CUB

CITIZENS' UTILITY BOARD

• 16 N. Carroll St., Suite 300 • Madison, WI 53703 • (608) 251-3322 • FAX (608) 251-7609 •

FREEDOM OF INFORMATION ACT REQUEST
FOIA-96-322
Rec'd 8-12-96

August 5, 1996

Mr. Russell Powell
Branch Chief FOIA/LPDR
Nuclear Regulatory Commission
Washington, D.C.
20555

Re: Freedom of Information Act Request

Dear Mr. Powell:

Pursuant to the Freedom of Information Act, 5 U.S.C. 522, as amended and 10 C.F.R. Part 9.41, the Wisconsin Citizens' Utility Board (CUB) requests the following documents:

1. Please provide any and all documents that make a specific reference to the event at the Point Beach nuclear power plant, Dockets 50-266 and 50-301, involving a gaseous ignition incident during the welding of a spent fuel cask. This event was identified by the NRC in Preliminary Notification of Event or Unusual Occurrence PNO-III-96-033 on May 28, 1996;

2. Please provide any and all documents that address the generation of explosive gases during any phase of operation of the VSC-24 system;

3. Please provide any and all documents that address the ignition of explosive gases during any phase of operation of the VSC-24 system.[1]

[1] On June 4, 1996 CUB submitted a FOIA request to the NRC requesting documents responsive to items 1-3. The NRC completed its response to CUB's June 4, 1996 FOIA, identified by the NRC as FOIA-96-244/June 10, 1996, on July 25, 1996. CUB is re-submitting its FOIA request for items 1-3 to obtain documents in the agencies possession for the period of time following the date the NRC received CUB's June 4, 1996 FOIA to the date the NRC receives this FOIA request.

4. Please provide any and all documents that address increased neutron multiplication in the fuel in a cask because of boron precipitation from a chemical reaction among the borated water and cask materials.

5. Please provide any and all documents that address the effect of a precipitate formed by a chemical reaction of zinc with acidic borated water from a spent fuel pool on fuel cladding integrity.

6. Please provide any and all documents that address the effect of a precipitate formed by a chemical reaction of zinc with acidic borated water from a spent fuel pool on the heat transfer characteristics of a VSC dry storage cask.

7. Please provide any and all documents that address the behavior of a precipitate formed by a chemical reaction of zinc with acidic borated water from a spent fuel pool under long-term exposure to neutron and gamma radiation.

8. Please provide any and all documents that address the behavior of a precipitate formed by a chemical reaction of zinc with acidic borated water from a spent fuel pool under high temperatures.

9. Please provide any and all documents that address the effect of a zinc reaction with the acidic borated water from a spent fuel pool on the characteristics of MSB anti-corrosion coatings.

10. Please provide any and all documents that address the effect of a zinc reaction with the acidic borated water from a spent fuel pool on the retrievability of spent fuel.

11. Please provide any and all documents that address the effect of a zinc reaction with the acidic borated water from a spent fuel pool on the reactor coolant system.

For purposes of this request, please consider "documents" to include reports, studies, test results, correspondence, memoranda, meeting notes, meeting minutes, working papers, graphs, charts, diagrams, notes and summaries of conversations and interviews, computer records, and any other form of written communications including internal NRC memoranda.

Pursuant to and in compliance with 10 C.F.R. 9.41 of the agency's regulations and 5 U.S.C. 552 governing requests for waiver of fees, CUB puts forth the following information.

CUB was incorporated pursuant to Chapter 181, 1979, of the

Wisconsin Statutes. CUB is exempt from Federal income tax under Section 501(c)(4) of the Internal Revenue Code. CUB is also exempt from Wisconsin franchise tax.

The restricted fund (public interest fund) is exempt from Federal income tax under Section 501(c)(3) of the Internal Revenue Code. The fund is also exempt from Wisconsin income taxes. The restricted fund (public interest fund) was established on February 1, 1981, and reorganized on April 28, 1986 to correspond to the new structure of the CUB. The fund engages in charitable, scientific, literary and educational activities on behalf of CUB.

CUB has 20,000 members who are residential ratepayers in Wisconsin. CUB represents the more than two million residential ratepayers in the state. CUB's purpose continues to be the statutory purpose set forth under sec. 199.02, Wis. Stats.:

> :...to promote the health, welfare and prosperity of all the citizens of this state by ensuring effective and democratic representation of individual farmers and other individual residential utility consumers before regulatory agencies, the legislature and other public bodies and by providing for consumer education on utility service costs and on benefits and methods of energy conservation.

CUB seeks the requested information to become informed of the causes, consequences, and remedies of and for an incident which took place on May 28, 1996 involving the use of the VSC-24 storage system for spent nuclear fuel.

CUB intends to use the information to assist in its participation in any proceedings before the NRC, before state regulatory agencies, and as part of CUB's ongoing effort to educate the public on nuclear waste storage issues in Wisconsin.

The information sought, is not, to the best of our knowledge, in the public domain. The general public in Wisconsin has displayed great interest in nuclear waste issues and have a direct interest in NRC actions regarding the VSC-24 dry cask storage system.

CUB has demonstrated its ability and commitment to inform the public on all important nuclear waste storage issues in Wisconsin. CUB provides this information free of charge through newsletters, educational pamphlets, and correspondence to its members, other residential ratepayers, legislators, and policy makers, and has neither a commercial nor a private interest in the agency records sought.

Under the amended fee waiver standard, CUB is clearly entitled to a full waiver of all search, review and duplication fees. This standard calls for such a waiver, "if disclosure of the information is in the public interest because it is likely to contribute significantly to the public understanding of the operation or

activities of the government and is not primarily in the commercial interest of the requester." 5 U.S.C. 552 (1)(4)(A)(iii).

In light of the foregoing, CUB meets this standard on its face. CUB has no commercial interest in this matter, but rather seeks this information to help the general public better understand the role of government in regulating the nuclear industry's radioactive waste storage activities.

For the reasons cited above, CUB's request falls squarely within the Congressional intent in enacting the Freedom of Information Act and the fee waiver provision. CUB, therefore, asks that the NRC grant a full fee waiver for this FOIA request.

Thank you for your anticipated cooperation. If you have any questions in regards to this request, please feel free to contact me at your earliest convenience. Please contact me before acquiring and sending the requested information if the fee waiver is not applied.

Sincerely,

Dennis Dums
Research Director

QUESTIONS FOR WISCONSIN ELECTRIC POWER COMPANY
Related to VSC-24 Cask Loading Incident

A. **Background Information.**

1. Please provide a detailed description of the circumstances leading up to the event. If possible, please describe details on how the lid lifted, other sources of combustible materials present at the time, and other evolutions in progress in the vicinity of the cask decontamination area.

   Had there been any problems or abnormalities during fuel movement or transfer?

   Any personnel contaminations?

2. What were the characteristics of the spent fuel placed in the affected MSB? Were there any significant fuel characteristic differences compared to previous cask loadings?
   (Initial enrichments, burnups, heat generation rates, etc.)

3. What was the condition of the fuel assemblies placed in the MSB? Were there previously known leakers? What inspections were performed to verify the condition of the fuel before loading into the MSB?

4. When and how much water was drained from the MSB prior to beginning welding preparations? How was the water drained out of the MSB?

5. Were the drain and fill vents opened or closed at the time of the event?

6. Was any cover gas used to backfill the space voided by water draw-down? If so, what type?

7. What is the typical time between removing the cask from the pool to weld commencement? Is the 11 hours typical?

B. **Current Conditions/ Status**

1. What is being done to maintain "safe conditions?"

2. What actions are being taken to determine the type of explosive gas that ignited? What is the current generation rate?

3. What sort of gas sampling was done before, during and after the event?

4. What were the assumptions used to determine the 55 hour time limit for drain down....what is assumed to occupy the annulus between the MSB and the transfer cask?

B/1

5. What weld method was used? Type of shield gas?

6. What inspections/actions are planned for examining the fuel and MSB? Is there an estimate of pressure induced damage to the MSB following the event? Are there plans for sampling or monitoring the water in the MSB? What actions will be taken after the sample analyses are obtained?

C. Potential Generic Issues

1. Has Point Beach notified others? Press release?

2. Plans for notifying other vendors and licensees?

CHRONOLOGY OF RELEVANT DRY CASK OPERATIONS

ELAPSED TIME (HRS:MINS)

EVENT	LOAD #1	LOAD #2	LOAD #3
Serial #	(MSB-01)	(MSB-03)	(MSB-02)
Start MSB fill	0	0	0
MSB into SFP	1:19	4:15	1:15
Load fuel	15:19 12 hr	19.30 12.5 hr	13.57 10.7 hr
Shield lid in place	19:04	22:45	17:05
MSB breaks SFP surface	23:09	26:35	18:25
30 gal. Pump down	23:19	26:41	18:35
MSB out of SFP	23:49	27:00	19:00
Tack welds begin	36:34	37:10	29:00
Shield weld complete	42:19	42:30	*
Weld structural lid	54:19 6.5 hr	65:00 12 hr	*
Structural lid seal weld	56:04	68:00	*
Drain MSB	61:19	70:00	*

* - Not performed
MSB - Multi-Assembly Sealed Basket
SFP - Spent Fuel Pool

CHRONOLOGY OF RELEVANT DRY CASK OPERATIONS

TIME AND DATE OF EVENT

EVENT	LOAD #1	LOAD #2	LOAD #3
Serial #	(MSB-01)	(MSB-03)	(MSB-02)
Start MSB fill	0911 : 12/11/95	1800e : 5/20/96	2145 : 5/26/96
MSB into SFP	1030	2215	2300e
Load fuel	1235-0030 : 12/12	0100-1330 : 5/21	0100e-1142 : 5/27
Shield lid in place	0415	1645	1450
MSB breaks SFP surface	0820	2035	1610
30 gal. Pump down	0830e	2041	1620e
MSB out of SFP	0900	2100	1645
Tack welds begin	2145	0700e : 5/22	0245 : 5/28
Shield weld complete	0330 : 12/13	1230	*
Weld structural lid	0900-1530	2300-1100e : 5/23	*
Structural lid seal weld	1640-1715	1400e	*
Drain MSB	2145-2230	1600e-1641	*

e - Time of event not recorded; estimate based on adjacent recorded events.
* - Not performed
MSB - Multi-Assembly Sealed Basket
SFP - Spent Fuel Pool

