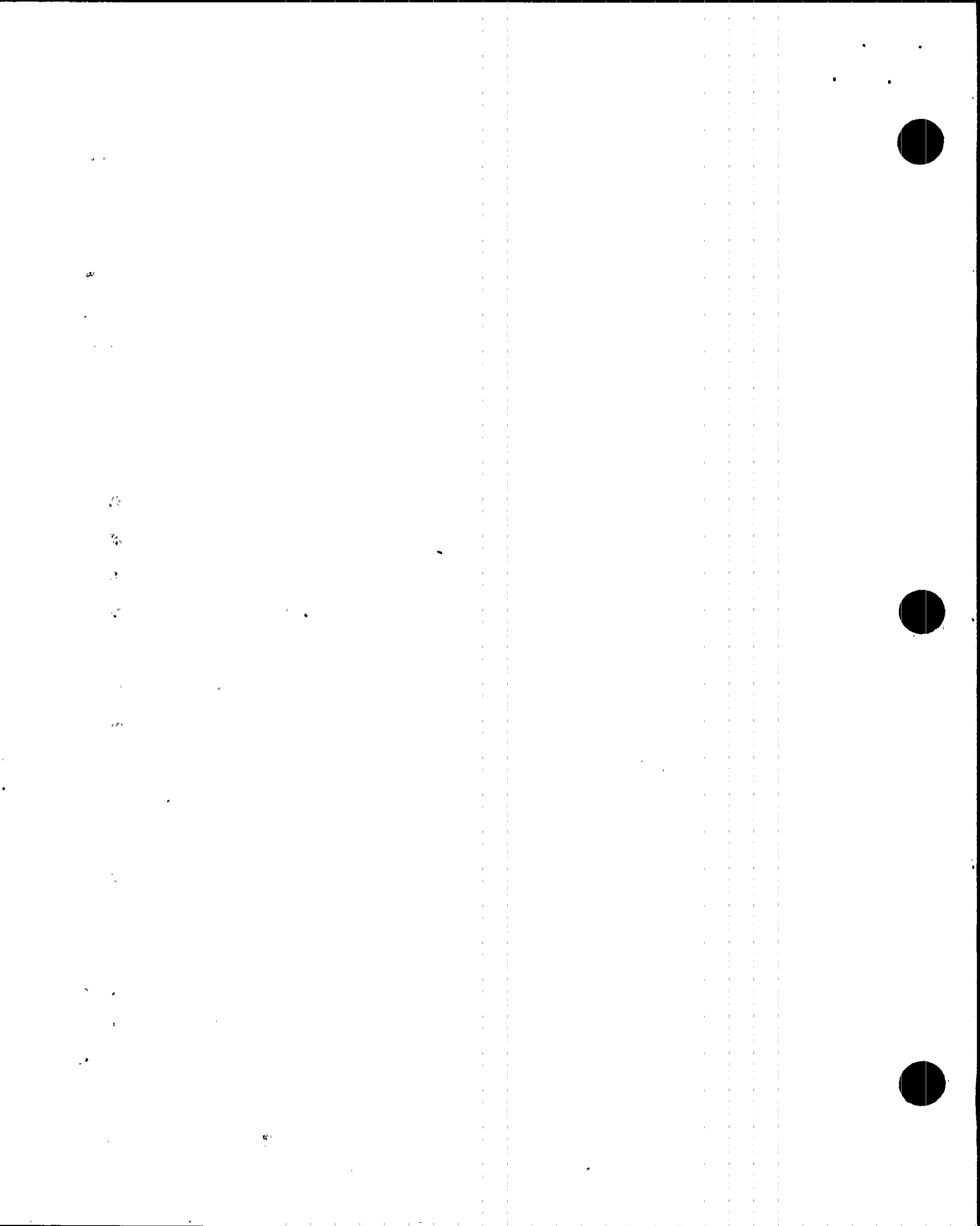
This Settlement Agreement is made and entered into by and between El Paso Electric Company ("the Company") and Rio Grande Electric Cooperative, Inc. ("Rio Grande")

INTRODUCTION

On August 5, 1986 the Company filed increased rates for service to Rio Grande in Docket No. ER86-638-000. The Company proposed an increase of approximately \$650,000 based on the 1986 test year cost of service submitted with the filing.

On September 29, 1986 the Commission accepted the increase for filing, permitted it to become effective subject to refund on October 7, 1986, ordered a proceeding, consolidated the proceeding with the proceeding previously ordered in Docket No. ER86-368 and ordered EPE to file compliance rates within 30 days reducing the rates to reflect the sale leaseback of Palo Verde No. 2 and a delay in that unit's scheduled service date.

On October 28, 1986 the Company tendered its compliance filing as required by the Commission's order of September 29, 1986. The Company





requested that the filing be made effective subject to refund on October 7, 1986. The Commission has taken no action on the filing.

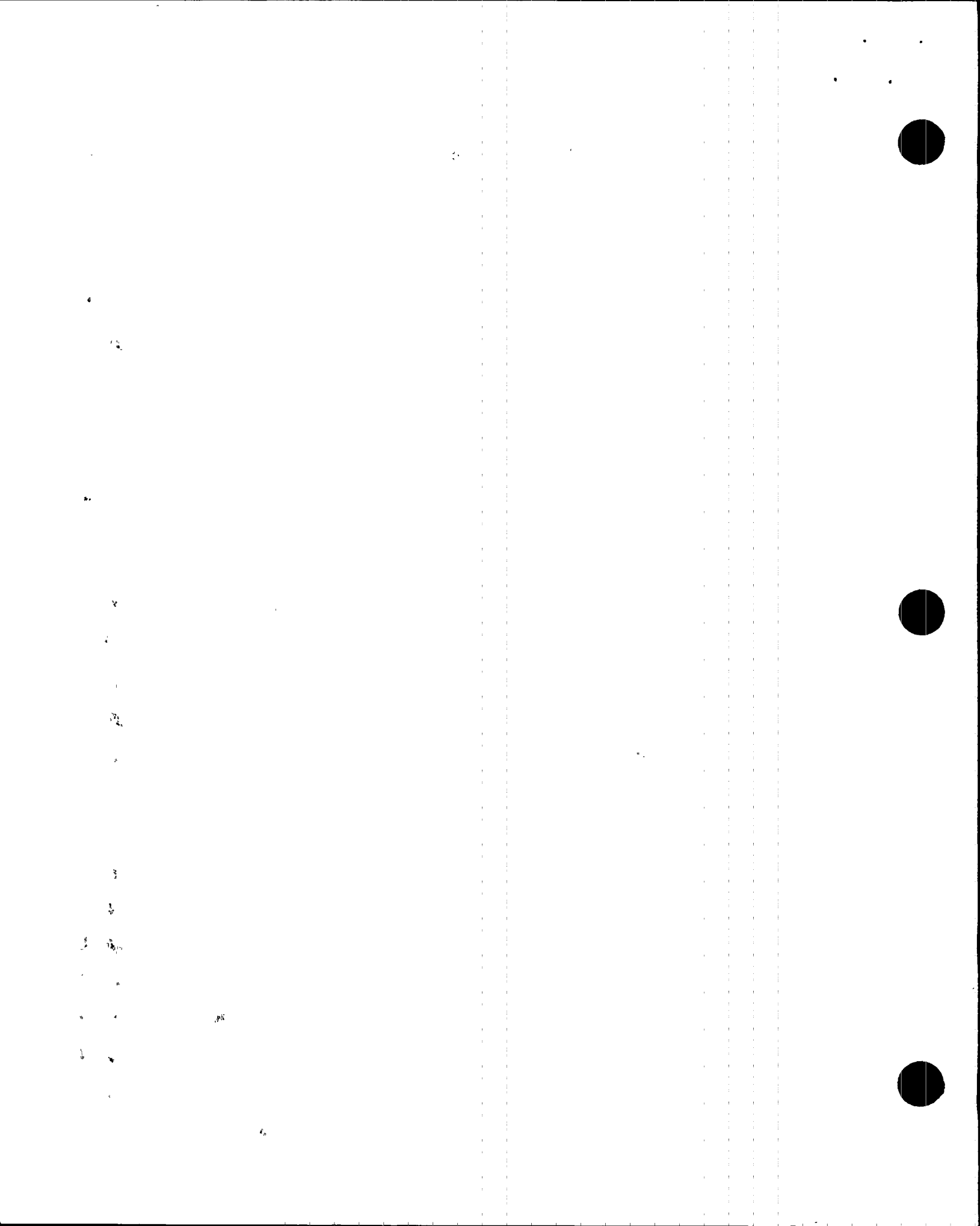
The Company and Rio Grande each filed petitions for rehearing of the Commission's order of September 29, 1986. The Commission has not acted on either petition.

The Company and Rio Grande have agreed in settlement of all issues in the present proceeding to a settlement rate to be effective from October 7, 1986 through October 6, 1987 and thereafter until that rate is changed by the Company pursuant to Section 205 of the Federal Power Act. In order to implement the settlement rate the parties have executed amendments to the agreements for the Company's service to Rio Grande at Dell City and Van Horn and have attached those amendments to this Settlement Agreement together with rate schedule supplements containing the settlement rate.

As a result of the settlement discussions, but subject in every particular to the conditions set forth in this Settlement Agreement, including acceptance of this Settlement Agreement in its entirety and without change or condition by the Commission, with the understanding that each term of the Settlement Agreement is in consideration and support of every other term, the parties have agreed as follows:

#### ARTICLE I

The parties agree in settlement of all issues in this proceeding, including those raised in the pending petitions for rehearing, that the attached amendments and rate schedule supplements are to become effective for service beginning October 7, 1986. The Commission's order accepting the Settlement Agreement will serve as acceptance of those



amendments and rate schedule supplements for service as of that date without the need for any further filing by the Company.

## ARTICLE II

The Company will refund all amounts collected for service to Rio Grande from October 7, 1986 in excess of the amounts that would have been collected under the settlement rates together with interest calculated according to Section 35.19 of the Commission's regulations. The refunds will be made within 30 days after the Commission issues the order accepting this Settlement Agreement.

## ARTICLE III

3.1 The making of this Settlement Agreement shall not be deemed in any respect to constitute an admission of any party that any allegation or contention in this proceeding is true or valid.

3.2 The making of this Settlement Agreement establishes no principles and shall not be deemed to foreclose any party from making any contention in any proceeding or investigation except that (a) the parties shall be bound by the agreements in Articles I and II, (b) the attached amendments and rate schedule supplements shall not be subject to challenge before any administrative agency or court and (c) Rio Grande agrees not to raise price squeeze contentions before the Commission or the courts pertaining to the rates provided for in those amendments and rate schedule supplements or in previous filings in the captioned dockets.

3.3 The acceptance of this Settlement Agreement by the Commission shall not in any respect constitute a determination by the Commission as to the merits of any allegation or contention made in this proceeding.

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3.4 The Settlement Agreement is submitted on the condition that, in the event the Commission does not by order accept it in its entirety, without change or condition, it shall be deemed withdrawn and shall not constitute any part of the record in this proceeding or be used for any other purpose.

3.5 The discussions between the parties which have produced this Settlement Agreement have been conducted on the explicit understanding that all offers of settlement and discussions relating thereto are and shall be privileged, shall be without prejudice to the position of any party or participant presenting any such offer or participating in any such discussion, and are not to be used in any manner in connection with this proceeding or otherwise.

This Settlement Agreement is entered into in Washington, D.C. this 9th day of January 1987 by and between the undersigned parties.

EL PASO ELECTRIC COMPANY

By Albert R. Simonds Jr.

RIO GRANDE ELECTRIC  
COOPERATIVE, INC.

By R. D. Swarthey



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AMENDMENT TO AGREEMENT

DATED NOVEMBER 27, 1967

BETWEEN

RIO GRANDE ELECTRIC COOPERATIVE

AND

EL PASO ELECTRIC COMPANY

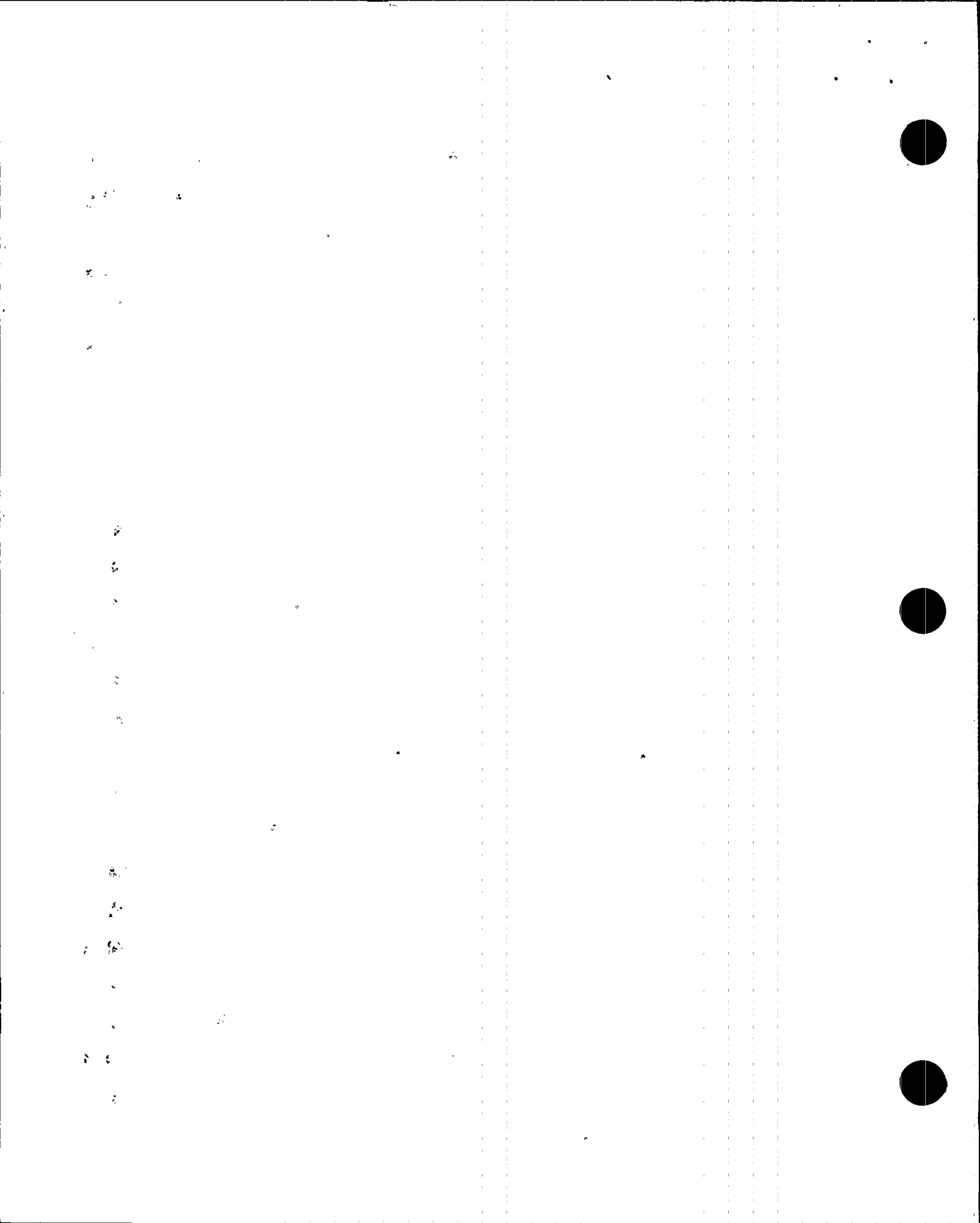
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This Amendment to the Agreement for the Purchase of Electric service between El Paso Electric Company ("the Company") and Rio Grande Electric Cooperative, Inc. ("Rio Grande") dated November 27, 1967 ("the Agreement") is entered into by and between the Company and Rio Grande this 9<sup>th</sup> day of January 1987.

WHEREAS, the Company filed a rate increase for service to Rio Grande with the Federal Energy Regulatory Commission ("FERC") on August 5, 1986 in Docket No ER86-638-000;

WHEREAS, on September 29, 1986 the FERC accepted the filing to become effective subject to refund on October 7, 1986, ordered a proceeding on the lawfulness of the increase and consolidated that proceeding with one previously ordered in Docket No. ER86-368-000 in which Rio Grande had already intervened;

WHEREAS, the Company and Rio Grande have achieved a settlement of all issues between them in the consolidated proceeding based on a settlement rate schedule to be effective at least through October 6, 1987 and thereafter until the rate schedule is changed by the Company pursuant to Section 205 of the Federal Power Act.





WHEREAS, the Company and Rio Grande plan to use the period when the settlement rate schedule will be in effect to negotiate concerning issues involving Rio Grande's power supply requirements.

NOW THEREFORE, the Company and Rio Grande agree to amend the Agreement between them in two respects:

First, they agree to add the following provisions as a new Article XIII:

1. The Company will bill Rio Grande under the rate schedule attached as Appendix A for service from October 7, 1986 through October 6, 1987 and thereafter until that rate schedule is changed by the Company pursuant to Section 205 of the Federal Power Act.

Notwithstanding the Company's general right to file rate changes under Article IV as amended by letter agreement of June 11, 1984, the Company may not file any change in the rate schedule in Appendix A to be effective for service prior to October 7, 1987. However, the Company is not prevented by this Amendment (a) from filing a change in that rate schedule prior to October 7, 1987 as long as the Company does not propose that the change become effective prior to that date or (b) from requesting that a change in that rate schedule be assigned an effective date prior to October 7, 1987 as long as it requests that the change be suspended until at least until that date. In the event that the Commission fails to suspend any change under clause (b) above until at least October 7, 1987, the filing resulting in such suspension shall be considered not authorized under this Amendment.

2. Any demand ratchet contained in any rate schedule increasing the demand charge provided in Appendix A shall not refer back to Rio



Grande's peak demands occurring during the period when the demand charge provided in Appendix A is in effect.

3. Any change filed by the Company in the rates provided in Appendix A will be subject to the requirement of Article 4.2 of the 1984 settlement agreement between the Company and Rio Grande in Docket No. ER84-236-000 concerning El Paso's obligation to file a rate moderation plan.

Second, they agree to amend Article I to read as follows:

The term of this Agreement shall be for a period of 5 years from January 1, 1968 and shall continue thereafter from year to year, unless a written notice to the contrary is given by either party to the other at least thirty (30) days prior to the expiration of the original term or any renewal thereof; provided, however, that Rio Grande may terminate the Agreement as of midnight October 6, 1987 by giving such notice to the Company by September 7, 1987.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of this 9<sup>th</sup> day of January 1987.

EL PASO ELECTRIC COMPANY

By Albert R. Saunders

RIO GRANDE ELECTRIC  
COOPERATIVE, INC.

By R. D. Smathers



EL PASO ELECTRIC COMPANY  
RATE SCHEDULE FERC NO. 18

SUPPLEMENT NO. 10

Wholesale Electric Service to Rio Grande Electric Cooperative  
at Dell City, Texas, for Resale Purposes



EL PASO ELECTRIC COMPANY  
SPECIAL CONTRACT  
RIO GRANDE COOPERATIVE, INC.: DELL CITY, TEXAS

**AVAILABILITY:**

To Rio Grande Cooperative, Inc., Dell City, Texas, for resale purposes; service to be at Company-approved location and delivery voltage.

**MONTHLY RATES:**

|                 |   |
|-----------------|---|
| Customer Charge | \$ 785.63 per month                     |
| Demand Charge   | \$ 13.24 per kilowatt of billing demand |
| Energy Charge   | \$ 0.02008 per kilowatt-hour            |

The total monthly bill to be paid shall not exceed an equivalent billing rate of \$0.05 per KWH. Total monthly bill is the summation of monthly rates, Fuel Clause and Power Factor Adjustment Clause as billed to the customer. The equivalent billing rate is \$0.05 as determined by dividing the total monthly bill by the total monthly kilowatt-hour. When the equivalent billing rate of \$0.05 is exceeded, the demand charge shall be adjusted to the nearest cent until the equivalent billing rate of \$0.05 is achieved.

Interest penalties as a result of delinquent payment or any prior delinquent payments will not be included in the determination of the equivalent billing rate.

**BILLING DEMAND:**

By measurement, highest 60-minute integrated KW demand during the month, but not less than 50% of the highest demand established during the twelve months ending with the current billing month.

**MINIMUM CHARGE:**

The customer charge plus the demand charge.

**FUEL CLAUSE:**

- (1) The fuel clause shall be of the form that provides for periodic adjustments per KWH of sales equal to the difference between the fuel cost per KWH of sales in the base period and in the current period:

Fuel in Base \$0.01674

$$\text{Adjustment Factor} = \frac{F_m}{S_m} - \frac{F_b}{S_b}$$

Where: "F" is the expense of fossil and nuclear fuel in the base (b) and current (m) periods; and "S" is the KWH sales in the base and current periods, all as defined below.



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(2) Fuel costs (F) shall be the cost of:

- (i) Fossil and nuclear fuel consumed in the utility's own plants, and the utility's share of fossil and nuclear fuel consumed in jointly owned or leased plants.
  - (ii) The actual identifiable fossil and nuclear fuel costs associated with energy purchased for reasons other than identified in paragraph (a)(2)(iii) of this section.
  - (iii) The net energy cost of energy purchase, exclusive of capacity or demand charges (irrespective of the designation assigned to such transaction) when such energy is purchased on an economic dispatch basis. Included therein may be such costs as the charges for economy energy purchases and the charges as a result of scheduled outage, all such kinds of energy being purchased by the buyer to substitute for its own higher cost energy; and less
  - (iv) The cost of fossil and nuclear fuel recovered through inter-system sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.
- (3) Sales (S) shall be all KWH's sold, excluding inter-system sales. Where for any reason, billed system sales cannot be coordinated with fuel costs for the billing period, sales may be equated to the sum of (i) generation, (ii) purchases, (iii) interchange-in, less (iv) energy associated with pumped storage operations, less (v) inter-system sales referred to in paragraph (a)(2)(iv) above, less (vi) total system losses.
- (4) The adjustment factor developed according to this procedure shall be modified to properly allow for losses (presently estimated at 2.49%) associated only with wholesale sales for resale.
- (5) The adjustment factor developed according to this procedure may be further modified to allow the recovery of gross receipts and other similar revenue based tax charges occasioned by the fuel adjustment revenues.
- (6) The cost of fossil fuel shall include no items other than those listed in Accounts 151 and 120 of the Commission's Uniform System of Accounts for Public Utilities and Licensees; provided that whenever the foregoing determination would be affected by energy produced from facilities undergoing operational tests prior to being placed in commercial operation, the components of F shall be adjusted so that its value is the same as it would have been if such test energy were not available except to the extent that the investment in construction work in progress ("CWIP") in those facilities is included in wholesale rate base supporting rates in effect during the current period. The cost of nuclear fuel shall be that as shown in

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Account 518, except that if Account 518 also contains any expense for fossil fuel which has already been included in the cost fossil fuel, it shall be deducted from this account. (Paragraph C of Account 518 includes the cost of other fuels used for ancillary steam facilities.)

