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RELATED CORRESPONDENCE

September 7, 1984

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
THE CLEVELAND ELECTRIC	)	Docket Nos. 50-440 OL
ILLUMINATING COMPANY	)	50-441 OL
	)	
(Perry Nuclear Power Plant,	)	
Units 1 and 2)	)	

APPLICANTS' RESPONSE TO  
ASLB REQUEST FOR INFORMATION  
ON ATWS RULE AND THE PERRY SLCS

On July 6, 1984, Ohio Citizens for Responsible Energy ("OCRE") filed a motion for summary disposition of Issue No. 6. That contention asserted that Applicants' Standby Liquid Control System ("SLCS") should be automatically rather than manually initiated. The motion was based upon the NRC's publication on June 26, 1984 of its final rule on anticipated transients without scram ("ATWS"). 49 Fed. Reg. 26036. The rule explicitly resolved the question of SLCS initiation mode by defining those cases in which reactors must have automatic initiation. The rule stated that automatic SLCS must be provided for those boiling water reactors receiving construction permits after July 26, 1984 and those plants who received construction permits prior to that date "that have already been designed and built to include this feature."

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OCRE's motion asserted that there was no genuine issue of material fact to be heard on this issue, citing a letter from Applicants to the NRC Staff dated August 13, 1982, and Applicants' answers to interrogatories. In filings dated July 30, 1984, Applicants and the NRC Staff opposed OCRE's motion, arguing that OCRE's filing on its face demonstrated that the Perry SLCS was not designed and built to include automatic initiation.

In an oral request, the Licensing Board requested that OCRE, Applicants and the Staff provide information on the meaning of the "designed and built" language of the new ATWS rule and how that language applies to the Perry SLCS. Applicants hereby respond to the Licensing Board's request. Based upon the information submitted with this Response, particularly the Affidavits of Dalwyn Davidson, Frank Stead and Gary Leidich, Applicants respectfully submit that the appropriate action is to dismiss Issue No. 6 from this proceeding.

#### I. INTERPRETATION OF ATWS RULE

The Commission's final ATWS rule, 49 Fed. Reg. 26036, specifies those cases in which the SLCS must have automatic initiation. New 10 C.F.R. § 50.62(c)(4) states in part:

The SLCS initiation must be automatic and must be designed to perform its function in a reliable manner for plants granted a construction permit after July 26, 1984, and for plants granted a construction permit prior to July 26, 1984, that have already been designed and built to include this feature.

49 Fed. Reg. at 26045 (emphasis added). The Supplementary

Information accompanying the new rule further discusses the automatic initiation requirement of the new rule.

New plants (those which will receive construction permits after the effective date of this rule) will be required to have equipment for automatic initiation of the SLCS. Most of those plants have already been designed for this feature. Also, other plants that have been designed and built to include this feature must utilize this feature.

49 Fed. Reg. at 26038 (emphasis added).

With respect to reactors such as Perry (with construction permits issued before July 26, 1984), the language of the rule and its accompanying Supplementary Information make at least two points clear. First, for automatic initiation to be required, automatic initiation must be both designed and built. The regulation clearly uses the conjunctive "and." So, too, does its statement of consideration. Having only a design of an automatic system is not enough. There must be both a design and a "built" system. The second point is that the designing and building must be complete. The rule requires that the plant "have already been designed and built" for automatic initiation to be required. Similarly, the Supplementary Information states that for automatic initiation to be required, the plant must "have been designed and built to include this feature." The use of the present perfect tense clearly indicates that the designing and building must already have been finished by the date of the rule (June 26, 1984).<sup>1/</sup>

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<sup>1/</sup> Present perfect tense is defined as "a verb tense that is formed in English with 'have' and that expresses action or

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Thus, for the automatic initiation requirement of 10 C.F.R. § 50.62(c)(4) to apply, both the design of the Perry SLCS initiation and its installation must have been completed in the automatic mode by June 26, 1984.

## II. STATUS OF PERRY SLCS

As demonstrated by the attached affidavits of Dalwyn Davidson, Frank Stead and Gary Leidich, the Perry SLCS was not already designed for automatic initiation and (if even it had been already designed for automatic initiation) it was not already built to include automatic initiation.

### A. DESIGNED

The Affidavit of Frank Stead details the design history of the Perry SLCS. Both the Preliminary and Final Safety Analysis Reports described the Perry SLCS as being designed for manual initiation. Stead Aff. at ¶¶ 2-4. Beginning in late 1979, General Electric proposed and CEI authorized a series of activities relating to ATWS, including SLCS initiation. Id. at ¶¶ 7-8. In response to the NRC Staff's apparent selection of the group of ATWS modifications known as Alternate 3A (which included automatic initiation), GE first analyzed, then designed, and finally supplied equipment for the Alternate 3A package. Id. at ¶ 11.

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(Continued)

state completed at the time of speaking." Webster's New Collegiate Dictionary (Merriam 1981), at 903 (emphasis added).

