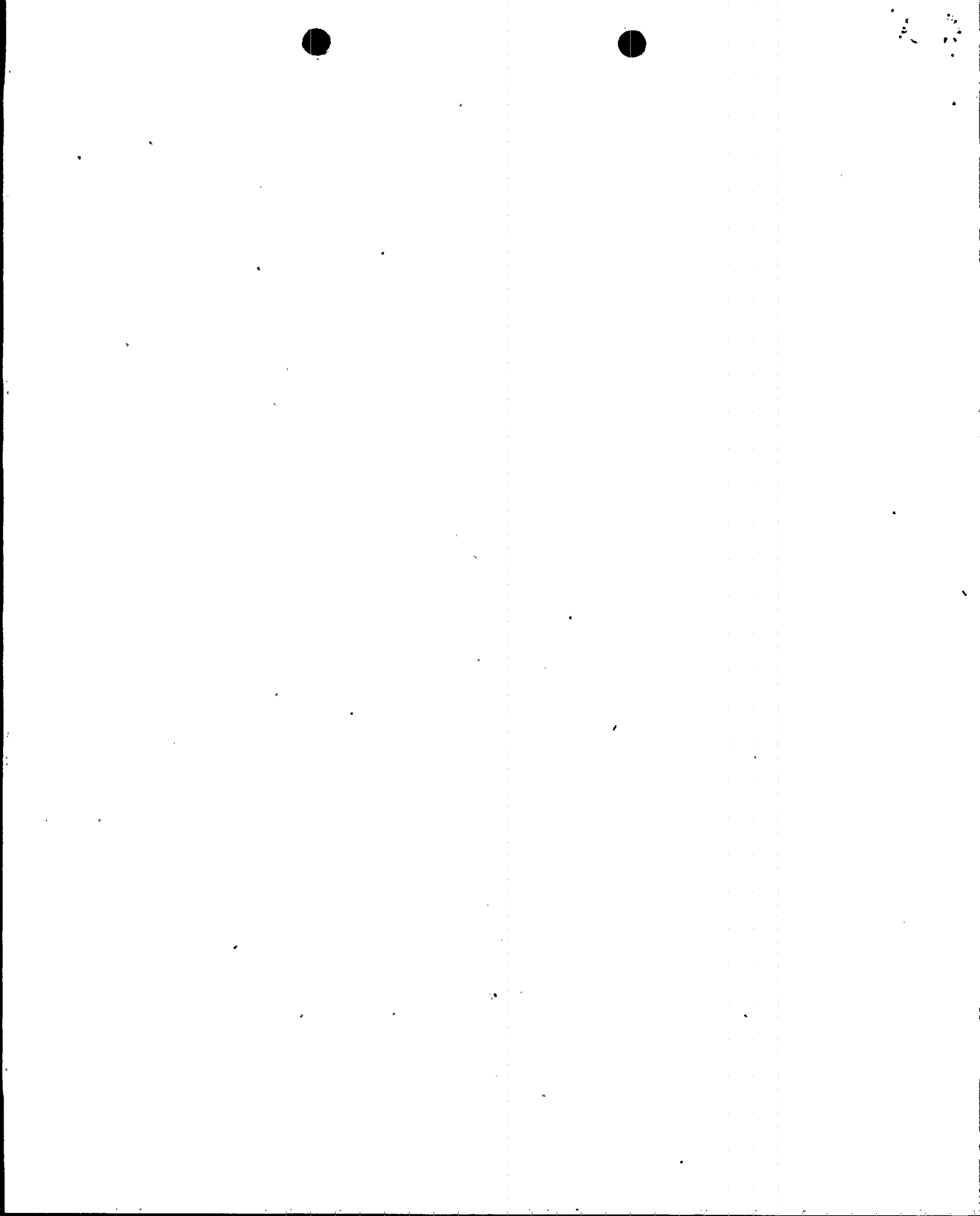


FPL'S COMMENTS ON MOTION FOR  
ORDER TO SHOW CAUSE WHY TURKEY  
POINT UNIT 3 SHOULD NOT BE SHUT  
DOWN BY JULY 31, 1980, TO PERFORM  
A STEAM GENERATOR INSPECTION AND REPAIR

On July 30, 1980, Tracy Barrack, Roger Brooks, Warren Hoskins, Joette Lorion, Michael Lorion, and David Striet (Petitioners) served a "Motion for Order to Show Cause Why Turkey Point Unit 3 Should Not Be Shut Down by July 31, 1980, to Perform a Steam Generator Inspection and Repair" (Petition). The Petition was addressed to the Commission "pursuant to the Provisions of 10 C.F.R. Part 2.200(a)" and requested the Commission to issue an "order to show cause why Turkey Point should not be shut down by July 31, 1980, to perform a steam generator inspection and repair."<sup>1/</sup> Florida Power and Light Company (FPL) opposes and hereby submits the following comments on this Petition.

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<sup>1/</sup> Petition, p. 3.



## I. Introduction

In the mid-1970's, the steam generator tubes at several nuclear plants throughout the country began to experience degradation due to the corrosive mechanism commonly known as "denting." Following a leak of a steam generator tube at Surry Unit 3, the NRC imposed an inspection requirement upon several licensees,<sup>2/</sup> including FPL.

FPL, in conjunction with the nuclear steam supply system vendor for Turkey Point Units 3 and 4, Westinghouse, has developed a detailed inspection and preventive plugging program for its steam generators based upon detailed and extensive technical evaluations and successful operating experience. FPL has carefully investigated the rate of tube degradation and the mechanism of tube leakage and failure. It has also analyzed the effect of tube degradation upon a loss of coolant accident and a main steam line break.<sup>3/</sup> Additionally, FPL has submitted evaluations of the effect of tube plugging upon the performance of the emergency core cooling system.<sup>4/</sup>

