IPRenewal NPEmails

From: Green, Kimberly
Sent: Wednesday, May 13, 2009 4:22 PM
To: STROUD, MICHAEL D
Subject: ACRS meeting summary
Attachments: ML091260359.pdf

Mike,

Attached is the meeting summary that is publicly available in ADAMS (ML091260359).

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Hearing Identifier: IndianPointUnits2and3NonPublic_EX
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"STROUD, MICHAEL D" <MSTROUD@entergy.com>
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

May 6, 2009

MEMORANDUM TO: Peter Wen, Senior Staff Engineer
Reactor Safety Branch – A
ACRS

FROM: Otto Maynard, Chairman
Plant License Renewal Subcommittee

SUBJECT: THE MINUTES OF THE MEETING OF THE SUBCOMMITTEE ON PLANT LICENSE RENEWAL REGARDING INDIAN POINT NUCLEAR GENERATING UNITS 2 AND 3 ON MARCH 4, 2009, IN ROCKVILLE, MARYLAND

I hereby certify, to the best of my knowledge and belief, that the minutes of the subject meeting on March 4, 2009, are an accurate record of the proceedings for that meeting.

/RA/ 5/6/09
O. Maynard Date
Plant License Renewal Subcommittee Chairman

Certified By: O. Maynard
Certified on: May 6, 2009

Issued: May 6, 2009

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MINUTES OF THE MEETING OF THE SUBCOMMITTEE
ON PLANT LICENSE RENEWAL REGARDING INDIAN POINT
NUCLEAR GENERATING UNITS 2 AND 3 ON MARCH 4, 2009

INTRODUCTION

On March 4, 2009, the Advisory Committee on Reactor Safeguards (ACRS) Subcommittee on Plant License Renewal held a meeting regarding Indian Point Nuclear Generating Units 2 and 3 (IP2 and IP3) in Room T-2B3, 11545 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss the Indian Point application for license renewal and the safety review of the application by the staff of the U.S. Nuclear Regulatory Commission (NRC). In addition to the NRC staff, representatives from Entergy Nuclear Operations, Inc. (Entergy) (the IP2 and IP3 operator and the applicant) made presentations to the Committee. The meeting was convened at 8:30 a.m. and adjourned at 3:42 p.m.

ATTENDEES

ACRS Members

Otto Maynard, Subcommittee Chairman	John Stetkar, Member
William Shack, Member	Mario Bonaca, Member
Michael Corradini, Member	John Sieber, Member
Charles Brown, Member	Harold Ray, Member
Michael Ryan, Member	Dana Powers, Member
Sam Armijo, Member	Sanjoy Banerjee, Member
Peter Wen, DFO	

Principal NRC Speakers

Brian Holian, NRR	Kimberly Green, NRR	Glenn Meyer, Region I	

Entergy Presenters

Fred Dacimo	Thomas McCaffrey	Garry Young	Alan Cox

Other Attendees

NRC Staff		ENTERGY	OTHER
S. Gardocki	D. Alley	J. Pollock	M. Fallin
N. Iqbal	J. Davis	P. Conroy	M Gallagher
B. Elliot	A. Wong	J. McCann	K. Sutton
S. Turk	R. Auluck	D. Mayer	D. Flyte
E. Wong	Z. Xi	R. Burroni	D. D'Angelo
M. Heath	S. Lee	J. Curry	D. Roth
D. Nguyen	D. Wrona	R Drake	L. Wright
S. Min	B. Lehman	B. Walpole	T. Grebei
O. Yee	B. Rogers	N. Azevedo	A. Krainik

A. Paulsen	J. Tsao	R. Rucker	R. Cliche
R. Mathew	S. Ray	M. Stroud	R. Morante
G.Thomas	H. Ashar	C. Jackson	J. Keys
R. Pearson	R. Li	T. Ivy	T. Yamada
C. Yang	J. Bosker	R. Ahrabli	R. Pearson
W. Golumbfski	J. Dozier		
J. Daily	R. Sun		
G. Muzno	A. Hiser		

The presentation slides and handouts used during the meeting are attached to the office copy of these minutes. The presentations to the Subcommittee are summarized below.