CEI perceived the risk that an ATWS rule mandating Alternate 3A modifications might adversely affect fuel load schedules. Id. at ¶ 9. At the same time, CEI believed that automatic initiation carried with it the risk -- and cost -- of inadvertent actuation. Id. at ¶ 6. CEI proceeded with the analysis, design and equipment procurement that could enable CEI to incorporate automatic initiation if that were necessary to meet fuel load schedules. Id. at ¶ 9.

Throughout this entire period, the FSAR continued to describe SLCS as having manual initiation. Id. at ¶¶ 3-4. Indeed, it was on that basis that the NRC Staff reviewed the Perry design. See, NUREG-0887, Safety Evaluation Report related to Operation of Perry Nuclear Power Plant, Units 1 and 2 (May 1982), § 9.3.4; NUREG-0887, Supp. 1, § 9.3.4; NUREG-0887 Supp. 2, § 9.3.4; NUREG-0887, Supp. 3, § 9.3.4.

In June 1982, GE completed its design work on automatic initiation and forwarded the drawings to Perry's architect-engineer, Gilbert Associates, Inc. ("GAI"). Stead Aff. at ¶ 11. Later that month, CEI described its SLCS as manual at the ACRS subcommittee meeting. Id. And at a July 20, 1982 meeting, CEI presented its entire ATWS design to the NRC Staff. Id. That design included manual SLCS initiation. Id. On August 2, 1982, GAI completed a revision of its SLCS electrical drawings, in which it took GE's drawings and transferred them to its own. At this point, the electrical elementary drawings for Perry showed an SLCS with automatic initiation. Id. at ¶ 12.

However, four days later, on August 6, 1982, CEI directed that GE revise a December 1981 analysis report to reflect manual initiation. Id. at ¶ 11. And on August 9, 1982, based on CEI's July 20, 1982 meeting with the NRC Staff, CEI directed GE to return GE's SLCS design to manual. Id. at ¶ 13. CEI's August 13, 1982 letter to the NRC, discussed in Mr. Davidson's Affidavit, indicated that the Perry SLCS design would have automatic capability, i.e., that the design would not preclude changing the initiation mode to automatic if that were required by the ATWS rule. Only with additional equipment and hardware changes could the system be automatically initiated.

GE forwarded preliminary modification diagrams in November 1982, but did not issue formal documentation to change its drawings until December 1983. Stead Aff. at ¶ 13. The GAI SLCS drawings were finally returned to manual configuration in February 1984. Id.

Applicants believe that the conclusion to be drawn from this factually complicated story is that Perry was not one of the plants that "have already been designed" with automatic initiation. As of the date of the rule's issuance, June 26, 1984, the FSAR and the SLCS electrical elementary drawings both showed manual initiation. While these drawings did show automatic initiation during the August 1982-February 1984 period, both the Stead and Davidson Affidavits establish that the automatic initiation design effort had been undertaken as a contingency and did not reflect Applicants' intended design.

## B. BUILT

The status of the installation of the Perry SLCS initiation is detailed in the Affidavit of Gary Leidich. A substantial quantity of additional equipment would be required to make the Perry SLCS automatically initiated. Leidich Aff. at ¶¶ 4, 6. Virtually none of the wiring to accomplish this was ever installed. Id. at ¶ 4. The key-locked switches controlling SLCS initiation, already installed in the control room, would have to be replaced. Id.

Although the Redundant Reactivity Control System ("RRCS") panels as installed are the standard GE Alternate 3A design and do include certain printed circuit cards and memory chips which would be a part of an automatic initiation feature, this control logic was never connected to the plant instrumentation that would generate the signals to automatically initiate SLCS; nor was it ever connected to the SLCS system (i.e., the pumps and valves) itself. Id. at ¶ 4-5.

Thus, as of June 26, 1984, the system was not already built to include automatic initiation. Indeed, it was being built as a manually initiated system. Id. at ¶ 7.

## III. CONCLUSION

Based upon the Affidavits of Messrs. Davidson, Stead and Leidich, Applicants submit that the Perry SLCS was neither already designed nor already built to include automatic initiation. Applicants believe that the uncontradicted evidence shows that the SLCS was designed and has been built to include manual

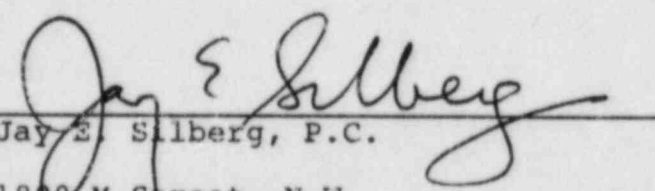
initiation. While OCRE may quarrel with the ATWS rule itself by arguing that it might be easy or inexpensive to convert the Perry SLCS to automatic initiation,<sup>2/</sup> the rule itself is clear and unambiguous. Unless the Perry SLCS has already been designed and built to include automatic initiation, Applicants are authorized to use their manual initiation.

With the record now developed on this issue, the appropriate action by the Licensing Board should be to dismiss Issue No. 6 from this proceeding.

Respectfully submitted,

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<sup>2/</sup> See OCRE Reply to Applicant and NRC Staff Responses to OCRE's Motion for Summary Disposition of Issue No. 6, dated August 3, 1984, at 3-5.