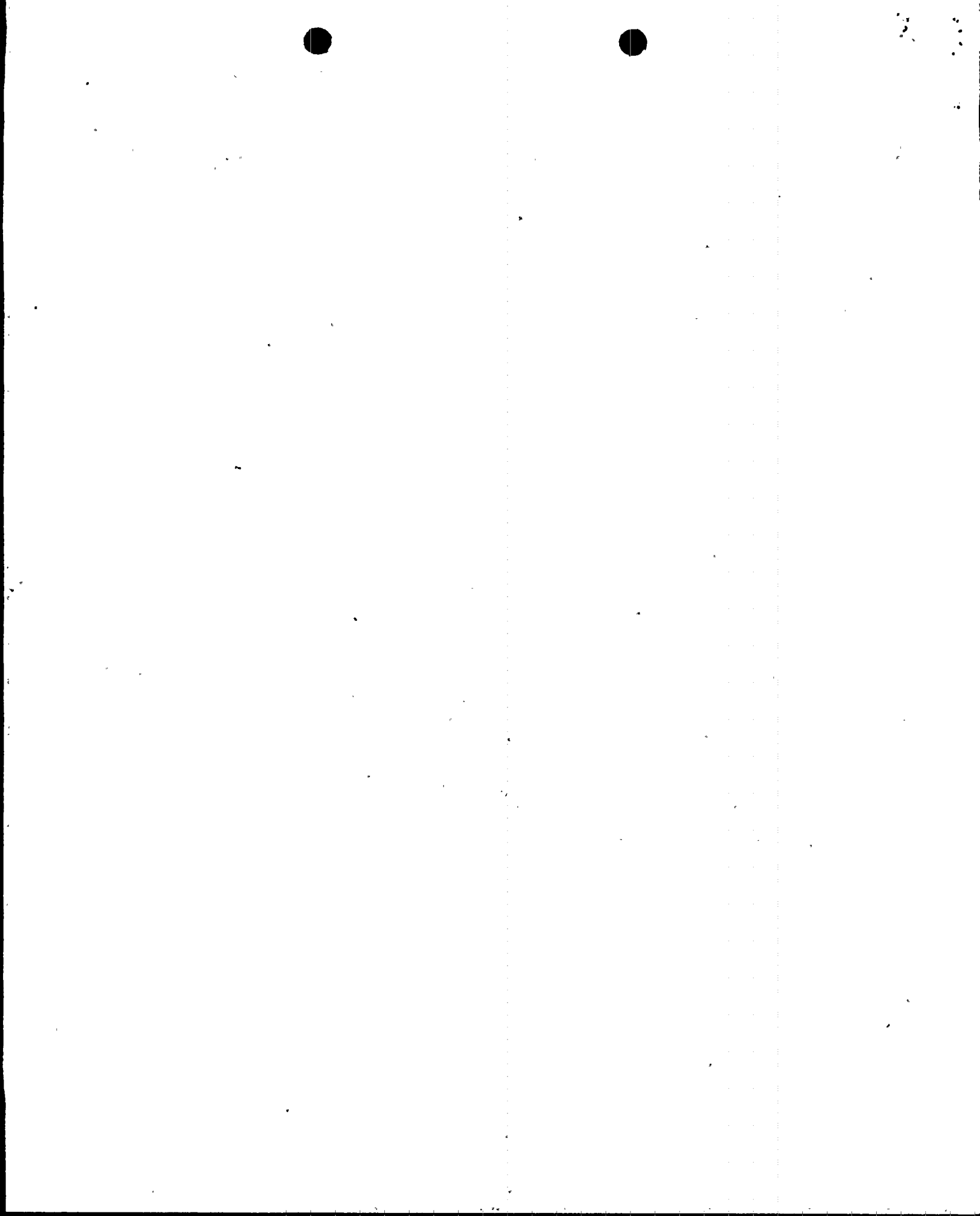
FPL's inspection program includes a gauging program, photographs of the steam generator flow slots, and eddy current

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<sup>2/</sup> Florida Power and Light Company (Turkey Point Units 3 and 4), Virginia Electric and Power Company (Surry Units 1 and 2), Southern California Edison Company (San Onofre Unit 1), Consolidated Edison Company (Indian Point Unit 2).

<sup>3/</sup> See, e.g., letter dated June 9, 1977 from Robert E. Uhrig, (of FPL) to Victor Stello (of NRC); January 10 Attachment, pp. 11-12.

<sup>4/</sup> See, e.g., letter dated June 5, 1980 from Robert E. Uhrig (of FPL) to Darrell G. Eisenhut (of NRC).



inspections.<sup>5/</sup> After each inspection, FPL plugs those tubes which fail to satisfy minimum criteria, and it also plugs additional tubes which might be susceptible to advanced degradation during the ensuing operating interval.<sup>6/</sup> This inspection and preventive plugging program is designed to minimize the potential for tube leakage between inspection periods.

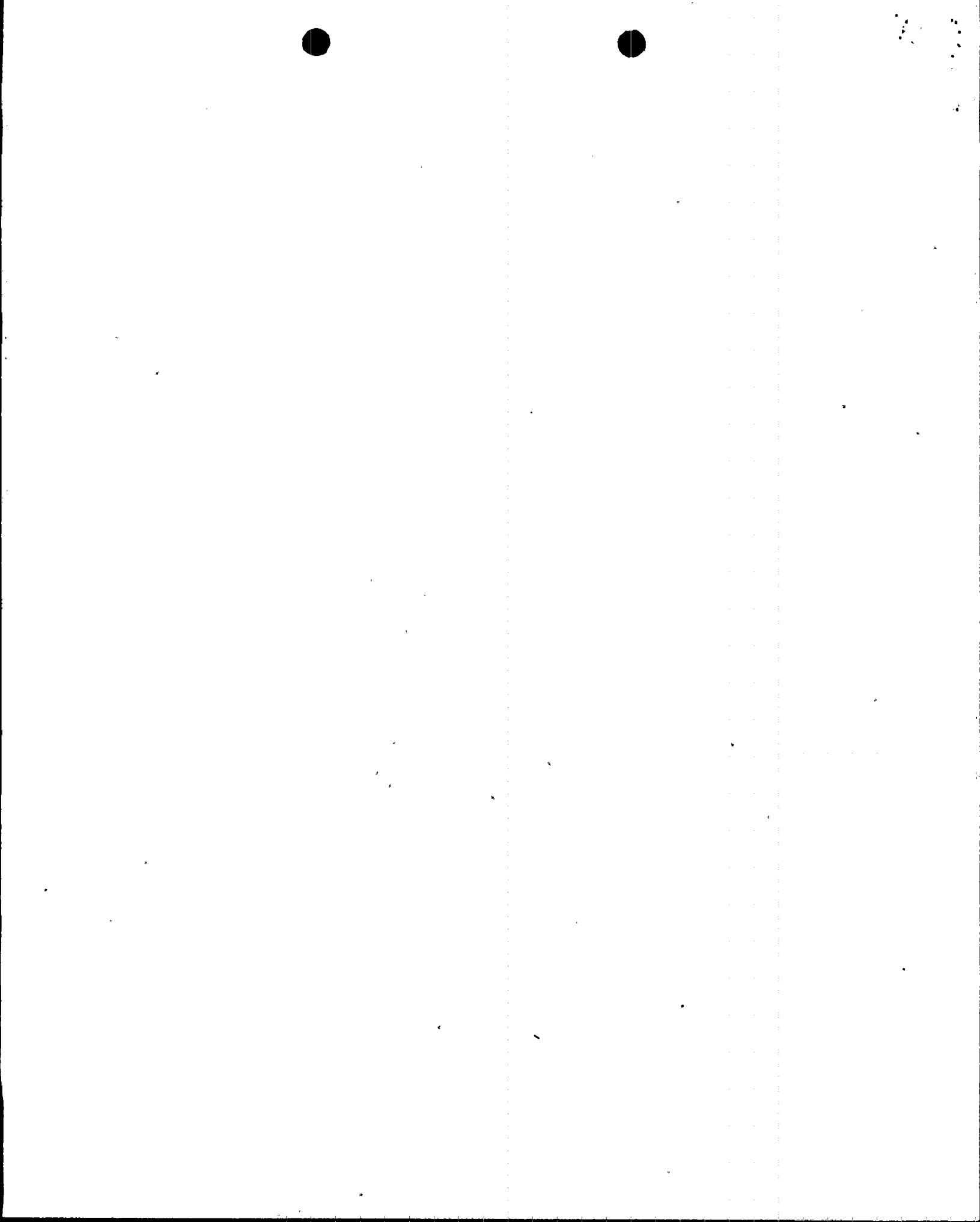
Since December 1976, the steam generators at Turkey Point Unit 3 have undergone four inspections, the most recent of which occurred during December, 1979. On January 10, 1980, FPL submitted a report <sup>7/</sup> of its December, 1979, inspection and plugging program, together with a technical analysis supporting operation for a period of ten effective full power months without a shutdown for an inspection. Operation for the ten-month interval was justified by FPL because of the implementation of a preventive plugging program which included additional conservative criteria beyond those in the six-month program and which resulted in additional preventive plugging to accommodate the ten-month operating interval. The NRC declined to grant authorization for operation for ten effective full power months on the stated ground that "additional operating experience