OPENING REMARKS BY CHAIRMAN MAYNARD

Chairman Maynard convened the meeting by introducing the ACRS members present. Chairman Maynard stated that the purpose of the meeting was to review the Indian Point license renewal application, the draft safety evaluation report (SER) and associated documents. He stated that the Subcommittee would hear presentations from representatives of the Office of Nuclear Reactor Regulation (NRR), and the applicant, Entergy. He said that the Subcommittee would gather information, analyze relevant issues and facts, and formulate proposed position and action, as appropriate, for deliberation by the Full Committee. The rules for participation in the meeting were announced as part of the notice of the meeting previously published in the Federal Register. Chairman Maynard acknowledged that the Committee had received written comments from Ms. Deborah Brancato of the Riverkeeper, who also requested time to make oral statements regarding this meeting. Chairman Maynard stated that he would grant Riverkeeper time at the end of the meeting to make statements.

DISCUSSION OF AGENDA ITEMS

Staff Introduction

Mr. Brian Holian, Director of Division of License Renewal in NRR, introduced the principal staff members present. He commented briefly on the schedule and the many open items in the draft SER. He explained that the extended schedule results from (1) the staff's support of the ongoing Indian Point Atomic Safety and Licensing Board hearing process and (2) the additional effort to incorporate the recommendations from the Office of the Inspector General's license renewal audit report. He stated that the large number of open items is related to the tight schedule. He then called upon the applicant's presenter, Mr. Fred Dacimo, to begin the applicant's presentation.

Applicant Presentation

Mr. Fred Dacimo, Site Vice President for Indian Point Nuclear Generating Station, introduced the Entergy team present at the meeting to support Entergy's presentation to ACRS. Mr. Dacimo then started his presentation by describing the general information related to plant location, design, current plant status, operating history, and major improvements made to the plant over the years. He stated that although IP2 and IP3 are both Westinghouse nuclear steam supply system plants, two different utilities built and operated the units, an arrangement that continued until Entergy acquired IP2 in

November 2000 and IP3 in September 2001. This unique background contributes to some differences in components between the two units in the license renewal application (LRA).

Mr. Garry Young, Manager of Fleet License Renewal for Entergy, described the license renewal project; application of NUREG 1801, the NRC's "Generic Aging Lessons Learned (GALL) Report"; and commitment process and implementation. He pointed out that the Indian Point LRA was prepared to address Revision 1 of the Standard Review Plan for License Renewal and the GALL Report, in addition to in-house and industry lessons-learned findings. Out of the 41 aging management programs (AMPs), 10 are new programs that must be developed before the period of extended operation. Mr. Young stated that Entergy has made 38 commitments in support of license renewal. The company tracks these commitments through its fleet commitment management process and periodically inspects the commitment management system to ensure its effectiveness. Mr. Young explained that Entergy is taking a fleet approach to the implementation of the AMPs and the commitments. He added that the license renewal implementation fleet manager and the site coordinator are in place to ensure implementation.

NRC Staff Presentation

Ms. Kimberly Green, the NRR Project Manager for Indian Point License Renewal, provided an overview of the staff's license renewal review. She stated that the staff found the applicant's scoping and screening methodology are consistent with the requirements of 10 CFR 54.4 and 10 CFR 54.21(a)(1). Regarding the applicant's plant-level scoping results, she stated that the applicant identified mechanical systems and structures that are consistent with the requirements of 10 CFR 54.4(a). For LRA Section 2.3, which describes mechanical systems, she stated that the staff identified three open items, which are discussed below under SER open items. For LRA Section 2.4, which deals with structures, she reported that the staff concluded that no structures or structural components had been omitted from the scope of license renewal in accordance with 10 CFR 54.4(a), and no omissions from aging management review (AMR) in accordance with 10 CFR 54.21(a)(1). For LRA Section 2.5, which describes electrical and instrumentation and control systems, she stated that the staff identified one open item, which concerns the station blackout (SBO) scoping.

