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JAMES W. TAYLOR
General Manager

August 5, 1986

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PRIORITY ROUTING
FILE

Mr. James B. Keppler, Regional Administrator
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

SUBJECT: Scram Reduction, La Crosse Boiling Water Reactor

We have been concerned over the frequency of scrams at the La Crosse Boiling Water Reactor which, on the average, occur more frequently here than at other boiling water reactors around the country. The La Crosse reactor, as you know, is a highly sensitive "hair-triggered" reactor designed to a one out of two scram logic which, at the time of its design, was considered a safe option. Today, we register concern over frequent challenges to the plant safety and shutdown system.

An analysis of the eighteen scrams which occurred in the past eighteen months of operation has been made by the plant staff. In this instance, I felt it appropriate to share with you an internal communication from the plant manager to me in response to a request for details on the scram causes. The memorandum speaks for itself.

I want to point out that several actions have been taken and are being taken to correct aging hardware systems, frequent component failures, and causes of personnel error. We have on order at the present time new nuclear instrumentation to replace the one-out-of-two scram logic with two-out-of-four in the power to flow circuit. We expect to install the new instrumentation during the next refueling outage. A new static inverter has been ordered on an expedited basis to arrive in time for replacement during the current outage for repair of the shutdown heat removal piping. Maintenance items are being addressed. Protection of scram solenoids exposed to moisture or other contaminants is being reviewed. The training agenda will be modified to address personnel errors, and continued surveillance of scram causes will be maintained from here.

On other matters, I'm happy to report resolution of our contentions with the State of Iowa Office of Disaster Services. We have successfully negotiated an understanding of their responsibilities and obligations and our willingness to support financially the services provided by the Iowa State Government for nuclear emergency services.

AUG 7 1986

Our entire training program is ready for accreditation review by INPO weeks head of schedule and, we believe, in a complete and acceptable form.

We have reorganized the upper management level here at Dairyland, creating an Operations Division and a Technical and Engineering Services Division out of the former Power Group and System Engineering Group. John P. (Jack) Leifer will head the Operations Division, and the Nuclear Plant Manager will report directly to him on administrative and operational matters. The Plant Manager will continue to report to the General Manager on all regulatory and INPO matters. This means that the General Manager will continue his overview of the nuclear plant from both a regulatory and operational standpoint with day to day details being handled by the Assistant General Manager for Operations, Jack Leifer.

At some time in the near future, we will request a management meeting with you, and we will come to Glen Ellyn to review LACBWR operations and directions. At that time, you will have an opportunity to meet new people who are directly involved with our nuclear operations.

If you have any questions, comments, or concerns regarding the contents of this communication, please let us hear from you. We will respond promptly with the best information available at that time.

Sincerely,

James W Taylor

JWT/ajm

Attachment

cc: John A. Zwolinski
Zack Pate, INPO

DAIRYLAND POWER COOPERATIVE

MEMORANDUM

August 1, 1986

TO: Jim Taylor, DPC General Manager
Joe Thie, LACBWR SRC Chairman

FROM: John Parkyn, LACBWR Plant Superintendent JP

SUBJECT: Analysis of the Past 18 Months of Scrams at the La Crosse Boiling Water Reactor

I have reviewed the last 18 months of scrams at LACBWR and initiated a data base computer program for future review of a five-year history of scrams at LACBWR and what sort of hardware modification would preclude their occurrence. It should be emphasized that in some cases there are other methods besides hardware modifications which present an alternative path to the hardware modification, however; to determine what would be necessary regardless of practicality, hardware applications only were considered.

The conclusions are that of the 18 scrams in the last 18 months (rate of 12 per year):

- 4 incidents could have been avoided by the installation of nuclear instrumentation as currently being constructed by General Electric for the La Crosse Boiling Water Reactor and approved as a 1986 capital expenditure. Delivery is scheduled for September of 1986 and installation for March or April 1987. The scrams were caused both by personnel error and by instrumentation spiking on the one out of two logic.

- Removing partial scrams will eliminate four of the scrams in the last 18 months. This is a licensing activity combined with the some hardware modification which will cause an alarm in the Control Room when a low gas or low oil indication is received on a single control rod rather than automatic shutdown. This will require operator evaluation and either repair or eventual plant shutdown for repair. One of these scrams could also potentially be eliminated by covering terminal strips. The schedule for removal of the partial scram function is the 1987 Refueling Outage.