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<sup>5/</sup> See attachment to letter dated January 10, 1980 from Robert E. Uhrig (of FPL) to Darrel G. Eisenhut (of NRC) [hereinafter referred to as "January 10 Attachment"], pp. 2-4.

<sup>6/</sup> See January 10 Attachment, pp. 8-11.

<sup>7/</sup> January 10 Attachment.



is necessary before the effectiveness of more conservative preventive plugging criteria can be properly evaluated," but it did permit FPL to operate Unit 3 for six effective full power months without a shutdown for inspection.<sup>8/</sup> Additionally, it was noted that operation of Unit 3 would be carefully monitored by the NRC Staff, and consideration of extended operation (i.e., operation for periods greater than six effective full power months between shutdowns for inspection) would "depend upon the operating experience at this unit and at other similarly degraded units."<sup>9/</sup>

On June 30, 1980, FPL requested that the inspection shutdown of Unit 3 scheduled for July 31, 1980, be delayed by two and one-half equivalent full power months.<sup>10/</sup> In support of that request, FPL referred to the January 10 Attachment and to the fact that Unit 3 had been operating since July, 1978 without a steam generator tube leak.<sup>11/</sup> The NRC approved FPL's application for extended operation on July 30, 1980,<sup>12/</sup> the day on which the Petitioners submitted their request for a show cause order.

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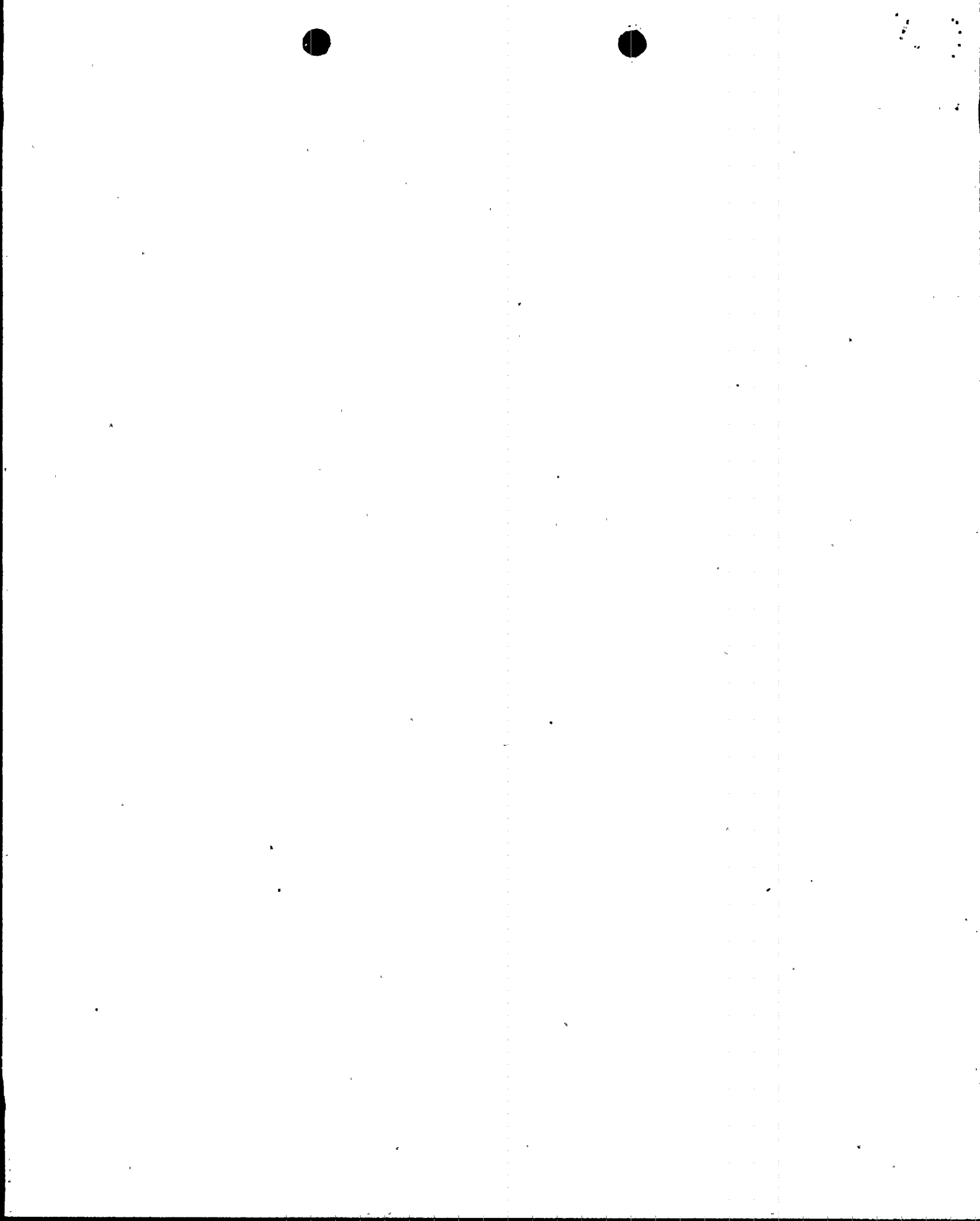
<sup>8/</sup> Amendment 52 to Facility Operating License No. DPR-31 for Turkey Point Unit No. 3, issued January 25, 1980.

<sup>9/</sup> Safety Evaluation Report for Amendment 52 for Unit 3, p. 6.

<sup>10/</sup> See letter of June 30, 1980 from Robert E. Uhrig (of FPL) to Darrell G. Eisenhut (of NRC) [hereinafter referred to as June 30 Letter].