Mr. Glenn Meyer, team leader of the Region I inspection team, summarized the Region I inspection findings regarding the license renewal scope and screening and implementation of the AMP. For scoping and screening inspection, he explained that the inspection objective was to confirm that the applicant has included all appropriate structures, systems, and components (SSCs) in the scope of license renewal as required by the rule. The inspection team focused its inspection on the nonsafety-related SSCs that could affect safety-related equipment. He concluded that these SSCs were implemented as required by 10 CFR 54.4(a)(2).

For implementation of the AMP inspection, Mr. Meyer reported that the inspection team reviewed 28 AMPs and performed detailed inspections of the conditions of the auxiliary feedwater system for both units and the IP2 SBO diesel generator. Mr. Meyer also noted that the inspection team identified some license renewal items that required the applicant to take corrective actions either through LRA amendment, LRA commitment, or through resolution of onsite procedure changes. These program improvements include

(1) revising the selective leaching program to include a suitable sampling approach, (2) revising the methods to monitor the non-EQ bolted connections in accordance with the interim staff guidance, and (3) adding a commitment to the containment inservice inspection program to include inspections of the containment using enhanced characterization of degradations. He observed that the applicant's license renewal activities were well performed, as described in the LRA and the onsite procedures. He stated that the inspection results support a conclusion that there is reasonable assurance that the effects of aging will be adequately managed.

Ms. Green also presented the results of the staff's review of LRA Section 3, "Aging Management Review Results," and Section 4, "Time-Limited Aging Analyses (TLAA)." She stated that pending resolution of open items (discussed further below), the applicant has demonstrated that it will adequately manage the aging effects for the period of extended operation as required by 10 CFR 54.21(a)(3) for Section 3 and 10 CFR 54.29(a) for Section 4.

SER Open Items

Ms. Green reported that the staff's draft SER, issued January 2009, contained 20 open items. Since then, the staff has been working with the applicant to resolve these open items. Ms. Green noted that the applicant provided additional information via a letter dated January 27, 2009, which allowed the staff to close 13 of the open items. The following summarizes the discussion of the remaining seven open items.

(1) Open Item 2.5-1—Station blackout scoping boundary

- Mr. Tom McCaffrey of Entergy stated that SBO scoping for IP2 and IP3 meets the requirements of 10 CFR 54.4(a)(3). He stated that the license renewal scoping includes both the primary path (the normal 138-kilovolt (kv) feeder from Buchanan Substation down to the station) and the alternate path (13.8-kv supply down to the plant). He believes that this license renewal SBO recovery boundary is in accordance with the NRC guidance (NUREG-1800) and the proposed draft NRC guidance in LR-ISG-2008-01. Member Stetkar asked why this item is still open. Mr. Holian of the NRC staff replied that the staff is still evaluating the scoping boundary criteria.

(2) Open Item 3.0.3.2.15-1—IP2 reactor refueling cavity leakage

- Mr. Rich Drake of Entergy stated that during refueling outages, the IP2 refueling cavity has experienced leakage through stainless steel liners since the late 1970s. Attempts to mitigate this condition have achieved mixed results. In response to the many questions from members, Mr. Drake provided the following information:

  – Q. What caused the leakage?
    A. The leakage was caused by pinhole leaks in plug welds and some porosity in the welds themselves.

  – Q. How was the leakage identified?
    A. The applicant observed the leaked water dripping down through construction joints or cracks from the wall into the 46-foot

elevation. The water was captured within the containment side crane wall. The leaked water was eventually collected at the containment sump and the reactor cavity sump.

