

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

OFFICE OF INSPECTION AND ENFORCEMENT  
Richard C. DeYoung, Director

In the Matter of	)	Docket No. 50-440
	)	
CLEVELAND ELECTRIC	)	
ILLUMINATING COMPANY	)	(10 CFR 2.206)
(Perry Nuclear Power Plant,	)	
Unit 1)	)	

DIRECTOR'S DECISION UNDER 10 CFR 2.206

By petition dated September 27, 1983, Terry Jonathan Lodge, on behalf of Steven Sass and the Sunflower Alliance, Inc. (hereinafter referred to as the petitioners), requested pursuant to 10 CFR 2.206 that the Director of the Office of Inspection and Enforcement take the following specific actions with regard to Unit 1 of the Perry Nuclear Power Plant:

- ° Appoint immediately an independent consulting engineering firm, at the expense of the Cleveland Electric Illuminating Company (CEI or licensee), to conduct a thorough investigation of a construction accident that occurred during the attempted lift of the steam separator (moisture separator) from the reactor vessel on September 15, 1983, and to evaluate exhaustively the safety, structural and economic impacts said events will have upon the Perry construction timetable, said results to be made immediately available to the public.

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- ° Open immediately the containment structure and all related facilities at the Perry plant to grant access to all members of the public wishing to inspect the steam separator and reactor vessel.
  
- ° Convene a public hearing into the events of September 15, 1983, at such time as the independent study is prepared, the purpose of said hearing to be to determine whether CEI's construction permit for Unit 1 should be permanently revoked.

On October 14, 1983, the Director acknowledged receipt of the petition and informed the petitioners that their request for immediate action was denied, because no imminent hazard to public health safety required the immediate relief which the petitioners requested. Moreover, such action was not necessary to ensure the staff's ability to evaluate the matter or its ability to ultimately grant the relief requested. A notice that the petition was under consideration was published in the Federal Register, 48 Fed. Reg. 49713 (Oct. 27, 1983). The staff has now completed its evaluation of the petition and, for the reasons stated in this decision, the petitioners' request is denied.

#### Background

The Cleveland Electric Illuminating Company holds Construction Permits No. CPPR-148 (Unit 1) and No. CPPR-149 (Unit 2), issued by the Nuclear Regulatory Commission in 1977, which authorize construction of the Perry plant. The

Perry plant is located on Lake Erie in Perry County, Ohio approximately 35 miles northeast of Cleveland, and consists of two boiling water reactors of General Electric design and related facilities for use in the commercial generation of electric power.

On September 15, 1983, General Electric Company was removing certain internal reactor components from the Unit 1 reactor vessel, where they had been placed temporarily while some work was being performed in the upper refueling area, their normal storage location. The first component to be removed, the steam dryer, was lifted from the vessel without incident. However, the next component to be removed, the moisture separator, had not been unbolted from the core shroud prior to the lifting effort. Twenty-eight of the thirty-two holddown bolts for the moisture separator were tightened and the other four bolts were loosely engaged at the time the lift was attempted. The lifting rig broke due to excessive force. The lifting rig, which is an X-shaped I-beam structure, and which is not part of the containment crane, was rated to 53 tons and had previously been tested to 59 tons. The containment crane is rated at 125 tons.

On September 16, 1983, the NRC Senior Resident Inspector and an NRC structural specialist performed a visual inspection of the moisture separator, the areas where the moisture separator was bolted to the core shroud in the reactor vessel, and the crane. No damage was found during that inspection. Subsequent detailed inspections of the crane, the moisture separator, and the reactor vessel by the licensee and by General Electric have found no indications of damage to those components.

In addition to the inspections discussed above, results of metallurgical tests on the break area in the lifting rig have been factored into a conservative analysis by General Electric to estimate the maximum loads which could have been imposed on the lifting rig and on the other components involved. The results of that analysis show that reactor assembly components experienced stresses which are less than maximum allowable values. Additional analysis by Gilbert Associates, Inc. and Nuclear Plant Services resulted in less conservatively estimated loads. NRC Region III representatives reviewed and discussed these analyses during a meeting with CEI at the NRC regional offices in October 1983.