<sup>11/</sup> The June 30 Letter did note an essentially constant 0.0035 gpm leak which was "attributed to a weeping steam generator tube plug."

<sup>12/</sup> Amendment 59 to Facility Operating License No. DPR-31 for Turkey Point Unit No. 3.





## II. Discussion of the Petition

The Petitioners rely upon several grounds in their request for a show cause order to shut down Unit 3 for a steam generator tube inspection. The first two grounds essentially are general arguments in opposition to FPL's application for an extension, and the remaining grounds relate to specific health and safety issues. We will discuss each of these separately.

### A. Petitioners' General Arguments

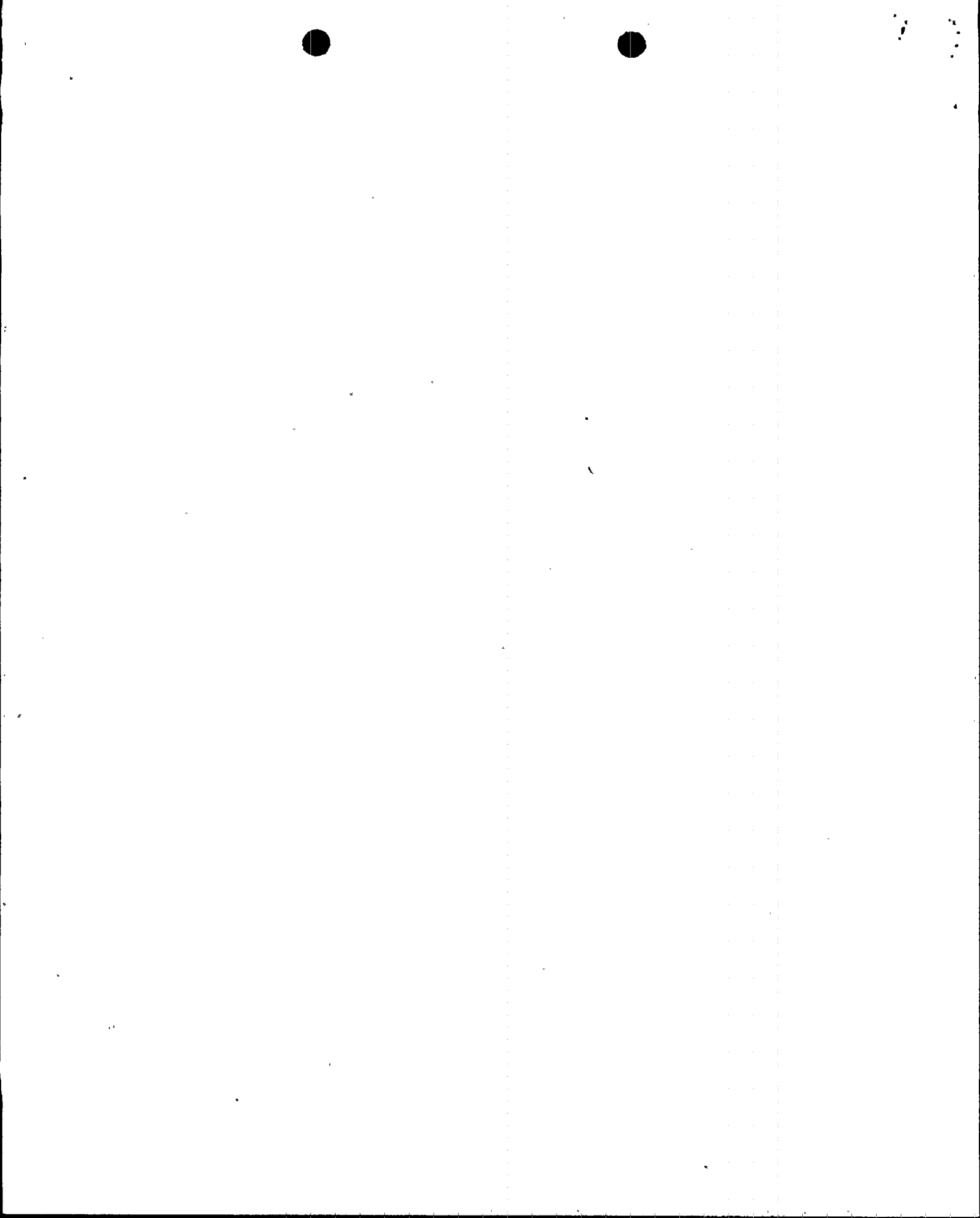
The Petitioners advance two general arguments against an extension of operation. First, the Petitioners imply that extended operation beyond six months is prohibited by the NRC, on the basis of the NRC Staff's statement that it does not "expect to have applications for periods longer than six months."<sup>13/</sup> Second, the Petitioners refer to a condition in the license for Unit 3 which requires the plant to be shut down for an inspection unless "an acceptable analysis of the susceptibility for stress corrosion cracking of tubing is submitted to explicitly justify continued operation of Unit 3 beyond the authorized period of operation."<sup>14/</sup> The Petitioners assert that FPL has failed "to carry the burden of proof" to meet this condition, since FPL allegedly has neglected "to provide any technical basis for an extension of the period of operation."<sup>15/</sup>

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<sup>13/</sup> Petition, pp. 7, 9.

<sup>14/</sup> Amendment 52 for Unit 3, §2.

<sup>15/</sup> Petition, p. 4.



With respect to Petitioners' first argument, the NRC has no proscription on operation for longer than six months. While the Staff stated that it does not "expect to have applications for periods longer than six months,"<sup>16/</sup> it was not proscribing operating intervals of longer than six months. As previous safety evaluation reports (SER) have clearly stated, the Staff will consider extension beyond six months depending "upon the operating experience at this unit and at other similarly degraded units."<sup>17/</sup> Thus, an application for a two and one half months extension of a six month operating interval is not inconsistent with the Staff's statement quoted by the Petitioners. In fact, the NRC has previously approved five requests for extended operation of Unit 3.<sup>18/</sup>

It is therefore clear that the Petitioners have inappropriately relied upon the NRC Staff's statement that it has "reservations about the validity of extrapolating the predictive methodology beyond six" months.<sup>19/</sup> The Staff was not saying that actual operation for longer than six months is unsafe.

<sup>16/</sup> See letter dated May 20, 1980 from Steven A. Varga (of NRC) to Mark P. Oncavage.

<sup>17/</sup> SER for Amendment 52, p. 1, 6; SER for Amendment 44 to Facility Operating License No. DPR-41 for Turkey Point Unit 4, p. 1.

<sup>18/</sup> Amendment 26 issued on July 15, 1977 extended authorized operation from six to seven months. Amendment 27 issued on August 16, 1977 extended authorized operation from seven months to the next refueling outage, which occurred approximately four months later. Amendment 36 issued on June 2, 1978 extended authorized operation from six months to eight months. Amendment 39 issued on October 16, 1978 extended authorized operation from eight months to one year. Amendment 50 issued on September 26, 1979 extended authorized operation from six months to six months and seven weeks.