– Q. What impact did the borated water have on the strength of the concrete?
A. Based on the core bore samples, the applicant has determined that the borated water has very little effect on the concrete. The borated water penetration into the concrete was determined to be less than a half-inch, but the concrete typically has over 2 inches cover the reinforcing steel.

– Q. What is the flow path?
A. The water comes through the construction cracks. It penetrates the liner through a defect, which is the space between the liner and liner butts up against the concrete wall.

– Q. What is the applicant's plan to mitigate the problem?
A. The applicant has used ceramalite coating over a large section of the identified pinhole locations but has not solved the problem.

The applicant is looking at new processes, such as those from AREVA and Westinghouse, to repair leaks in the reactor refueling cavity liner. The applicant has made a commitment (Commitment 36) to perform a one-time inspection and evaluation of a sample of the potentially affected IP2 refueling cavity before the period of extended operation.

– Q. What is the condition of the rebar?
A. The rebars were found to be in good shape. The applicant estimated that the corrosion rate in borated water is about 5 mils per year. The rebar has a cross-section of about 1/2-inch or more.

– Q. Is there an interspatial space between the refueling cavity liner and the concrete?
A. There is no trapped water in this area, as demonstrated by observation of leakage versus water level change in the refueling cavity. The geometry and the vertical walls provide positive evidence of the source of the leakage.

Chairman Maynard stated that this item will be discussed in more detail at the next meeting. He would like the applicant and the staff to talk more about the safety significance of the leak, and he asked the applicant to provide better pictures to show the flow paths at the next meeting.

(3) Open Item 3.0.3.2.15-2—IP2 spent fuel pool leak

- Mr. Rich Drake of Entergy stated that the IP2 spent fuel pool (SFP) is located in the fuel storage building, which has reinforced concrete walls with a thickness of 6 feet 3 inches thick. He noted that the SFP liner leakage was first identified in

1992. In 2005, during excavation for dry fuel storage, an exterior shrinkage crack in the concrete wall was found. In 2007, a liner leak was detected in the transfer canal. He stated that the applicant has inspected the accessible portions of the IP2 SFP, including the liner above the fuel, the transfer canal, and the CASS wash pit. He explained that all structural evaluations have concluded that the concrete and rebar remain capable of performing their license renewal intended function. He further stated that the IP2 monitoring program supports the finding that there is no current leak from the pool, and the applicant will continue to perform the aging management inspection of the SFP. This inspection includes structure monitoring program inspections, monitoring of SFP water level during every shift, and quarterly monitoring of groundwater near the SFP exterior wall.

- Ms. Green of NRR stated that the applicant does not plan to perform augmented inspections of the SFP during the period of extended operation. She also noted that the staff sent a draft request for additional information (RAI) to solicit information on how the AMP will monitor this condition during the period of extended operation.

- Member Stetkar inquired about the collection system currently installed to detect and gauge leakage emanating from the identified cracks. Mr. Drake replied that a stainless steel box was installed over the wetted crack area (because of a construction shrinkage crack) to collect and monitor any leakage emanating through this cracked area. The box has a line that goes into the primary auxiliary building, so any moisture that came out of that crack would be captured and detected. Mr. Don Mayer of Entergy provided more information on the current monitoring status. He stated that IP2 currently collects approximately 0 to 50 milliliters of water in that box per day.

- Mr. Mayer explained that the IP2 SFP does not have leak chase channels. He believes that there is an interstitial space between the stainless steel and the concrete that still holds a residual of tritiated water. This explains why the tritium level is seen to peak in the spring and then tail off.

- Mr. Drake described Indian Point's long term groundwater monitoring program, which is intended to trend and monitor the tritium level. The program consists of 40 monitoring wells, most of which are multilevel wells. Mr. Mayer added that IP2 has monitoring wells that are very close to the SFP. These wells serve as a good means of detecting a potential new leak. Member Ryan asked the applicant to bring more detailed hydrologic plume data or a map for the discussion in the full committee meeting, because a review of plume data and map information may yield insights into the behavior of the leakage.