**POWER FACTOR ADJUSTMENT CLAUSE:**

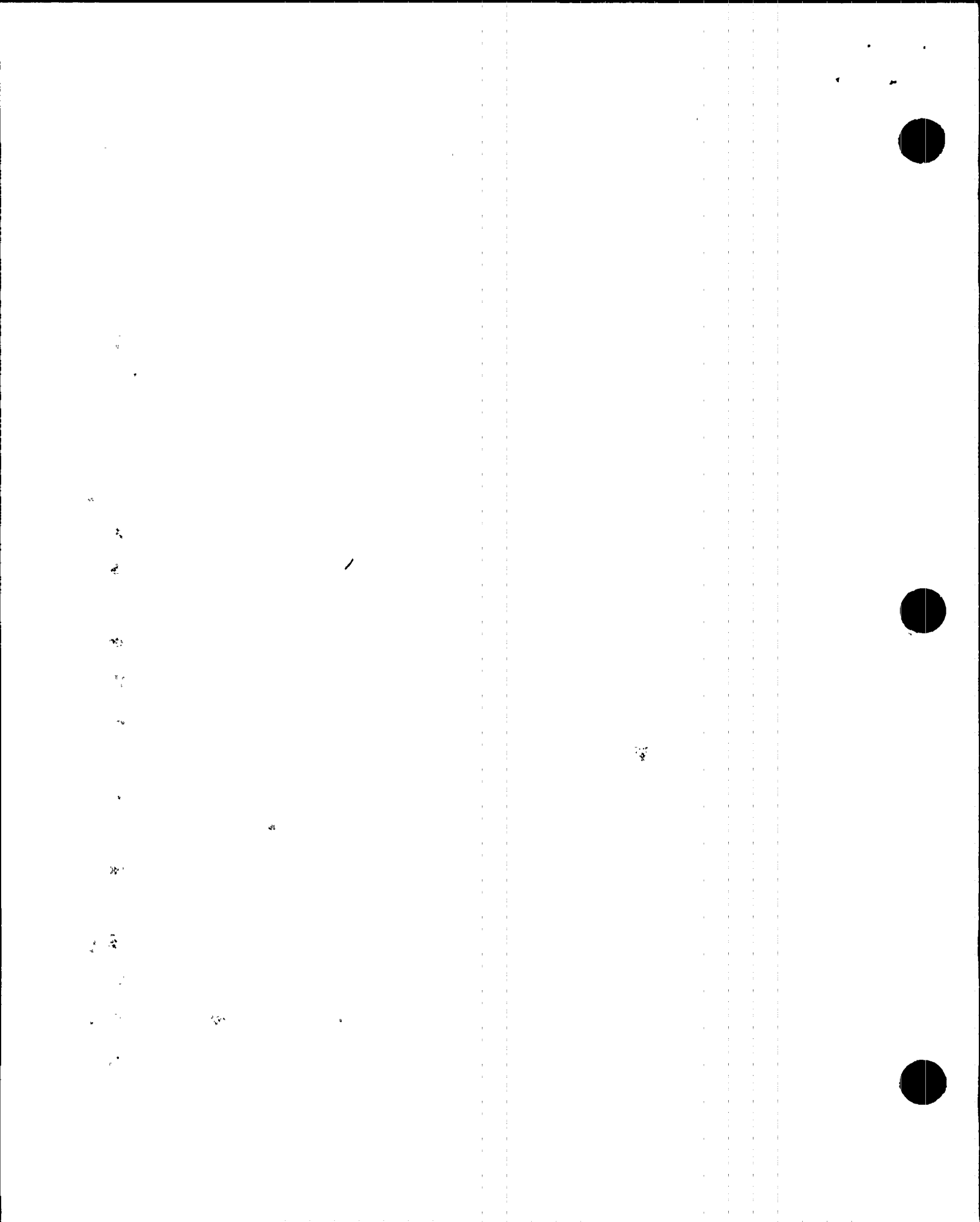
If the power factor is below 90% lagging, a charge of \$0.06 per KVAR will be made for each KVAR by which customer's computed KVAR demand exceeds 48.432% of the KW billing demand.

**TERMS OF PAYMENT:**

All bills under this schedule are due and payable when rendered and become delinquent ten days thereafter. An interest penalty will be assessed on bills exceeding the payment date. Interest will be based on the floating prime rate at Chase Manhattan Bank prorated daily from the due date to the date of payment.

**TERMS AND CONDITIONS:**

The Company's rules and regulations apply to service under this schedule. Service under this schedule shall be for customer's entire demand and energy requirements and shall not be used for supplementary or standby service. A written contract is required for this service.



AMENDMENT TO AGREEMENT

DATED MARCH 2, 1977

BETWEEN

RIO GRANDE ELECTRIC COOPERATIVE

AND

EL PASO ELECTRIC COMPANY

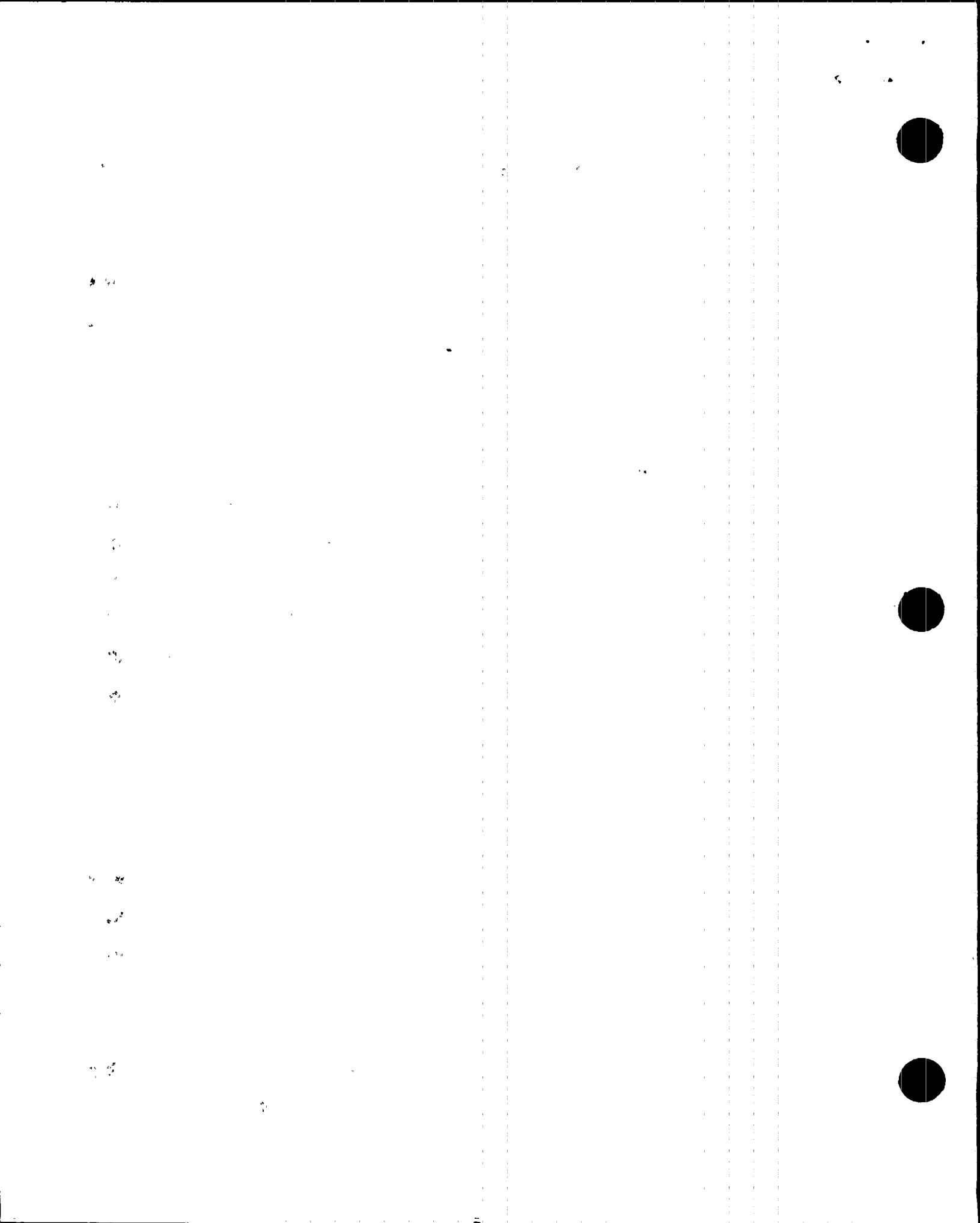
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This Amendment to the Agreement for the Purchase of Electric Service between El Paso Electric Company ("the Company") and Rio Grande Electric Cooperative, Inc. ("Rio Grande") dated March 2, 1977 ("the Agreement") is entered into by and between the Company and Rio Grande this 9<sup>th</sup> day of January 1987.

WHEREAS, the Company filed a rate increase for service to Rio Grande with the Federal Energy Regulatory Commission ("FERC") on August 5, 1986 in Docket No ER86-638-000; \_\_\_\_\_

WHEREAS, on September 29, 1986 the FERC accepted the filing to become effective subject to refund on October 7, 1986, ordered a proceeding on the lawfulness of the increase and consolidated that proceeding with one previously ordered in Docket No. ER86-368-000 in which Rio Grande had already intervened;

WHEREAS, the Company and Rio Grande have achieved a settlement of all issues between them in the consolidated proceeding based on a settlement rate schedule to be effective at least through October 6, 1987 and thereafter until the rate schedule is changed by the Company pursuant to Section 205 of the Federal Power Act or until the Agreement is terminated.



WHEREAS, the Company and Rio Grande plan to use the period when the settlement rate schedule will be in effect to negotiate concerning issues involving Rio Grande's power supply requirements.

NOW THEREFORE, the Company and Rio Grande agree to amend the Agreement by adding the following provisions as a new Article IX:

1. The Company will bill Rio Grande under the rate schedule attached as Appendix A for service from October 7, 1986 through October 6, 1987 and thereafter until that rate schedule is changed by the Company pursuant to Section 205 of the Federal Power Act.

Notwithstanding the Company's right to file rate changes under Section 205 pursuant to Article IV as amended by letter agreement of June 11, 1984, the Company may not file any change in the rate schedule in Appendix A to be effective for service prior to October 7, 1987.

However, the Company is not prevented by this Amendment (a) from filing a change in that rate schedule prior to October 7, 1987 as long as the Company does not propose that the change become effective prior to that date or (b) from requesting that a change in that rate schedule be assigned an effective date prior to October 7, 1987 as long as it requests that the change be suspended until at least until that date. In the event that the Commission fails to suspend any change under clause (b) until at least October 7, 1987, the filing resulting in such suspension shall be considered not authorized under this Amendment.

2. Any demand ratchet contained in any rate schedule increasing the demand charge provided in Appendix A shall not refer back to Rio Grande's peak demands occurring during the period when the demand charge provided in Appendix A is in effect.





3. Any change filed by the Company in the rates provided in Appendix A will be subject to the requirement of Article 4.2 of the 1984 settlement agreement between the Company and Rio Grande in Docket No. ER84-236-000 concerning El Paso's obligation to file a rate moderation plan.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of this 9<sup>th</sup> day of January 1987.

EL PASO ELECTRIC COMPANY

By Albert R. Simons

RIO GRANDE ELECTRIC  
COOPERATIVE, INC.

By R. D. Swartz



EL PASO ELECTRIC COMPANY  
RATE SCHEDULE FERC NO. 19

SUPPLEMENT NO. 10

Wholesale Electric Service to Rio Grande Electric Cooperative  
at Van Horn, Texas, for Resale Purposes



EL PASO ELECTRIC COMPANY  
SPECIAL CONTRACT  
RIO GRANDE COOPERATIVE, INC.: VAN HORN, TEXAS

AVAILABILITY:

To Rio Grande Cooperative, Inc., Van Horn, Texas, for resale purposes; service to be at Company-approved location and delivery voltage.

MONTHLY RATES:

|                 |   |
|-----------------|---|
| Customer Charge | \$ 988.98 per month                     |
| Demand Charge   | \$ 10.64 per kilowatt of billing demand |
| Energy Charge   | \$ 0.02166 per kilowatt-hour            |

The total monthly bill to be paid shall not exceed an equivalent billing rate of \$0.05 per KWH. Total monthly bill is the summation of monthly rates, Fuel Clause and Power Factor Adjustment Clause as billed to the customer. The equivalent billing rate is \$0.05, as determined by dividing the total monthly bill by the total monthly kilowatt-hour. When the equivalent billing rate of \$0.05 is exceeded, the demand charge shall be adjusted to the nearest cent until the equivalent billing rate of \$0.05 is achieved.

Interest penalties as a result of delinquent payment or any prior delinquent payments will not be included in the determination of the equivalent billing rate.

BILLING DEMAND:

By measurement, highest 60-minute integrated KW demand during the month, but not less than 50% of the highest demand established during the twelve months ending with the current billing month.

MINIMUM CHARGE:

The customer charge plus the demand charge.

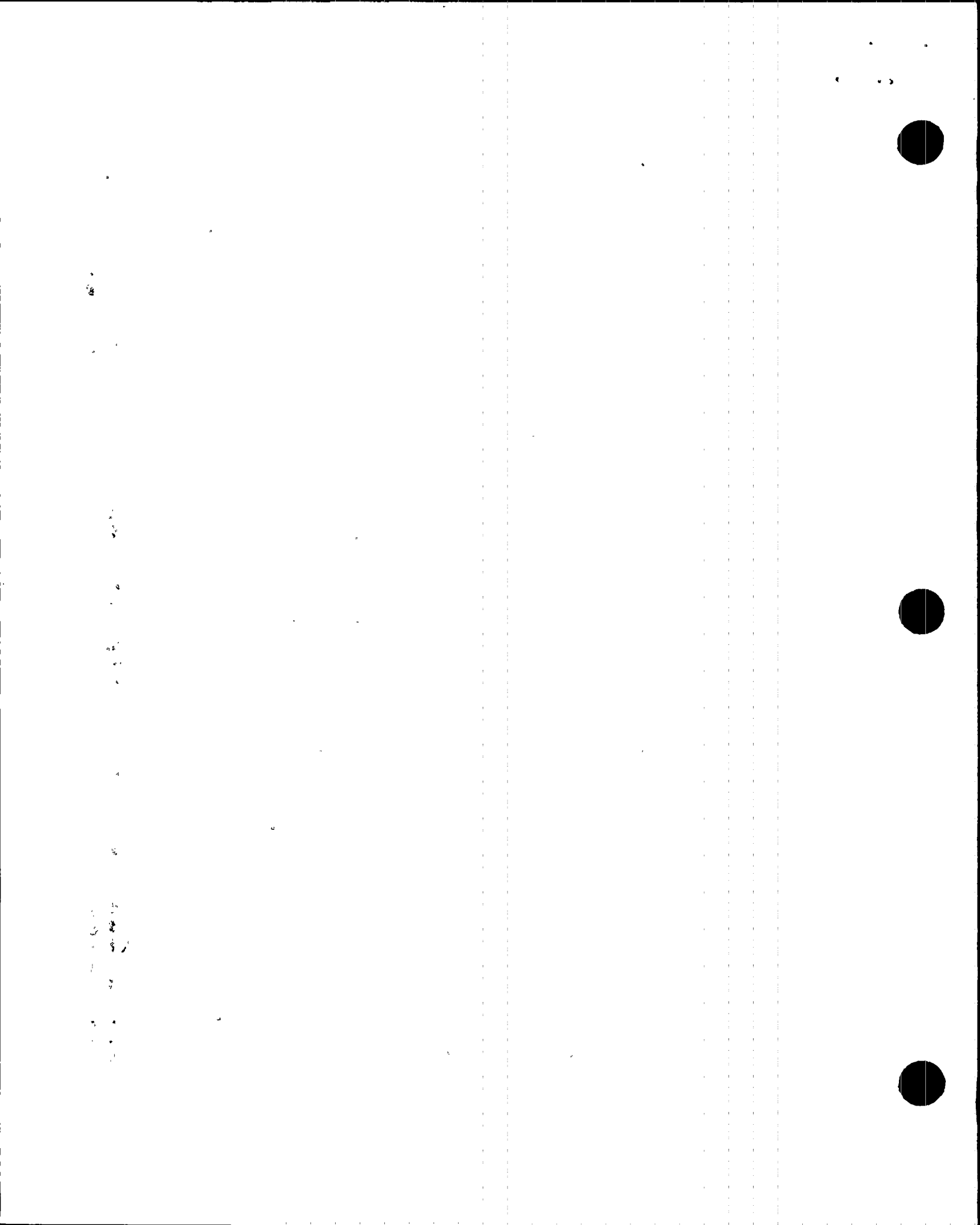
FUEL CLAUSE:

- (1) The fuel clause shall be of the form that provides for periodic adjustments per KWH of sales equal to the difference between the fuel cost per KWH of sales in the base period and in the current period:

Fuel in Base \$0.01722

$$\text{Adjustment Factor} = \frac{F_m}{S_m} - \frac{F_b}{S_b}$$

Where: "F" is the expense of fossil and nuclear fuel in the base (b) and current (m) periods; and "S" is the KWH sales in the base and current periods, all as defined below.



(2) Fuel costs (F) shall be the cost of:

- (i) Fossil and nuclear fuel consumed in the utility's own plants, and the utility's share of fossil and nuclear fuel consumed in jointly owned or leased plants.
  - (ii) The actual identifiable fossil and nuclear fuel costs associated with energy purchased for reasons other than identified in paragraph (a)(2)(iii) of this section.
  - (iii) The net energy cost of energy purchases, exclusive of capacity or demand charges (irrespective of the designation assigned to such transaction) when such energy is purchased on an economic dispatch basis. Included therein may be such costs as the charges for economy energy purchases and the charges as a result of scheduled outage, all such kinds of energy being purchased by the buyer to substitute for its own higher cost energy; and less
  - (iv) The cost of fossil and nuclear fuel recovered through inter-system sales including the fuel costs related to economy energy sales and other energy sold on an economic dispatch basis.
- (3) Sales (S) shall be all KWH sold, excluding inter-system sales. Where for any reason billed system sales cannot be coordinated with fuel costs for the billing period, sales may be equated to the sum of (i) generation, (ii) purchases, (iii) interchange-in, less (iv) energy associated with pumped storage operations, less (v) inter-system sales referred to in paragraph (a)(2)(iv) above, less (vi) total system losses.
- (4) The adjustment factor developed according to this procedure shall be modified to properly allow for losses (presently estimated at 5.41%) associated only with wholesale sales for resale.
- (5) The adjustment factor developed according to this procedure may be further modified to allow the recovery of gross receipts and other similar revenue based tax charges occasioned by the fuel adjustment revenues.
- (6) The cost of fossil fuel shall include no items other than those listed in Accounts 151 and 120 of the Commission's Uniform System of Accounts for Public Utilities and Licensees; provided that whenever the foregoing determination would be affected by energy produced from facilities undergoing operational tests prior to being placed in commercial operation, the components of F shall be adjusted so that its value is the same as it would have been if such test energy were not available except to the extent that the investment in construction work in progress ("CWIP") in those facilities is included in wholesale rate base supporting rates in effect during the current period. The cost of nuclear fuel shall be that as shown in





Account 518, except that if Account 518 also contains any expense for fossil fuel which has already been included in the cost fossil fuel, it shall be deducted from this account. (Paragraph C of Account 518 includes the cost of other fuels used for ancillary steam facilities.)