<sup>19/</sup> SER for Amendment 52 for Unit 3, p. 5.



Rather, the Staff was expressing its policy to defer judgment concerning operation beyond six months until it can examine the experience of operation during a period approaching six months. At that point, favorable operating experience, together with adherence to license conditions, a conservative plugging program, and the low probability of a design basis accident, have been relied upon to justify the conclusion that extended operation does not present an undue risk to the public health or safety.<sup>20/</sup>

Petitioners' next argument<sup>21/</sup> suggests that FPL may obtain authorization for extended operation only by complying with a license condition in Amendment 52 for Unit 3, which states in part:

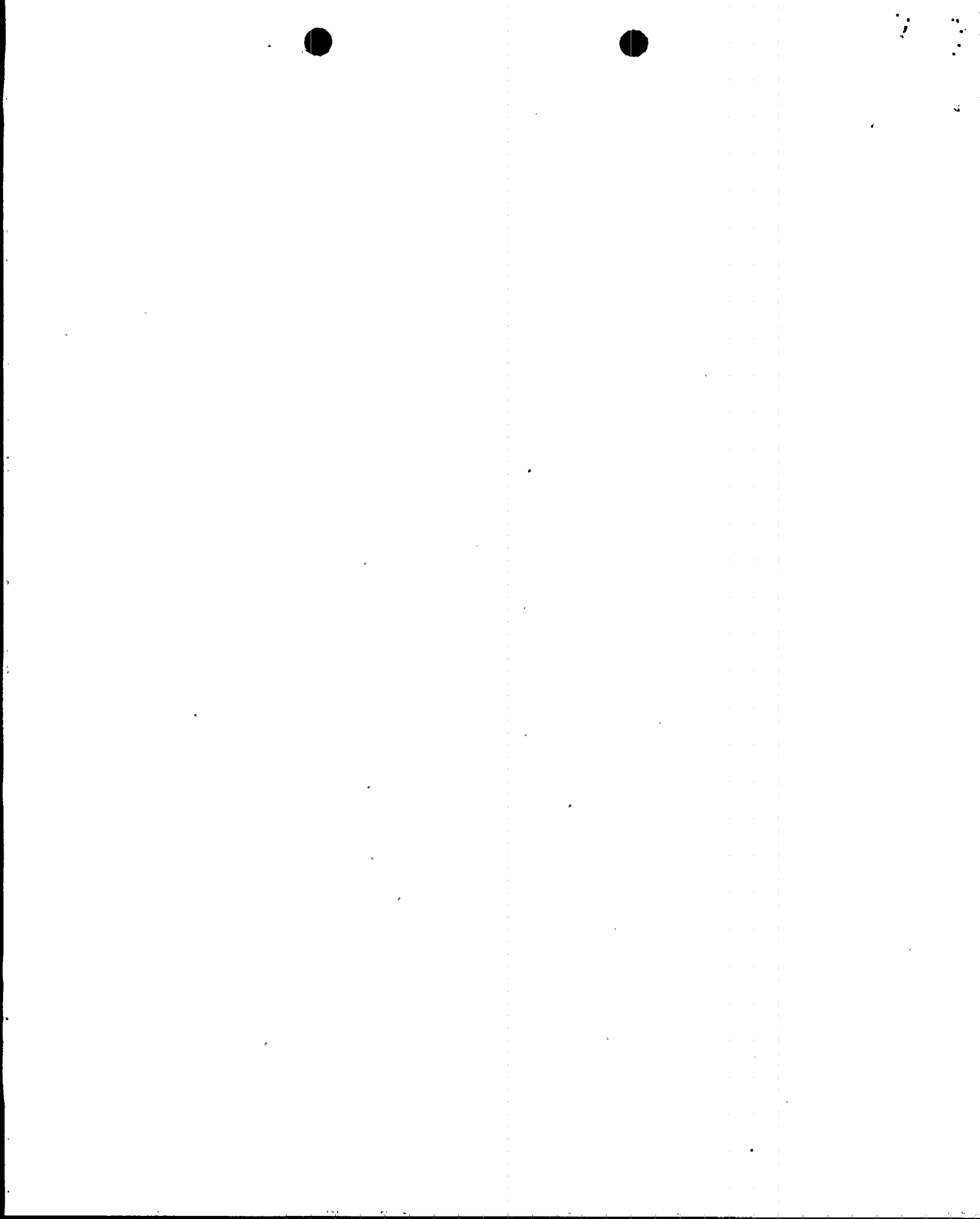
In order to perform an inspection of the steam generators, Unit No. 3 shall be brought to the cold shutdown condition within six equivalent months of operation from January 24, 1980 or at the next refueling shutdown, whichever occurs first, unless: (1) an inspection of the steam generators is performed within this period as a result of the requirements in 2, 3 and 4 above, or (2) an acceptable analysis of the susceptibility for stress corrosion cracking of tubing is submitted to explicitly justify continued operation of Unit No. 3 beyond the authorized period of operation.

However, FPL requested and obtained an amendment to this condition, which changed "six equivalent months" to "eight and one half equivalent months." Since Unit 3 is presently operating within the eight and one half equivalent month period, FPL is in

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<sup>20/</sup> See SER for Amendment 44 to Turkey Point Unit 4; SER for Amendment 50 for Unit 3.

<sup>21/</sup> Petition, p. 4.



compliance with its license and there is no need for it to submit the "acceptable analysis" mentioned in the Petition. Thus, the license condition is inapplicable to the instant situation.

To the extent that the Petitioners are arguing that the NRC may not issue an amendment unless FPL submits an "acceptable analysis" to amend "six equivalent months" to "eight and one half equivalent months," their argument is lacking in merit. To issue an amendment to a license, the NRC must consider whether there is reasonable assurance that "the health and safety of the public will not be endangered" by the amendment. See 10 C.F.R. §50.40(a). The issuance of an amendment is not, and could not reasonably be, predicated upon a demonstration that the licensee will be in compliance with the very license condition which is rendered inapplicable by the amendment.<sup>22/</sup>

Petitioners also allege that FPL has failed to submit a "technical basis" in support of the application for an extension.<sup>23/</sup> The Petition states that FPL's only justifications for extended operation are "arguments of service and economics considerations [which] are legally inappropriate and devoid of any technical assessment of the safety of operation of Unit 3."<sup>24/</sup> The Petition then devotes several pages to an analysis of an

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<sup>22/</sup> We believe that the January 10 Attachment provides "an acceptable analysis of the susceptibility for stress corrosion cracking of tubing" during the requested extension. However, in light of the fact that FPL applied for and obtained an amendment, this issue is irrelevant and need not be addressed.

<sup>23/</sup> Petition, p. 4.

<sup>24/</sup> Petition, p. 5.