On October 5, 1983, following receipt and testing of a new lifting rig, the moisture separator (with holddown bolts disengaged) was removed from the Unit 1 reactor vessel without incident.

#### Discussion of Petitioners' Specific Concerns

As a basis for their request for action, the petitioners cite their understanding of the circumstances and consequences of the lifting incident. The petition (¶5) states that, during the attempted lift, there occurred the "breakage of the strongback portion of the crane" and "the body of the containment crane was lifted some eighteen inches (18") from its track." The lifting rig (or "strongback") which broke is not part of the crane. In addition, there is no indication that the body of the crane lifted 18 inches from its tracks. There were no loads or reactions involved which would have caused such a movement, considering the weight on and configuration of the

rolling assemblies. As noted above, inspection of the containment crane found no damage of the type which would be expected if such a movement had occurred.

The petition (¶7) also states that "damage to the reactor vessel...[occurred] in the form of partially or wholly tearing the vessel from its base, and destroying certain of the vessel's engineered seam welds...." The analysis by General Electric noted above indicated that the stresses imposed on all analyzed parts of the reactor assembly were below the allowable values. In addition, the inspections performed by NRC, the licensee, and General Electric have found no evidence of damage. The reactor vessel (including the other reactor components in place at the time of the incident) weighed approximately 940 tons and therefore could not have been lifted from its base by the maximum upward forces determined by the analysis.

The petition (¶9) states that "unquantified stresses have occurred to the steam separator and to the portions of the reactor vessel to which the separator is attached." The stresses are "unquantified" in the sense that they cannot be determined exactly. However, General Electric's analysis determined a maximum loading which could have been applied during the lifting incident. That loading was then used to arrive at conservative (or upper limit) stress values on reactor assembly components, including the moisture separator and the parts of the reactor vessel to which the moisture separator was attached. As noted above, those stresses were, in all cases, below the allowable values.

The petition notes that the records maintained by CEI and its agents did not show that the moisture separator was still bolted down on September 15, 1983

when the initial lift of the moisture separator was attempted. NRC and licensee reviews of General Electric lifting procedures have found inadequacies which resulted in the failure of the records to note the bolted condition. CEI, as the licensee responsible for the proper conduct of licensed activities, has been cited in a Notice of Violation, transmitted to the licensee on December 12, 1983, with NRC Region III Inspection Report 50-440/83-34 and 50-441/83-33 for lack of adequate control measures. The applicable procedures were revised as required and were used on October 5, 1983 to lift the moisture separator from the reactor vessel.

#### Consideration of Petitioners' Requested Relief

Neither the matters set forth in the petition nor the circumstances surrounding the lifting incident warrant the relief requested by the petitioners. The petition does not raise a substantial health and safety issue which would cause the staff to initiate show-cause proceedings. See Northern Indiana Public Service Co. (Bailly Generating Station, Nuclear-1), CLI-78-7, 7 NRC 429, 433-34 (1978), aff'd sub. nom. Porter County Chapter of the Izaak Walton League, Inc. v. NRC, 606 F.2d 1363 (D.C. Cir. 1979).

Petitioners request that the Commission appoint an independent consulting engineering firm to conduct an investigation of the moisture separator lifting incident, and to evaluate the safety, structural and economic impacts of the event. The staff does not believe that such an additional investigation is warranted by the facts, because General Electric, Gilbert Associates, Inc. and Nuclear Plant Services have performed "worst case" analyses of the structural

and safety effects of the incident and have found that, in all cases, stresses imposed were below the allowable values. In addition, inspections by the NRC and the licensee have found no evidence of damage, other than to the lifting rig. Appropriate corrective action has been taken to correct the procedural deficiencies that contributed to the incident. With regard to economic impacts, the Commission will not institute proceedings to explore the purely economic impacts of construction activities or deficiencies at a site. Cf. Commonwealth Edison Co. (Byron Station, Units 1 & 2), DD-81-5, 13 NRC 728 (1981) aff'd sub. nom. Rockford League of Women Voters v. NRC, 679 F.2d 1218 (7th Cir. 1982).