POWER FACTOR ADJUSTMENT CLAUSE:

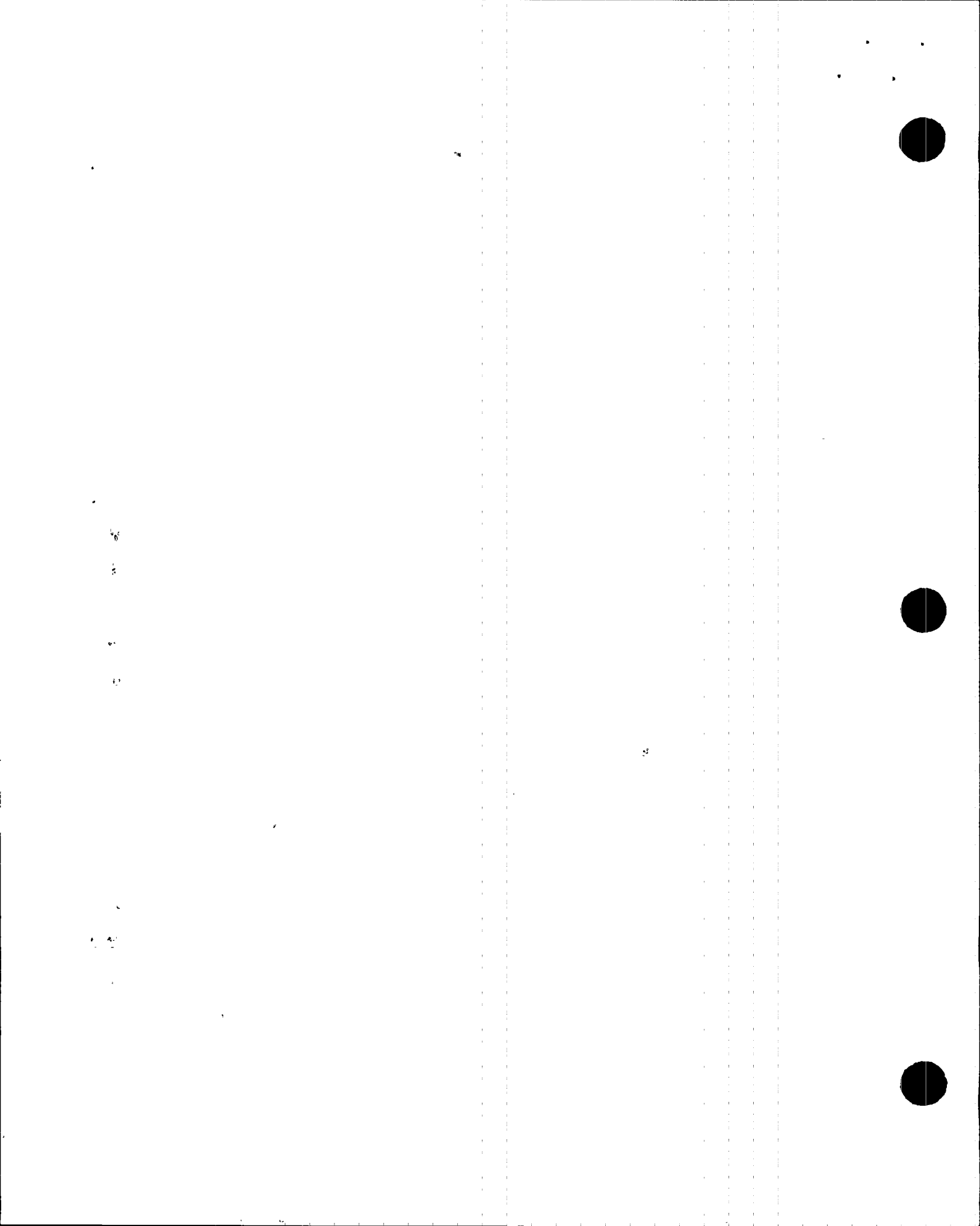
If the power factor is below 90% lagging, a charge of \$0.06 per KVAR will be made for each KVAR by which customer's computed KVAR demand exceeds 48.432% of the KW billing demand.

TERMS OF PAYMENT:

All bills under this schedule are due and payable when rendered and become delinquent ten days thereafter. An interest penalty will be assessed on bills exceeding the payment date. Interest will be based on the floating prime rate at Chase Manhattan Bank, prorated daily from the due date to the date of payment.

TERMS AND CONDITIONS:

The Company's rules and regulations apply to service under this schedule. Service under this schedule shall be for customer's entire demand and energy requirements and shall not be used for supplementary or standby service. A written contract is required for this service.



UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

El Paso Electric Company

)

Docket No. ER86-368-001  
ER86-638 and ER86-709

EXPLANATION OF SETTLEMENT BETWEEN  
EL PASO ELECTRIC COMPANY  
AND  
RIO GRANDE ELECTRIC COOPERATIVE, INC.

On August 5, 1986 El Paso Electric Company ("the Company") filed increased rates for service to Rio Grande Electric Cooperative, Inc. ("Rio Grande") in Docket No. ER86-638-000. The Company proposed an increase of approximately \$650,000 based on the 1986 test year cost of service submitted with the filing.

On September 29, 1986 the Commission accepted the increase for filing, permitted it to become effective subject to refund on October 7, 1986, ordered a proceeding, consolidated the proceeding with a proceeding previously ordered in Docket No. ER86-368 and ordered EPE to file compliance rates within 30 days reducing the rates to reflect the sale leaseback of Palo Verde No. 2 and a delay in that unit's scheduled service date.

On October 28, 1986 the Company tendered its compliance filing as required by the Commission's order of September 29, 1986. The Company requested that the filing be made effective subject to refund on October 7, 1986. The Commission has taken no action on the filing.



The Company and Rio Grande each filed petitions for rehearing of the Commission's order of September 29, 1986. The Commission has not acted on either petition.

The Company and Rio Grande have agreed in settlement of all issues in the present proceeding to a settlement rate to be effective from October 7, 1986 through October 6, 1987 and thereafter until that rate is changed by the Company pursuant to Section 205 of the Federal Power Act. In order to implement the settlement rate the parties have executed amendments to the agreements for the Company's service to Rio Grande at Dell City and Van Horn and have attached those amendments together with rate schedule supplements containing the settlement rate to the Settlement Agreement. The rate schedule supplements reduce the demand charges and put a ceiling of \$.05 per kilowatt hour on the total amount that the Company can charge under all components of the rate. The amendments provide that if the Company increases the demand charge contained in the rate schedule supplements the demand ratchet will not refer back to demands imposed while the supplements were in effect.

Respectfully submitted,

BRUDER & GENTILE

By Albert R. Simonds, Jr.  
Albert R. Simonds, Jr.

January 13, 1987



DRAFT LETTER APPROVING  
SETTLEMENT AGREEMENT

Albert R. Simonds, Jr., Esquire  
Bruder & Gentile  
1350 New York Avenue, N.W.  
Suite 600  
Washington, D.C. 20005

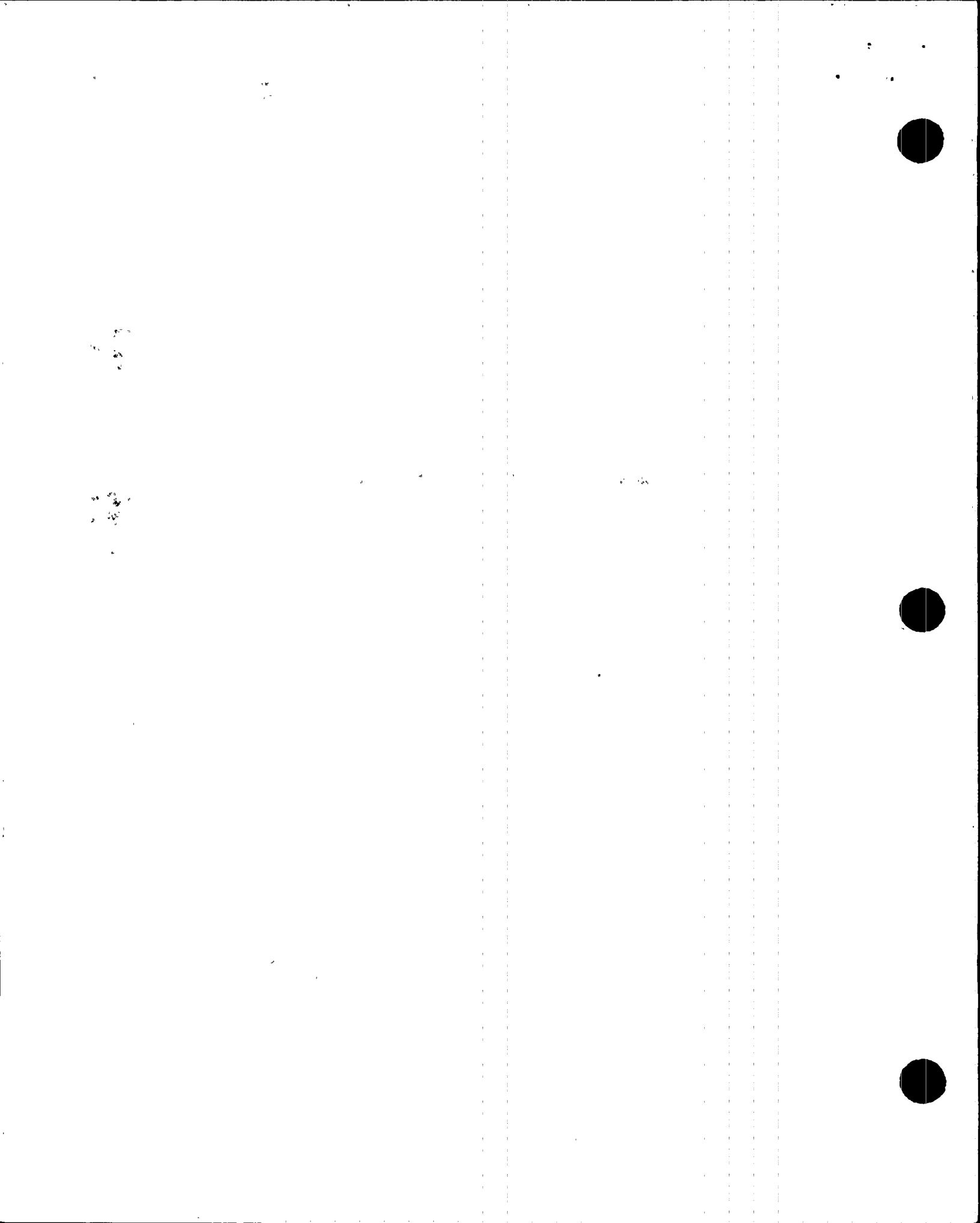
Regarding: El Paso Electric Company, Docket Nos.  
ER86-368, ER86-638 and ER86-709

Dear Mr. Simonds:

On January 13, 1987 a Settlement Agreement between El Paso Electric Company ("El Paso") and Rio Grande Electric Cooperative, Inc. ("Rio Grande") was filed in the above referenced dockets to dispose of all issues in this proceeding between El Paso and Rio Grande. The Commission Staff filed comments in support of the settlement on \_\_\_\_\_. No other comments were filed. The Presiding Administrative Law Judge certified the uncontested Settlement Agreement to the Commission on \_\_\_\_\_, 198\_.

The offer of settlement is in the public interest and is hereby approved. The Commission's approval of this settlement does not constitute approval of, or precedent regarding, any principle or issue in this proceeding.

The contract amendments and rate schedule supplements appended to your Settlement Agreement as Appendix A are accepted for filing effective October 7, 1986 and are designated as shown on the attached enclosure.





Albert R. Simonds, Jr., Esquire  
January , 1987  
Page 2

Within thirty (30) days from the date of this letter order, any amounts collected in excess of the settlement rate levels shall be refunded together with interest computed under Section 35.19a of the Commission's Regulations. Within fifteen (15) days after making such refunds, the Company shall file with this Commission a compliance report showing monthly billing determinants, revenue receipt dates, and revenues under the prior, present and settlement rates, the monthly revenue refund, and the monthly interest computed, together with a summary of such information for the total refund period. El Paso shall furnish copies of such report to Rio Grande and to the state commission within whose jurisdiction Rio Grande distributes and sells electric energy at retail.

By direction of the Commission.

Kenneth F. Plumb  
Secretary

cc: To All Parties



BRUDER & GENTILE  
1350 NEW YORK AVENUE, N. W.  
SUITE 600  
WASHINGTON, D. C. 20005

GEORGE F. BRUDER  
CARMEN L. GENTILE  
ALBERT R. SIMONDS, JR.  
J. MICHEL MARCOUX  
JAMES H. MOREW

OF COUNSEL  
HOWARD E. WAHRENBROCK  
(INACTIVE)  
JAMES E. HICKEY, JR.

January 13, 1987

To the Attached List

Regarding: El Paso Electric Company, Docket Nos.  
ER86-368, ER86-638 and ER86-709

Gentlemen:

In accordance with Rule 602(d) of the Federal Energy Regulatory Commission's rules of practice and procedure, I enclose copies of a Settlement Agreement between El Paso Electric Company and Rio Grande Electric Cooperative, Inc. filed this day in the above-docketed proceedings. Under the Commission's regulations, any comments on the Settlement Agreement must be filed with the Commission on or before February 2, 1987 which is 20 days from the date of filing.

Very truly yours,



Albert R. Simonds, Jr.  
Attorney for El Paso Electric  
Company

Enclosures



LIST OF RECIPIENTS

Donald R. Allen, Esquire  
Gregg D. Ottinger, Esquire  
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1575 Eye Street  
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John Penn Carter III, Esquire  
Horton, Knox, Carter and  
Foote  
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El Centro, California 92243

Mr. Larry Laux  
Manager - Wholesale Rates  
Texas-New Mexico Power Company  
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Roger M. Roberge, Ph.D.  
Mr. William C. Petty  
R. W. Beck & Associates  
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3003 N. Central Avenue  
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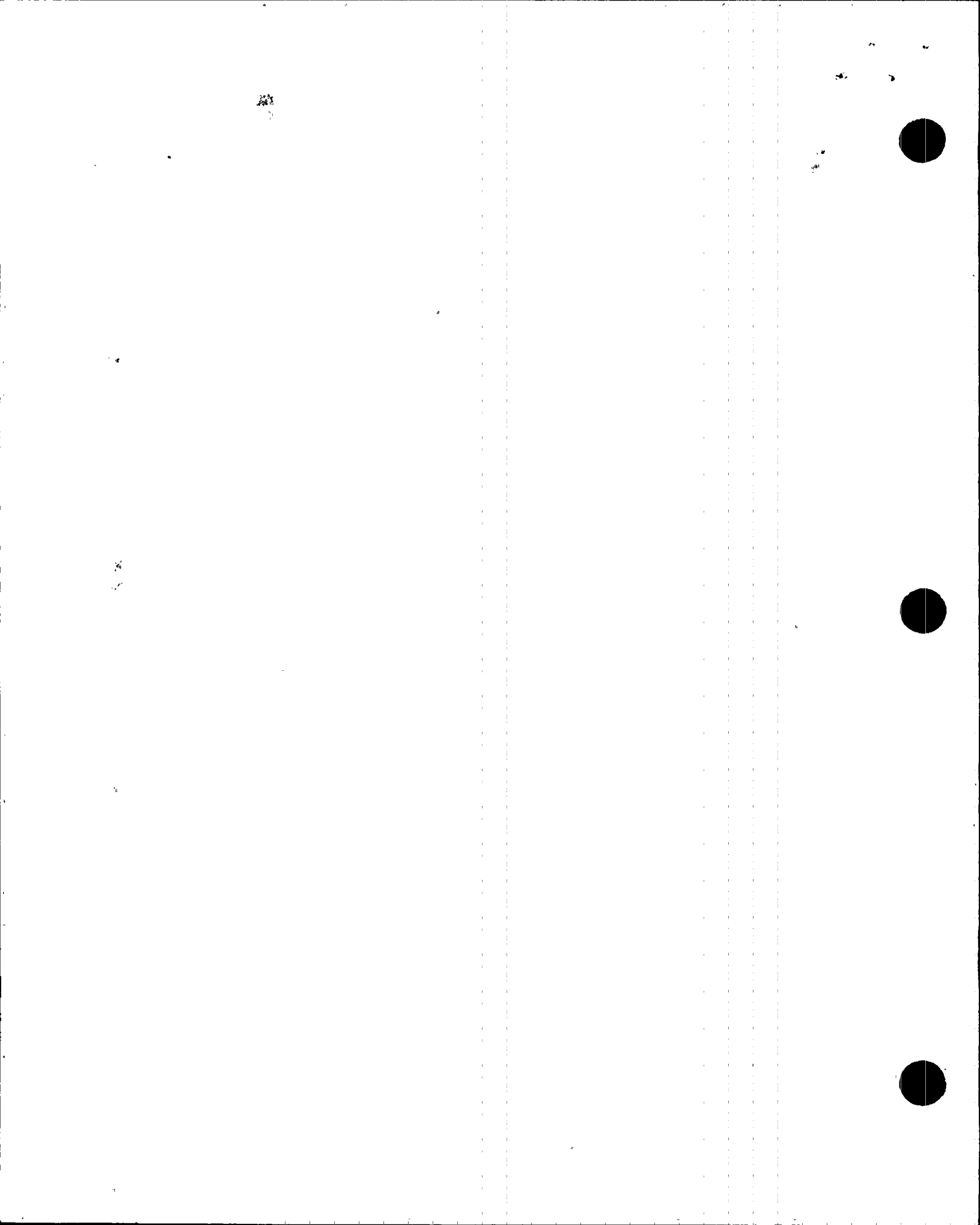
Arnold Fieldman, Esquire  
Joshua L. Menter, Esquire  
Goldberg, Fieldman and  
Lethan, P.C.  
1100 15th Street, N.W.  
Washington, D.C. 20005

Mr. Henry Legaspi  
Manager-Power Department  
Imperial Irrigation District  
333 E. Barioni  
Imperial, California 92251

R. D. Gwartney  
Manager  
Rio Grande Electric Cooperative, Inc.  
101 Spring Street  
Brackettville, Texas 78832

Mr. David T. Helsby  
R. W. Beck & Associates  
Fourth and Blanchard Building  
2121 Fourth Avenue  
Seattle, Washington 98121

Mr. Robert L. Corbin  
Assistant Vice President  
El Paso Electric Company  
303 North Oregon Street  
El Paso, Texas 79901



LIST OF RECIPIENTS

Sheila S. Hollis, Esquire  
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Washington, D.C. 20006

Joanne Reuter, Esquire  
New Mexico Public Service Commission  
224 E. Palace Avenue  
Santa Fe, New Mexico 87503

Gary A. Morgans, Esquire  
Federal Energy Regulatory Commission  
Room 8604-A  
825 North Capitol Street, N.E.  
Washington, D.C. 20426

Mr. Carl N. Stover  
C. H. Guernsey & Company  
3555 N. W. 58th Street  
Oklahoma City, Oklahoma 73112

Mr. C. Dwight Slough  
Federal Energy Regulatory Commission  
400 First Street, N.W.  
Room 602-A  
Washington, D.C. 20426

Mr. Dennis Duffy  
2456 18th Avenue  
Columbus, NE 68601

Mr. Neil Romero  
3710 Grant, Suite G  
Reno, Nevada 89513

Thomas L. Blackburn, Esquire  
Federal Energy Regulatory Commission  
825 North Capitol, N.E., Room 8606-C  
Washington, D.C. 20426

Ms. Camile Lucas  
Federal Energy Regulatory  
Commission  
400 First Street, N.W.  
Room 408-D  
Washington, D.C. 20426

第 4 号 2000 年 10 月 1 日





El Paso Electric Company  
P.O. Box 982  
El Paso, Texas 79960  
(915) 543-5711

January 28, 1987

Mr. Allan B. Davis  
Chairman, Planning & Engineering Committee  
New Mexico Power Pool  
Texas-New Mexico Power Company  
4100 International Plaza  
Ft. Worth, Texas 76109

Dear Allan:

Two major transmission projects in the New Mexico EHV grid, the Springerville-Luna 345Kv line and the OLE Project, are scheduled to be placed in-service in 1989. These projects will affect all of the electrical utilities in New Mexico. A study currently being performed jointly by El Paso Electric Company (EPE) and Public Service Company of New Mexico (PNM) is well along in further documenting and providing additional evaluation of these impacts.

However, to provide a broader perspective and input with regard to individual company future transmission capabilities and requirements, EPE proposes to expand the study and place it under the direction of the New Mexico Power Pool (NMPP). We also feel that Tucson Electric Power Company (TEP), as a participant in the Springerville-Luna Project, should be included.

If you approve, we will be pleased to host a meeting in February of the members of the NMPP Planning & Engineering Committee and a representative from TEP in El Paso to discuss the basis and scope of the expanded study.

If you believe the study should include others, please let me know. If you have other suggestions, or need more information, please contact me at (915)543-5746.

Sincerely yours,

A handwritten signature in cursive script, reading "James P. Maloney". The signature is written in dark ink and is positioned above the typed name and title.

James P. Maloney  
Vice President

cc: NMPP Executive Committee Members  
NMPP Planning & Engineering Committee Members  
Mr. Thomas A. Delawder, Tucson Electric Power Company



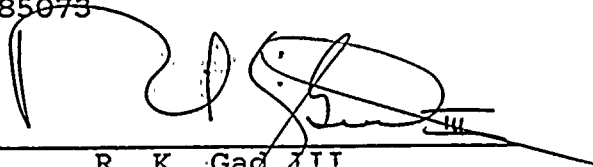
CERTIFICATE OF SERVICE

I, Robert K. Gad III, hereby certify that on February 6, 1987, I made service of the within "Response of El Paso Electric Company to 'Comments of Plains Electric Generation and Transmission Cooperative, Inc., on Antitrust Information, Request for Finding of Significant Change, Request for Antitrust Hearing and Request for Imposition of License Conditions'," by mailing copies thereof, postage prepaid, to:

Benjamin J. Vogler, Esquire  
Office of the General Counsel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Frederick L. Miller, Jr., Esquire  
Duncan, Weinberg & Miller, P.C.  
Suite 800  
1614 M Street, N.W.  
Washington, D.C. 20036

Arthur C. Gehr, Esquire  
Snell & Wilmer  
3100 Valley Bank Center  
Phoenix, Arizona 85073



R. K. Gad III

Figure 1

PALO VERDE EDG MEETINGJANUARY, 20, 1987

| <u>Attendees</u>        | <u>Affiliation</u>             |
|-------------------------|--------------------------------|
| Manny Licitra           | NRC/NRR/PBD7                   |
| Michael J. Davis        | NRC/NRR/PBD7                   |
| Charles Miller          | NRC/NRR/PEICSB                 |
| Robert Wright           | NRC/NRR/EB                     |
| Randy Buckhalter        | APS                            |
| Bill Quinn              | APS, MGR Licensing             |
| Edwin E. Van Brunt, Jr. | APS - Executive Vice President |
| Jerry Haynes            | APS - Vice President           |
| David Dinger            | PNL - DIESEL Team              |
| E. B. Tomlinson         | NRC/NRR/PEICSB                 |
| Dean Houston            | NRC/ACRS                       |
| Harold Gray             | NRC -RI - M&PS Section         |
| Walter P. Haass         | NRC -IE - VPS                  |
| Deborah Boe             | Stone & Webster/NMP2           |
| Surjit S. Pabby         | Niagara Mohawk/NMP2            |
| Keith D. Ward           | Niagara Mohawk                 |
| Donald S. Brinkman      | NRC/IE/DI                      |
| James A. Isom           | NRC/IE/DI                      |
| A. B. (Burt) Johnson    | PNL/Reactor Tech Center        |
| Larry Ruth              | NRC/NRR/TAMB                   |
| Jeff Harper             | NRC/IE/VPB                     |



E. H. Trottier

E. W. Merschhoff

W. E. Ide

R. M. Butler

W. O. Ferguson

J. M. Horne

Harold W. Makos

Allen Lambert

Paul J. Lowzecky

Wallace L. Johnson

Don French

R. J. Sorenson

Bill Simko

Dan Sachs

Dave Sellers

Jose Calvo

George Knighton

Jim Raleigh

NRC - Vendor Branch

NRC - IE-VPB

APS - Director, Corp QA/QC

APS - Director Technical Services

Cooper-Bessemer - Mgr. Materials Engr.