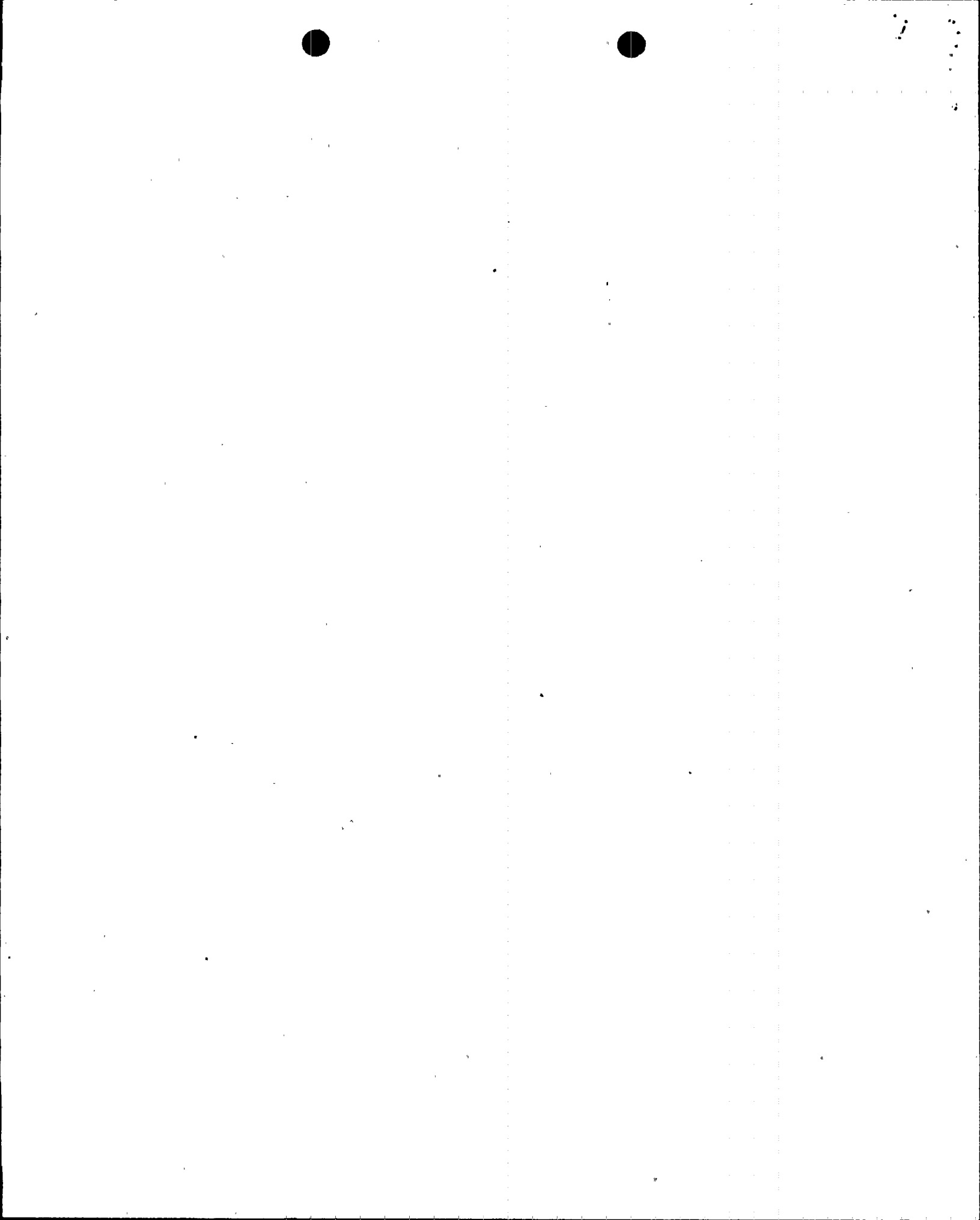
attachment to the June 30 Letter which updates information on FPL's generating capacity and expected load demand (need for power evaluation).<sup>25/</sup>

The Petitioners have misinterpreted the significance of the need for power evaluation contained in the June 30 Letter. This evaluation provided the NRC with FPL's reason for requesting an extension; it was not a legal justification for the extension. Consequently, the Petitioners' analysis of FPL's evaluation is immaterial to the Petitioners' request for a show cause order requiring a steam generator inspection. For this reason, we will not comment upon the specific allegations contained in the Petitioners' analysis of FPL's need for power evaluation.<sup>26/</sup>

More importantly, the Petitioners have overlooked other information supplied by FPL in conjunction with its application for an extension. The June 30 Letter justifies the requested extension on the following basis: 1) Unit 3 has operated since July 1978 without a tube leak; 2) an NRC approved ECCS analysis was performed for 25% tube plugging, which bounds the current plugging level of 19.4%; and 3) the January 10

<sup>25/</sup> Petition, pp. 10-13.

<sup>26/</sup> The fact that we have not addressed the many incorrect statements and inaccurate assessments contained in the Petitioners' analysis of FPL's need for power evaluation should not be taken as a concession of the validity of that analysis.



Attachment provided an evaluation supporting continuous operation for ten effective full power months (which bounds the extension of two and one-half months). Of special significance is the January 10 Attachment which contains an extensive and detailed thirteen page analysis of the December 1979 Unit 3 inspection and plugging program and results, and an analysis of denting and extended operation. The Attachment concludes that Unit 3 can be safely operated for ten effective full power months, based upon a predicted slow rate of tube degradation and the conservatism provided by an additional plugging criterion. The analyses presented in this Attachment together with the June 30 Letter provide an adequate "technical basis" for approval of FPL's application for extended operation.<sup>27/</sup>

Finally, it should be noted that the Petitioners' general arguments, in and of themselves, do not contain an allegation that extended operation is unsafe. Since a show cause proceeding is only warranted if "substantial health or safety issues" have been raised,<sup>28/</sup> the Petitioners' general arguments do not suffice as a basis for a show cause order.

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<sup>27/</sup> The Petitioners assert that under the NRC Rules of Practice, FPL has the "burden of proof" with respect to justifying an extension. Petition, p. 4. We assume that the Petitioners are referring to 10 C.F.R. §2.732. It should be noted that §2.732 is relevant only to adjudicatory proceedings, not to uncontested applications for an amendment. See 10 C.F.R. § 2.700.

<sup>28/</sup> Consolidated Edison Company (Indian Point, Units 1, 2 and 3) CLI-75-8, 2 NRC 173, 176 (1975).



B. Petitioners' Health and Safety Allegations

The Petition contains several factual allegations as to the safety of extended operation. However, the Petitioners have failed to substantiate their factual allegations with any supporting information, and they simply make conclusory statements regarding extended operation. Since the Petition fails to provide a basis from which the NRC could determine that extended operation of Unit 3 is unsafe, and since the statements in the Petition are not entitled to presumptive validity,<sup>29/</sup> the Petition must be denied.