CHRONOLOGY OF RELEVANT DRY CASK OPERATIONS

ELAPSED TIME (HRS:MINS)

EVENT	LOAD #1	LOAD #2	LOAD #3
Serial #	(MSB-01)	(MSB-03)	(MSB-02)
Start MSB fill	0	0	0
MSB into SFP	1:19	4:15	1:15
Load fuel	15:19 12 hr	19:30 12.5 hr	13:57 10.7 hr
Shield lid in place	19:04	22:45	17:05
MSB breaks SFP surface	23:09	26:35	18:25
30 gal. Pump down	23:19	26:41	18:35
MSB out of SFP	23:49	27:00	19:00
Tack welds begin	36:34	37:00	29:00
Shield weld complete	42:19	42:30	*
Weld structural lid	54:19 6.5 hr	65:00 12 hr	*
Structural lid seal weld	56:04	106:00[1]	*
Drain MSB	61:19	70:00	*

* - Not performed
MSB - Multi-Assembly Sealed Basket
SFP - Spent Fuel Pool
1 - Drained down prior to completing structural lid seal weld

B/3

TIME AND DATE OF EVENT

EVENT	LOAD #1	LOAD #2	LOAD #3
Serial #	(MSB-01)	(MSB-03)	(MSB-02)
Start MSB fill	0911 : 12/11/95	1800e : 5/20/96	2145 : 5/26/96
MSB into SFP	1030	2215	2300e
Load fuel	1235-0030 : 12/12	0100-1330 : 5/21	0100e-1142 : 5/27
Shield lid in place	0415	1645	1450
MSB breaks SFP surface	0820	2035	1610
30 gal. Pump down	0830e	2041	1620e
MSB out of SFP	0900	2100	1645
Tack welds begin	2145	0700e : 5/22	0245 : 5/28
Shield weld complete	0330 : 12/13	1230	*
Weld structural lid	0900-1530	2300-1100e : 5/23	*
Structural lid seal weld	1640-1715	0405e[1] : 5/25	*
Drain MSB	2145-2230	1600e-1641 : 5/23	*

e - Time of event not recorded; estimate based on adjacent recorded events.
* - Not performed
MSB - Multi-Assembly Sealed Basket
1 - Drained down prior to completing structural lid seal weld
SFP - Spent Fuel Pool

ISSUE STATUS AND EXIT NOTES

Item 5

Determine if appropriate attention was given to the condition of systems and components associated with dry cask evolutions, including compatability of the dry cask with spent fuel pool conditions.

I examined the licensee's overview and control of the multi- assembly stoage basket (MSB) during fabrication and upon receipt. I was verified that licensee were very involved in the oversight of fabrication by the contracted fabricators at the various fabrication sites. The licensee had essentially full time representation at the fabrication sites and documented their presence through the use of HOLD POINTS in the contruction documents. I observed that licensee representatives independently verified important parameters such as cleanliness, weld size, and material certifications. Their verifications included detailed parameters such as paint thickness. I verified that on site receipt inspection also independently verified that the casks received on site had been maintained in aquality condition. I reviewed the procedures records for using the MSB and verified quality conditions had been maintained.

I concluded that the licensee had given appropriate attention to the condition of equipment associated with the dry cask storage evolutions.

The occurrence of the event makes it clear that appropriate attention was not given to the chemical compatibility of the MSB zinc paint and the SFP boric acid conditions. Neither the designer nor the licensee forsaw the potential for the chemical reaction that occurred. Several suggestions, that might have alerted the involved parties, were available. First, the paint manufacturer's specification sheet stated that the paint was not reccommended for immersion in acids. Secondly, the licensee studied the incompatibility of the paint and SFP boric acid in a study they conducted in July 1995. The study noted the potential for a zinc borate pricipitate and possible coating on SFP fuel. Hydrogen generation was not addressed.. The study was a proactive effort and showed a good reflective atttude. Unfortunately, the study only focused on potential reactor plant effects and not on the potential effects on dry cask storage. I concluded that the problem occurred due to inadequate design review for chemical compatibility.

Item 6

Determine any potential generic implications of the event. Evaluate the technical support by the vendor for the prevention of similar events.

Preliminarily we determined the following potential generic issues as lessons learned from this event:

1. The adequacy of the chemical compatibility studies conducted during design reviews for all cask designs and facility environments should be reviewed. For cases where a detailed review was not conducted appropriate action should be taken.

B/H

2. The potential for the presence of chemical reaction residues on fuel and storage cask components currently in dry storage should be assessed. Additionally, the acceptability of any effects of the residue should be assessed for the remainder of the interim storage period.

3.

POINT BEACH QUESTIONS

For John Jankovich:

OUR AIT CHARTER ITEMS 5 &6 ARE: (5)TO DETERMINE IF APPROPRIATE ATTENTION WAS GIVEN TO THE CONDITION OF COMPONENTS AND THEIR COMPATIBILITY WITH SPENT FUEL POOL CONDITIONS AND

(6) DETERMINE ANY GENERIC ISSUES, AND
EVALUATE THE TECHNICAL SUPPORT BY SNC FOR THE PREVENTION OF SIMILAR EVENTS

The SNC inspection team should focus on items 5 and 6 and the following specific questions.

1. Did the SNC design review include a corrosion engineer. Should the designers have anticipated the Hydrogen generation in the SFP?

2. What was the design basis for the paint selection? Reference the COC pg A-2 "potential for fire and explosion should be addressed." and SER Sect 2.6. What environmental compatibility study was done? How did they address the paint specification prohibition against the use of Zinc with acid?

3. What is SNC's investigative plan for this event?

4. Was their Part 21 evaluation performed? Were we and the customers notified?

5. Was SNC aware of the licensee's concern with the effect of Zinc accumulation in the SFP (from the MSB) in July 1995. What was their assessment and action?

6. Why was the paint not considered important to safety?

7. Was SNC aware of MSB lid welding problems (moisture and blowouts) encountered at Palisades? What was their action?

8. Reportedly the paint was qualified at Oak Ridge. What were the paint qualification requirements?

9. The SAR Pgs 1-8, 1-9 state the purpose of the paint was to "protect fuel pool chemistry." What was meant by this statement.

10. Is SNC involved with the VSC-24 user's group?

NOTE for John: Wisconsin Electric is authorized by SNC to fabricate their own VSC-24's. They did so using PCC, US Tool and Die, Regal Industrial Inc (for painting), and (in the future) March Metalfab

For Charlie Haughney

1. Please arrange to have the team briefed on the VSC-17 problems with hydrogen addressed by Fawn Shillingslaw. We need to have a cohesive story on why those problems did or did not relate to the VSC-24 problem.

2. What did the NRC design review include? Was the chemical compatibility of paint/SFP water included? Does the SRP have an item on this? We expect this question after the exit. Will someone familiar with the review process be at the exit ?

3. Please have a chemist review the chemical reaction that occurred. Are there ways to mitigate/ prevent the reaction with PH control, etc.

Status of Incident Investigation
Hydrogen Burn During Loading of Third VSC-24

Investigation Scope and Status:

- Root Cause Evaluation

Main effort thus far has been data gathering and interviews. Preliminary events and causal factors chart completed (6/5). Investigation team consensus is that the root cause lies in design issues category. This is based on preliminary review of the investigation into why CZ-11 was being used as a coating for the VSC-24 internals. Additional analy. . of all causal factors is in progress.

- Source of Gas

Substantial evidence has been gathered that shows the source of gas to be hydrogen produced by Zinc-Acid reaction. No substantial evidence has been found that would prove any of the following theories directly contributed to the production of hydrogen:

Faulty Carbo Zinc 11 paint
Contamination of CZ 11 paint
Improper Application of CZ 11 paint
Radiolysis production of H2 gas
Inadvertent Introduction Combustible gas during loading process

- Welding Issues

Review of welding issues has not revealed any direct contributor to this event.

- Experience at Utilities

Palisades is considered the most relevant experience to compare. Two Consumers Power dry storage experts arrived on 6/5/96. Further analysis of differences and similarities is needed and is proceeding.

- Review of Precursors

Four Precursors have been identified:

Small burn during grinding in 2nd cask loading.
Indication of pressure build-up on 2nd cask after installation of shield lid.
Chemical evaluation of compatibility of coatings.
Visual Evidence of gas production.

An additional possible precursor is: Film/residue seen during initial filling of MSBs

Incident Investigation Process

1. Investigation Planning
    - Identify personnel involve
    - Develop a preliminary E&CF chart
    - Identify objective(s) of the Incident Investigation team
    - Identify areas requiring investigation

2. Information Collection
    - Collection of physical evidence
    - Interviewing of personnel
    - Collection of records, logs, drawings, etc

3. Determine Sequence of Events
    - Develop a detailed E&CF chart

4. Identify events causal factors/conditions
    - Barrier Analysis
    - Change Analysis

5. Identify Root Cause(s)
    - Includes identification of any "generic" causes

6. Develop corrective actions

7. Report development

POINT BEACH VSC-24 STORAGE CASK EVENT - MAY 28, 1996

DISCUSSION

- Event Followup
  - AIT Findings & Conclusions
  - Vendor Inspection Findings
  - Summary of Public Concerns
- Initial Regulatory Actions
  - Issued IN 96-34 on May 31, 1996.
  - CALs Issued June 3, 1996 to Affected Licensees (Pt. Beach, Palisades, ANO).
- Future Regulatory Actions
  - Generic Communications:
    - Cask Vendors
    - Utilities operating or planning ISFSIs
  - Modify SRP for Storage Casks

8/9

Augmented Inspection Team

Goodmorning and welcome to this exit meeting following the completion of the NRC AIT. I am Roy Caniano, Chief of the Plant Support Branch in Region III. Over the past ten days I also served as the team leader for this inspection effort. AIT INS TEAM.