(4) Open Item 3.0.3.3.2-1—Exterior containment concrete degradation

- Mr. Rich Drake of Entergy stated that exterior containment concrete "pop-offs" were first found at Indian Point during the 1995 IWL inspection. He explained that the pop-offs occur at locations where Cadweld joints of rebar and at attachment points used for scaffolding during construction. He stated that the observed surface degradation has no impact on the containment's ability to

perform its intended function. He reported that the degradation found has been trended and evaluated.

- Chairman Maynard asked whether the applicant has reexamined its integrated leak rate testing (ILRT) data to determine if there is any step change. Mr. Dacimo replied that Entergy has examined the ILRT data every time and found no issues.

- Member Powers asked for information regarding the ILRT results. The applicant did not have the information readily available during the meeting. Member Powers requested that the applicant bring the ILRT results for discussion in the full committee meeting.

- Member Sieber asked what the applicant has done to ensure that the Unit 1 stack (i.e., the highest feature on site) will not fall on some other portion of the plant. Mr. Drake replied that initially, when Unit 1 was the only unit, the stack was indeed the highest point of the plant. When IP2 was built, the applicant actually shortened the Unit 1 stack so that it would not contact the containment building. He observed that Entergy had added the Unit 1 stack to the license renewal structure monitoring program.

- Member Brown asked whether these pop-offs have been repaired and posed questions about their monitoring. Mr. Drake replied that the applicant has not repaired them, because if the applicant makes a cosmetic repair to them, then it will not be able to monitor them. He stated that the applicant has made a commitment to better monitor the degradation by using parallel lasers and comparing them with the previous measurements.

- Member Armijo asked about the quantities and locations of these pop-offs. Mr. Drake replied that the applicant has identified pop-offs in 41 locations in IP2 and 7 locations in IP3, with all found on the cylindrical locations and none on the dome area.

- Ms. Green of NRR stated that the staff sent a draft RAI seeking information on how the applicant will use the enhanced inspection results and the design margin calculations to ensure that no loss of intended function occurs during the period of extended operation.

(5) Open Item 3.4-1—Aging management review results for the auxiliary feedwater pump room event

- Mr. Alan Cox of Entergy explained that this open item stemmed from the applicant's aging management approach to relaying on the secondary systems that will provide alternate flow path to the steam generators during a fire in the IP2 auxiliary feedwater pump room. He stated that normal plant operation directly demonstrates the ongoing ability of the identified systems to perform their license renewal intended function. Ms. Green of NRR stated that the staff is seeking information about the components in the systems that are required to supply feedwater to the steam generators during a fire. She reported that the

applicant provided additional information in a letter dated January 27, 2009, and the staff is still evaluating the applicant's response.

- Member Stetkar asked why this issue is not applicable to IP3. Mr. Cox of Entergy replied that the IP3 auxiliary feedwater pump has a fire suppression system installed in the auxiliary feedwater pump room, whereas IP2 does not have a similar system.

- Chairman Maynard asked whether suppression at IP3 is adequate such that it is not an issue that needs to be evaluated for IP3. This issue will be discussed further during the full committee meeting.

(6) Open Item 3.5-1—Water-cement ratio for Indian Point concrete

- Mr. Rich Drake of Entergy explained that although the Indian Point containment concrete's water-to-cement ratio falls outside the range recommended in the GALL Report, it is still within the American Concrete Institute (ACI) specification range. He noted that Indian Point used ACI 318-63, which is the original code of record at the time of construction. He also stated that Indian Point used Method 2 in ACI 318-63 for testing of concrete mixtures, and the test results indicated that the compressive strength of concrete exceeded the required 3,000 psi of ACI 318-63.

- Ms. Green of NRR stated that the NRC staff is currently reviewing the applicant's response and will document the resolution of this item in the final SER.

