CHAIRMAN Resource

From: bobleyse@aol.com
Sent: Tuesday, August 06, 2019 12:04 AM
To: CHAIRMAN Resource
Cc: Gaylord, Daniel
Subject: [External_Sender] request 2019-000354
Attachments: INPO Ronn K. Smith.doc; INPO Ronn K. Smith 2.doc

Attached are related letters that I sent to INPO about 11 years ago. I never received a reply to either.

Robert H. Leyse

Robert H. Leyse
P. O. Box 2850
Sun Valley, ID 83353

August 17, 2008

Ronn K. Smith
INPO
Suite 100
700 Galleria Parkway, SE
Atlanta, GA 30339-5943

Dear Ronn:

Thank you for your letter of August 4, 2008, responding to my request for INPO SER 76-84. I received your letter on August 14, 2008. There was a delay because it was addressed to my street address instead of my P. O. Box.

My feeling is that the long-standing INPO policy is OK; however, your board should consider releasing documents that are aged and insensitive. Also, when NRC references a specific INPO SER in its public documents, that specific INPO SER should then be released to the public.

Now that I have told you how to run INPO, let's get back to my narrow case. What has driven me nuts for decades is the INPO summary rejection of my NSAC/INPO SIGNIFICANT EVENT, SALEM 1, which was posted by NSAC on 12-AUG-2000. INPO, in a knee-jerk reaction, immediately (within hours) "suggested" the deletion of this entry.

I became aware of the INPO "suggestion" on 27 Aug 1980 and I told NSAC to "...send the completed form to INPO." I never knew until 3-11-82 that NSAC had trashed my NSAC/INPO SIGNIFICANT EVENT, SALEM 1.

Ronn, maybe for now, INPO may answer the following question: Is the Salem 1 event of 06-08-00 included in INPO SER 76-84?

As an aside, NRC denied my request for the stuff under FOIA. I've appealed that and we'll see what happens.

Robert H. Leyse
P. O. Box 2850
Sun Valley, ID 83353

August 29, 2008

Ronn K. Smith
INPO
Suite 100
700 Galleria Parkway, SE
Atlanta, GA 30339-5943

Dear Ronn:

In your letter of August 4, 2008, responding to my request for INPO SER 76-84, you refer to the confidentiality between INPO and it members as essential to allow the kind of extensive plant performance analysis that INPO provides.

On August 17, 2008, I agreed that the long-standing INPO policy is OK; however I suggested that your board should consider releasing documents that are aged and insensitive. I also suggested that when NRC references a specific INPO SER in its public documents, the specific INPO SER should then be released to the public.

Please refer to page 121 of Levy's book, 50 years in Nuclear Power, published during 2007 by ANS. Maybe Levy is wrong, but he describes in some detail how INPO went to Chairman NRC in disclosing its relations with PECO. "INPO finally decided to issue a very strong letter recounting past and current failures by PECO … When the INPO letter was published, it had a great impact on PECO and its top level officers."

If the NRC does not give me INPO SER 76-84 under FOIA, I'll remind the Chairman NRC that INPO, according to Levy, does not consistently regard confidentiality between INPO and it members as essential to allow the kind of extensive plant performance analysis that INPO provides.

CHAIRMAN Resource

From: bobleyse@aol.com
Sent: Monday, August 05, 2019 12:09 PM
To: CHAIRMAN Resource
Subject: [External_Sender] INPO's speedy response

I submitted my analysis around noon on August 12, 1980, and INPO worked overtime to secure its deletion. I did not find out that it had been deleted until March 11, 1982. INPO SER-76-84 likely has inferior coverage of the Leyse disclosed lightning strike at Salem 1, however NRC and INPO will not let me see INPO SER-76-84.

Robert H. Leyse

Bob — It has apparently been deleted. I retrieved this from my hard copy file.