- Two scrams have been caused by the 1A Static Inverter which is the remaining inverter at LACBWR having an electro-mechanical transfer switch between its principle and backup source. A new 1A Static Inverter with a static transfer switch which should not only reduce the frequency of transfers between the principle and backup source but make them scram-free should they occur is currently being purchased. Installation is planned for August 1986 depending on delivery.

wpl.2.40

In summary, actions are currently underway at LACBWR to deal with 11 of the 18 scrams by hardware replacement or modification. Once this is accomplished, our next priority will be to review feedwater pump control (2 of the remaining 7scrams) and to analyze the results of studies on aging of scram solenoids (an additional 2 out of 7 scrams). This will leave the cause of three scrams during the last 18 months not under consideration for any additional hardware modification. One of these (trip of offsite breaker) has already had hardware modifications. Another (slow transfer of a breaker to a 2400 volt bus) can only be dealt with through the routine breaker maintenance program and one (burnout of SK19 relay) cannot be dealt with practically.

As you can see, we have a very intensive program underway and we are very optimistic that with the completion of the modifications already contracted for the plant and the follow-up on the remaining two issues that we can significantly, by the end of 1987 Refueling Outage, reduce our scram frequency.

JDP/lam

cc: T-5h
Reading

DATE	EVENT	PREVENT
04/21/85	CHANNEL 6 DOWNSCALED TOO SOON ON MANUAL SHUTDWON	REPLACE NUCLEAR INSTRUMENTATION
07/26/85	SPIKE ON NI CHANNEL 5 WHEN RANGE SWITCH UPSCALED	REPLACE NUCLEAR INSTRUMENTATION
05/08/86	NI CHANNEL 5 SPIKE IN 1 OF 2 LOGIC	REPLACE NUCLEAR INSTRUMENTATION
05/09/86	NI CHANNEL 5 TUBE FAILURE CAUSING SPIKE	REPLACE NUCLEAR INSTRUMENTATION
05/17/85	LOW GAS PRESSURE ON ROD 8 OR 12	REMOVE PARTIAL SCRAM
07/25/85	GROUNDED WIRE ON ROD 8 FALSELY INDICATED LOW GAS	REMOVE PARTIAL SCRAM
10/26/85	ROD 2 WATER LEAK SHORTED GAS PRESSURE RELAY	REMOVE PARTIAL SCRAM
01/12/86	FUSE BLOWN WHILE ADJUSTING SEAL INJECTION FLOW	REMOVE PARTIAL SCRAM OR COVER TERMINALS
05/13/86	1A STATIC INVERTER FAILURE	REPLACE 1A STATIC INVERTER
07/16/86	1A STATIC INVERTER TRANSFERRED TO BACKUP SOURCE	REPLACE 1A STATIC INVERTER
04/27/85	LOW REACTOR WATER LEVEL DURING FEEDPUMP TRANSFER	NEW FEEDWATER CONTROL SYSTEM
06/27/86	EXCESS FEEDWATER INJECTION WHILE RESPONDING TO LOW LEVEL	REPLACE FEEDPUMP CONTROL SYSTEM(SIMOP TURB CONTROL)
04/20/85	SOLENOID BURNOUT ON ROD 12	MULTIPLE LOGIC ON SCRAM SOLENOIDS
07/09/86	ROD 12 SCRAM SOLENOID COIL BURNED OUT	MULTIPLE LOGIC ON SCRAM SOLENOIDS
09/14/85	FUSE 32-1 SHORTED DURING RECORDER MAINT.	REMOVE NONESSENTIAL RECORDERS FROM VITAL POWER SUPPLIES
03/07/86	SLOW TRANSFER ON 1B 2400 VAC BUS BREAKER DURING SHUTDOWN	NONE WITHOUT MULTIPLE LOGIC ON 2400V BUSES
06/22/86	MSIV NOT FULL OPEN CIRCUIT SK19/1 RELAY FAILURE	MULTIPLE LOGIC ON MISIV CIRCUIT
10/22/85	DPC ET&M TRIPPED SUPPLY BREAKER DURING WINTERIZING	NO SAFE MODIFICATION WILL PROTECT SEPARATION OF SUPPLIES