~~This is the formal exit for the AIT, and as standard policy for these types~~ of special inspections, this is open for public observation. For the purpose of this meeting, the discussions of our inspection findings will be between the NRC and Point Beach. Following the discussions we will then proceed to open the floor for any questions any observers may have. To assist this effort, Jack Grobe, Deputy Division Director from Region III will facilitate that portion of the meeting.

At this time I would like to go through a round of introductions of both NRC and Point Beach staff. (INTROS...)

Thank You. Before we get started with further discussions, and for the benefit of attendees that may not be familiar with dry cask operations and the event that occurred here on May 28, Tim Kobetz, the Senior NRC Resident Inspector here will give a brief overview of the cask system utilized here at Point Beach and will briefly summarize the event. As I indicated earlier, I would appreciate that any questions arising from the summary be held until later.

(TIM'S OVERVIEW)

Jack, Team inspection. INSPECTION

Thank you Tim.
Last Thursday was the formal initiation of the AIT and the entrance meeting with Point Beach management. At that time we summarized the principle reason for the AIT which was attaining an understanding of the root cause of the hydrogen generation causing the ~~hydrogen burn~~ during the welding operation on May 28th. In addition at the entrance meeting we also discussed several other objectives of the AIT INSPECTION. These included :

In addition to the NRC staff here at Point Beach we also had several NRC staff members at the Sierra Nuclear facility in California. ~~Sierra Nuclear is the designer for the cask system used here at Point Beach.~~

We believe that over the past week and a half that we have gained a good understanding of the root cause of the event as well as an understanding of the circumstances leading up to the event. In addition,we were also able to assess, by direct observations, your initial response activities immediately following the event. As you are aware,Tim Kobetz followed the event immediately after its occurrence with additional NRC staff being dispatched from Region III, soon after we became aware of the event. Until the cask was safely moved back into the spent fuel pool NRC provided round the clock oversight.

I would now like to provide a general overview of our assessment of the event as well as the circumstances leading up to the event and your response to it. I will then turn the discussions over to each of the AIT team members introduced earlier who will provide a more detailed summarization of our findings.

Our initial evaluation of the event confirmed that there were no releases of radioactive materials from the cask following the ~~hydrogen burn~~ IGNITION and no increase in radiation levels surrounding the cask. As such there was no ~~danger to~~ employees the environment or members of the public.

13/9

Although some ~~minor~~ weaknesses were identified during recovery operations which will be discussed later, overall, your ~~response and efforts on~~ returning the cask ~~safely~~ to the spent fuel pool ~~was proper~~.

With regard to the event itself and as Tim indicated earlier, the cause of the ~~burn~~ on the welding of the third cask was ~~the result of~~ hydrogen ~~being~~ present at the location of one of the ~~spot~~ welds. The hydrogen was present as a result of the chemical reaction when the spent fuel pool water was added to the cask during loading operations. Based upon our review of the previous two cask loads we also determined that there ~~was evidence of hydrogen generation during loading of the second cask the week earlier. This resulted in a hydrogen burn on the top of the second cask without any displacement of the lid, however, which occurred with cask load number 3. There has been no evidance that any problems were evident with the loading of the first cask.~~

Although these problems were noted by several ~~Point Beach employees~~ involved in the loading of the ~~second~~ cask, there was limited followup to the occurrences in an attempt to identify the causes. Had a detailed technical review been accomplished you may have identified hydrogen was present and as such, it is quite possible that the event with the third cask could have been prevented.

At this time I would like each of the individual ~~NRC~~ staff members to summarize their inspection findings and identify any issues that will warrant additional followup. Following each summary I would request that you respond to our assessment.

Closing: Thank you for your time today. The report summarizing our findings will be issued within the next three weeks. As was indicated, there were several items still warranting followup. These will be identifieo in the inspection report.

At this time the exit meeting is concluded. I would now like to open the meeting for questions form members of the public or media. As previously indicated Jack Grobe will be facilitating that effort and at this time I would like to turn the meeting over to Jack.

Item 6 Generic Issues

Number 1. The adequacy of the chemical compatibility studies conducted during design reviews for all cask designs and facility environments should be reviewed. For cases where a detailed review was not conducted, appropriate action should be taken.

[Examples of oversights identified from this event included the generation of hydrogen from a zinc paint and borated water reaction, and the possibility of water intrusion in the lid's shielding material (in some designs)]. [This includes the study of the wetting of RX277 which occurs at Pallisades and ANO]

Number 2. The potential for the presence of chemical reaction residues and other foreign material on fuel and storage cask components currently in dry storage should be assessed. I say the "potential" for the presence of material because although it is fairly certain that these Point Beach casks have residue it is not yet clear whether other cask systems would have unanticipated materials. Additionally, the acceptability of any effects of the residue should be assessed.

Number 3. The cask evolutions introduced ionic zinc and silica into the spent fuel pool. Consequently, ionic zinc and silica were introduced into the reactor coolant system from the spent fuel pool. Although this can be controlled, the amount of zinc and silica introduced and acceptability limits should be determined. Likewise, for other cask systems any material introduced into the spent fuel pools which have a potential for entering the reactor coolant system should be assessed.

Number 4 The suitability of this paint in other nuclear applications where exposure to boric acid is a potential should be re-reviewed. We have considered the effects of hydrogen generation in containment applications but a broader review may be in order.

Number 5 The adequacy of cask cleanliness controls should be assessed generically .

[The casks were not cleaned with water before immersion and soap was introduced during the decontamination process.]

Third, I Evaluated the technical support by the vendor for the prevention of similar events.

After the event, the cask designer, Sierra Nuclear, had an operations engineer onsite to provide technical expertise and assist in the unloading of the cask. Additionally, frequent telephone conference calls were held with Wisconsin Electric staff, and Sierra Nuclear designers in California to discuss technical issues. Additionally, staff from Palisades and Arkansas Nuclear (other users of the cask) have participated in the telephone conferences. As Dr. Jankovich previously stated, Sierra Nuclear has developed a detailed investigation and action plan but also they had some deficiencies in implementing their design control process.

Consequently we consider the technical support provided by Sierra Nuclear for this event to be adequate.

NIMS ✓

CONDITION REPORT

(See Instructions on Reverse Side)

FILE T.1.4.3

Tracking # CR 95-358

Description The Carbozinc 11 coating used on the Multi-Assembly Sealed Basket has the potential to leach zinc into the SFP when immersed. Lab leachability tests have shown that a 2 day soak of the MSB could yield a SFP zinc concentration of 95ppb.

Significance (If potential operability or reportability issue, state reasons and immediately inform the RES Manager or DSS)
Zinc is a low melting point metal which is controlled by NP 3.4.16 and SO. a RCS zinc injection study at Farley resulted in an unexpected crud buildup on the fuel rods.

Corrective actions completed or in progress. (If a WO has been initiated, list the WO number.)
The significance of potentially having 95ppb zinc in the SFP is being eva... Westinghouse has no specification for SFP zinc. Low melting point meta... or critical applications were intended for direct contact with corrosion resistant metals, not systems containing corrosion resistant metals.

Recommendations Continue current investigation. This condition report is for tracking purposes. This issue will be resolved prior to placing the MSB into the SFP.

References

Initiator (Print name/date) Dennis C. Evers Dennis Evers / 7-11-95

Hand deliver to an active SRO licensed individual for continued processing

SRO Review *Note: Inform DSS immediately if either question is marked yes.*

Any systems, structures, or components inoperable? ☐ No ☐ Yes ☒ Further Evaluation Required

Is the condition reportable? (Ref. DCS 2.1.1 or 2.1.2) ☐ No ☐ Yes ☒ Further Evaluation Required

SRO (Sign/Date) 7.11.95

Place in work control center CR basket.

Shift Manager Review (Sign/Date) for 00< 7/12/95 N/A

Shift Manager Initial Review (Sign/Date)

SRO RES Assignment/Date N/A

Plant Manager Closeout Review (Sign/Date)

1552
Revision 0 06/24/94

B/10

CONDITION REPORT
CR 95-358

PAGE: 01
DATE: 07/26/95

STATUS: CLOSED UNIT: 0 SYSTEM: SF INITIATED: 07/11/95 CLOSED: 07/26/95 MSS #:
INITIATOR: DENNIS EVERS ADMINISTRATOR: SCOTT PFAFF ISSUE MANAGER: SCOTT PFAFF
NUMBER OF OPEN ACTIONS : 0 NUMBER OF CLOSED ACTIONS : 1 TOTAL NUMBER OF ACTIONS :

Multi-Assembly Sealed Basket Coating Has Potential to Leach Zinc Into the Spent Fuel Pool

DESCRIPTION:
It has been discovered that the Carbonic 11 coating used on the Multi-assembly Sealed Basket (MSB) associated with dry cask storage has the potential to leach zinc into the spent fuel pool when immersed. Lab leachability tests have shown that a two day soak of the MSB could yield a SFP zinc concentration up to 95ppb.

Significance: Zinc is a low melting point metal which is controlled by NP 3.1.1 and has the potential to form scale buildup on fuel assemblies.

NOTE: A RCS zinc injection study conducted at Farley resulted in an unexpected scale buildup on fuel rods. Westinghouse does not have a specification for SFP zinc concentrations. Chemistry is currently evaluating this potential condition. This evaluation will be completed prior to any MSB loading activities in the SFP are commenced.

STATUS UPDATE:
(07/26/95 SAP) This CR is being closed based upon the conclusions of the evaluation performed by Chemistry and Chemical Engineering (see PBM 95-0460 for details). The summary of the evaluation can be seen under evaluation #1 under this CR. The actions taken for this issue have adequately addressed the situation. This CR is being closed based upon those actions taken and completed.

SCREENED BY : SCOTT PFAFF DATE: 07/13/95
REGULATORY REPORTABLE.....(Y/N): N TS VIOLATION.....(Y/N): N 10 CFR 21.....(Y/N): N
TS LCO.....(Y/N): N OPERABILITY IMPACT PER TS.(Y/N): N JCO REQUIRED.....(Y/N): N
MSB REVIEW.....(Y/N): N SCAG.....(Y/N): N COMMITMENT.....(Y/N): N

SUPPORTING DETERMINATIONS:
This event is not a violation of any PBNP technical specifications or licensing commitment to the NRC and it is not a reportable event. Currently Westinghouse does not have any SFP specifications for zinc concentrations. An evaluation is being conducted by Chemistry to determine whether there is an actual concern regarding the buildup of zinc scale on fuel assemblies in the SFP. Pending the outcome of this investigation -- additional corrective measures may be warranted.