(7) Open Item 3.5-2—Reduction of strength and modulus of concrete because of elevated temperatures

- Mr. Rich Drake of Entergy explained that this open item is related to a concern that IP2 hot piping penetrations are allowed to operate at temperatures greater than 200^{o} F. He stated that IP2 performed a plant-specific evaluation for the effects of temperatures up to 250^{o} F. The evaluation results indicated that the maximum reduction in the strength of concrete resulting from the elevated temperature is 15 percent. This reduction in strength is enveloped by the concrete structural characteristics that exceed by 20 percent the original design strength of 3,000 psi.

- Ms. Green of NRR stated that the NRC staff is currently reviewing the applicant's response and will document the resolution of this item in the final SER.

- Member Stetkar asked about the consequence of plugged vents for concrete cooling. The applicant did not have a complete answer for these questions. Mr. Drake stated that the applicant will return to the Committee with a complete response.

COMMENTS AND OBSERVATIONS FROM THE SUBCOMMITTEE MEMBERS

Reactor Vessel Integrity

- Mr. Nelson Azevedo of Entergy discussed upper-shelf energy and reference temperature for pressurized thermal shock values for IP2 and IP3 reactor vessels. He stated that the calculated limiting upper-shelf energies at the end of the extended period of operation (48.3 effective full-power years (EFPY)) for IP2 and IP3 are 48.3 ft-lb and 49.8 ft-lb, respectively. He stated that although these values are less than the screening criteria of 50 ft-lb given in Appendix G, "Fracture Toughness Requirements," to 10 CFR Part 50, they exceed the 43 ft-lb requirement of the Westinghouse Owners Group equivalent margin analysis. He also stated that the calculated limiting RT_{PTS} at the end of the extended period of operation (48.3 EFPY) for IP3 is 279.5^{o} F, which exceeds the screening criteria of 270^{o} F. Ms. Green of NRR stated that the applicant has committed in Commitment 32 to submitting to the NRC a plant-specific safety analysis for IP3 three years before reaching the RT_{PTS} screening criterion. Alternatively, the site may choose to implement the revised PTS rule when approved.

- Member Brown asked questions regarding the upper-shelf energy acceptance criteria discussed during the meeting. Mr. Barry Elliot of the NRR staff replied that Appendix G to 10 CFR Part 50 requires, in part, that the reactor vessel beltline materials must have upper-shelf energy maintained throughout the life of the vessel of no less than 50 ft-lb. If this criterion is not met, two alternative methods can be used to demonstrate acceptance—(1) Appendix K of the American Society of Mechanical Engineers (ASME) code or (2) the guidance in Regulatory Guide 1.161, "Evaluation of Reactor Pressure Vessels with Charpy Upper-Shelf Energy Less Than 50 ft-lb." He stated that the refined criterion of 43-ft-lb discussed during the meeting is derived from Regulatory Guide 1.161 and is deemed to provide a margin of safety against fracture equivalent to those required by Appendix G to 10 CFR Part 50.

- Chairman Maynard asked the staff to summarize the requirements of embrittlement and Charpy V notch test, the WCAP acceptance criterion of 43 ft-lb, and the acceptance criterion from Appendix G to 10 CFR Part 50 for review in the full committee meeting.

IP2 Containment Liner

- Mr. Rich Drake of Entergy gave a briefing on the topic of IP2 containment liner bulge resulting from a water hammer event that occurred in 1973. During that water hammer event, a pipe was cracked inside containment near the containment penetration area. As a result, the flashing steam escaped from the cracked area and impinged on the containment liner, which caused a bulge to develop. Since then, the damaged piping was repaired and liner deformation was restored, leaving a slight permanent deformation. He stated that the continuous weld channel pressurization and the containment ILRTs performed since then confirmed the liner's integrity. During the last outage, in 2008, visual inspection again confirmed that the liner is still in the "as-left" configuration.