Cooper-Bessemer - Mgr. Analyt. & Compr. Eng.

Cooper-Bessemer - Marketing

Cooper-Bessemer - Mgr. Quality Control

Consultant to PNL

V. P. Reynolds French & Co.

President, V. P. Reynolds French & Co.

PNC

APS - Mech Engr. Supv.

APS Metallurgist

NRC/NRR

NRC/NRR/PEICSB

NRC/NRR/PBD7

NRC/NRR/PBD7





# DIESEL GENERATOR FAILURE REPORT AGENDA

- I. INTRODUCTIONS
  - ° Introduction of NRR/NRC Staff (G. Knighton)
  - ° Introduction of Plant Staff (E.E. Van Brunt)
  - ° Introduction of Vendor Staff (A. Lambert)
- II. EVENT SUMMARY (J. Haynes)
  - ° Plant Status At Failure
  - ° Action Taken On Shift
  - ° Recovery Plan
- III. INITIAL INVESTIGATION (R. Buckhalter)
  - ° Quarantine and Access Control
  - ° Initial Inspection
  - ° Clean-up/Internal Inspection
  - ° Categorization of the Damage
- IV. ENGINEERING OVERVIEW (W. Simko)
  - ° Diesel Structure and Operation
  - ° Sequence of Events
  - ° Slide Presentation Of Damage
- V. FAILURE ANALYSIS (D. Sachs, W. Ferguson)
  - ° Investigative Techniques
  - ° Root Cause Conclusions
  - ° Failure Boundaries
  - ° Manufacturing Specifications
  - ° Evaluation of Other Units
- VI. REPAIR WORK (R. Buckhalter, W. Johnson, D. French)
  - ° Categories of Damage/Repair
  - ° Repair Techniques
- VII. OPERABILITY VERIFICATION (J. Horn, R. Buckhalter)
  - ° Cooper's Engineering Analysis
  - ° Retesting Program
- VIII. QUALITY PROGRAM REVIEW (W. Ide, A. Lambert)
  - ° D/G Fabrication Review
  - ° Quality Program Implications
  - ° Control of Rework
- IX. SCHEDULE (R. Buckhalter)
  - ° Diesel Generator Rework
  - ° Unit Startup



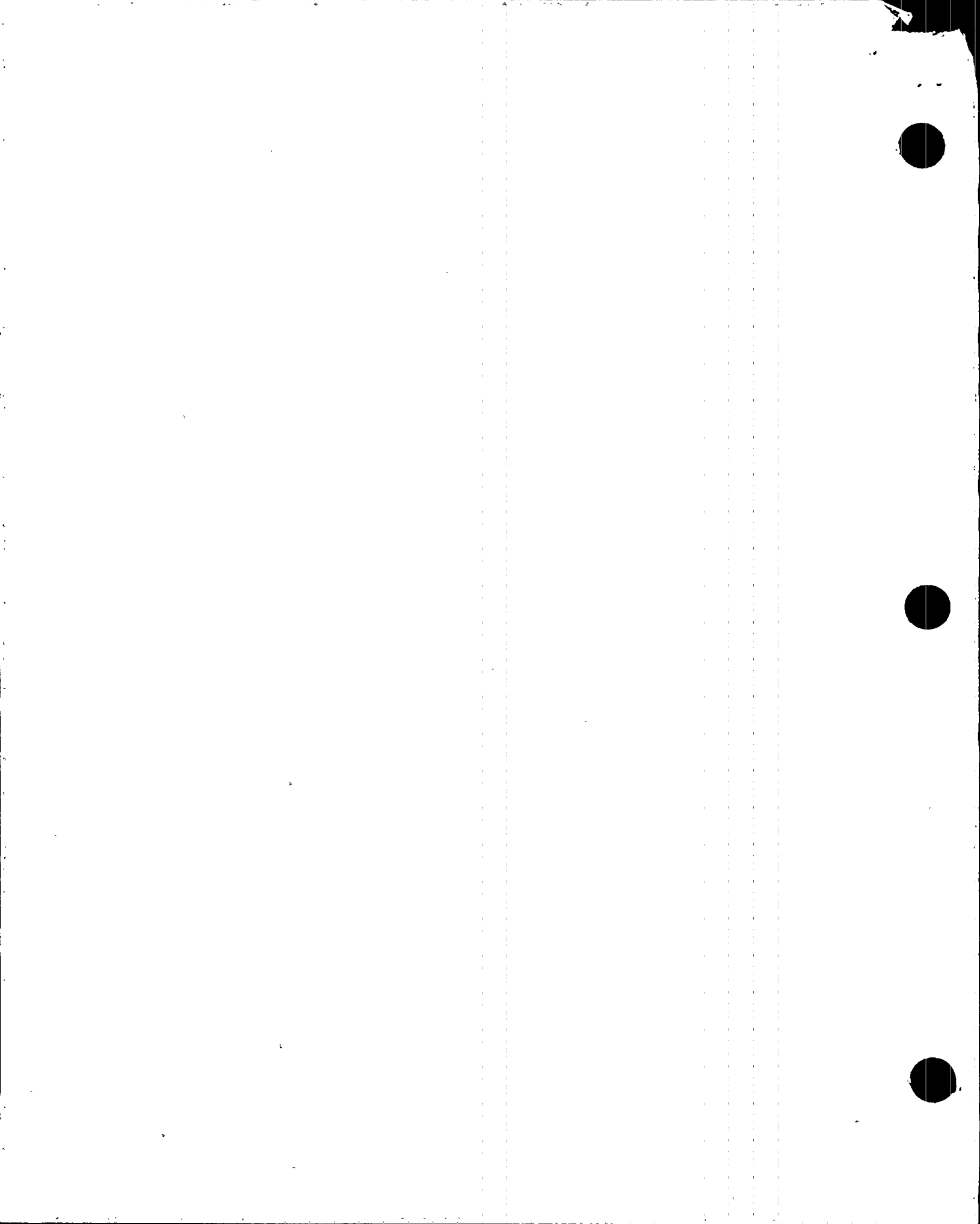
#### INTRODUCTION OF PLANT STAFF

|                  |   |  |
|------------------|---|--|
| E. E. Van Brunt  | - | Executive Vice President Nuclear Operations  |
| J. G. Haynes     | - | Vice President Nuclear Production            |
| R. M. Butler     | - | Director Technical Services                  |
| W. E. Ide        | - | Director Corporate Quality Assurance         |
| W. F. Quinn      | - | Manager Licensing                            |
| R. A. Buckhalter | - | Unit III Superintendent Outage Management    |
| W. Simko         | - | Mechanical Supervisor Operations Engineering |
| D. Sachs         | - | Metallurgist Operations Engineering          |

#### INTRODUCTION OF VENDOR STAFF

|             |   |                                    |
|-------------|---|------------------------------------|
| A. Lambert  | - | Cooper Energy Services Quality     |
| H. Makos    | - | Cooper Energy Services Marketing   |
| J. Horne    | - | Cooper Energy Services Engineering |
| W. Ferguson | - | Cooper Energy Services Metallurgy  |
| D. French   | - | Reynolds French President          |
| W. Johnson  | - | Reynolds French Vice President     |

RAB 1/20/87



## EVENT SUMMARY

### °PLANT STATUS

°Integrated Safeguards Testing in progress.

Two remaining major sections:

1. The twenty four (24) hour run followed by a full load rejection and subsequent hot start (within five (5) minutes) by an SIAS/CIAS/LOP actuation.

2. Full flow injection to SG #1 initiated by AFAS-1/LOP.

Diesel Generator "B" loaded to 100% for approximately 2.5 hours. Load increased to 110% within ten (10) minutes the engine failed.

### °ACTION TAKEN ON SHIFT

°Metallic noise and alarms received.

°Emergency stop push button actuated.

°Determined diesel experienced mechanical damage and still running.

°Manually shut air intake butterfly valve.

°Fuel racks shut speed reduced to 295 RPM.

°Contacted Cooper Field Services from engine room.

°Isolated fuel oil, starting air, electrical power to stop engine, prevent fire.

°Sprayed foam into crankcase.

°Isolated lube oil.

°Engine stopped approximately 50 minutes after event.

### °RECOVERY PLAN

°Engine Room Secured

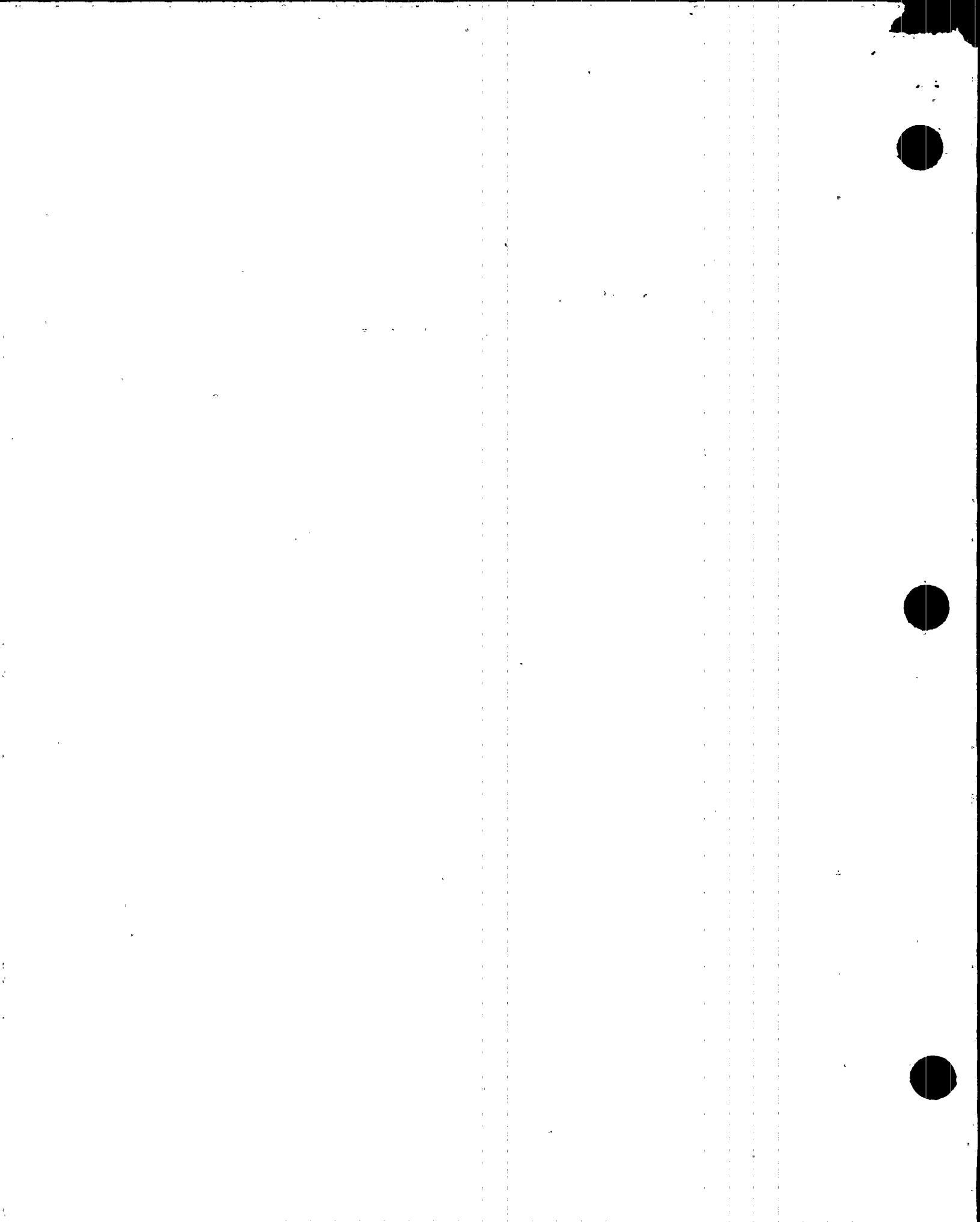
°Meeting With Plant Manager

°Recovery Team Organized

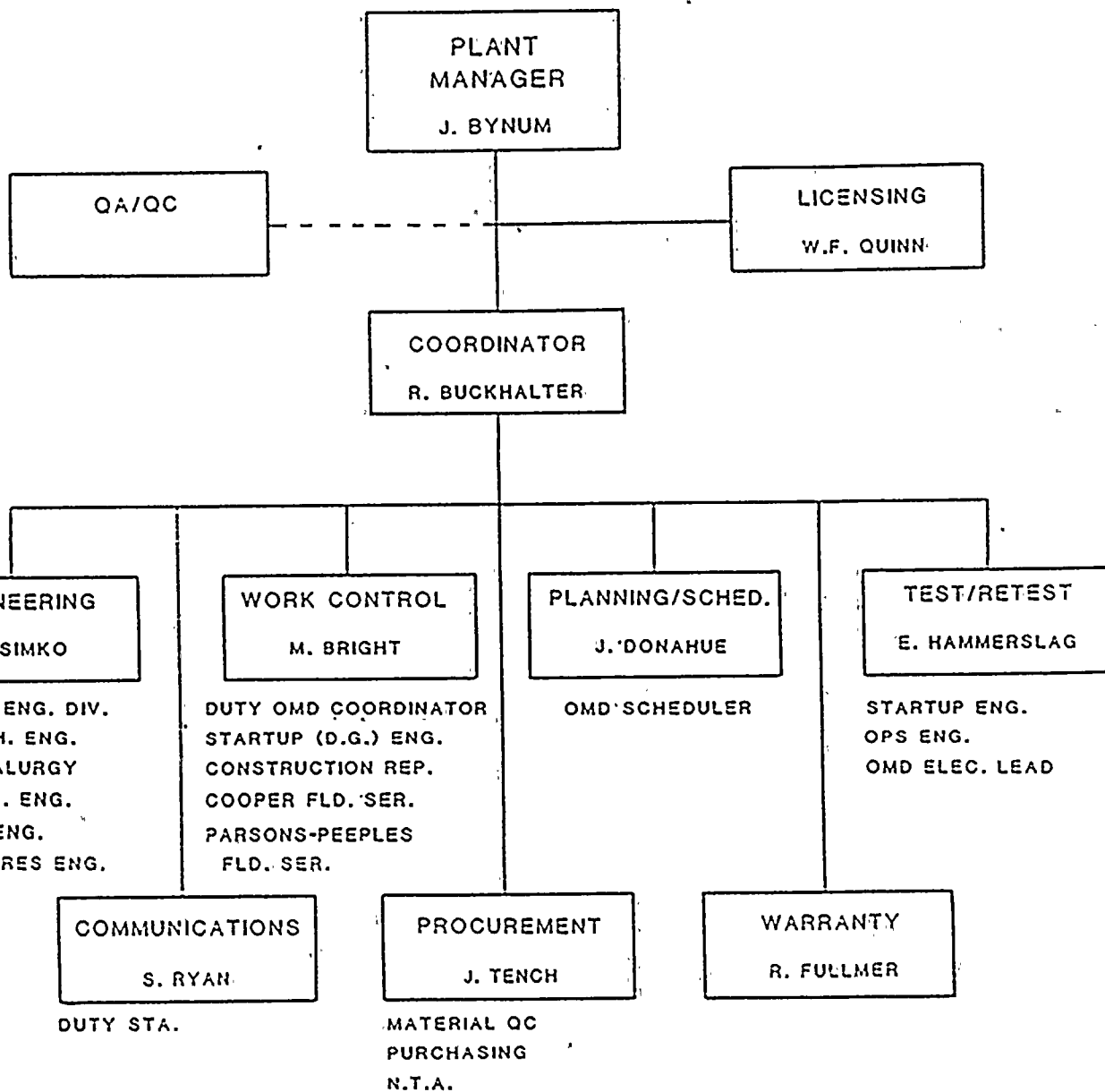


C. After the Recovery Team was established a review of the initial information identified the following immediate actions.

1. Maintain the area quarantined and restrict access.
2. Appoint an inspection crew to survey the damage and map out the area.
3. Determine the extent of the damage to the diesel and supporting systems.
4. Determine the cause of the diesel engine failure.
5. Evaluate the impact to Units I and II.
6. Evaluate the impact to ISG Testing and Project Schedule.









ANPP DIESEL GENERATORS

°Diesel Generator Ratings

°Diesel Generator Layout

°Failure Events

°Engine Description

°Connecting Rod Construction

°Description of Damage

°Failure Location



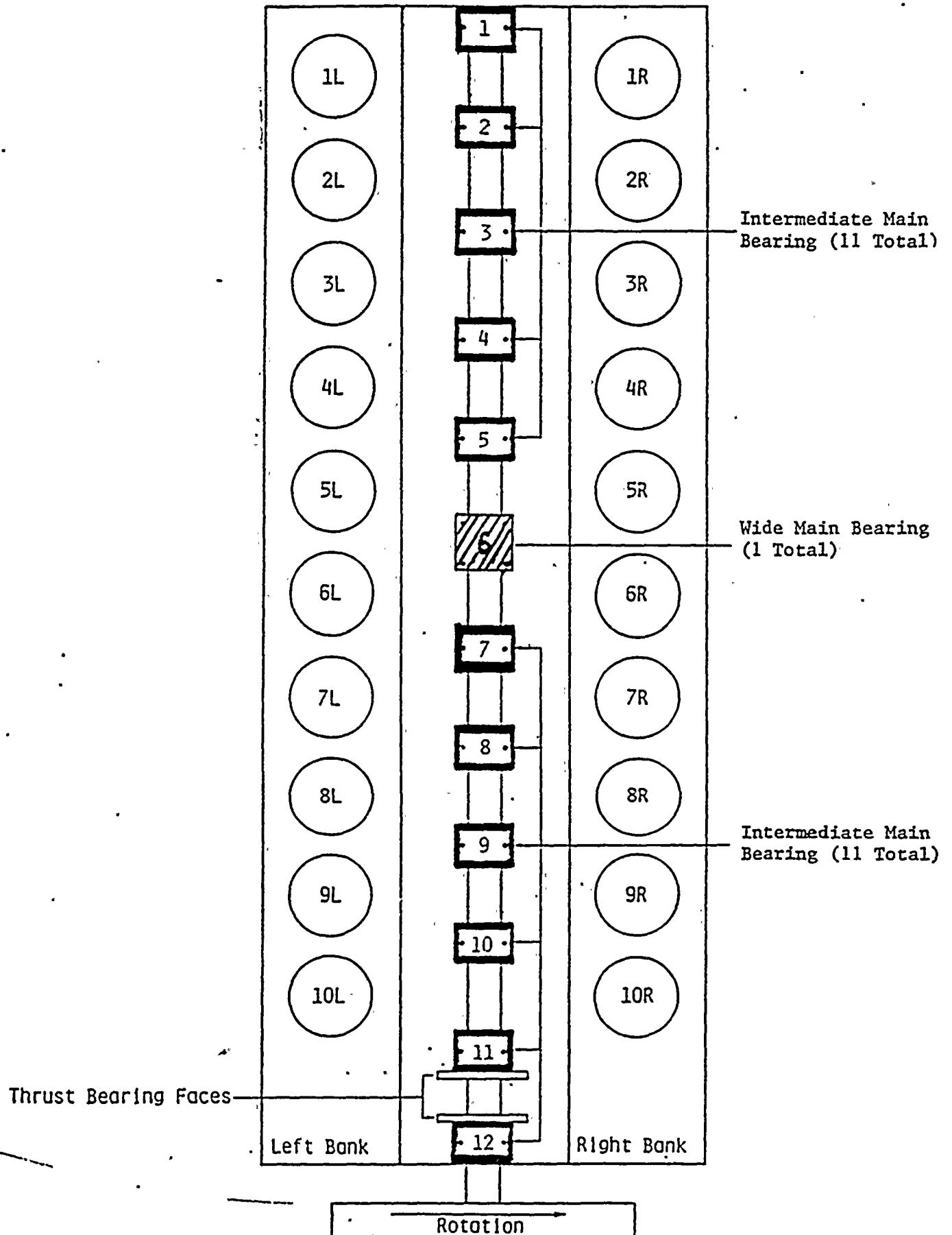
# ANPP DIESEL GENERATOR

|   |          |
|---|----------|
| TYPE  | KSV-20-T |
| BORE, INCHES                                    | 13.5     |
| STROKE, INCHES                                  | 16.5     |
| STROKE CYCLE                                    | 4        |
| RATED SPEED, RPM                                | 600      |
| KILOWATT RATING (CONTINUOUS)                    | 5500     |
| KILOWATT RATING (SHORT TERM-<br>2 HOUR MAXIMUM) | 6050     |
| CYLINDER PEAK FIRING PRESS, PSI                 | 1600     |
| CYLINDER COMPRESSION PRESS, PSI                 | 560      |
| CYLINDER EXHAUST TEMP., °F                      | 980      |
| LUBE OIL PRESS:                                 |          |
| NORMAL, PSI                                     | 50       |
| LOW ALARM, PSI                                  | 35       |
| LOW SHUTDOWN, PSI                               | 30       |

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Forward End



Aft End

WMS 1/20/87

FIG. 1





## SEQUENCE OF EVENTS

DECEMBER 23, 1986

(APPROX. TIMES)