Joe
3-11-82

ACTION:

SELECT ACTIVITY: 9

THE TITLE OF THE ACTIVITY IS:
NSAC/INPO SIGNIFICANT EVENT REPORTS (SIS)

[59] LAVALLEE 12-AUG-81 12:07 PM
NSAC/INPO SIGNIFICANT EVENT
UNIT ....SALEM 1

DOC NO/LER NO: 50-272/80-031
EVENT DATE:.......06-05-80
NSSS: ...............WESTINGHOUSE/UTILITY

EVENT DESCRIPTION:

LIGHTNING STRUCK AT THE SOUTH PENETRATION AREA OF REACTOR CONTAINMENT, CAUSING A TRANSIENT ON 7 MAIN STEAM PRESSURE TRANSMITTERS WITH TWO FAILING. THE TRANSIENT CAUSED A HIGH STEAM LINE DIFFERENTIAL REACTOR TRIP SIGNAL AND SAFETY INJECTION. LICENSEE BELIEVES THE STROKE HIT 11, AND 13 MAIN STEAM VENT PIPES WHICH EXTEND ABOVE THE PENETRATION AREA ROOF AND THE SURGE WAS CARRIED INTO THE BUILDING VIA PIPING CONNECTIONS.

OTHER MALFUNCTIONS DURING THE TRANSIENT INCLUDED:
1. OVERSPEED TRIP OF 13 AUXILIARY FEED PUMP
2. MAIN STEAMLINE ISOLATION VALVE (12MS167) DID NOT CLOSE WITHIN SPECIFIED TIME LIMITS, 3. REACTOR COOLANT SAMPLE COULD NOT BE COLLECTED WITHIN A 4 HOUR TIME LIMIT BECAUSE OF DIAPHRAGM FAILURE ON THE ACTUATOR FOR THE REACTOR COOLANT LETDOWN ISOLATION VALVE 1CV277.
THE OVERSPEED TRIP WAS CAUSED BY A BAD BROKEN LINKAGE GUIDE PIN ON THE GOVERNOR FEEDBACK LINKAGE. THE STEAMLINE ISOLATION VALVE MALFUNCTION WAS APPARENTLY A RESULT OF LOSS OF HYDRAULIC FLUID, BECAUSE AFTER THE OIL RESERVOIR WAS FILLED THE VALVE OPERATED WITHIN SPECIFICATIONS.

COMMENTS:

THE FAILED PRESSURE TRANSMITTERS HAVE BEEN REPLACED AND ARE BEING EXAMINED TO DETERMINE THE COMPONENTS THAT FAILED. THE FOLLOWING STUDIES WERE INITIATED BY PSE&G AS OF JULY 29, 1981. 1. AVAILABILITY OF SUITABLE SURGE PROTECTION EQUIPMENT, 2. EVALUATION OF IMPLEMENTING SURGE SUPPRESSORS, AND 3. ADDITIONAL DIRECT STROKE PROTECTION FOR THE OTHER PENETRATION AREAS.
INFORMATION CONTACT: ....BOB LEYSE, NSAC, 415-855-2995

Bill Lavallee — [illegible] this is not a significant event. [illegible] I should be out of the [illegible]! Suggest we send the completed form to NRC. [illegible] 27 Aug 1980

NOTE 06 FROM ROSEN TO LAVALLEE 12-AUG-80 7:19 PM
BILL, I QUESTION THE ENTRY OF THE 6-?-80 EVENT AT SALEM (LIGHTNING STRIKE) AS A SIGNIFICANT EVENT. SIGNIFICANCE SHOULD BE JUDGED AGAINST A STANDARD OF GENERIC APPLICABILITY AND OR SERIOUS CONSEQUENCES..PLEASE REPLY ON NOTEPAD TO ME....NO BIG PROBLEM BUT IF YOU AGREE I SUGGEST DELETION OF YOUR ENTRY IF DISAGREE PLEASE SAY WHY...APPRECIATE YOUR COOPERATION STEVE ROSEN

entry made of 15 Jan 1981 [illegible] p. 19 + attachment.

[illegible] 1979 LER [illegible] classification thereof dated Jan 14, 1980 and

CHAIRMAN Resource

From: bobleyse@aol.com
Sent: Saturday, August 03, 2019 12:38 PM
To: Gaylord, Daniel
Cc: CHAIRMAN Resource
Subject: [External_Sender] request 2019-000354

You say, "you may wish to narrow the scope of your request to limit the number of responsive records." My request is very narrow, and you should need very little effort to find INPO SER 76-84 because NRC Information Notice No. 85-86: Lightning Strikes at Nuclear PowerGenerating Stations references INPO SER 76-84.

You say, "Based on your description of the records you are seeking, we estimate completion of your request will be on or before August 6, 2019." I believe that I should have heard by now.

I'm sending a copy to your Chairman who may be receptive to looking into my background on this, go to GOOGLE and enter Leyse lightning.