PENDING INFORMATION:
OPEN__: NON-OUTAGE
VEND__: VENDOR THIRD QUARTER OF 1995
PROV__: PROBLEM WAS NOT ANTICIPATED WHEN DESIGNED
CHEM__: CHEMISTRY RELATED
SYSTEM: SPENT FUEL COOLING and FILTRATION

REFERENCES: NP 3.1.1 PBM 95-0460

CR 95-358 ACTION NUMBER 1

NOTE
CREATED : 07/13/95 OPER DUE DATE: 07/31/95 PRIORITY: -100 EXTENSIONS MADE: 0
WORK DONE: SCOTT PFAFF RECEIVED: 07/19/95 CH FELICIA HENNESSY
VERIFIED : 07/26/95 FELICIA HENNESSY APPROVED: 07/21/95 FELICIA HENNESSY
SCOTT PFAFF CLOSED : 07/26/95 SCOTT PFAFF

Evaluate the potential effects that the Carbonic 11 MSB coating and leached zinc concentration in the Spent Fuel Pool may have on fuel assemblies in the Spent Fuel Pool. Determine any necessary corrective measures as appropriate.

(07/19/95 FPH) Received Action into Group: CH
Responsible Person: FPH:FELICIA HENNESSY Due Date: 07/31/95

(07/21/95 FPH) Chemistry has completed an evaluation of the use of carbozinc as a primer for the MSBs. This evaluation is documented in PBM 95-0460. The evaluation concluded that while it is acceptable to use the two MSBs which have already been painted with carbozinc, we should not use the carbozinc paint in the future unless all surfaces primed with the carbozinc paint receive a top coat of [illegible]. Several follow-up actions need to occur: 1) Chemistry needs to sample the spent fuel pool water after an MSB has been submerged in the pool. If high levels of zinc are seen, we need to ensure that the spent fuel pool is recirculated through the spent fuel pool demins until the zinc is removed. (An activity has been placed in the shutdown resolution list to ensure this happens.) 2) If high levels of zinc are seen, reactor engineering should visually inspect any previously irradiated fuel prior to reloading it in the core. 3) We need to ensure that carbozinc coated with epoxy doesn't leach and/or find a suitable alternative.

(07/21/95 FPH) Passed to SCOTT PFAFF for Verification.

(07/26/95 SAP) DLR Closure of Item.
The evaluation discussed in PBM 95-0460 have been reviewed and the recommendations and conclusions appear to be sound. An action item for Chemistry to sample the SFP after one of the carbozinc MSB has been submersed in the SFP (and prior to opening the transfer tube) to determine the zinc concentrations (and assure that they are acceptible) has been added to the Shutdown Resolution List for the fall refueling outage. No additional actions are necessary at this time. Closed.

CONDITION REPORT
CR 95-368

PAGE: ____ of ____
DATE: 07/26/96

FERENCES: PBM 95-0460

SIGNATURES	DATES
Issue Manager:	Date:
[signature]	8/6/96

NUCLEAR POWER DEPARTMENT
Screening Results

IDENTIFIER(trkid): CR 95-358

INITIATOR: DCE - DENNIS EVERS SOURCE DOCUMENT DATE: 07/[illegible]

SCREENING RESULTS:

	(Y/N)		(Y/N)
Regulatory Reportable.....	N	TS Violation.....	N
10 CFR 21.....	N	TS LCO.....	N
Operability Impact per TS.	N	JCO Required.....	N
MSS Review.....	N	SCAQ.....	N

COMMENTS SUPPORTING SCREENING DETERMINATIONS:

This event is not a violation of any PBNP Technical Specifications or licensing commitment to the NRC and it is not a reportable event. Currently Westinghouse does not have any SFP specifications for zinc concentrations. An evaluation is being conducted by Chemistry to determine whether there is an actual concern regarding the buildup of zinc scale on fuel assemblies in the SFP. Pending the outcome of this investigation -- additional corrective measures may be warranted.

REFERENCES:

NP 3.1.1

SCREENED BY	SAP - SCOTT PFAFF
DATE	07/13/95
SIGNATURE	[signature]

B/11

INTERNAL CORRESPONDENCE

NIMS — ✓

FILE T7.2-9 General

PBM 95-0460

TO: K. R. Anundson P377
R. D. Bronk
C. A. Castell P377
W. J. Hennessy
N. L. Hoefert

FROM: F. P. Hennessy
D. C. Evers
M. G. Keehan P377

DATE: July 18, 1995

SUBJECT: USE OF CARBOZINC PAINT AS A PRIMER FOR THE MULTIASSEMBLY STORAGE BASKETS

REFERENCE(S): Zinc Injection in the Primary System at the J. M. Farley Nuclear Plant, by Prince Patton, presented at the INPO Radiological Protection Managers WORKSHOP MAY 22-23, 1995

An Engineering Assessment of Zinc Addition to PWR Primary Coolant by Westinghouse Electric Corporation, SG-94-02-006, February, 1994

COPY TO: M. F. Baumann P377
A. J. Cayia
File
M. K. Conry
E. D. Schultz
R. E. Seibert

On July 14, 1995 Dennis Evers, Mark Keehan and I met to review the data which Dennis and Mark had compiled concerning the use of carbozinc paint in the spent fuel pool. Our concern stems from the fact that the levels of zinc and lead in the carbozinc paint are in excess of the levels allowed in NF 3.1.1, Chemical Contamination Control For Corrosion Resistant Alloys. We concluded that while it is acceptable to use the two MSBs which have already been painted with carbozinc, we should not use the carbozinc in the future unless all surfaces primed with the carbozinc paint receive a top coating of epoxy. (We are currently in the process of investigating the leachability of the carbozinc with an epoxy topcoat.) This memo documents our review and analysis.

The carbozinc is used to coat the Multiassembly Storage Basket (MSB) which will be immersed in the spent fuel pool. While the carbozinc outer surface of the MSB is sealed with an epoxy coating, the carbozinc on the inner surface of the MSB will be directly exposed to the acidic environment of spent fuel pool cooling water. Literature from the manufacturer of the carbozinc states that it is not intended for immersion in acidic solutions. This statement led us to conduct laboratory tests for leachability. The tests showed that an uncoated carbozinc surface will leach significant amounts of zinc into solution when exposed to simulated spent fuel pool cooling water. Calculation No. 95-0130 estimates that the level of zinc in the spent fuel pool will increase 95 ppb if the total uncoated surface of the carbozinc in the MSB is immersed in the spent fuel pool for 48 hours. While the 48 hour immersion time is much longer than we would actually expect, it is feasible that the MSB would be submerged that long.

B/12

The limits set forth in NP 3.1.1 are in terms of contaminant levels in the material to be used itself. Zinc and lead are limited to no more than 250 ppm in materials which are to be used in critical applications such as the reactor coolant system or the spent fuel pool. The level of zinc in the carbozinc paint is 25,000 ppm while the level of lead is 810 ppm. Our procedure governs both materials which will be used directly (for instance lubricants on a stainless steel compartment) as well as materials which will be used indirectly (for example, cleansers to be used on a carbon steel component which will contact secondary coolant which will then contact stainless steel components). The limits in the procedure for low melting point metals (like zinc or lead) are based on direct contact; we include these limits on materials used indirectly to be conservative. Because 250 ppm is allowable for direct contact, the 95 ppb zinc level in the spent fuel pool will not be detrimental to corrosion rates of the spent fuel pool or any components in the spent fuel pool. The lead concentration is 50 times less than the zinc concentration, lead levels in the spent fuel pool will be insignificant.

Westinghouse has no specific limits on zinc concentration in the spent fuel pool or in the reactor coolant system. In fact, one PWR (Farley) recently began injecting zinc acetate into the primary coolant system in order to reduce radiation levels in the primary system (Reference 1). In order to support the zinc addition at Farley, an engineering assessment of the effect on primary system materials was performed (Reference 2). The assessment concluded that zinc levels of 10 - 40 ppb can actually reduce corrosion rates. Farley injected zinc acetate into their primary coolant system for nine months. The zinc concentration in their primary coolant was ~ 40 ppb. While the zinc injection was successful at lowering outage dose rates, an unusually thick black scale was discovered on the fuel. While this scale has not been conclusively linked to the zinc injection, an alternate explanation has not yet been found. Until the Farley experience is fully evaluated, we certainly would not be willing to introduce zinc into the primary coolant system and subject it to high temperatures and pressure of power operation. However, zinc borate, a possible precipitate in the spent fuel pool water, is much more soluble at room temperature than at elevated temperatures. In fact, at room temperature (essentially spent fuel pool temperature), the solubility of zinc borate is 40 to 60 ppm or approximately 600 times greater than the zinc levels which would be expected due to leaching from the uncoated carbozinc on the MSB. Additionally, Farley injected zinc for nine months, whereas the zinc levels in the spent fuel pool will essentially return to zero in approximately one month due to removal of the zinc by the spent fuel pool demineralizers. Therefore, the spent fuel in the pool will be exposed to the zinc for less than 10 percent of the time that the Farley fuel was. The combination of lower temperature and reduced contact time leads us to believe that scale will not form on the fuel in the spent fuel pool and that use of the existing MSBs with the uncoated carbozinc is acceptable. To ensure that our conclusions are correct, the spent fuel pool will be analyzed for zinc prior to opening the transfer tube to insure that zinc ingress into the RCS is minimized. Additionally, any previously irradiated fuel which is exposed to zinc in the spent fuel pool will be visually inspected for unusual scale.