General Electric performed the analysis of the incident and provided a new lifting rig. The lift of the moisture separator from the reactor vessel, which was not a schedule critical path item, was made successfully on October 5, 1983. Required revisions to procedures were completed prior to the lift. The successful lift of the moisture separator, which was observed by the NRC Senior Resident Inspector, and a subsequent lift of the reactor vessel head (which weighs approximately 100 tons) onto the reactor vessel on November 1, 1983, have indicated that the revised procedures are being implemented properly. The NRC Senior Resident Inspector will observe other reactor assembly lifts as appropriate to verify that the lifting procedures are being followed. Because the licensee has taken adequate measures to review the consequences of the lifting incident and to implement corrective action, and because the staff has sufficient information available to resolve its concerns over the safety significance of the incident, an independent investigation by a "consulting engineering firm" is not warranted.

No compelling reasons would require the licensee to open the containment structure and related facilities to the public for inspection of the moisture separator and the reactor vessel. Conversely, there are considerations involving protection of the reactor assembly equipment which would militate against such general access. Such access is unnecessary to discharge properly the Commission's responsibility to ensure adequate protection of public health and safety, nor is such access necessary to ensure that the licensee meets its responsibilities under the Construction Permit and the Commission's regulations. The NRC's inspectors have immediate unfettered access to all parts of the Perry plant, including the moisture separator and the interior of the reactor vessel, and have used that access to inspect those components. See 10 CFR 50.70. The licensee has been cooperative in making information concerning the lifting incident available to the staff, has reviewed the incident, and has taken appropriate corrective actions. The staff has no reason to suspect subterfuge or other deliberate wrongdoing in the licensee's handling of the incident.<sup>1/</sup> In sum, there is no adequate basis to order the licensee to provide general access to the plant.

The petitioners also request that the Commission convene a public hearing into the events of September 15, 1983, to determine whether CEI's construction permit for Unit 1 should be revoked. The petitioners' request

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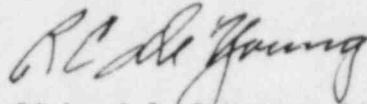
<sup>1/</sup> While noting that the licensee informed the NRC of the lifting incident, the petitioners allege that the licensee did not "voluntarily disclose" the incident to the public. Although the licensee may have been required to report the incident to the Commission, NRC requirements do not impose an obligation to report such incidents directly to the press or other members of the public.

is essentially for the initiation of show-cause proceedings in accordance with 10 CFR 2.202. Initiation of show-cause proceedings is not warranted in these circumstances. As discussed in this decision, the lifting incident does not raise a substantial safety issue that would warrant initiation of such proceedings or that would call for the extreme remedy of construction permit revocation under the Commission's enforcement policy. See 10 CFR Part 2, Appendix C, § IV.C(3), published in 47 Fed. Reg. 9987, 9992 (March 9, 1982). Appropriate enforcement action has been taken for the procedural deficiencies associated with the incident in the form of a Notice of Violation under 10 CFR 2.201, and the licensee has taken action to correct the deficiencies. Thus, based on the analyses and inspections discussed above, which have shown that no damage to the reactor assembly resulted from the lifting incident, and the fact that the procedural inadequacies have been corrected, no sufficient basis exists to initiate proceedings to revoke the Perry Unit 1 construction permit.

#### Conclusion

For the reasons stated in this decision, the petitioners' request has been denied. A copy of this decision will be filed with the Office of the Secretary of the Commission for the Commission's review in accordance with 10 CFR 2.206(c) of the Commission's regulations. This decision will become the final action

of the Commission 25 days after the date of issuance unless the Commission, on its own motion, institutes a review of the decision within that time.



Richard C. DeYoung, Director  
Office of Inspection and Enforcement

Dated at Bethesda, Maryland  
this 9th day of January 1984