Robert H. Leyse

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Information Notice No. 85-86: Lightning Strikes at Nuclear Power Generating Stations

SSINS No.: 6835
IN 85-86

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

November 5, 1985

Information Notice No. 85-86: LIGHTNING STRIKES AT NUCLEAR POWER GENERATING STATIONS

Addressees:

All nuclear power reactor facilities holding an operating license (OL) or a construction permit (CP).

Purpose:

This notice is provided to alert recipients of a potentially significant problem of reactor trips and instrument damage caused by lightning strikes. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to preclude a similar problem occurring at their facilities. However, suggestions contained in this notice do not constitute NRC requirements; therefore, no specific action or written response is required.

The NRC is continuing to evaluate pertinent information. Recipients of this notice will be notified of additional information or if specific actions are required.

Description of Circumstances:

A number of plant trips and instrumentation problems attributable to lightning have occurred over the past 6 years. Since solid state circuitry designs are being increasingly employed in safety related systems, the impact of lightning induced line surges on those circuits is emphasized in this notice. Descriptions of several of the more significant events are presented below. Events involving lightning strikes of switchyards and the consequential impact on power distribution systems are not covered by this notice. However, INPO SER 76-84 covers this latter subject as well as summarizing earlier INPO documents dealing with lightning strikes at nuclear power plants.

Zion Power Station Units 1 and 2

On August 17, 1979, both units tripped simultaneously during a severe lightning storm. Investigation indicated that a lightning strike in close proximity to the plant caused either a momentary surge or interruption in

the ac power supply circuits to the rod control power supply cabinets. This transient tripped the overload protection devices for the dc power supply cabinet, resulting in a power interruption to the control rod stationary gripper coils,

which caused the rods to drop into the core. The resulting high, negative flux rate initiated the reactor trip signal. Tests verified that noise induced on the ac input to one power supply would actuate the overvoltage protection trips on the main and auxiliary power supplies. In addition to the noise spikes, one Unit 2, 24-V positive power supply was damaged by the lightning strike and had to be replaced. The following corrective actions were initiated:

- The control rod system neutral was isolated from the station ground.
- The overvoltage protection trip setting was changed from 27 to 29 V.
- A low-pass filter was installed on the input to each 24-V positive power supply.
- A volt trap (a voltage suppressor circuit designed to reduce large voltage surges and noise induced by lightning strikes) was installed across the 50-ohm motor generator neutral resistor.
- A volt trap was installed across the power feed to the auxiliary power supply.
- The power feed for the auxiliary power supply was changed from the 480-V system to the control rod drive (CRD) motor generators.

Zion Unit 2 experienced additional reactor trips attributed to lightning on April 3 and July 16, 1980, before the above listed corrective actions were implemented. In these cases it was determined that the transient tripped the overload protection devices, as was the case in the trip of both units on August 17, 1979. However, no power supplies or other equipment were damaged during the latter two trips.

Again, on December 2, 1982, Zion Unit 2 reactor tripped from 100% power during an electrical storm. It was concluded that lightning induced a disturbance in the electrical system causing a reactor trip from a generator trip. Additional lightning protection for the containment building was provided and the static wire associated with the 345-kV line was isolated from the power station structural steel.

Salem Power Station Unit 1

On June 9, 1980 the reactor tripped during an electrical storm. Lightning struck at the south penetration area of reactor containment causing a transient on seven main steam pressure transmitters. Two of these pressure transmitters were damaged and had to be replaced. The transient caused a high steam line pressure differential reactor trip signal and a safety injection signal. The licensee believes the lightning strike hit main steam vent pipes which extend above the penetration area roof and the surge was carried into the building via piping connections.

Kewaunee Power Station

On August 19, 1980, two of four instrument busses lost power during an electrical storm. This resulted in a spurious safety injection (SI) actuation signal, and the unit tripped from full power. In addition to inducing the instrumentation transients, the inverter fuses were blown. These fuses were replaced, and no other evidence of equipment failure was observed.

Byron Power Station Unit 1

On July 13, 1985, when lightning struck the Unit 1 containment, the reactor tripped from approximately 11% power because of induced voltage surges in instrument and control cables in one of four containment penetration areas. The induced voltage caused failure of four rod drive power supplies, including 1 redundant pair. The failure of the redundant supplies resulted in 10 control rods dropping into the core. A power range negative-flux-rate reactor trip resulted from the rod insertion. In addition to the reactor trip, damage occurred to 30 plant instruments. The following systems were affected by the damaged instrumentation: protection channel II, one train of the 48-volt power supply for the solid state protection system, the meteorological tower, control rod drive, and loose-parts monitoring.