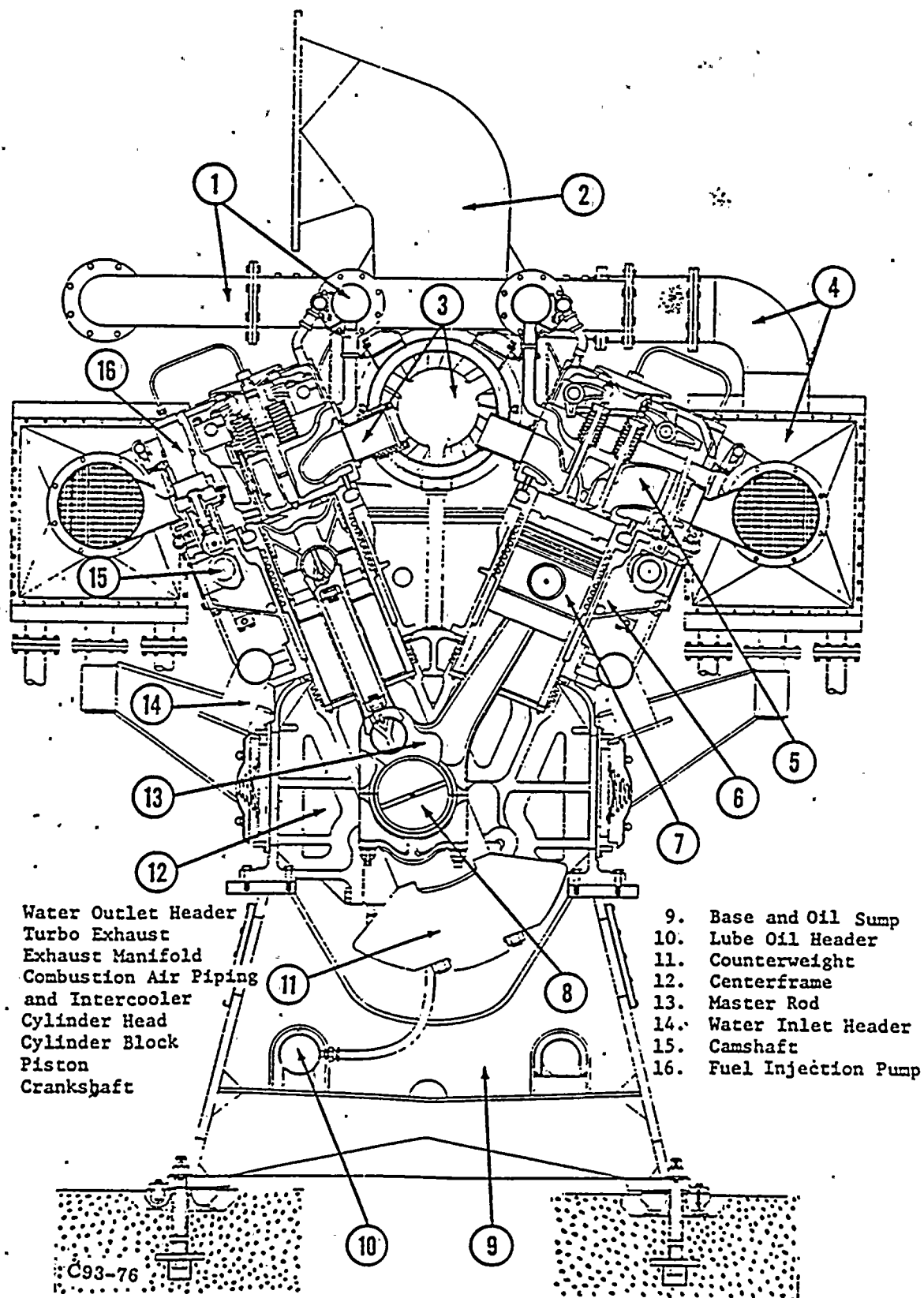
06:39 DG B STARTED FOR 24 HOUR RUN.  
09:00 DG B LOADED TO 110% FOR 2 HOUR RUN.  
09:07:56 DG B STATUS-TRIP, GENERATOR OFF, CONNECTING ROD  
BROKE AIR CONTROL LINE ON SIDE OF ENGINE CAUSING  
CONNECTING ROD HIGH TEMP. ALARM, NO AIR TO SHUT  
OFF FUEL RACK, AT 600 RPM.  
09:07:58 DG B EMERG. MAN TRIP-TRIP, ACTUATE BY SU ENGR.  
09:07:58 DG B LO PRIORITY TRBL-TRBL, LOW LUBE OIL PRESS-50 PSI.  
09:09:56 DG B OVERSPEED-TRIP, OVERSPEED TRIP MANUALLY  
INITIATED BY CLOSING AIR INTAKE BUTTERFLY VALVE,  
DROPPED TO 295 RPM.  
09:10 FIRE DEPT. NOTIFIED, THOUGHT IT WAS CRANK CASE  
EXPLOSION.  
09:12 STARTING AIR ISOLATED.  
09:13:52 DG B LUBE OIL LO PRESS-TRIP, 30 PSI, STILL 295 RPM.  
09:13:54 DG B FO DAY TK LEVEL-LO-LO, SHUT OFF FUEL OIL UPSTAIRS.  
09:30 CONTROL POWER ISOLATED-STOP ANYTHING ELECTRICAL BUT  
ENGINE STILL AT 295 RPM DRIVEN BY LUBE OIL SELF  
PRIMING, COOPER CONTACTED.  
09:55 LUBE OIL ISOLATED.  
09:58 DG STOPPED BY INJECTING FOAM BY FIRE DEPARTMENT.

|               |                         |             |
|---------------|-------------------------|-------------|
| PAST HISTORY: | RUN TO CHECK INTERLOCKS | - VARIOUS   |
|               | IDLE - SLIP RING CHECK  | - 6 HRS.    |
|               | 35 STARTS - 50% OR MORE | - 50 HRS. + |
|               |                         | <hr/>       |
|               |                         | 97 HRS.     |