These mitigating actions are sufficient to allow use of the two MSB's whose internal surfaces are uncoated carbozinc. However, use of the uncoated carbozinc is not acceptable in the long run for two reasons. First, until the scale on the Farley fuel is conclusively explained, zinc should continue to be treated as an undesirable contaminant which should be minimized. Secondly, a 95 ppb level of zinc in the spent fuel pool will cause us to exhaust ≈ 2.2 percent of our spent fuel pool demineralizer. This resin is both expensive to replace and expensive to dispose of. Additionally, using the demins to remove the zinc from the spent fuel pool prior to refueling outages will limit our ability to use that same demineralizer to remove contaminants from the RWST. Coating all carbozinc surfaces with epoxy or finding a suitable alternative primer will allow us to eliminate this logistical problem and extend the life of our demins.

T.P. Kennedy D.C. Cross M.G. Beck

cjm

Report # 96-317 (assigned by QAS)

Nuclear Power Business Unit

WORK MONITORING REPORT

Route Original to Site QAS
QAS to copy: J. Scheinoha
J. Palmer, E. Schultz, S. McGinty
T. Jessessky, J. Thorgersen
File: Q1.1.1

Observer: Sean P. McGinty Date: 5/22/96 Shift: 1 Location of Activity: PAB Truck Access Decontamination Area

Group Observed	Work Document(s)	Functional Area Process #	Observation Program:
MTN	WO # 9604669		Group Job Observation (GJO)
	Other RP-7 Part 6	L.98	Management Job Observation (MJO)
			Work Monitoring Report (WMR) X

Activity(s) Observed:
Welding the shield lid during the second MSB loading.

Remarks: (Note: Remarks should provide detail for each general attribute rated below.)

.2, G.5) At the beginning of my shift, Maintenance had installed the automatic welding rig and inserted the shims around the shield lid. The welders began by verifying the proper centering of the welding rig relative to the ID of the MSB. They also verified the correct witch lineup on the welding machine. Although they did not have a procedure that specified this switch lineup, they set up the machine orrectly based on their knowledge of the process and then verified it by consulting with the welding engineer. After these checks they neasured an arc on the MSB and timed the travel of the welding rig through the arc to verify proper torch travel speed. They reported a neasured speed slightly less than twenty inches per minute. Based on this speed the welding engineer told them to set their voltage to 31 olts and to observe a current limit of 350 amps. The welding engineer had this information on a hand written note which he had xtracted from a verified table available in the welder's toolbox with the welding procedures. The welders then welded a test bead p ately ten inches long on a test coupon placed on top of the shield lid. All of their equipment operated properly within the eq parameters during this test.

.2) The welders used the automatic welding machine to place tack welds about two inches long at each of the eight joints where the him segments met. Once they finished the tack welds, the welders used a pair of pliers to break off the tabs that held the shims in place.

.2, 5.2, 15.3) With the shims securely in place to serve as a backing ring, the two welders set up the welding machine for the root pass. They began the pass at about the 180° position. As they started the pass, the current rose to approximately 360 amps. The welder perating the welding machine immediately recognized that he had exceeded his allowable current and adjusted it to 325 amps. This took ive or six seconds and resulted in an area of the weld that had noticeable porosity. Maintenance documented this nonconformance on CR 6-357. After completing the weld pass, one of the welders removed this area of the weld with a hand grinder. This welder reported to he welding engineer that he observed a flame under the grinding wheel which went out when he stopped grinding. The welders oncluded that residual solvent from cleaning and decontaminating the MSB caused the flame and resumed work. The observers outside he decontamination area could not see the flame because the MTC and MSB shell blocked their line of sight. After grinding welded over this section using the automatic welding machine.

.2) Following NDE of the root pass, the welders finished welding the shield lid using three passes with the automatic welding machine. They remained within their required parameters throughout these passes.

Key Words: (Key words or phrases to be entered into WMR database for word search.)

SFSI, MSB, Welding, CR 96-357, S-P-96-02

Acceptable Attributes	Deficient Attributes:
.5 Exceptional Performance:	2.0 Minor, Quickly Corrected Items
.0 Fully Acceptable: G.5, 2.2, 15.3	3.0 Less Significant Deficiency: (CR/QCR Generation Necessary) 5.2
.0 Finally Acceptable:	4.0 Significant Deficiency: (CR/QCR Generation Necessary)

8F-1500
rvision 5 09/07/95

CPW

5/13

ATTRIBUTES

Work Planning	Rad Protection	Organization	Test Control
B. [illegible]duling	R.2 Surveys	1.2 Independence	11.2 Test Results
B.3 Job Coordination	R.3 Contamination Controls	QA Program	11.3 Test Evaluation
B.4 Parts Availability	R.4 RWP Adherence	2.1 Worker Quality	11.4 Test Qualification
B.5 Job Pre-Staging	R.5 Access Control	2.2 Craftsmanship	11.6 Post-Maintenance Testing
Chemistry	R.6 Protective Clothing	2.3 Training	M&TE Control
C.1 Sample Points	R.7 ALARA	2.4 QA Requirements	12.1 Calibration
C.2 Lab Practices	R.8 Radwaste Reduction	Design Control	12.2 Calibration Records
C.3 Chemical Control	Security	3.1 Application	Handling/Storage
C.4 Chemical Control Program	S.1 Post-Manning	3.2 Design Change	13.1 Handling
Emergency Plan	S.2 Security Equipment	3.3 Temporary Modifications	13.2 Storage
E.1 Event Classification	S.3 Ingress Control	3.4 Design Engineering	13.3 Shipping
E.2 Off-Site Interface	S.5 Escort Duties	Procurement Doc. Control	Inspection/Operat[illegible]
E.3 Drill Exercise	S.6 Vehicle Control	4.1 Purchasing	14.1 Inspection Status: General
E.4 Drill Critique	Industrial Safety	4.2 CGI Dedication	14.2 Equipment Isolation
Fire Protection	T.1 Hoisting/Rigging	4.3 Documentation Requirements	14.3 Operation Status Control
F.1 Combustible Storage	T.2 Environmental Conditions	4.4 Record Storage	Condition Reports
F.2 Emergency Lighting	T.3 Warning Devices	Inst/Proc/Drwg	15.1 Nonconformances Identified
F.3 FP Equipment Inspection	T.4 Protective Equipment/Usage	5.1 Work Instr/Proc/Drwg Adequacy	15.2 Conditions Identified
F.4 Ignition Control Permit	T.5 Scaffolding/Ladders	5.2 Work Instr/Proc/Drwg Adherence	15.3 Conditions Documented
F.5 Watch	T.6 Confined Space	Document Control	15.4 Items Segregated
F.6 Barrier Penetrations	T.7 Positions of People	6.1 Work Instr/Proc/Drwg Approval	15.5 CRs Dispositioned
General	T.8 Tools & Equipment	6.2 Work Instr/Proc/Drwg Control	Corrective Actions
G.1 Communications	T.9 Reactions of People	6.4 Document Change Control	16.1 Timely Responses
G.2 Management Oversight	T.10 Electrical	6.7 Temporary Procedure Control	16.2 Trending
G.3 Work Planning	T.11 Fall Protection	6.8 Work Closeout Documentation	16.3 Action Prevent Recurrence
G.4 Pre-Job Briefing	Rad Waste	Material Control	16.4 Response Adequacy
G.5 Self-Checking	W.1 Shipping Papers	7.1 Receipt Control	QA Records
G.6 Independent Verification	W.2 Shipping Vehicle Container	7.2 Hold/Reject	17.1 Records Complete
G.7 Shift Relief/Turnover	W.3 Transport Vehicle	ID & Control of Material	17.2 Record Storage
G.8 Logkeeping/Records	Hazardous Material	8.1 Material Traceability	Audits
G.9 Command/Control	Z.1 Spill Kits	8.2 Material Tagging	18.1 Audit Schedule
G.10 Supervisory Involvement	Z.2 Protective Clothing	Special Processes	18.2 Adequacy of Audits
G.11 Concurrent Checks	Z.3 Eye Wash	9.1 Personnel Qualification	18.3 Audit Checklist Use
G.12 Post-Job Briefing	Z.4 Asbestos Control	9.2 Procedure Qualification	General Operations
Plant Conditions	Z.5 Gas Bottle Storage	9.3 Weld Inspection	X.1 Other
H.1 Equipment Condition	Z.6 CHES System	Inspections	
H.2 Housekeeping		10.1 Inspector Independence	
H.3 PME Practices		10.2 Inspections Specified	
H.4 Seismic Storage		10.3 Inspector Qualifications	
H.5 Restoration		10.4 Acceptance Limits	
		10.5 QC Inspection	

Revised version

Wisconsin Electric
A WISCONSIN ENERGY COMPANY
231 W Michigan St., Milwaukee, WI 53203

Post-it® Fax Note 7671	Date 5-28	# of pages ▸ 2
To Jan Strasten	From M. Carpenter	
Co./Dept.	Co.	
Phone #	Phone # (414) 221-4444	
Fax # 708-515-1016	Fax #	

WS
414.221.4444
2884

From: Mary Carpenter
May 28, 1996

Wisconsin Electric suspends loading of spent fuel containers after combustible gas causes brief gas burn

TWO CREEKS, Wis. -- Loading of spent nuclear fuel into dry storage containers was suspended at Point Beach Nuclear Plant after combustible gas was detected and caused a brief gas burn during a welding procedure early this morning.

Fuel assemblies had been placed into a container and removed from the spent fuel pool. While a shield lid was being mechanically welded to the top of the container, combustible gas was detected and a brief gas burn occurred. Point Beach employees discontinued the welding procedure. No one was injured and there was no risk to the general public. The occurrence did not result in any release of radiation.

"We are conducting a thorough investigation and we will not resume loading spent fuel until we have a clear understanding of the cause of the gas burn," said Bob Link, vice president of nuclear power for Wisconsin Electric. "We will thoroughly review all of the related information to determine the root cause of this morning's occurrence."

Plant employees previously loaded two containers successfully, one as recently as last week using the same loading process. These containers are now located at the dry cask storage facility on the plant site.

Spent fuel has been safely managed at Point Beach since the plant went into operation in 1970. However, the spent fuel storage pool inside the plant is becoming full, and additional storage capacity is necessary for the continued operation of the plant.

Wisconsin Electric Power Co., a subsidiary of Wisconsin Energy Corp., provides electric natural gas and/or steam service to about 2.3 million people in southeastern Wisconsin (including the Milwaukee area), the Appleton area, the Prairie du Chien area, and portions of northeastern Wisconsin and Michigan's Upper Peninsula.