The Petitioners allege that the failure of FPL to perform a complete inspection of all Unit 3 tubes and the failure to reinspect tube R 12-C80 and surrounding tubes in steam generator B and tube R 22-C13 in steam generator A create an unsafe condition. Such an allegation has previously been refuted by FPL and the NRC Staff. Both the NRC Staff and FPL have concluded that operation without re-inspection of the above specified tubes does not pose a hazard to the public health and safety. There is only a remote possibility that these tubes would develop a leak prior to the next inspection, and existing license conditions which restrict operation when leaks exceed .3 gpm in any steam generator adequately protect the public health and

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<sup>29/</sup> Northern Indiana Public Service Company (Bailly Generating Station, Nuclear 1), CLI-78-7, 7 NRC 429, 432 (1978), aff'd. Porter County Chapter v. NRC, 606 F.2d 1363 (D.C. Cir. 1979).



safety in the unlikely event that these tubes do develop leaks.<sup>30/</sup> Additionally, although FPL does not inspect all steam generator tubes during each inspection, it does inspect those tubes which might be subject to pronounced degradation during the ensuing operating interval.<sup>31/</sup> The NRC Staff has determined that FPL's inspection program is sufficient to protect the public health and safety,<sup>32/</sup> and the Petition offers no information to the contrary.

The Petitioners also state that "foreign material" was discovered in the steam generators of Unit 3 during the last inspection, and that "loose metallic fragments inside a reactor coolant system pose a special and significant hazard to safe reactor operation."<sup>33/</sup> However, the Petitioners neglect to mention that FPL's "steam generator inspection program augmented by a visual examination of both the steam generator primary side and the reactor vessel provides assurance that all foreign objects were retrieved from the reactor coolant system" during the last inspection,<sup>34/</sup> thereby eliminating any alleged hazard.

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<sup>30/</sup> SER for Amendment 52 for Unit 3, pp. 2-3, 5; letter dated January 18, 1980 from Robert E. Uhrig (of FPL) to Darrell G. Eisenhut (of NRC).

<sup>31/</sup> See January 10 Attachment, pp. 2-4.

<sup>32/</sup> SER for Amendment 52 for Unit 3, p. 5.

<sup>33/</sup> Petition, p. 6.

<sup>34/</sup> Licensee Event Report, dated January 2, 1980 (Reportable Occurrence 250-79-39, dated December 31, 1979). The Metal Impact Monitoring System (MIMS) for Unit 3 was installed during the last inspection. Thus, contrary to the Statement of the Petitioners, Petition, p. 7, MIMS could not have failed to detect the foreign material.





Finally, the Petitioners state that a "tube rupture can wholly compromise ECCS performance in the event of an accident."<sup>35/</sup> However, the Petition fails to specify the cause of such a tube rupture or the process by which ECCS would be compromised. If the Petitioners are alleging that a tube rupture could be caused by denting alone, their contention is without merit. FPL has shown that tube failures due to denting are precluded during normal operation because of the license condition which restricts operation when leaks exceed 0.3 GPM in any steam generator.<sup>36/</sup> If the Petitioners are alleging that a loss of coolant accident (LOCA) would cause an unplugged degraded tube to rupture, their allegations are similarly without merit. FPL has determined that a tube rupture or increase tube leakage from the secondary to primary system is not likely to occur during a LOCA.<sup>37/</sup>

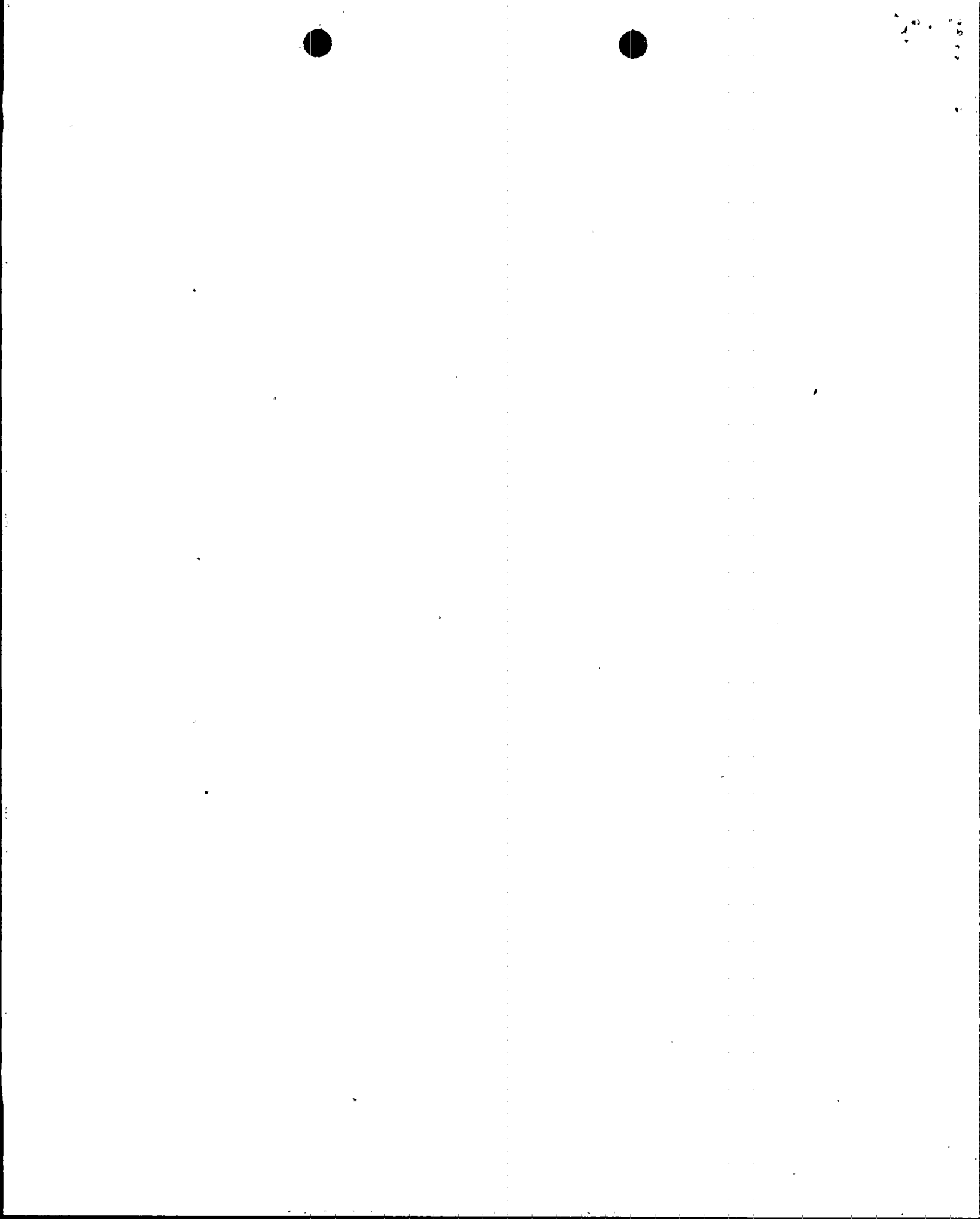
Thus, as the above discussion reveals, not only have the Petitioners failed to supply information to support their safety allegations, they have also failed to raise issues which have not been previously considered by both the NRC and FPL. Consequently, the Petition should be dismissed.