LAST RUN: 2.3 HOURS - 100%  
9 MINUTES - 110%

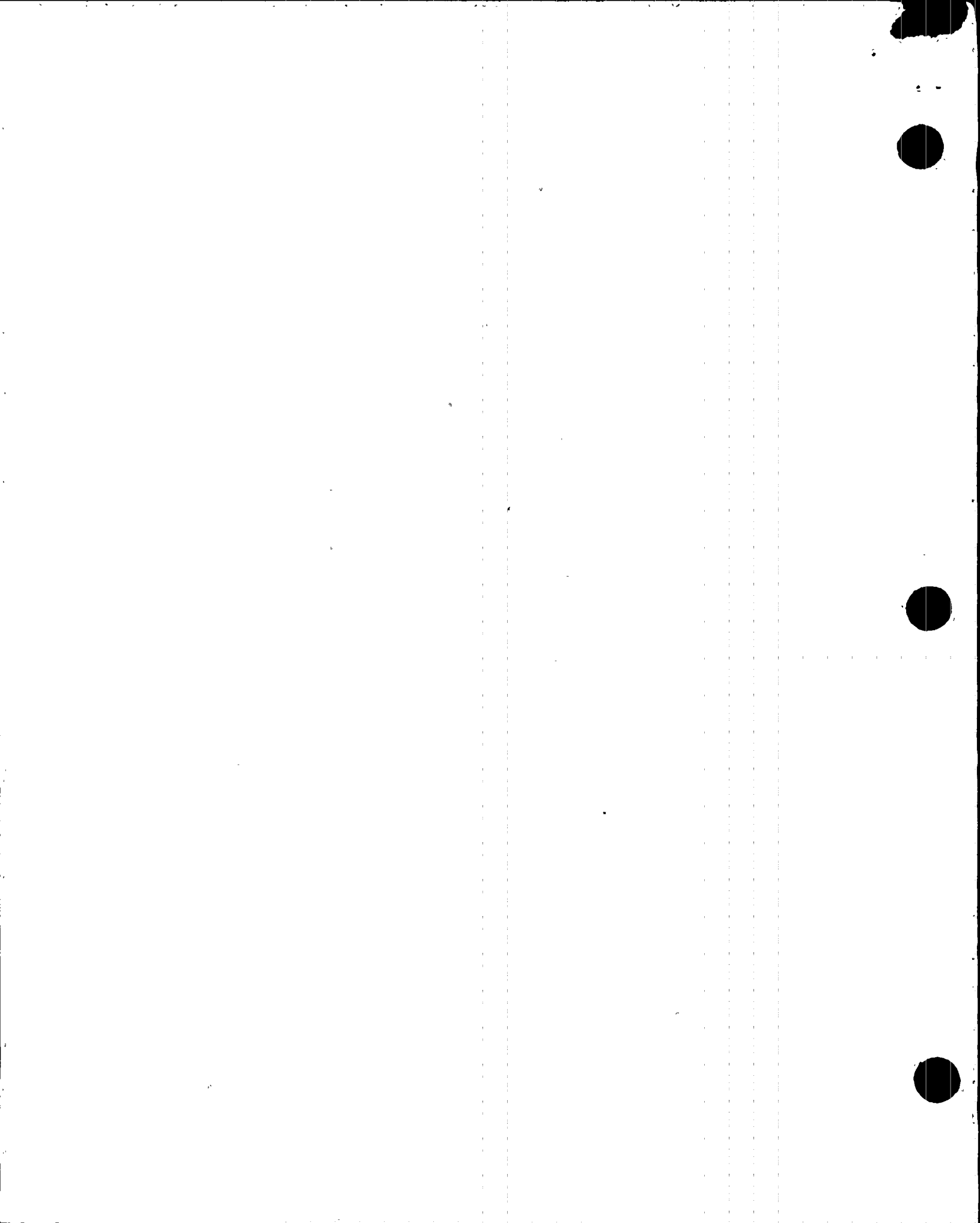
WMS 1/20/87



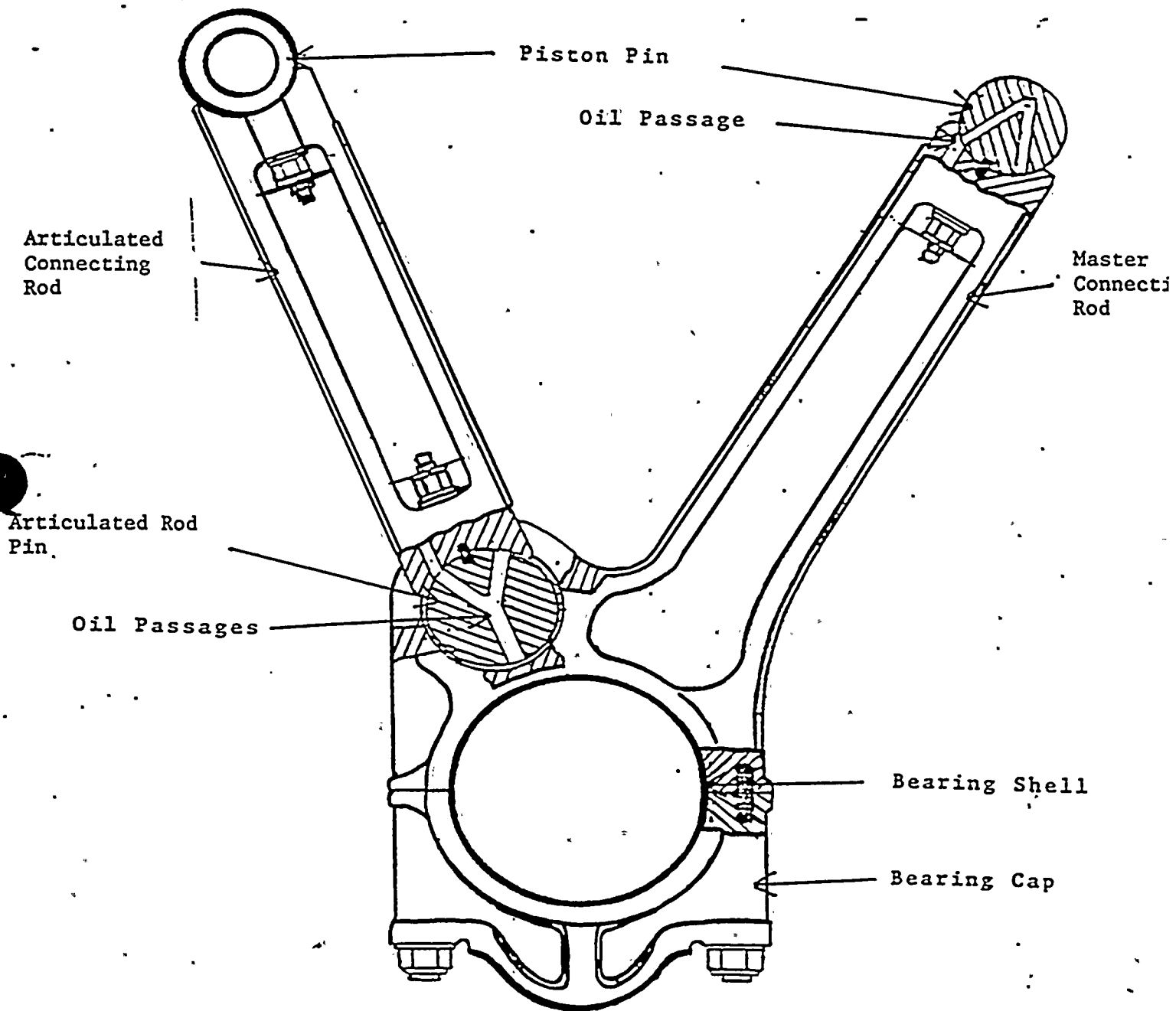


KSV Diesel Engine for Nuclear Power Plant Service

WMS. 1/20/87

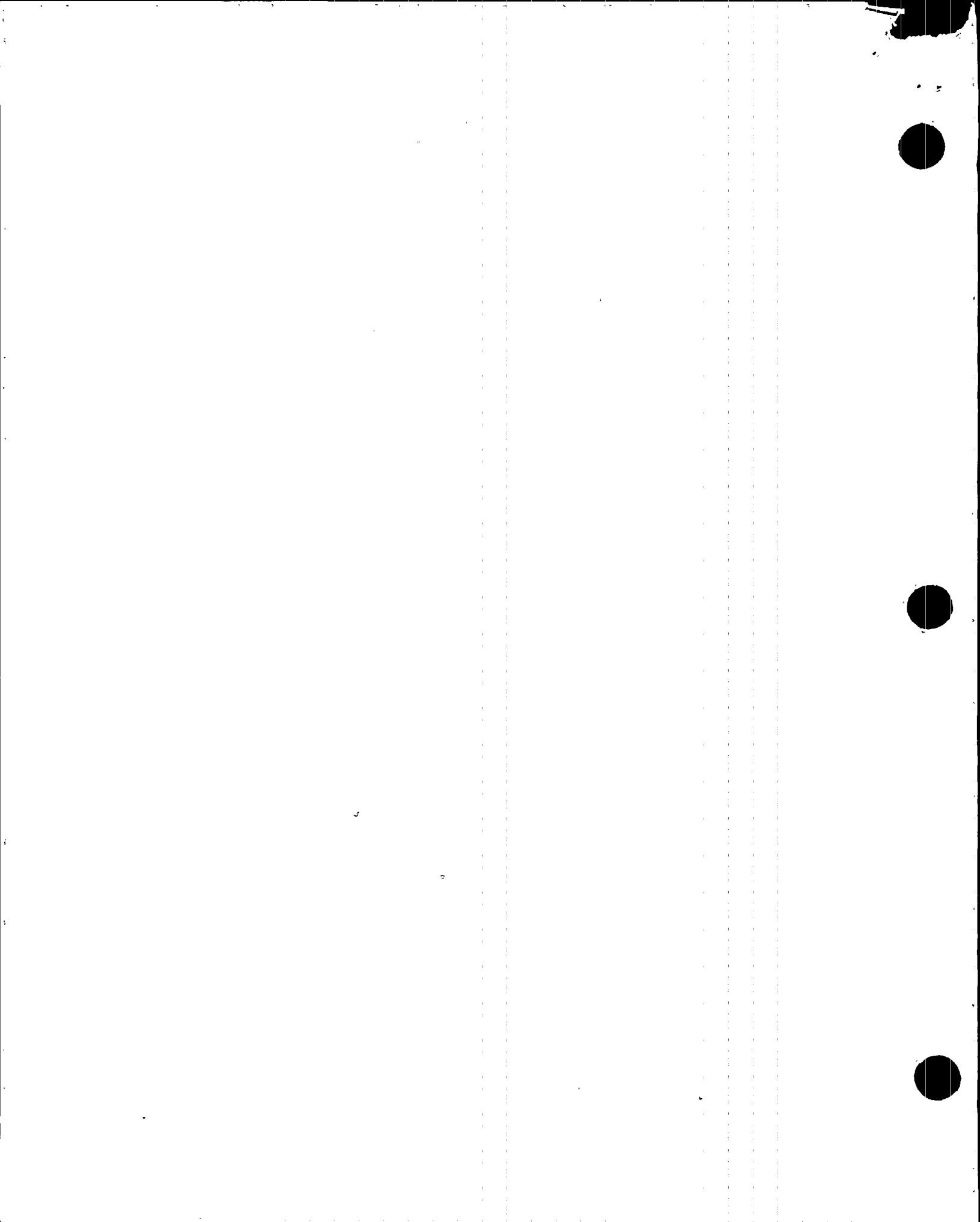


# CONNECTING ROD

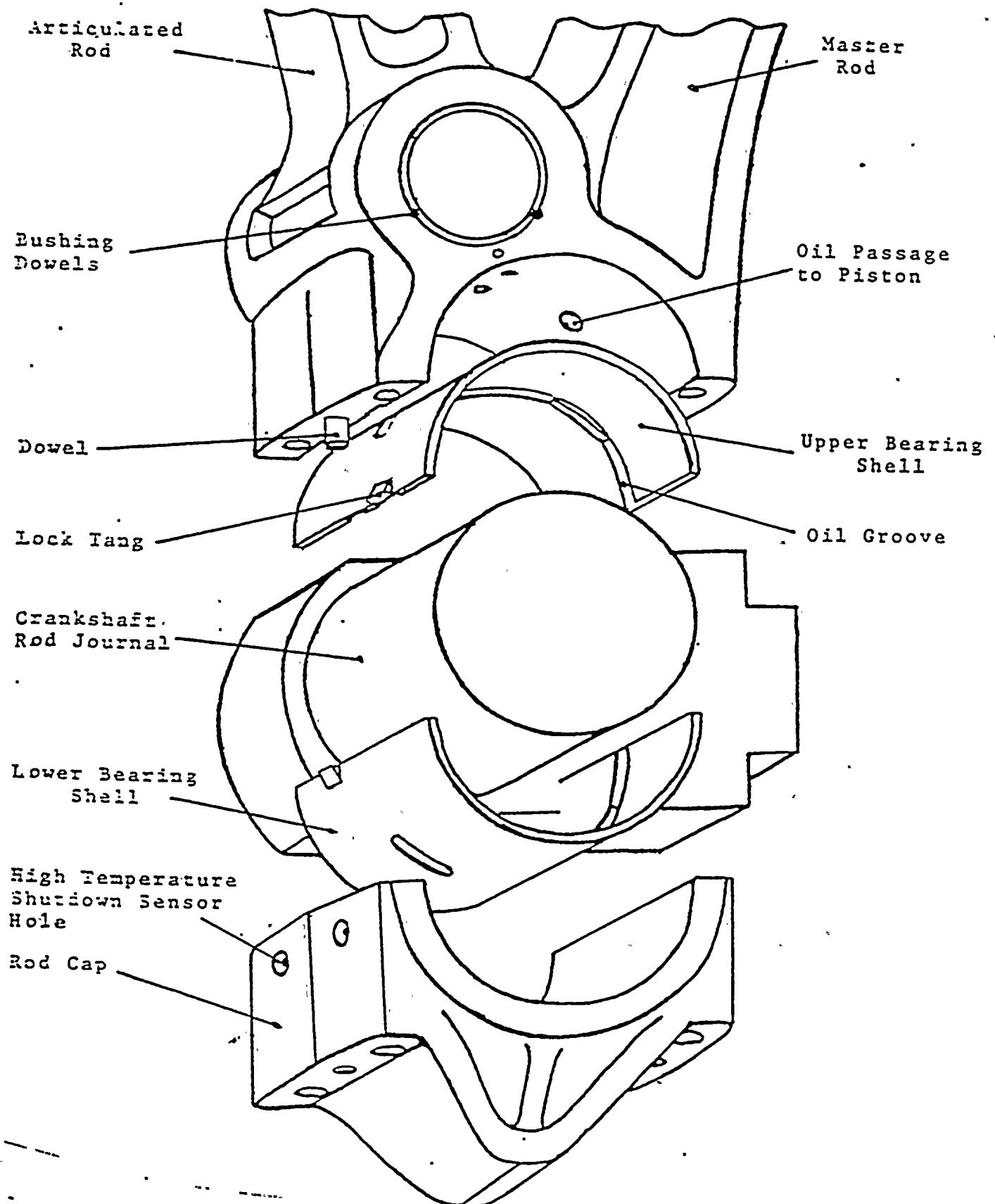


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FIG. 4

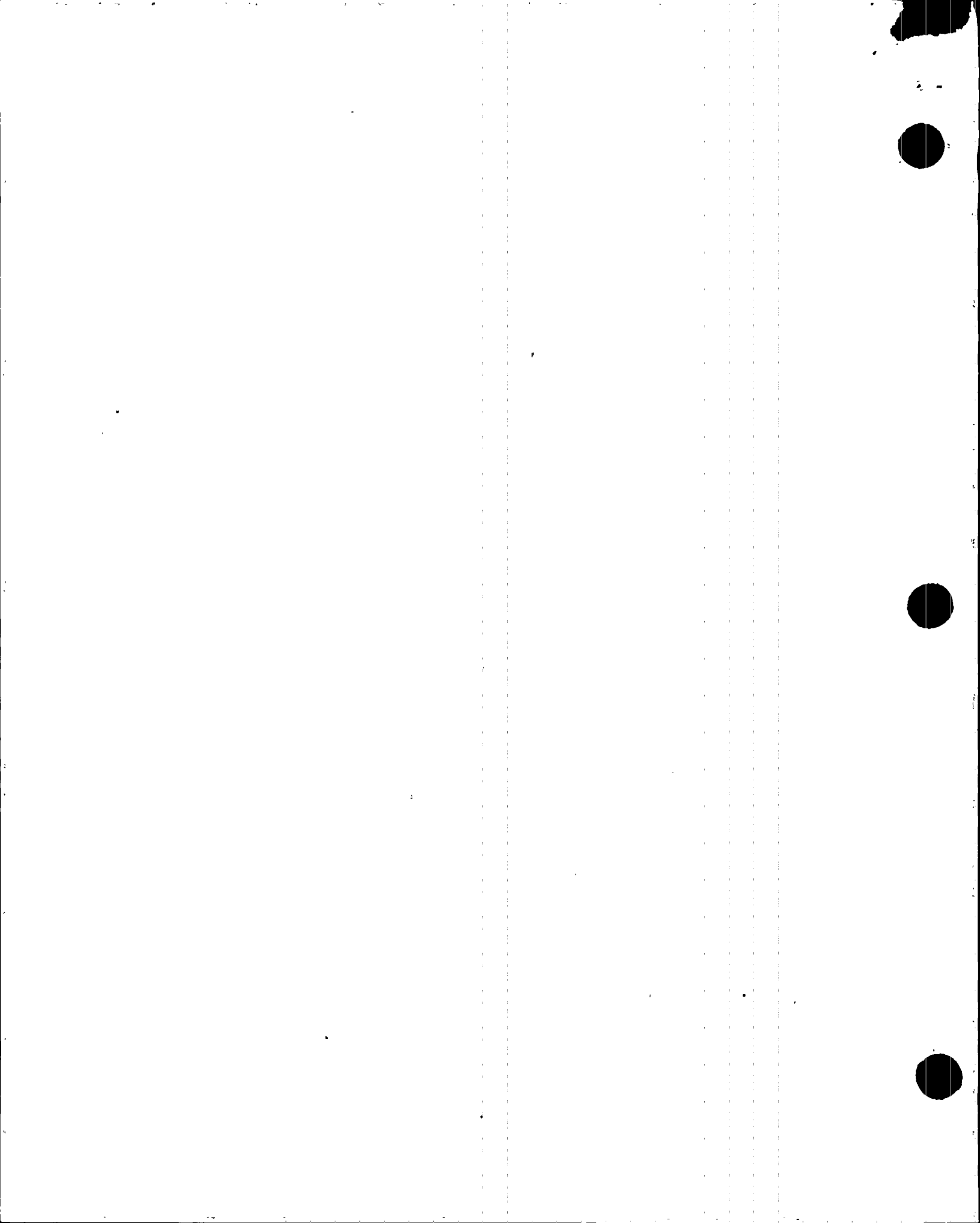


# CONNECTING ROD BEARING



WMS 1/20/87

FIG. 4





CONCLUSIONS OF METALLURGICAL  
INVESTIGATION OF DIESEL GENERATOR  
CONNECTING RODS AT PVNGS

- ° FAILURE WAS CAUSED BY THE USE OF CRACK-PRONE  
IRON PLATING FOR REPAIR WORK
- ° MASTER ROD FRACTURE MODE WAS HIGH CYCLE FATIGUE,  
WITH VERY LOW OVERSTRESS
- ° MASTER ROD BASE METAL MET ALL CHEMICAL  
AND MECHANICAL REQUIREMENTS.



TABLE 1

RESULTS OF TENSILE, CHEMICAL AND HARDNESS TESTING  
MASTER ROD MATERIAL (ASTM A521, CLASS CG)

|  | Ultimate<br>Tensile<br>Strength<br>KSI | Yield<br>Strength<br>.2% Offset<br>KSI | Elongation<br>% | Reduction<br>of<br>Area, % |     |     |     |     |      |     |
|--|--|--|-----------------|----------------------------|-----|-----|-----|-----|------|-----|
| Tensile Testing -<br>(0.25" dia. specimen) | 114                                    | 64.7                                   | 19              | 46.8                       |     |     |     |     |      |     |
| ASTM Requirements<br>(min.)                | 82                                     | 48                                     | 19              | 36                         |     |     |     |     |      |     |
|  | C                                      | Mn                                     | S               | P                          | Si  | Cr  | Ni  | Cu  | Mo   | Al  |
| Chemical<br>Analysis                       | .48                                    | .71                                    | .043            | .011                       | .25 | .10 | .15 | .19 | .025 | .03 |

## MICROHARDNESS TESTING (500 GRAM LOAD)

|                      |     |
|----------------------|-----|
| Knoop Hardness       | 258 |
| (Equivalent $R_C$ )  | 21  |
| (Equivalent Brinell) | 231 |

TABLE 2

## RESULTS OF CHEMICAL AND MICROHARDNESS TESTING OF IRON PLATING

|                      | C    | Mn | S    | P    | Si   | Cr | Ni  | Cu | Mo | Al   |
|----------------------|------|----|------|------|------|----|-----|----|----|------|
| Chemical<br>Analysis | .032 | *  | .003 | .001 | .015 | *  | .04 | *  | *  | .043 |

\* - None Detected

## MICROHARDNESS TESTING (500 GRAM LOAD)

|                      |     |
|----------------------|-----|
| Knoop Hardness       | 192 |
| (Equivalent $R_B$ )  | 88  |
| (Equivalent Brinell) | 176 |



# RESULTS OF LIQUID PENETRANT, ULTRASONIC EXAMINATIONS AND REPAIRED ROD LOCATIONS

## DIESEL GENERATOR NUMBER

| CONNECTING ROD<br>CYLINDER NUMBER | 1A | 1B | 2A                 | 2B | 3A           | 3B           |
|-----------------------------------|----|----|--------------------|----|--------------|--------------|
| 1                                 | -  | -  | UT No CRACKS       | NS | UT No CRACKS | UT No CRACKS |
| 2                                 | -  | -  | UT No CRACKS       | -  | UT No CRACKS | IP CRACKS    |
| 3                                 | -  | -  | NS No CRACKS*      | NS | UT No CRACKS | UT No CRACKS |
| 4                                 | -  | -  | UT No CRACKS       | -  | UT No CRACKS | UT No CRACKS |
| 5                                 | -  | -  | UT No CRACKS       | -  | UT No CRACKS | UT No CRACKS |
| 6                                 | -  | -  | UT<br>PT No CRACKS | -  | UT No CRACKS | UT No CRACKS |
| 7                                 | -  | -  | UT No CRACKS       | -  | UT No CRACKS | UT No CRACKS |
| 8                                 | -  | -  | UT No CRACKS       | -  | UT No CRACKS | UT No CRACKS |
| 9                                 | -  | -  | IP No CRACKS       | NS | UT No CRACKS | IP FAILED    |
| 10                                | -  | -  | UT No CRACKS       | -  | UT No CRACKS | UT No CRACKS |

\* SOME DISBONDED  
NICKEL SPRAY

IP - IRON PLATING

NS - NICKEL SPRAY

UT - ULTRASONIC TEST

PT - DYE PENETRANT TEST



LIQUID PENETRANT EXAMINATION RESULTS  
OF MASTER RODS REMOVED FROM ENGINES

| PVNGS UNIT<br>NUMBER | ENGINE<br>NUMBER | ROD LOCATION<br>(CYLINDER<br>NUMBER) | IRON OR<br>NICKEL REPAIR<br>MATERIAL | ANY BASE<br>METAL CRACKS?         | ANY REPAIR<br>MATERIAL PROBLEMS?       |
|----------------------|------------------|--------------------------------------|--------------------------------------|-----------------------------------|--|
| 3                    | B                | 9                                    | IRON                                 | YES<br>(Fracture)                 | YES<br>(cracks)                        |
| 3                    | B                | 2                                    | IRON                                 | YES<br>Approximately<br>1" x 3/8" | YES<br>(cracks)                        |
| 2                    | A                | 9                                    | IRON                                 | NO                                | NO                                     |
| 2                    | A                | 3                                    | NICKEL                               | NO                                | YES<br>(Small areas of<br>disbondment) |
| 2                    | A                | 6                                    | NONE                                 | NO                                | N/A                                    |





OVERVIEW OF ALL DEFECTS  
IDENTIFIED WITH THE PVNGS  
DIESEL CONNECTING RODS

FAILED ROD - UNIT 3, "B" ENGINE - #9 CYLINDER

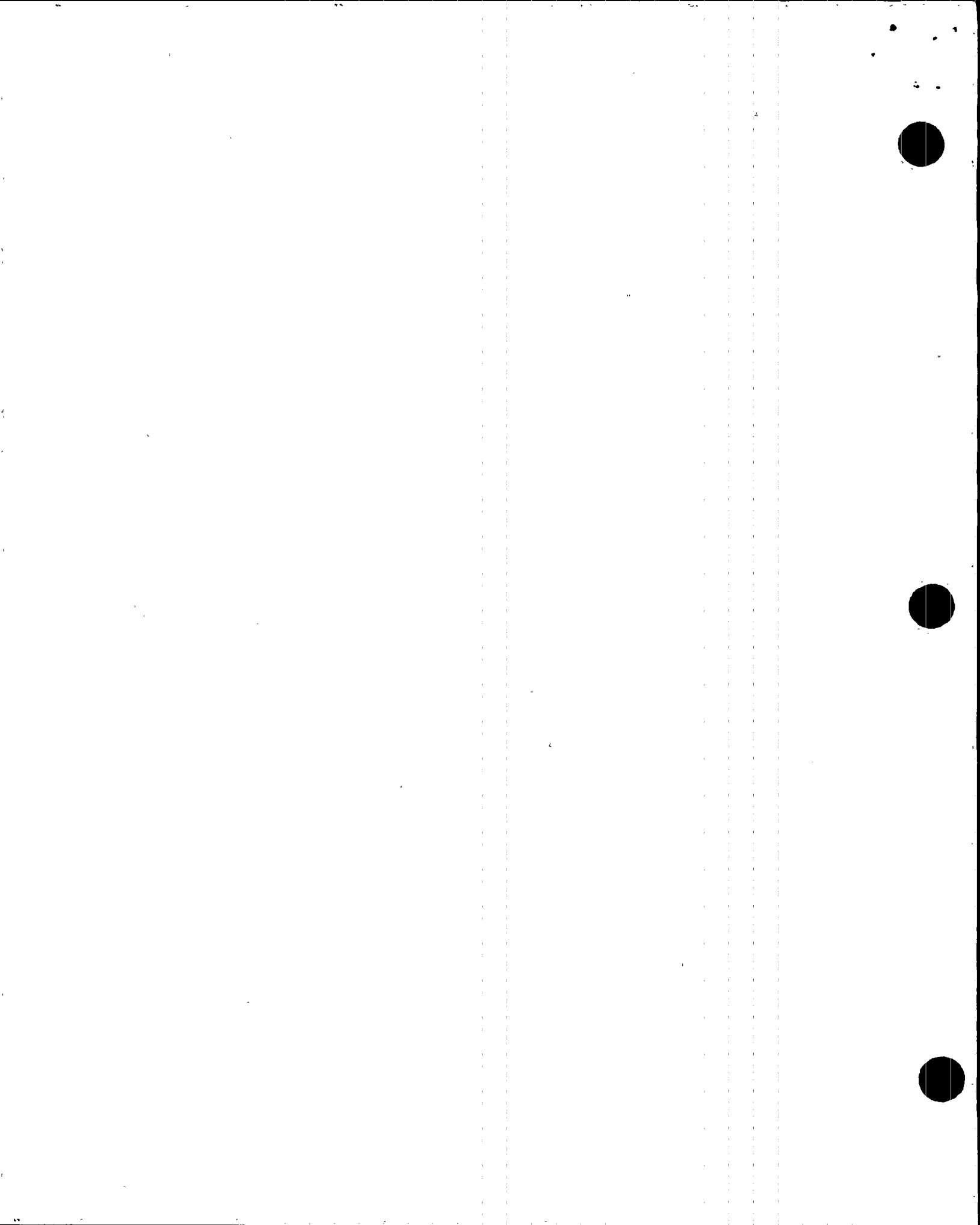
- ° FATIGUE FRACTURE CAUSED BY IRON PLATING - ORIGINATED AT LARGE OIL HOLE
- ° SMALLER FATIGUE CRACK ALSO CAUSED BY IRON PLATING - ORIGINATED AT SMALLER OIL HOLE

CRACKED ROD - UNIT 3, "B" ENGINE - #2 CYLINDER

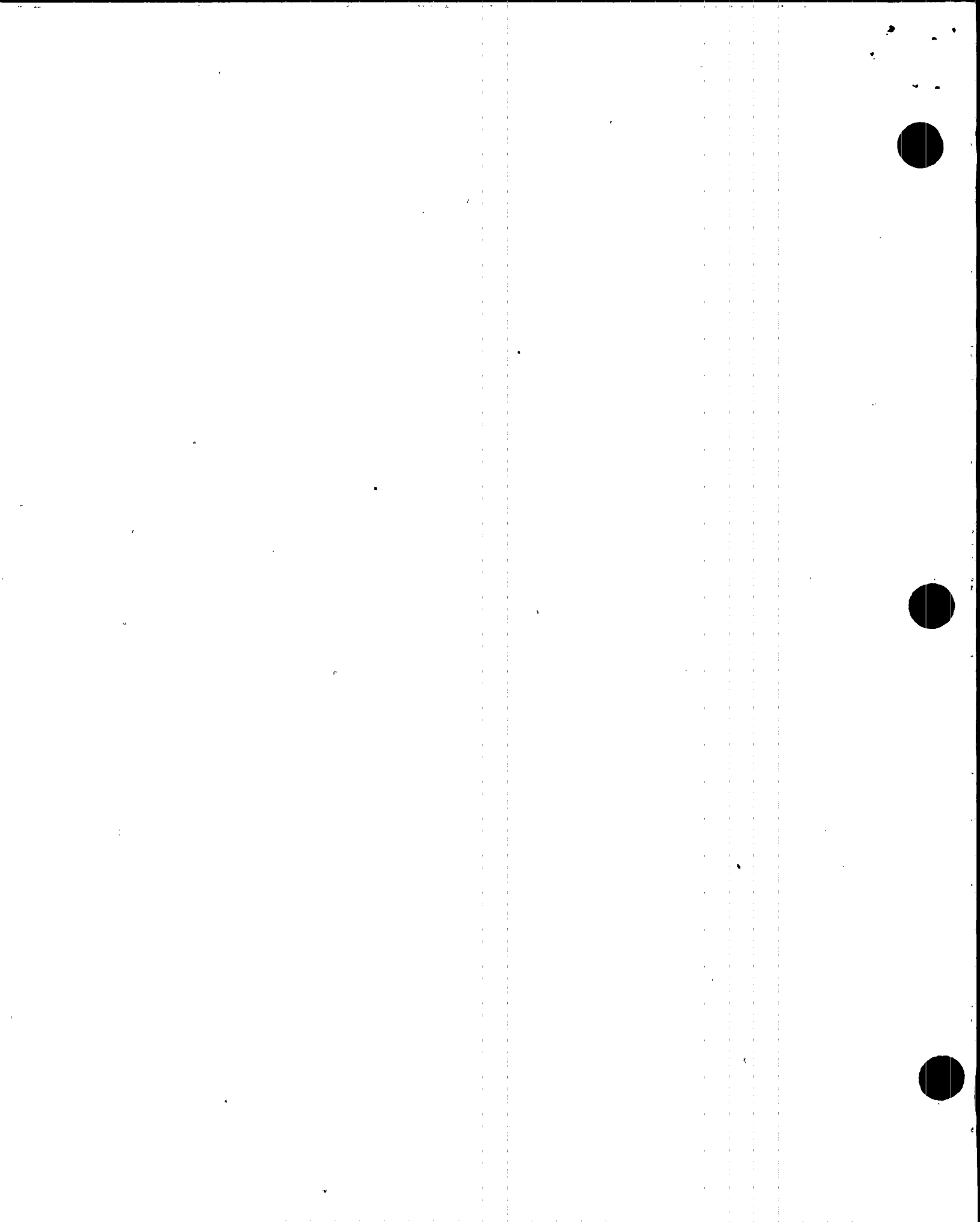
- ° LIQUID PENETRANT INDICATIONS IN IRON PLATING
- ° LARGEST IS 1" x 3/8" - EXTENDS INTO BASE METAL
- ° SMALLER INDICATIONS AT SMALL OIL HOLE AND AT APPARENT DEFECT IN PLATING

ROD WITH DISBONDED NICKEL SPRAY - UNIT 2, "A" ENGINE - #3 CYLINDER

- ° NO BASE METAL PENETRANT INDICATIONS
- ° DISBONDED AREA WAS SMALL PERCENTAGE OF TOTAL SPRAYED AREA
- ° ENTIRE FACE OF BAIL WAS NOT SPRAYED - ONLY ONE HALF



| PVNGS<br>UNIT<br>NUMBER | ENGINE<br>NUMBER | ROD<br>LOCATION<br>(CYL.<br>NUMBER) | TYPE OF<br>REPAIR MATERIAL |                 | LOCATION OF REPAIR MATERIAL IN<br>MASTER ROD |                              |  |  | IS ALL<br>REPAIR<br>MATERIAL<br>TRAPPED<br>BEHIND<br>BUSHING,<br>WITH NO<br>ESCAPE<br>PATH TO<br>ENGINE<br>OIL? |
|-------------------------|------------------|-------------------------------------|----------------------------|-----------------|--|------------------------------|--|--|---|
|                         |                  |                                     |                            |                 | CRANKSHAFT<br>BEARING<br>BORE                | ARTICULATED PIN BORE AREA    |  |  |   |
|                         |                  |                                     | IRON<br>PLATED             | NICKEL<br>SPRAY |  | ENTIRE<br>INSIDE<br>DIAMETER | INSIDE<br>DIAMETER OF<br>BORE, NEAR<br>OIL HOLES | INSIDE<br>DIAMETER<br>OF BAILS<br>ONLY (NO<br>OIL HOLES) |   |
| 3                       | B                | 9                                   | YES                        | -               | YES  | YES                          | -  | YES  | -   |
| 3                       | B                | 2                                   | YES                        | -               | -  | YES                          | -  | -  | -   |
| 2                       | A                | 9                                   | YES                        | -               | -  | YES                          | -  | -  | -   |
| 2                       | A                | 3                                   | -                          | YES             | -  | -                            | -  | YES  | -   |
| 2                       | B                | 1                                   | -                          | YES             | -  | -                            | YES  | -  | YES   |
| 2                       | B                | 3                                   | -                          | YES             | -  | -                            | YES  | -  | YES   |
| 2                       | B                | 9                                   | -                          | YES             | -  | -                            | YES  | -  | YES   |



## INITIAL INVESTIGATION

### 1) QUARANTINE AND ACCESS CONTROL

Security Officers were stationed at the entrances to the building.

### 2) INITIAL INSPECTION

#### A. Inspection Crew

- °Engineering
- °Maintenance
- °Work Control
- °Startup
- °Cooper Field Services

#### B. Inspection Results -

- °Oil and Foam Mixture of Floor Produced a Hazardous Condition
- °Damage Centralized to Number 9 Cylinders
- °Numerous Large Parts were Ejected from the Engine
- °Crankshaft Sustained Damage
- °Initial Indications the Extent of Damage was Repairable

#### C. Mapping of the Area

##### 1. Process Used

- °Polaroid snapshots
- °35mm prints
- °Video Tape

#### D. Parts Collection

All parts were collected in regards to their relative position in the engine and palletized in a locked room in the maintenance facility.



3) CLEANUP/INTERNAL INSPECTION

- A. Oil was cleaned from floor and diesel externals.
- B. Crankcase was pumped down.
- C. Parts in the crankcase were mapped and removed.
- D. Crankcase was wiped down.