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B/14

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE PNO-III-96-033

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. The information is as initially received without verification or evaluation, and is basically all that is known by Region III staff (Lisle, Illinois) on this date.

Facility
Wisconsin Electric Power Co.
Point Beach 1 2
Two Rivers,Wisconsin
Dockets: 50-266,50-301

Licensee Emergency Classification
Notification of Unusual Event
Alert
Site Area Emergency
General Emergency
X Not Applicable

Subject: UNIDENTIFIED GAS IGNITED DURING SPENT FUEL CASK WELDING

At 2:45 a.m. (CDT) on May 28, 1996, an unidentified gas ignited inside a dry cask spent fuel storage container during initiation of welding the shield lid inside the container. The container had been loaded with spent fuel and removed from the spent fuel storage pool. The gas ignition, which was heard and observed by plant technicians, displaced the shield lid, leaving it in place but tipped at a slight angle -- with one edge about 1 inch higher than normal. The shield lid is 9 inches thick and weighs about 4,400 pounds.

The VSC-24 cask was removed from the spent fuel storage pool about 4:10 p.m. on May 27 and placed in the cask decontamination area in the auxiliary building. The cask remained filled with water, and about 30 gallons was removed to create an air space under the shield lid. A welding machine is used to weld the shield lid in place. The gaseous ignition occurred during initiation of welding, but before any welding took place.

There was no evidence of any damage to the spent fuel in the cask as a result of the gaseous ignition. Continuous air measurements in the cask decontamination area showed no measurable radioactivity. There were no injuries.

The licensee is investigating the incident and is attempting to identify the gas which ignited. After a preliminary investigation, the licensee plans to return the cask to the spent fuel storage pool for further examination. The licensee is continuing to monitor for radioactivity and combustible gases.

The NRC senior resident inspector responded to the plant site after being notified of the event and is continuing to monitor the licensee's activities. Additional inspectors are being sent to the site from the regional office.

This is the third VSC-24 cask loaded by the licensee. The other two casks have been placed on the outdoor storage pad. Each cask holds 24 fuel assemblies.

The licensee plans to issue a news release. The State of Wisconsin will be notified. The information in this preliminary notification has been reviewed with licensee management.

Region III (Chicago) was notified of this event by the resident inspector at 3:40 a.m. on May 28, 1996. This information is current as of 10 a.m. on May 28, 1996.

Contact: TIMOTHY KOBTEZ (414)755-2309
MARTIN FARBER (708)829-9605

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

May 29, 1996

MEMORANDUM TO: Roy J. Caniano, Team Leader
Augmented Inspection Team (AIT)
Point Beach Nuclear Plant

FROM: John A. Grobe, Deputy Director
Division of Reactor Safety

SUBJECT: AIT CHARTER FOR POINT BEACH DRY CASK EVENT

On May 28, 1996, a gas ignition event occurred during dry cask activities at the Point Beach Nuclear Plant. Based on discussions with the Offices of Nuclear Reactor Regulation, Nuclear Materials Safety and Safeguards, and Analysis and Evaluation of Operational Data, and on initial inspection findings regarding the event, an AIT has been chartered in accordance with NRC Inspection Manual Chapter 0325 (e.g., significant or unexpected system interaction).

Attached for your implementation is an AIT Charter for the inspection of the dry cask gas ignition event of May 28 at Point Beach. The objectives of the team are to identify and communicate both the facts of the event and any generic safety concerns, and to document the findings and conclusions of the onsite inspection.

Should you have any questions regarding these objectives or the attached Charter, please do not hesitate to contact me.

Attachment: AIT Charter

cc w/att: J. M. Taylor, EDO
J. L. Milhoan, OEDO
H. L. Thompson, OEDO
H. J. Miller, RIII
A. B. Beach, RIII
W. L. Axelson, RIII
G. E. Grant, RIII
C. D. Pederson, RIII
W. T. Russell, NRR
R. E. Zimmerman, NRR
J. W. Roe, NRR
G. H. Marcus, NRR
C. J. Paperiello, NMSS
W. D. Travers, NMSS
C. J. Haughney, NMSS
E. J. Leeds, NMSS
E. L. Jordan, AEOD
R. J. Barrett, AEOD
B. C. McCabe, OEDO
A. J. Kugler, LPM/NRR
A. G. Hansen, LPM/NRR
T. J. Kobetz, SRI

B/16

Augmented Inspection Team Charter - Point Beach Nuclear Plant

Examine the circumstances surrounding the dry cask ignition event at the Point Beach Nuclear Plant on May 28, 1996, including but not limited to the following:

1. Develop and validate a chronological sequence of events and activities for the dry cask evolution, detailing events just prior to and immediately after the gas ignition.

2. Compare this sequence of events to other dry cask loading evolutions at Point Beach to identify any anomalies associated with this particular load.

3. Evaluate the licensee's actions during and following the event; including their immediate response to the event, implementation of emergency plans and procedures, event reporting, followup actions, and management response.

4. Evaluate the extent of the licensee's analysis and determination of the root cause for the event, including potential source(s) of hydrogen generation, and the initial evaluation of appropriate corrective actions.

5. Determine if appropriate attention was given to the condition of systems and components associated with dry cask evolutions, including compatibility of the dry cask with spent fuel pool conditions.

6. Determine any potential generic implications of the event. Evaluate the technical support by the vendor for the prevention of similar events.

7. Evaluate the adequacy and appropriateness of radiation protection precautions taken by the licensee as part of the dry cask loading activity.

8. Evaluate the radiation protection consequences of the event to both the plant staff and the general public.

INTERNAL
CORRESPONDENCE

PBM 96-0320

To: C. A. Castell B. D. O'Connell S. A. Pfaff S. J. Zepplin

From: G. J. Maxfield

Date: May 29, 1996

Subject: INCIDENT INVESTIGATION II 96-01
BRIEF COMBUSTIBLE GAS BURN DURING DRY STORAGE CONTAINER SHIELD LID WELDING

Copy To: R. E. Link W. B. Fromm T. C. Guay G. J. Maxfield
J. G. Schweitzer R. D. Seizert T7.4.3

At approximately 0245 hours on Monday, May 28, 1996, during initiation of welding the shield lid inside the third dry fuel storage container, an unidentified combustible gas briefly ignited. The ignition slightly cocked the shield lid. Continuous air measurements in the cask decontamination area showed no measurable radioactivity. There were no personnel injuries as a result of this event. An initial activity plan focused on notification of the NRC resident inspector; determination of immediate reporting requirements; identification and monitoring of the source of the gas; removal of the shims and replacement of the shield lid; and preparations for returning the loaded container to the spent fuel pool.

I would like you to participate on an incident investigation team to review this event. The scope of the investigation should include:

- Determination of the root cause(s) of this event using TapRoot root cause techniques.
- Identification of the source of the gas.
- A review of welding procedures, processes, and work practices, including purging during welding as is the normal practice for primary side welding activities, positioning of the person performing the welding and sampling for combustible gases.
- An evaluation of operating experience at other utilities using the VSC-24 multi-assembly sealed basket and with CarboZinc coating.
- A review of precursors to this event. The precursors may include, but not be limited to previous evaluations of the protective coating and experiences during the loading of the previous two containers.

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Mr. Castell is appointed chairman of this incident investigation team. It is anticipated that the scope of this investigation will not need to be more broad then detailed above; however, should the team believe that the scope needs to be changed, this should be discussed with me. I anticipate that this investigation can be completed by Friday, June 7, 1996,

The investigation should follow the instructions provided in procedure NP 5.3.3, "Post-Incident Critique and Investigation." Thus, your team will prepare a report of your investigation for me, and will present your report to the Manager's Supervisory Staff. The report should be prepared by Friday, June 14, 1996.

G. J. Maxfield
Plant Manager

U.S. NUCLEAR REGULATORY COMMISSION
Region III Office of Public Affairs
801 Warrenville Road, Lisle IL 60532-4351

NEWS ANNOUNCEMENT: RIII-96-21 May 29, 1996
CONTACT: Jan Strasma 708/829-9663
Angela Dauginas 708/829-9662
E-mail: opa3@nrc.gov

NRC SENDS AUGMENTED INSPECTION TEAM TO REVIEW GASEOUS IGNITION INCIDENT IN SPENT FUEL CASK AT POINT BEACH NUCLEAR PLANT

The Nuclear Regulatory Commission staff is sending an Augmented Inspection Team to the Point Beach Nuclear Power Station to review the unexpected burning of a combustible gas during the welding of a lid on a spent fuel storage cask early Tuesday.

The Point Beach plant, located near Two Rivers, Wisconsin, is operated by Wisconsin Electric Power Company.

The storage cask had been loaded with 24 spent fuel assemblies and moved from the spent fuel storage pool at the plant to an adjacent work area.

As technicians began welding a 4,400-pound lid on the container, combustible gas inside the container ignited. Pressure from the burning gas moved the lid slightly, leaving it about one-inch out of place. The cask was filled with water at the time of the incident with a small air space at the top.

The utility stopped the welding procedure and is now investigating the cause of the gaseous ignition. Air monitors showed there was no release of radioactivity from the container, and there is no evidence of damage to the spent fuel. No one was injured in the incident.

Both reactors at the Point Beach plant were operating at the time and were not affected by the incident.

Members of the NRC inspection team will join the NRC Senior Resident Inspector who went to the plant early today Tuesday to monitor the utility's activities. The team members are from the NRC's Region III office in Lisle, Illinois, and the NRC's Headquarters in Rockville, Maryland.

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The team will review the incident and monitor the utility's investigation.

At the completion of its onsite review, the inspection team will present its findings to utility representatives in a meeting which is open to public observation. The schedule and location of the meeting will be announced later.

A written report of the inspection findings will be issued several weeks after the conclusion of the inspection.

This was the third spent fuel storage cask loaded at the Point Beach facility. The other two were loaded without incident and placed on an outdoor storage pad.