A review of cable routings showed that a significant common denominator existed in containment penetrations. All damaged instruments were associated with cables passing through penetrations located in one containment region. In addition to the damaged instrumentation, the lightning damaged a significant amount of security equipment.

The licensee determined that an improved lightning protection system was required to prevent recurrence of a similar incident. By installing copper conductors, external to containment, from the roof mounted lightning rods directly to ground rods in the earth, a low impedance path to ground was provided for future lightning strikes. This modification is similar to the Zion modification described above.

Arkansas Power Station Unit 2

On August 5, 1985, the reactor tripped from 100% power on a low departure-from-nucleate-boiling ratio (DNBR) signal as the result of a lightning strike transient induced in two of the core protection system channels. The licensee's followup investigation revealed no damage to the plant's electrical equipment or instrumentation measuring systems.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact the Regional Administrator of the appropriate regional office or this office.

Edward L. Jordan Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

Technical Contact: Ray S. Love, RIII
(312) 790-5593

Vincent D. Thomas, IE
(310) 492-4755

Attachment: List of Recently Issued IE Information Notices

Page Last Reviewed/Updated Friday, May 22, 2015

CHAIRMAN Resource

From: bobleyse@aol.com
Sent: Monday, August 05, 2019 9:56 AM
To: Gaylord, Daniel
Cc: CHAIRMAN Resource
Subject: [External_Sender] Re: request 2019-000354

INPO will not release the document, however it is important for all, especially NRC and INPO, to not forget this terrible case.

speedy flow of this information

The Kemeny Commission – which president Jimmy Carter formed to investigate the March 1979 accident at the Three Mile Island nuclear power plant – had recommended the following:

- The (nuclear power) industry should establish a program that specifies appropriate safety standards including those for management, quality assurance, and operating procedures and practices, and that conducts independent evaluations.
- There must be a systematic gathering, review and analysis of operating experience at all nuclear power plants, coupled with an industrywide international communications network to facilitate the **speedy flow of this information** to affected parties.

In addressing those recommendations, the nuclear power industry:

- established INPO – the Institute of Nuclear Power Operations
- charged INPO with a mission that we continue to pursue today:
  - ***To promote the highest levels of safety and reliability – to promote excellence – in the operation of commercial nuclear power plants.***

Clearly, there has been no speedy flow of lightning strike information. INPO led the charge to delete Leyse's systematic gathering, review and analysis of operating experience at Salem 1on June 8, 1980. It was not until years later that the Salem experience was addressed by the NRC and that reporting was incomplete.

In a message dated 8/5/2019 4:50:38 AM Mountain Standard Time, Daniel.Gaylord@nrc.gov writes:

> Good morning Mr. Leyse,
>
> Due to the fact that the INPO SER 76-84 is not within the purview of the FOIA office, we had to ask the Institute of Nuclear Power Operations (INPO) to send us their determination on whether the document you requested, can be released. We should be receiving their determination soon but unfortunately, as we are not aware of their current backlog, I am unable to provide you with a better estimation of when you can expect our final response. I will provide you with more updates as I receive more information.

Thank you,

DANIEL GAYLORD

FOIA ANALYST*(QualX Contractor)*

Nuclear Regulatory Commission

Location: T6-A73B Phone: 301.415.8058

Daniel.Gaylord@nrc.gov

From: bobleyse@aol.com <bobleyse@aol.com>
Sent: Saturday, August 03, 2019 12:38 PM
To: Gaylord, Daniel <Daniel.Gaylord@nrc.gov>
Cc: CHAIRMAN Resource <CHAIRMAN.Resource@nrc.gov>
Subject: [External_Sender] request 2019-000354

You say, "you may wish to narrow the scope of your request to limit the number of responsive records." My request is very narrow, and you should need very little effort to find INPO SER 76-84 because NRC Information Notice No. 85-86: Lightning Strikes at Nuclear PowerGenerating Stations references INPO SER 76-84.

You say, "Based on your description of the records you are seeking, we estimate completion of your request will be on or before August 6, 2019." I believe that I should have heard by now.

I'm sending a copy to your Chairman who may be receptive to looking into my background on this, go to GOOGLE and enter Leyse lightning.

Robert H. Leyse