4) CATEGORIZATION OF THE DAMAGE

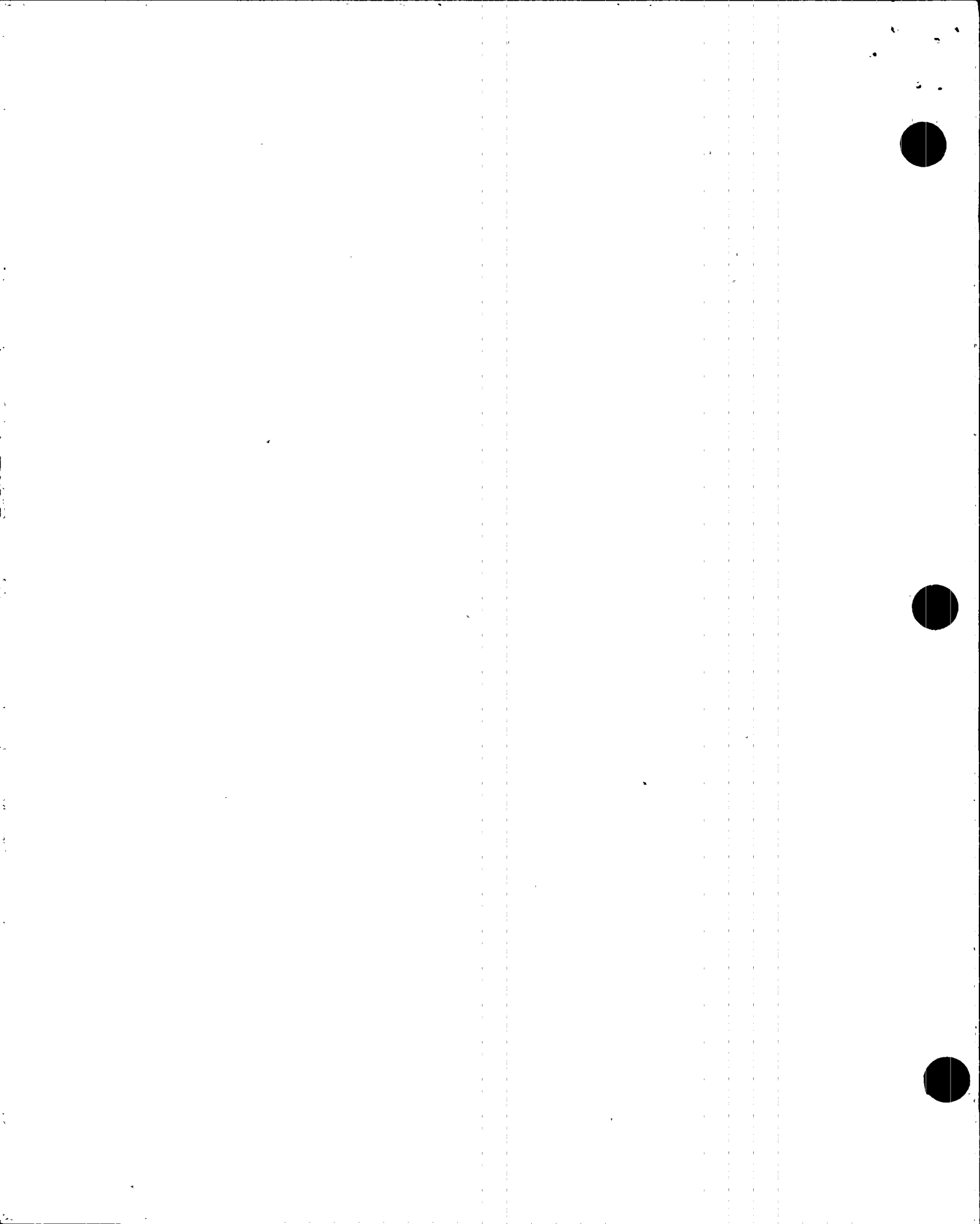
A. Parts Requiring Replacement

- °2 Pistons
- °1 Power Piston Rod
- °1 Articulated Rod
- °1 Crankshaft Connecting Rod Bearing
- °2 Cylinder Liners
- °2 Jacket Water Expansion Seals
- °2 Counter Weights
- °Miscellaneous Tubing and Instrumentation

B. Parts/Components Requiring Repair

- °Crankshaft
- °Right Side Block
- °Center Frame
- °Generator
- °Supporting Systems

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### CATEGORIES OF REPAIR

- 1) Crankshaft and Reciprocating Parts.
- 2) Right Side of Power Block.
- 3) Centerframe.
- 4) The Generator.
- 5) Support Systems



## REPAIR WORK

### CATEGORIES OF REPAIR

#### 1) Crankshaft and Reciprocating Parts

- a. Milling of #9 connecting rod bearing pin.
- b. Removal of counterweight bolts
- c. Machining counterweight landings
- d. Machining counterweight lobes
- e. Other damaged reciprocating parts will be replaced.



2) Right Side Power Block

- a. Two cracks in the #9 outside shell.
- b. A crack in the block housing at the jacket water glange.
- c. Two cylinder liners and expansion seals broken.



### 3) Centerframe

- a. Casting around upper inspection cover on 9L and 9R cylinders will be metal locked.
- b. The archway between 9L and 9R cylinders will be replaced by metal locking.
- c. The hole in the web between cylinders 8 and 9 will be cut out and new metal installed.





#### 4) The Generator

- a. The generator was disassembled and inspected.
- b. The oil and foam removed by solvent and dry rag cleaning.
- c. A polarization index was performed.
- d. The generator was reassembled and space heater energized.

\*Note: All work was performed at the direction of the Parsons-Peebles Field Representative.



5) SUPPORT SYSTEMS

- a. Broken tubing and a damaged 3" pipe will be replaced in the starting air system.
- b. Damaged tubing in the control air system above 9R cylinder will be replaced.
- c. The following systems will be inspected for internal contamination. They were not damaged externally:

- °Fuel Oil System

- °Lube Oil System

- °Air Intake and Exhaust System

- °Jacket Water System

- °Cooling Water System



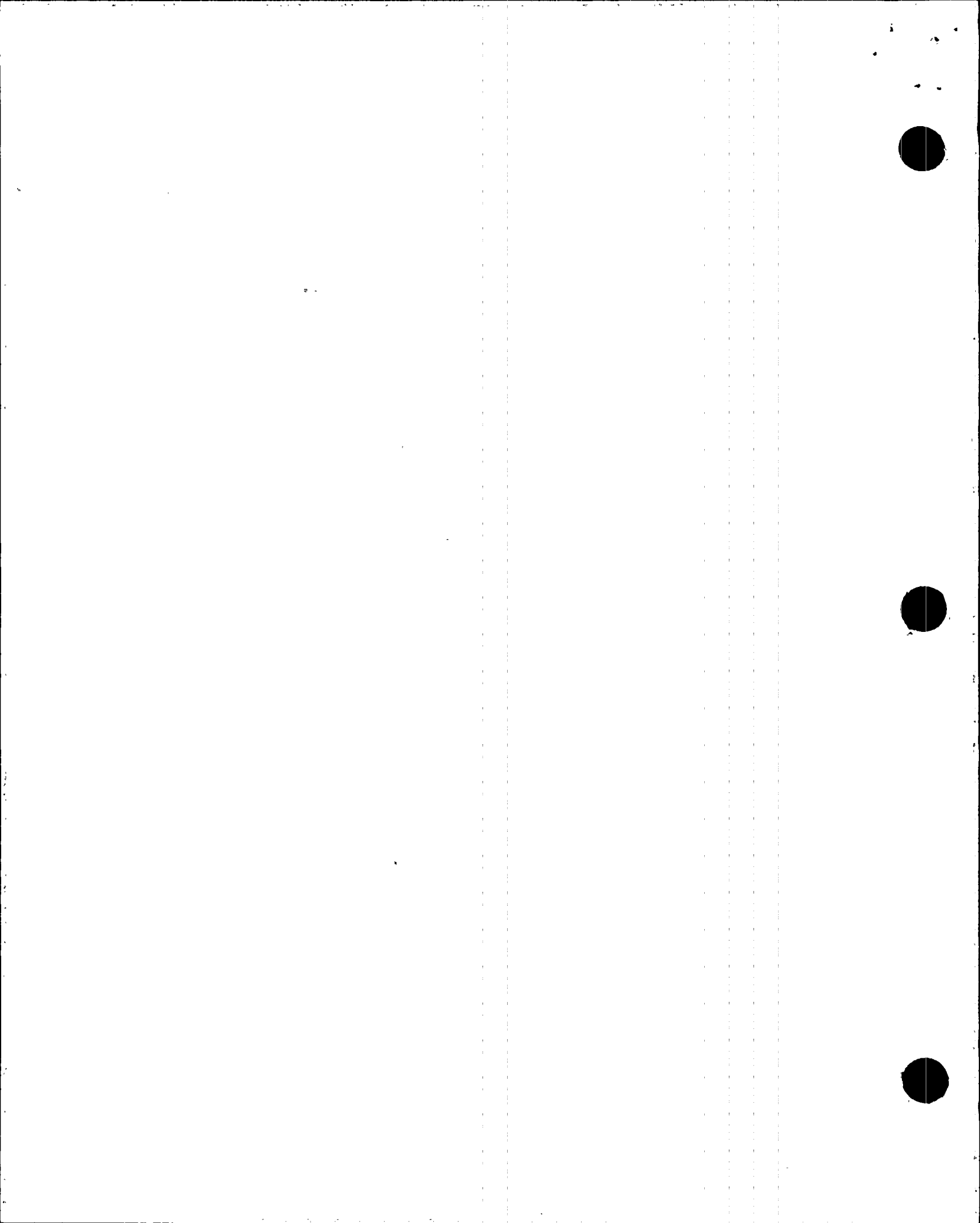
## OPERABILITY VERIFICATION

°Supplier Engineering Analysis

°Supplier Recommended Operational Test

°One Time Design Verification

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## SUPPLIER RECOMMENDATIONS FOR OPERATIONAL TEST

- 1) Measure and Record Cold Web Deflection
- 2) Perform Hydrostatic Test of Jacket Water System
- 3) Initial Start Test
- 4) Break In Run
- 5) Interim Inspection
- 6) Final Run

Note: These tests will be incorporated into planned site testing activities.





## INITIAL START

- 1) Start - No Load
- 2) Run 15 Minutes. Make Continuous Visual Observations.
- 3) Shutdown. Remove crankcase doors and inspect.
  - a. Feel around all bearing caps (main and rods) for unusual hot spots. If any observed remove bearings involved for detailed inspection.
  - b. Visually check for signs of water leaks.
  - c. Hand check tightness of exposed chains.
  - d. Look for apparent distress.
- 4) If all o.k. refit crankcase doors and proceed.



BREAK IN

- 1) Start - no load.
- 2) Run two (2) hours observing all engine parameters and maintain log on an hourly basis. (This logging applies throughout test).
- 3) Load up to a max. of 25% and hold for two (2) hours.
- 4) Load up to a max. of 50% and hold for two (2) hours.
- 5) Load up to a max. of 75% and hold for two (2) hours.
- 6) Load up to a max. of 100% and hold for two (2) hours.
- 7) Normal Shutdown.



INTERIM INSPECTION (MINIMUM REQUIREMENTS)

- 1) Check for external leaks and distress.
- 2) After thirty (30) minutes following shutdown remove crankcase doors and immediately check the crankshaft web deflection per C-3 manual.
- 3) Visually check inside of crankcase for anomalies.
- 4) Review log for anomalies.
- 5) If all o.k. replace crankcase doors.



FINAL RUN

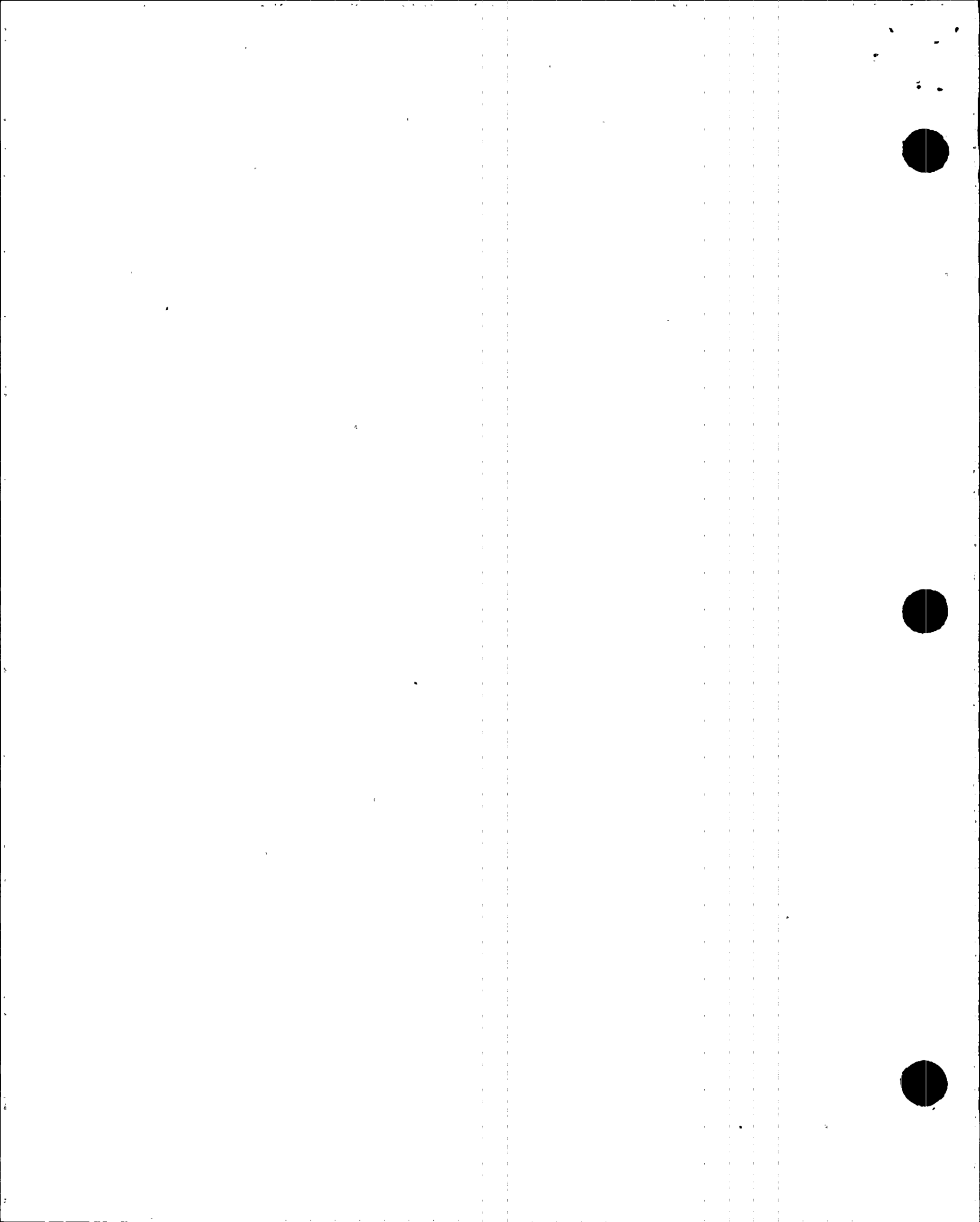
- 1) Start - no load.
- 2) Gradually increase load to 100% over a two (2) hour period.
- 3) Increase load to 110% and hold for two (2) hours.





## RETESTING PROGRAM

- PHASE I        -        Component Level Testing and Inspections
- PHASE II      -        Supplier Recommendations for Operational Test and Site  
Testing to Meet Reg. Guide 1.9.C.5.
- PHASE III    -        Integrated Safeguards Testing



PHASE I TESTING

COMPONENT LEVEL TESTS

°73 Instrumentation and Controls Test

°9 Mechanical Test

°Class C Cleanliness Inspections

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PHASE II TESTING

SUPPLIER RECOMMENDATIONS FOR OPERATIONAL TEST

Site Specific Test

°35 Consecutive Starts with Load to 50% Power

°Other Load Tests to Verify Generator Performance



# PHASE III TESTING

## FSAR/RG REQUIREMENT

FSAR 8.3.1.1.4.1 (b)  
FSAR 6.3.1.3.A (4)  
FSAR 7.3.1.1.10.7 TABLE 7.3-6

FSAR 8.3.1.1.4.6.A

R.G. 1.9.C.4  
R.G. 1.108.C.2.A (1) & (2)

R.G. 1.108.C.2.A (3)

R.G. 1.108.C.2.A (4)

R.G. 1.108.C.2.A (5)

FSAR 5.1.5.G.6  
FSAR 5.1.5.G.7  
FSAR 7.3.1.1.10.7 TABLE 7.3-7  
FSAR 8.3.1.1.4.1 (c)  
FSAR 8.3.1.1.4.6 (b)

## TEST CONTENT

SIAS/CIAS

LOP

SINGLE LARGEST  
LOAD REJECTION

2 HR RUN - 110% LOAD  
22 HR RUN - 100% LOAD

FUEL LOAD REJECTION

SHUTDOWN/HOT START  
(WITHIN 5 MINUTES)  
SIAS/CIAS/LOP

AFAS-1/LOP





W.E.I.  
1/16/87

QUALITY ASSURANCE REVIEW

REVIEW OF DIESEL GENERATOR FABRICATION

QUALITY PROGRAM IMPLICATIONS

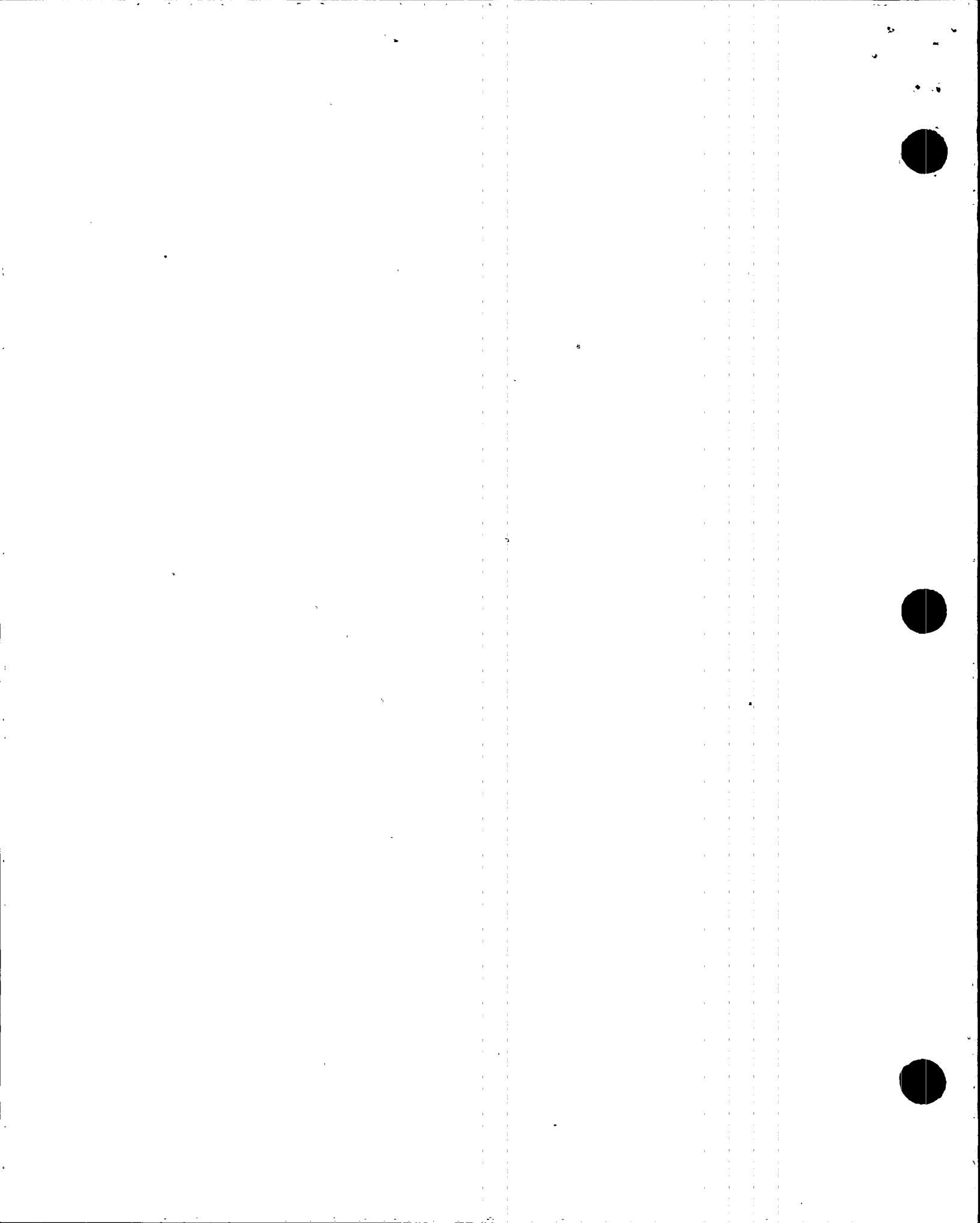
CONTROL OF REWORK



W.E.I.  
1/16/87

CONTROL OF DIESEL GENERATOR FABRICATION

- o INITIAL EVALUATION
  - o TECHNICAL
  - o QUALITY PROGRAM
  
- o REQUIRED SUBMITTALS/ENGINEERING REVIEWS
  - o DRAWINGS
  - o ASME CODE CERTIFICATION  
(PUMPS, VALVES, HEAT EXCHANGERS)
  - o SEISMIC ANALYSIS REPORTS
  - o ANALYSIS OF COMPLIANCE WITH IEEE  
STANDARDS
  - o SHOP TESTING PLANS AND CERTIFIED  
PERFORMANCE DATA



- o QA PROGRAM
  - o QA PROGRAM SUBMITTED AND APPROVED
  - o SELECTED FABRICATION PROCEDURES APPROVED
    - o SURFACE PREPARATION/  
PAINTING
    - o WELDING
    - o WELD ROD CONTROL
    - o HEAT TREATING
    - o NDE
- o PROJECT OVERVIEW
  - o 16 PROJECT AUDITS/REAUDITS OF GROVE CITY
    - o 4 AUDITS HAD APS PARTICIPATION AND 1 CONDUCTED BY APS
  - o 7 PROJECT AUDITS/REAUDITS OF MT. VERNON
  - o 255 VENDOR SURVEILLANCES OF GROVE CITY
  - o 404 SURVEILLANCES OF 13 SUBSUPPLIERS
    - o NO SIGNIFICANT DEFICIENCIES
- o INSTALLED AND MAINTAINED IN ACCORDANCE WITH BECHTEL QA PROGRAM.
- o TESTED ON-SITE.