# # # # #

Post-it® Fax Note 7671 | Date 5-29 | # of pages 2
To L Garrett | From Dave
Co./Dept. | Co
Phone # | Phone #
Fax # 69-6301 | Fax #

CUB CITIZENS' UTILITY BOARD
• 16 N. Carroll St., Suite 300 • Madison, WI 53703 • (608) 251-3322

2 pgs

FOR IMMEDIATE RELEASE

EXPLOSION ROCKS NUCLEAR WASTE SILO AT POINT BEACH NUCLEAR PLANT

1ST RADIOACTIVE WASTE STORAGE EXPLOSION IN U.S.

WEPCO CLOSES ABOVE-GROUND NUKE DUMP 2ND TIME IN FIVE MONTHS

A gas explosion inside a high-level nuclear waste silo at Wisconsin Electric Power Company's (WEPCO) Point Beach Nuclear Plant has closed Wisconsin's first above-ground nuclear waste dump for the second time in five months.

"This is the first radioactive waste storage explosion at a U.S. nuclear plant," said David Merritt, Executive Director of the Citizens' Utility Board (CUB). "It's time for WEPCO to stop experimenting with nuclear waste on Lake Michigan," said Merritt.

According to the Nuclear Regulatory Commission (NRC) initial report, at 2:45 a.m. on May 28th, an unidentified gas ignited inside a fully-loaded cask of nuclear waste containing 14 tons of spent fuel rods causing an explosion. The explosion occurred just prior to the welding of the 9 inch thick cask lid that weighs about 4,600 pounds. The explosion inside the cask lifted the 2 ton lid, leaving it tipped at an angle with one edge 1 inch higher than normal. There were no injuries.

WEPCO has suspended further loading of nuclear waste casks until it can determine the cause of the accident and whether any spent fuel rods were damaged by the explosion. Each 18 foot high cask is loaded with 14 tons of radioactive waste, including 170 pounds of plutonium. Each loaded silo contains the equivalent radioactivity of 240 Hiroshima-type explosions. According to Federal guidelines, the waste must be kept safe for 10,000 years.

On December 26, 1995, Dane County Circuit Court Judge Mark Frankel shut down the nuclear waste dump for the first time. Judge Frankel ruled that the Public Service Commission's (PSC)

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environmental impact statement was fatally flawed because it failed to consider how long waste may need to be stored in Wisconsin and did not properly evaluate economic energy alternatives. The PSC on May 20th issued its new order reopening the dump. CUB will likely file a lawsuit challenging the PSC's new order. WEPCO has placed two nuclear waste loaded casks on the outdoor storage pad prior to Tuesday's accident.

"WEPCO said a nuclear waste storage explosion could never happen," said Merritt. "It's one more reason to keep our Lake Michigan shoreline from becoming a defacto permanent nuclear waste dump," concluded Merritt.

CUB will be asking for an immediate PSC investigation and an order reversing their recent decision to reopen the dump.

###

For more information, contact: David Merritt (608)-251-3322.

NRC AIT ENTRANCE MEETING
MAY 30, 1996

Attendance

Wisconsin Electric Power Company

R. E. Link	Vice President-Nuclear Power (by telecon)
G. J. Maxfield	Manager-PBNP
G. M. Krieser	Manager-Industry & Regulatory Services
S. A. Patulski	Manager-Nuclear Engineering
A. J. Cayia	Production Manager
W. B. Fromm	Manager-Site Engineering
D. D. Schoon	Manager-Chemistry
M. F. Baumann	Manager-Nuclear Fuel Services
J. A. Palmer	Manager-Maintenance
P. B. Tindall	Manager-Health Physics
T. C. Guay	Manager-Regulatory Services
J. A. Holmes	Training Coordinator
E. J. Epstein	Acting General Supervisor-Health Physics
T. J. Jessessky	Senior Project Engineer-Site QA
T. G. Malanowski	Senior Project Engineer-Licensing
F. A. Flentje	Regulatory Specialist

Root Cause Evaluation Team

C. A. Castell (Team Leader)	Senior Engineer-Licensing
S. A. Pfaff	Senior Engineer-Operating Experience
S. J. Zepplin	Training Specialist
B. D. O'Connell	Senior Engineer-Systems Engineering

Sierra Nuclear Corporation

T. McNulty

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Nuclear Regulatory Commission

R. J. Caniano (Team Leader)	Chief, Plant Support Section #2, DRS, RIII
T. J. Kobetz	Senior Resident Inspector
R. Laufer	NRR Project Manager-KNPP
R. Paul	Reactor Inspector-RP, RIII
J. Davis	
C. Withee	

INTERNAL
CORRESPONDENCE

PBM 96-0329

To: W. J. Hennessy, M. F. Baumann, A. J. Cayia, C. A. Castell, E. J. Enstein

From: G. J. Maxfield

Date: May 30, 1996

Subject: NRC AUGMENTED INSPECTION TEAM (AIT)

Copy To: W. B. Fromm, P. B. Tindall, A1.4.1, G. M. Krieser, T. C. Guay, T. G. Staskal, T. G. Malanowski, G. J. Maxfield, R. E. Link

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An entrance meeting was held today between NRC and NPBU representatives for the augmented inspection team (AIT) effort which commences today and is expected to last approximately one week.

The NRC team members and areas of expertise are:

Roy Caniano (Team Leader and Chief, Plant Support Branch 2, Division of Reactor Safety, Region III).

Ron Paul (reports to Mr Caniano and will address radiation protection consequences).

Tim Kobetz (PBNP Senior Resident Inspector)

Jim Davis (NRC headquarters, Ph.D. in metallurgy, will address materials issues)

Rich Laufer (NRR Project Manager for Kewaunee Nuclear Power Plant)

Carl Withee (NRR, areas of expertise include shielding, criticality safety; will be addressing fuel issues)

Paul Narbut (former resident inspector in Region V, NRR Vendor Branch, will address vendor issues)

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The eight areas which will be the focus of the AIT, the NRC team assignment, and the WE lead individuals are:

1. Chronological sequence of events prior to and immediately after gas ignition. (Kobetz/Cayia)

2. Comparison of sequence of events to other cask loadings, identifying similarities and differences. (Withee/W. Hennessy)

3. Evaluation of actions during and following event (including EP event categories, other notifications, etc.) (Kobetz/Cayia)

4. Analysis of event (root cause evaluation) and corrective actions. (Davis/Castell)

5. Appropriate attention to system and component interfaces, including compatibility of cask with spent fuel. (Narbut/Wood)

   (Duane Schoon will address chemistry-related areas)

6. Generic implications of event, including notifications made by vendor to other users of cask. (Davis and Narbut/Baumann)

7. Adequacy of overall radiation protection precautions. (Paul/E. Epstein)

8. Radiological consequences of this event. (Paul/E. Epstein)

G. J. Maxfield
Plant Manager

05/30/96

AIT/PBNP CONTACT LIST

	NRC	PBNP	Ext #
1.	Kobetz	Cayia	6668
2.	Withee	Hennessy	6573
3.	Kobetz	Cayia	6668
4.	Davis	Castell	6132 (through 06/01) TSC-A (06/03-End)
5.	Narbut	Wood Schoon (Chem)	6317 6680
6.	Davis/Narbut	Baumann	Page or 6221
7.	Paul	Epstein	6228
8.	Paul	Epstein	6228

Other Contacts

1.	Fritzie Flentje	6221
2.	Terry Guay (Reg Services Mgr)	6430
3.	Greg Maxfield (PBNP Manager)	6212

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case
5/30/96

FOCAL POINTS OF INCIDENT INVESTIGATON:

1. Original acceptability of Coating material.
   - Consideration for contamination or mis-application.

2. Possible Burn during Cask #2 Work, while grinding shield lid Root pass weld.

3. Why was Cask #1 Different?
   Sub-item: Coating testing for CR 95-443.

4. Welding issues including: Decision to not use vacuum venting, Evaluate human performance, non-use of standard primary system practice of combustible gas checking.

5. Information from Other facilities; Palisades, ANO. "found paragon [illegible] subtle also"

6. Visual evidence of gas production.

7. Fabrication and QA Issues: Application of Coating, Procurement, Documentation, Inspection.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

May 31, 1996

NRC INFORMATION NOTICE 96-XX: HYDROGEN GAS IGNITION DURING VSC-24 MSB CLOSURE WELDING

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Independent spent fuel storage installation designers and fabricators.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to a hydrogen gas ignition event which occurred during the welding of the shield lid on a spent fuel storage cask at the Point Beach Nuclear Power Plant. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On May 28, 1996, a hydrogen gas ignition occurred during the welding of the shield lid on a VSC-24 MSB (multi-assembly sealed basket). The gas ignition displaced the shield lid, leaving it in place but tipped at a slight angle, with one edge about ~~one inch~~ 3 INCHES higher than normal.

The VSC-24 MTC (multi-assembly transfer cask), a shielded lifting device utilized to transfer the MSB loaded with spent fuel to the VCC (ventilated concrete cask) for storage, had been placed in the cask decontamination work area in the auxiliary building. Approximately 30 gallons of spent fuel pool water had been drained to facilitate shield lid welding by creating an air space below the lid. The hydrogen gas ignition occurred during the initiation of the shield lid welding, approximately 11 hours after the loaded MTC had been removed from the spent fuel storage pool.

Discussion

Following the event, gas and water samples collected from the MSB internals showed detectable levels of hydrogen in the air space beneath the shield lid and dissolved in the MSB water. The licensee then continuously purged the air space beneath the lid with nitrogen to prevent the accumulation of combustible gases, and moved the shield lid back into its original position. The MSB was then fully flooded to eliminate the air space under the shield lid, and transferred back to the spent fuel storage pool. The licensee unloaded the spent fuel assemblies and placed them in the spent fuel pool storage racks.

B/24

The MTC/MSB was subsequently moved back to the decontamination work area for further inspection as part of the licensee's investigation of the combustible gas burn. A visual examination of the spent fuel assemblies, MSB and MTC showed no evidence of damage as a result of the combustible gas ignition.

The investigation into the possible sources of hydrogen is focusing on a zinc-based coating applied to the internal surfaces of the MSB. The zinc may have reacted chemically with the acidic water from the spent fuel storage pool to produce hydrogen. A minimum boron concentration is required to be maintained, as a criticality control, in the spent fuel storage pool water at Pressurized Water Reactors (PWRs).

