September 7, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF
GARY R. LEIDICH
ON AS-BUILT STATUS
OF SLCS INITIATION

STATE OF OHIO)
: ss
COUNTY OF LAKE)

Gary R. Leidich, being duly sworn, deposes and says as follows:

1. I, Gary R. Leidich, am General Supervising Engineer, Nuclear Construction Engineering Section, of The Cleveland Electric Illuminating Company. My business address is 10 Center Road, Perry, Ohio 44081. In my position, I have responsibility for all engineering activities to support construction, including the engineering activities to support construction of the Standby Liquid Control System ("SLCS"). A summary of my professional qualifications and experience is

attached hereto as Exhibit "A." I have personal knowledge of the matters set forth herein and believe them to be true and correct.

2. In general terms, the SLCS consists of a storage tank for boron solution, a test water tank, two pumps (SLCS Pumps C001A and C001B), two motor operated pump suction valves (Storage Tank Outlet Valves F001A and F001B), two explosive operated injection valves (squib valves F004A and F004B), associated local valves, piping, instrumentation and controls. Except for the controls, there would be no differences in the configuration of the SLCS whether its initiation mode were manual or automatic. The controls which would be used to manually initate SLCS are the two key-locked switches, C41A-S01A and C41A-S01B, which are located in Control Panel 1H13-P601 (the ECCS benchboard).

3. The controls for an automatically initiated SLCS would be in addition to that for the manually initiated system. In general terms, automatic initiation would involve bringing the appropriate plant status indications (i.e., temperature, pressure) from the plant to the control system logic and sending appropriate activating signals from the control system logic to the SLCS pumps and valves. The control system logic for automatic initiation was built into the Redundant Reactivity Control System ("RRCS") panels (control room panels 1C22P001 and 1C22P002). The RRCS panels are the standard General Electric ATWS panels and include all Alternate 3A

features, including automatic initiation. The automatic initiation capability is provided in a few of the plug-in printed circuit cards and memory chips which are incorporated in the RRCS panels. These panels were installed in the control room in early 1984.

4. The RRCS panels themselves cannot automatically initiate SLCS. To convert to automatic initiation, considerable additional equipment would have to be built into the plant. This includes the following circuits:

Circuit Designation	From Control Room Panel (1H13P) or Motor Control Center (1R24S)	To Control Room Panel
C22AXX010	1H13P601	1C22P001
C22AXX012	1H13P601	1C22P001
C22AXX014	1H13P601	1C22P001
C22AXX018	1H13P601	1C22P002
C22AXX110	1H13P632	1C22P001
C22AXX111	1H13P632	1C22P001
C22AXX112	1H13P632	1C22P001
C22AXX113	1H13P632	1C22P001
C22AXX114	1H13P632	1C22P002
C22AXX115	1H13P632	1C22P002
C22AXX116	1H13P642	1C22P001
C22AXX117	1H13P642	1C22P001
C22AXX118	1H13P642	1C22P002
C22AXX119	1H13P642	1C22P002
C22AXX120	1H13P642	1C22P002
C22AXX124	1H13P632	1C22P002
C22AXX125	1H13P632	1C22P002
C22AXX126	1H13P632	1C22P002
C41AXX012	1H13P632	1H13P601
C41AXX018	1H13P632	1H13P713E
C41AXX019	1H13P642	1H13P710A
C41AXX021	1H13P601	1H13P702B
C41AXX022	1H13P601	1H13P642
C41AXX023[1]/	1H13P601	1H13P632

1/ This cable had been placed in floor duct prior to issuance of FDDR No. KLI-964 (see para. 6 below), but not terminated at either end.

C41AXX026	1H13P601	1H13P702E
C41AXX029	1H13P601	1H13P702E
1C22B7A	1R24S018	1H13P713E
1C22B8B	1R24S023	1H13P710A
1C22C54A[2/]	1R24S018	1H13P713E
1C22C55A	1R24S018	1H13P713E
1C22C58B[2/]	1R24S023	1H13P710A
1C22C59B	1R24S023	1H13P710A

Additional relays would also be required:

Designation	Location (Control Room Panels)
C41A-K3A	1H13P632
C41A-K4A	1H13P632
C41A-K5A	1H13P632
C41A-K6A	1H13P632
C41A-K3B	1H13P642
C41A-K4B	1H13P642
C41A-K5B	1H13P642
C41A-K6B	1H13P642

Pump switches C41A-S01A and C41A-S01B which now have an 8 contact configuration would have to be replaced by a 10 contact size. Except for the cables mentioned in footnotes 1-2, none of these additions or replacements were ever installed at Perry.

5. As noted above, the installed RRCS panels included automatic initiation capability. This was in accordance with the statement in a letter from CEI to GE (H.L. Hrenda and H.A. Putre to R.C. Mitchell, dated August 9, 1982, Exhibit "B" hereto) that the manual initiation feature "should not be incorporated on the [RRCS] panels prior to delivery," but that

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2/ These cables were pulled from the motor control center to the control room and terminated at both locations. They were never connected to the appropriate control panel. They are now identified as spares.

GE should perform its work so that the change to manual initiation "can be made after equipment delivery." This was done to avoid delays in delivery which could impact construction and fuel load schedules.

6. Because GE had not yet revised the electrical elementary drawings to reflect manual initiation, CEI on July 22, 1983 directed GE to issue the appropriate documentation to assure that equipment needed for automatic initiation was not installed in Perry. Exhibit "C" hereto. GE's Field Disposition Disposal Request ("FDDR") No. KLI-964, originated October 20, 1983, was issued as a result. Exhibit "D" hereto. Except for the circuits identified in footnotes 1-2, which were installed before FDDR No. KLI-964 was issued, and the RRCS panels, none of the SLCS automatic initiation equipment was ever installed.3/

3/ The statement in an internal CEI memorandum dated September 28, 1983 that GE had been requested to prepare an FDDR "to remove the cables that were involved with automatic initiation" (Exhibit "E" hereto), meant that the cables should be removed from the drawings and did not indicate that the cables had already been physically installed.

7. As of the date on which the final ATWS rule was issued (June 26, 1984), the SLCS installation was essentially complete. Installation of the manual initiation feature is at least 90% complete; all circuits are installed and only a few circuits have not been terminated. On August 27, 1984, SLCS subsystem C41A was turned over by Construction to Nuclear Testing. On July 31, 1984 SLCS subsystem C41B was turned over. This permits manual testing of the SLCS from the motor control centers. Thus, as of the date the ATWS rule was issued, the Perry SLCS was already being built as a manually initiated system.

8. Based on the facts set forth in this affidavit, the SLCS cannot be considered to have been built to include automatic initiation.

Gary R. Leidich

Gary. R. Leidich

Subscribed and sworn to before
me on this 7 day of September, 1984.

Patricia G. Dedek

Notary Public

My Commission Expires:

PATRICIA G. DEDEK, Notary Public
STATE OF OHIO (Lake County)
My Commission Expires April 16, 1985