W.E.I.  
1/16/87

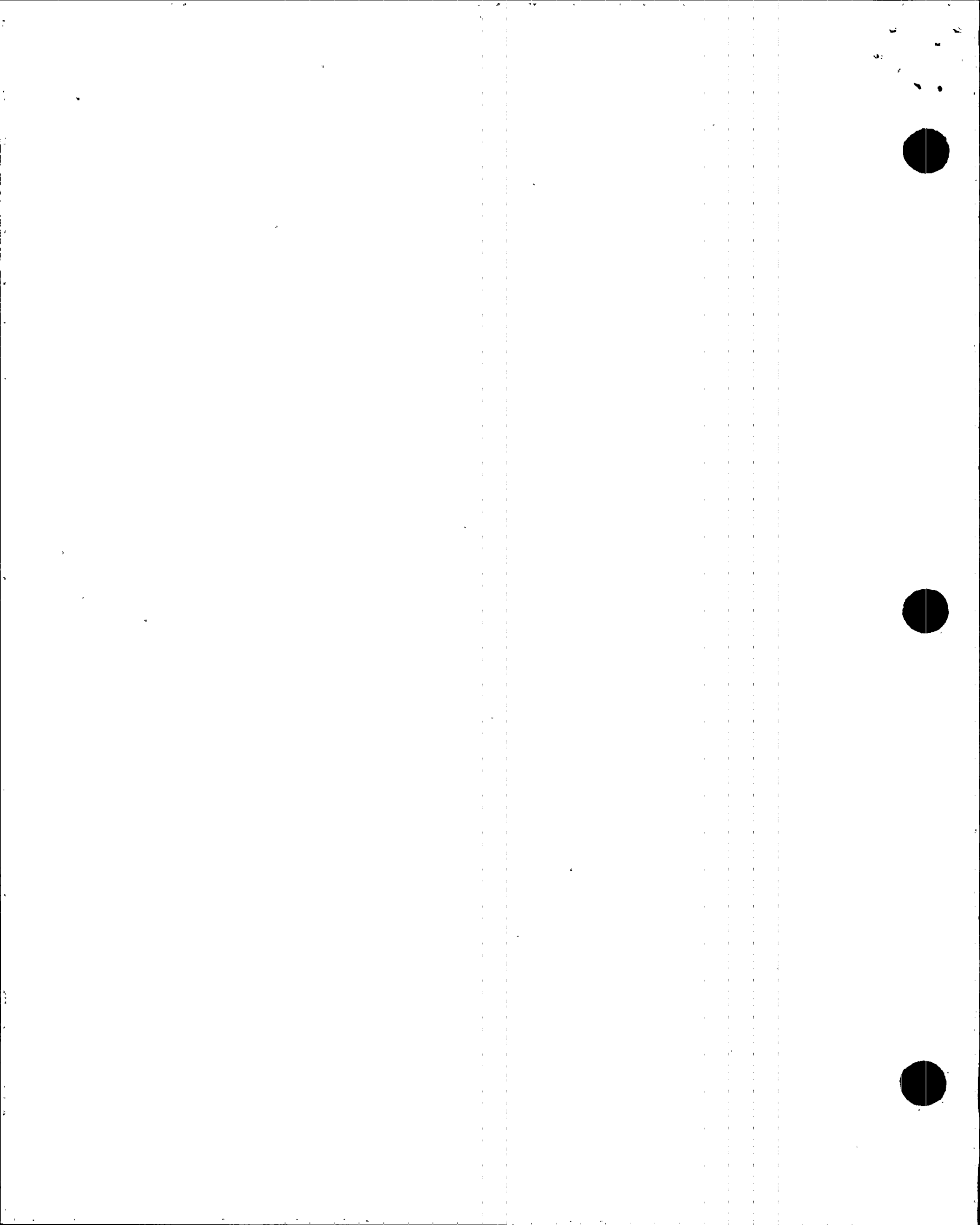
QUALITY PROGRAM IMPLICATIONS

HAVE THERE BEEN OTHER SIGNIFICANT FAILURES  
IN COOPER SUPPLIED DIESEL GENERATORS THAT  
WERE DESIGNED, FABRICATED OR REPAIRED USING  
THE SAME PROCESSES AS USED ON PVNGS DIESELS?

WHAT IS THE AFFECT ON PALO VERDE?

ARE THE METHOD'S UTILIZED TO PERFORM METAL  
REPAIR ADEQUATE?

HAS COOPER MAINTAINED TRACEABILITY TO THE EXTENT  
THAT THE LOCATION OF ANY POTENTIALLY AFFECTED  
COMPONENT IS KNOWN?





HAVE THERE BEEN OTHER SIGNIFICANT FAILURES  
IN COOPER SUPPLIED DIESEL GENERATORS THAT  
WERE DESIGNED, FABRICATED OR REPAIRED USING  
THE SAME PROCESS AS USED ON THE PVNGS DIESEL?

- o NO, PER CORRESPONDENCE WITH CES.

ARE THE METHODS UTILIZED TO PERFORM METAL REPAIR  
ADEQUATE?

- o APPROACH:

- o REVIEW FABRICATION RECORDS  
FOR CRITICAL COMPONENTS TO  
DETERMINE AREA AND METHOD  
OF REPAIR.

- o CONNECTING RODS
    - o ARTICULATING RODS
    - o PISTON
    - o CRANKSHAFT

- o REVIEW PROCEDURES FOR REPAIRS  
FOR ADEQUACY.



QUALITY PROGRAM IMPLICATIONS  
PAGE 3

o RESULTS:

- o 3 CONNECTING RODS - IRON PLATING
- o 4 CONNECTING RODS - NICKEL SPRAY
- o 1 CRANKSHAFT - NICKEL SPRAY
- o 1 PISTON - NICKEL SPRAY
- o 4 PISTONS - TIN PLATING
- o NICKEL SPRAY PROCESS ADEQUATELY SPECIFIED  
AND CONTROLLED
- o TIN PLATING
  - o ACCEPTABLE, IF USED IN LOW-STRESS AREAS.
  - o ACCEPTABLE FOR USE ON BEARING SURFACE  
MATERIALS.

o CONCLUSIONS:

- o WITH THE EXCEPTION OF IRON PLATING, WHICH WAS  
DISCUSSED EARLIER, METHODS OF REPAIR REVIEWED  
AT VENDOR'S FACILITY WERE DETERMINED TO BE  
ADEQUATE FOR THE SPECIFIC APPLICATION.

HAS TRACEABILITY BEEN MAINTAINED?

- o YES, BASED ON A COMPARISON OF FABRICATION RECORDS  
WITH SERIAL NUMBERS AND LOCATIONS OF 20 RODS ACTUALLY  
LOCATED IN UNITS 2 AND 3 DIESELS.



W.E.I.  
1/16/87

### CONTROL OF REWORK

SOURCE INSPECTION, RECEIPT INSPECTION AND  
SOURCE SURVEILLANCE FOR MATERIALS SUPPLIED.

- o CONNECTING RODS
- o PATCH

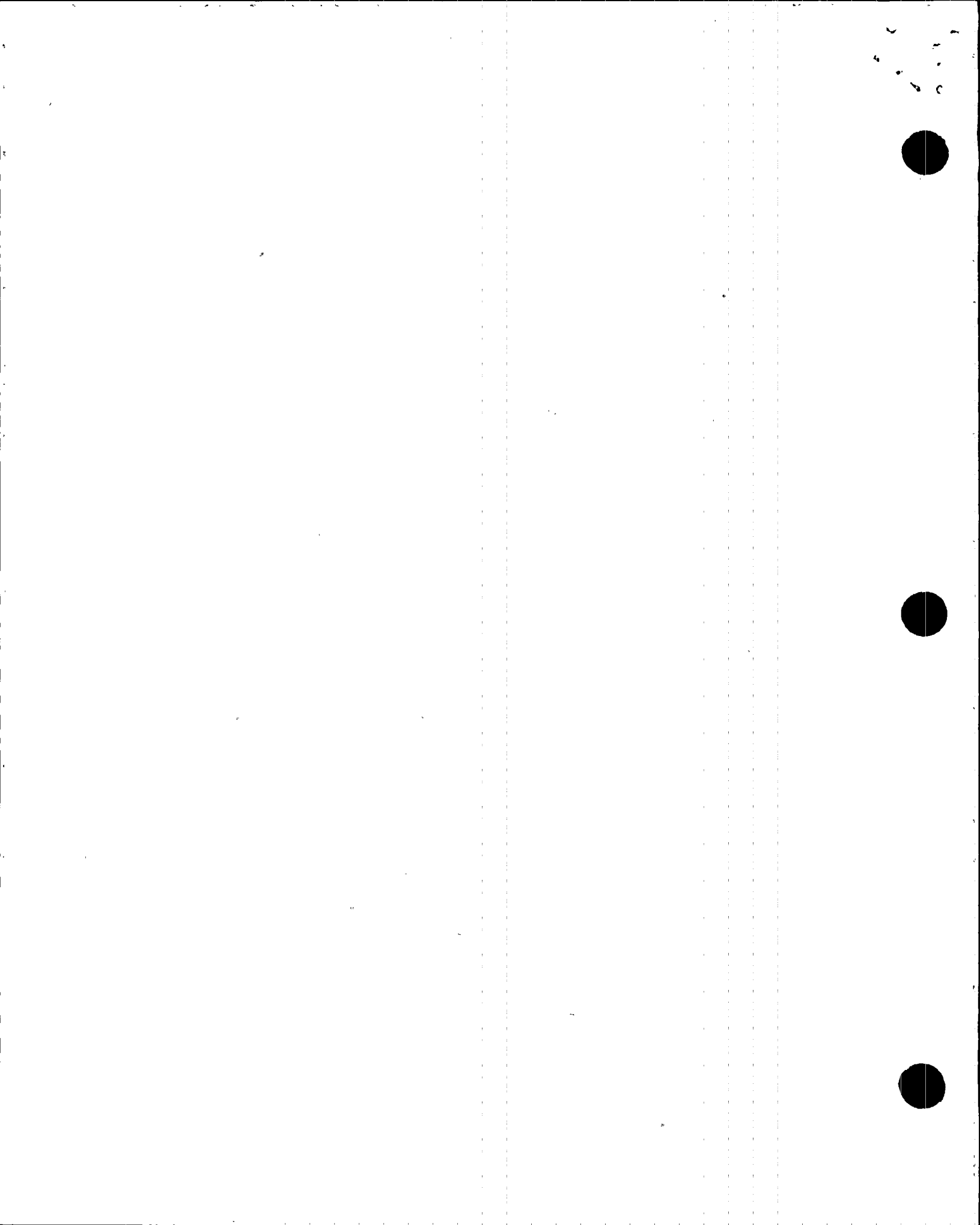
REPAIRS PERFORMED UNDER PVNGS SITE QA PROGRAM  
AND PROCEDURES.

### REPAIR PROCEDURES

- o APPROVED BY CES
- o ACCEPTED BY RESIDENT ENGINEER
- o CONVERTED TO STEP-BY-STEP WORK PLANS/  
INSPECTION PLANS

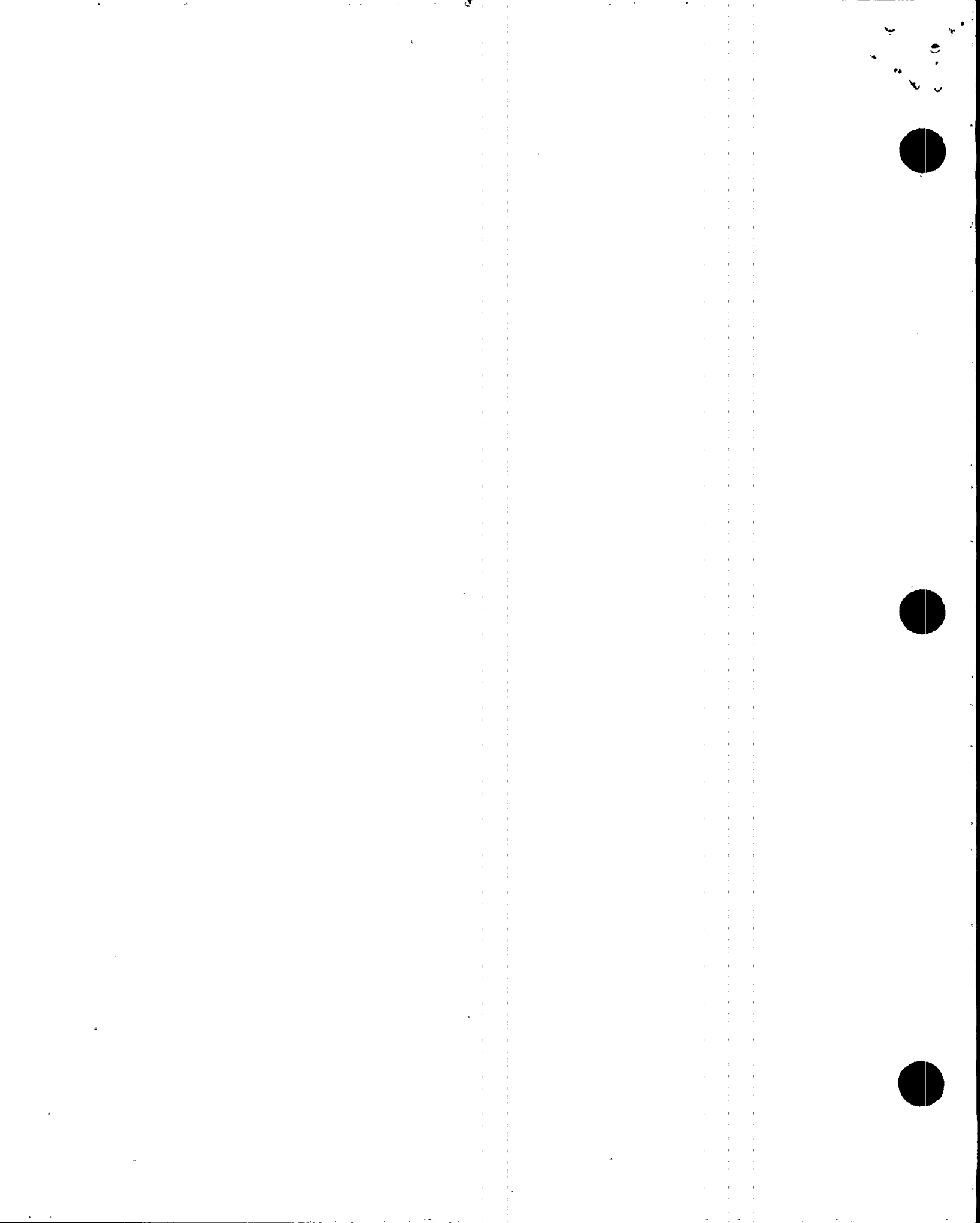
### WORK PLANS/INSPECTION PLANS

- o APPROVED BY:
  - o COOPER ENERGY SERVICES
  - o PROJECT QUALITY CONTROL  
ENGINEER
  - o PROJECT QUALITY ASSURANCE  
ENGINEER
  - o QUALITY ENGINEERING
  - o OPERATIONS ENGINEERING
- o COMPLETION OF EACH STEP SIGNED BY COOPER  
ENERGY SERVICES.
- o EACH INSPECTION POINT ACCEPTED BY QC  
INSPECTOR.



QUALITY ASSURANCE OVERVIEW

- o PROCEDURE REVIEW
- o MONITORING
  - o HOUSEKEEPING
  - o MATERIAL CONTROL
  - o INSPECTION
  - o PROCEDURAL COMPLIANCE





UNIT III DIESEL SCHEDULE

DG. VENDOR REPAIR BY R. FRENCH

|                             |                |
|-----------------------------|----------------|
| °CRANKSHAFT                 | 01/13 to 01/28 |
| °BLOCK                      | 01/24 to 02/12 |
| °CENTER FRAME AND CRANKCASE | 01/30 to 02/14 |

REASSEMBLY OF DIESEL GENERATOR BY COOPER

|                                       |                |
|---------------------------------------|----------------|
| °20 DAYS ACTUAL WORK                  |                |
| °PART AVAILABILITY PROBLEMS           |                |
| °OVERSIZE BEARING                     | ETA 03/19      |
| °MAIN POWER RODS                      | ETA 02/15      |
| °DG REASSEMBLY POST VENDOR<br>REPAIRS | 02/18 to 03/23 |

DIESEL GENERIC AND POST REASSEMBLY TESTING

|  |                |
|--|----------------|
| °POST ASSEMBLY GENERICS AND<br>VENDOR RECERTIFICATION TEST | 03/25 to 04/15 |
|--|----------------|

INTEGRATED SAFEGUARD TESTING AND  
RETEST ON DIESEL GENERATOR "B"

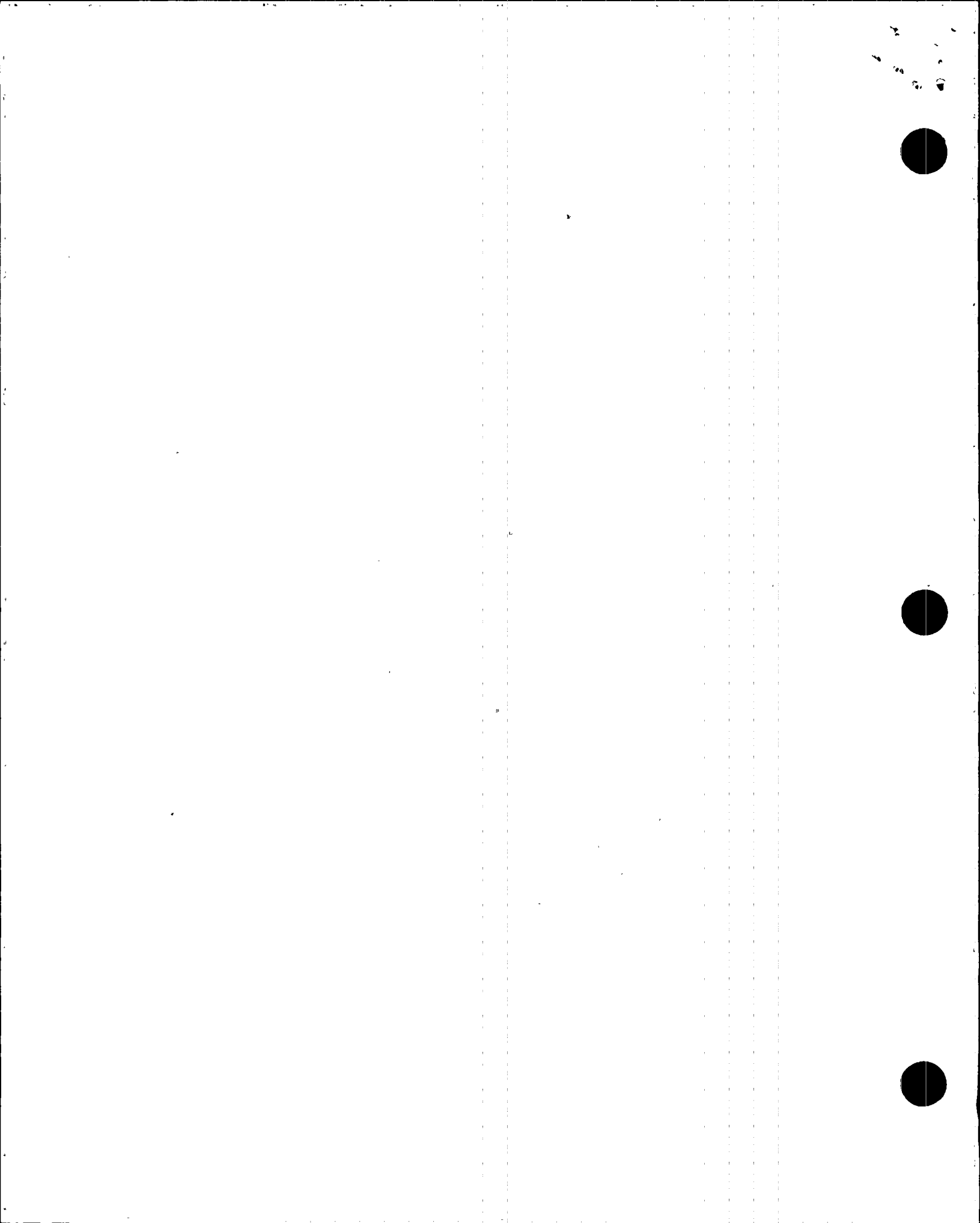
05/02 to 05/07



## SAFETY SIGNIFICANCE SUMMARY

- ° THE PROBABILITY OF OCCURRENCE OR THE CONSEQUENCES OF AN ACCIDENT OR MALFUNCTION OF EQUIPMENT IMPORTANT TO SAFETY PREVIOUSLY EVALUATED IN THE SAFETY ANALYSIS REPORT WILL NOT BE INCREASED.
  - EVENTS WHICH ASSUME A LOSS OF OFFSITE POWER DO NOT OCCUR DURING INITIAL MODES 5 OR 6.
  - PRIOR TO SIGNIFICANT FISSION PRODUCT INVENTORY BUILD-UP, (1) RADIOLOGICAL HAZARDS DO NOT EXIST (2) THERE IS NO SOURCE OF DECAY HEAT SO THAT THE SAFETY SYSTEMS NORMALLY REQUIRED TO DISSIPATE THIS HEAT WILL NOT BE REQUIRED.
  - CONSEQUENCES IN UNIT 3, DUE TO A RADIOLOGICAL RELEASE IN UNITS 1 OR 2, IS NOT INCREASED FROM THAT DURING THE CONSTRUCTION PHASE.
- ° THE POSSIBILITY OF AN ACCIDENT OR MALFUNCTION OF A DIFFERENT TYPE THAN ANY EVALUATED PREVIOUSLY WILL NOT BE CREATED.
  - THE OPERABILITY OF THE MINIMUM SPECIFIED AC AND DC POWER SOURCES AND ASSOCIATED DISTRIBUTION SYSTEMS DURING SHUTDOWN AND REFUELING ENSURES THAT (1) THE FACILITY CAN BE MAINTAINED IN THE SHUTDOWN OR REFUELING CONDITION FOR EXTENDED TIME PERIODS AND (2) SUFFICIENT INSTRUMENTATION AND CONTROL CAPABILITY IS AVAILABLE FOR MONITORING AND MAINTAINING THE UNIT STATUS.
- ° THE MARGIN OF SAFETY AS DEFINED IN BASIS FOR ANY TECHNICAL SPECIFICATION WILL NOT BE REDUCED.
  - FOR MODES 5 AND 6, TECHNICAL SPECIFICATION BASES RECOGNIZE THAT A MINIMUM OF ONE DIESEL GENERATOR AND ONE OFFSITE POWER SOURCE PROVIDES A SUFFICIENT SAFETY MARGIN.

FOR INITIAL PLANT MODES 5 AND 6, ONE OPERABLE DIESEL GENERATOR IS ACCEPTABLE.



The Unit startup envelopes the diesel work as follows with no impact to the startup schedule.

|                                 |                      |
|---------------------------------|----------------------|
| °Fuel Load                      | 03/15/87             |
| °Reactor Head Assembly Complete | 04/19/87             |
| °Train "B" Work Window Complete | 05/02/87             |
| °DG/ISG Retest                  | 05/02/87 to 05/07/87 |
| °Train "A" Work Window Complete | 06/02/87             |
| °Mode 4 Entry                   | 06/10/87             |

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10-10-10