An NRC Augmented Inspection Team (AIT) has been formed and is on-site to investigate the event. The objectives of the AIT are to identify and communicate both the facts of the event and any generic safety concerns, and to document the findings and conclusions of the on-site inspection.

Related Generic Communications

(An optional list of other generic communications that have previously addressed the subject of the information notice.)

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact (one of) the technical contact(s) listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Brian K. Grimes, Director
Division of Operating Reactor Support
Office of Nuclear Reactor Regulation

Technical contact(s):

Attachment: List of Recently Issued NRC Information Notices

from John Jankovicz
6/3/96

SELECTION OF CARBO ZINC 11 FOR USE IN COATING MSBs

- MSBs require coating to protect the spent fuel pool from corrosion products of the carbon steel shell and internals.
- An evaluation was completed in 1990 of available coating materials that could meet VSC operational requirements.
    - Resistance to radiation.
    - Maintain intergity at relatively high 700°F temperature inside MSB.
- Using all information sources available at the time including paint vendors, operators of nuclear power plants, and relevent nuclear industry experience, zinc based inorganic coatings were selected.
    - Carbo Zinc 11
    - Dimetcote 6
- Carbo Zinc 11 was selected because it was extensively used in the nuclear industry and significant testing confirmed its performance.
- Carbo Zinc 11 was the only coating approved for use in the Palisades spent fuel pool at the time of coating selection.
- Main focus of selection involved performance in the spent fuel pool.
- Discussions with several nuclear organizations did not identify concerns with hydrogen generation due to contact with spent fuel pool water.
    - Hydrogen generation in a closed spent fuel cask filled with fuel pool water was never identified as a concern.

SELECTION OF CARBO ZINC 11 FOR USE IN COATING MSBs
(Continued)

- Until incident at Point Beach, SNC was not aware of any combustible gas concerns with the VSC.

- SNC has put together an action plan to address hydrogen generation within the MSB during loading operations.

    - Preliminary conclusion is that procedural changes will eliminate the potential for combustible concentrations of hydrogen being present during MSB closure operations.

RELEVANT DIFFERENCES IN LOADING PROCEDURES PALISADES VS. POINT BEACH

Point Beach

- Vent in shield lid closed prior to and during welding.
- 30 Gals. of water pumped out prior to welding shield lid.
  - Amount of water pumped out determined by pumping time.
- MSB #3 sat for 24 hours after pumpdown prior to start of welding.
- Appearance of loose Carbo Zinc on surface of spent fuel pool.
  - Increases potential for hydrogen generation
- Shims for shield lid installed using pneumatic tool (tighter fit).

Palisades

- Vent in shield lid open prior to and during welding.
- Slight negative pressure created in air space prior to and during welding.
- 75 gals. of water pumped out prior to welding shield lid.
  - Amount of water pumped out is measured.
- Lid welding activities started immediately after pumpdown.
- No appearance of loose Carbo Zinc on surface of spent fuel pool.
- Shims for shield lid installed by hand (looser fit).

RECOMMENDED ACTIONS TO PREVENT RECURRENCE

- Follow approach used in 13 previously successful loadings at Palisades.
- Assure loose Carbo Zinc is removed from interior of MSB.
- Pump out at least 75 gals. of water prior to welding shield lid.
  - Measure amount of water pumped out to assure accuracy.
- Keep vent in shield lid open until water is completely removed.
- Maintain slight negative pressure in air space prior to and during welding.
- Check for combustible gas in area of welding prior to start of welding.
- Start shield lid welding activities immediately after pumpdown.

From: Marissa Bailey (MGB), NMSS
To: NCD2.CH1.JAG, ARD1.ARP1.RAS1 TO: J.A. GROBE, RIII
Date: Monday, June 3, 1996 11:57 am
Subject: Draft CAL for the VSC-24

Attached, in WP5.2 format, is the draft CAL for the VSC-24 cask users. Comments from Hugh Thompson and OGC have already beer incorporated.

We did not add a sentence stating that NMSS will provide support to the Regions. If the Regions feel this is necessary, please suggest some wording. We would like to assure you that NMSS/SFPO will support the Regions in resolving the issues in the CAL.

The Office of Public Affairs at HQ is planning to issue a press release upon issuance of the three CALs. Please contact Eric Leeds at (301) 415-8540 when the CALs have been issued.

If you have any questions, please contact me at (301) 415-8531 or Eric Leeds. Thank you.

CC: NCD2.AR1.KMK, NCD2.CH1.TJK1, NCD2.CH1.MEP, EJL, CJ

B/126

6/3 9:15 am

CAL No. X-XX-XXX

Consumers Power Company
Wisconsin Electric Power Company
Entergy Operations, Inc.

SUBJECT: CONFIRMATORY ACTION LETTER

Dear Sir(s):

On June XX, 1996, representatives from NRC Headquarters, Regions III & IV and your company held a conference call to discuss your use of the Pacific Sierra Nuclear Associate's Ventilated Storage Cask (VSC)-24 system. We initiated the conference call as a result of the May 28, 1996 event at the Point Beach Nuclear Plant involving a VSC-24 spent fuel storage cask. During the Point Beach event, a hydrogen gas ignition occurred during the welding of the shield lid on a VSC-24 multi-assembly sealed basket (MSB). The gas ignition displaced the shield lid, leaving it in place but tipped at a slight angle.

The VSC-24 multi-assembly transfer cask (MTC), a shielded lifting device used to transfer the MSB loaded with spent fuel for storage, had been placed in the cask decontamination work area in the auxiliary building. Approximately 30 gallons of spent fuel pool water had been drained to facilitate welding of the shield lid by creating an air space below the lid. The hydrogen gas ignition occurred during the initiation of the shield lid welding, approximately 11 hours after the loaded MTC had been removed from the spent fuel storage pool.

Although the gas ignition caused no injuries or radiological releases and no apparent damage to the spent fuel or to the VSC components, the staff is concerned that such an event has not been evaluated and could potentially result in more severe consequences. Therefore, on May 29, 1996, an NRC Augmented Team Inspection (AIT) was formed and sent to the site to investigate the event. The objectives of the AIT are to identify and communicate both the facts of the event and any generic safety concerns and to document the findings and conclusions of the onsite inspection.

Pursuant to a telephone conversation between (names and positions of principal individuals representing the licensee) and (names and positions of principal individuals representing the NRC) on (date), it is our understanding that you have taken (or will take) the following actions prior to loading, or unloading, any spent fuel in a VSC-24 cask or placing a VSC-24 cask into the spent fuel pool:

(1) You will have assessed the potential for the generation and ignition of explosive gases during all phases of operation of the VSC-24 system;

(2) You will have compensatory actions in place to minimize the potential for the generation and ignition of explosive gases;

(3) You will have in place procedures to respond in the event of a gas ignition and the applicable personnel trained and briefed accordingly; and

(4) 14 days prior to loading, or unloading, any spent fuel in a VSC-24 cask, the applicable plant personnel will contact the Director, Division of Reactor Projects, (applicable Region).

Pursuant to Section 182 of the Atomic Energy Act, 42 U.S.C. 2232, you are required to:

1) Notify me immediately if your understanding differs from that set forth above;

2) Notify me if for any reason you cannot complete the actions within the specified schedule and advise me in writing of your modified schedule in advance of the change; and

3) Notify me in writing when you have completed the actions addressed in this Confirmatory Action Letter.

Issuance of this Confirmatory Action Letter does not preclude issuance of an order formalizing the above commitments or requiring other actions on the part of the licensee; nor does it preclude the NRC from taking enforcement action for violations of NRC requirements that may have prompted the issuance of this letter. In addition, failure to take the actions addressed in this Confirmatory Action Letter may result in enforcement action.

The responses directed by this letter are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure((s), and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

Sincerely,

_____

Regional Administrator (or designee)
(Director, NRR) (or designee)
(Director, NMSS) (or designee)

Docket No. _____
License No. _____

NOTE FOR ROY CANIANO:

Here's the draft announcement on the meeting.
Any comments?

Jan
e-mail: rjs2 Richard Jan Stiasma
phone: 708/829-9663

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- DRAFT -

U.S. NUCLEAR REGULATORY COMMISSION
Region III Office of Public Affairs
801 Warrenville Road, Lisle IL 60532-4351

NEWS ANNOUNCEMENT: RIII-96-23
CONTACT: Jan Strasma 708/829-9663
Angela Dauginas 708/829-9662
E-mail: opa3@nrc.gov

June 4, 1996

NRC SPECIAL INSPECTION TEAM TO PRESENT FINDINGS OF REVIEW OF GAS BURN IN SPENT FUEL CASK AT POINT BEACH NUCLEAR PLANT

A Nuclear Regulatory Commission Augmented Inspection Team will meet Friday (June 7) with Wisconsin Electric Power Company officials to discuss the findings of its review of a hydrogen gas burn in a spent fuel storage container May 28 at the Point Beach Nuclear Power Station. The Station is near Two Rivers, Wisconsin.

The meeting will be at 10 a.p.m. in the Two Creeks Town Hall, located at State Highway 42 and Tapawingo Road north of Two Rivers, Wisconsin.

The six-person inspection team is headed by Roy Caniano, a Branch Chief from the NRC's Region III Office. Dr. Carl Paperiello, Director of the NRC's Office of Nuclear Material Safety and Safeguards, and other NRC staff members will also attend the meeting.

The hydrogen gas burn occurred as technicians were beginning to weld a shield lid on the spent fuel storage container after it was loaded with 24 fuel assemblies. There was no evidence of damage to the storage container or to the fuel assemblies as a result of the gas burn.

The spent fuel assemblies were subsequently placed back in the spent fuel storage pool.

The investigation into the cause of the incident is focussing on a zinc-based coating used on internal surfaces of the container. The coating may have reacted chemically with the acidic water from the spent fuel storage pool to produce hydrogen.

The meeting between the NRC staff and Wisconsin Electric officials will be open to public observation. At the close of the meeting there will be an opportunity for questions and comments from members of the public.

# # # # #