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<sup>35/</sup> Petition, p. 7.

<sup>36/</sup> Letter dated June 9, 1977 from Robert E. Uhrig (of FPL) to Victor Stello (of NRC), Answer to Question 6.

<sup>37/</sup> Id. The NRC Staff has also determined a tube rupture is not anticipated during a LOCA. SER for Order for Modification of License for Turkey Point Unit 4, dated August 3, 1977, p. B-16.



### III. Additional Comments

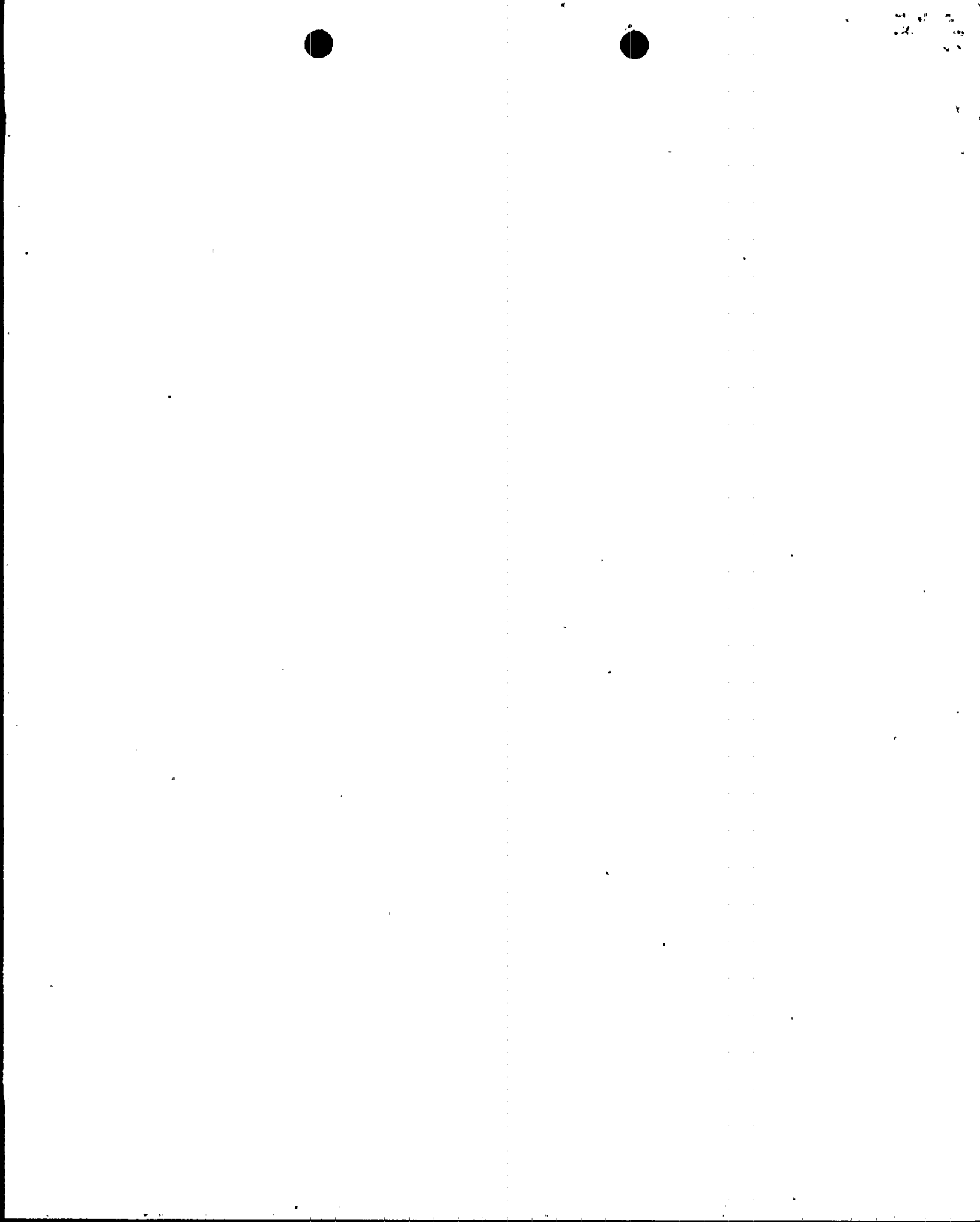
FPL's January 10 Attachment provides a technical justification for ten effective full power months of operation and the June 30 Letter confirms that operation during the first five months did not result in any significant leakage. These documents support the conclusion that FPL's conservative plugging program significantly reduces the potential for tube leaks, and that any tube leakage which does occur will not present an undue risk to the public health and safety.

In conjunction with the issuance of Amendment 59 for Unit 3, which approved FPL's June 30, 1980 application for extended operation, the NRC Staff issued a safety evaluation report which reviewed the analyses contained in FPL's January 10 Attachment and the June 30 Letter.<sup>38/</sup> Based upon its review of these documents, the Staff concluded that "the steam generator tubes will maintain an acceptable degree of integrity" during extended operation and that there is "reasonable assurance that the health and safety of the public will be protected."<sup>39/</sup>

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<sup>38/</sup> It is worthy of note that the SER for Amendment 59 incorporated by reference the SER for Amendment 52, which authorized Unit 3 to operate for six effective full power months following the December 1979 inspection.

<sup>39/</sup> SER for Amendment 59 for Unit 3, p. 3. The Staff provided the following reasons for its conclusion: 1) "the denting phenomenon remains in a predictable mode;" 2) the plugging criteria which FPL has implemented since January 1979 is "significantly more conservative" than the criteria which the Staff has accepted to support six months of operation; 3) Unit 3 operated for six months and seven weeks before its last inspection without detectable steam generator leakage; 4) since its last inspection, Unit 3 has operated without detectable steam generator leakage; and 5) existing license conditions restrict operation in the event that detectable leaks occur.



The NRC Staff has satisfied statutory and regulatory requirements in authorizing extended operation for Unit 3. It has made the requisite health and safety findings, and has provided the reasoning needed to justify those findings. The Petitioners have offered no information with which the NRC was not familiar at the time it issued the amendment for extended operation; nor have they submitted any information which would tend to cast doubt upon the safety of the extended period of operation. Consequently, there is no reason for the NRC to reconsider or to reverse the findings it made when it approved FPL's application for extended operation.

IV. Conclusion

For the foregoing reasons, FPL respectfully submits that the Petition is without merit and should be dismissed.

August 27, 1980