- Member Armijo asked about liner bucking and concrete conditions. Specifically, he was concerned that the applicant had not provided sufficient information to support the conclusion of no significant damage to the concrete behind the deformed liner. The applicant did not have a complete answer for these

questions. Mr. Drake of Entergy stated that the applicant will return to the Committee with a complete response.

Flow-Accelerated Corrosion Program

- Based on the section of the staff's audit report on the Flow-Accelerated Corrosion (FAC) Program (page 13), Member Brown asked a question related to the corrective action process in the FAC Program. Mr. Azevedo of Entergy replied that IP's FAC program is based on Electric Power Research Institute guidelines in Nuclear Safety Analysis Center (NSAC)-202L, "Recommendations for an Effective Flow-Accelerated Corrosion Program." He explained that once a problem is identified, additional sampling locations will be expanded and an evaluation will be performed to ensure that the minimum required thickness is not exceeded. During the meeting, neither Mr. Azevedo nor the NRC staff addressed Member Brown's concern as to why the inspection frequency did not change for the example that he cited (the example involved a particular pipe whose minimum wall thickness was exceeded). Mr. Dacimo of Entergy stated that the applicant will review the cited document and will provide a complete response to the Committee.

Other

- Before the meeting ended, Mr. Phillip Musegaas, representing Riverkeeper, Inc, addressed the subcommittee on the following three issues: (1) metal fatigue, (2) FAC Program, and (3) severe accident mitigation alternative analysis. He stated that in November 2007, Riverkeeper filed a petition to intervene, challenging Entergy's license renewal application, and these issues are currently under review by the Atomic Safety and Licensing Board.

- Regarding metal fatigue issues, Mr. Musegaas noted that Riverkeeper's main point is more of a legal matter than a technical matter. Mr. Musegaas stated that the current calculated environmentally adjusted cumulative usage factors (CUFs) for selected representative components will exceed 1 during the extended period of operation. The applicant has claimed that it will use the Fatigue Monitoring Program to manage the effects of aging on the intended functions in accordance with 10 CFR 54.21(c)(1)(iii), and the NRC staff has agreed with this approach in its draft SER. Riverkeeper does not agree with the staff's conclusion. The organization believes that Entergy must provide an actual description of its monitoring program that clearly defines the type and frequency of its inspection to demonstrate that aging will be managed effectively. An acceptable AMP must also specify criteria for repair or replacement. It is not sufficient to merely assume that these things will happen based on a vague commitment to comply with the regulations in the future. Mr. Musegaas emphasized Riverkeeper's position that the regulations require Entergy to demonstrate that it will comply with the regulations and to provide the analysis before the NRC approves license renewal.

- Mr. Musegaas requested that, if Entergy submits revised CUF calculations for metal fatigue, Riverkeeper be given an opportunity to present to the ACRS its critique or response to the calculations.

- Regarding FAC, Mr. Musegaas stated that Riverkeeper believes that Entergy's FAC Program is inadequate to ensure proper management of the effects of FAC. He pointed out two deficiencies in the applicant's FAC program: (1) the program relies on results from the CHECWORKS computer program without re-benchmarking the program to account for the power uprates granted in October 2004 and March 2005 to IP2 and IP3, respectively, and (2) the program does not contain detailed information, such as inspection method and frequency and criteria for repair or replacement.

- Regarding severe accident mitigation alternative analysis, Mr. Musegaas stated Riverkeeper's position that the applicant's LRA seriously underestimates the potential containment bypass during a core damage accident.

- Mr. Musegaas also provided additional information about the IP2 SFP leak. He stated that two large plumes of contaminated groundwater are actually now on the site. One is primarily a tritium plume, which he believes to have originated from the IP2 SFP; this plume underlies a large portion of the site between the IP2 SFP and the Hudson River. The other large plume of groundwater contaminated with strontium-90, cesium-137, nickel-63, and other radionuclides originated from the IP1 SFP. He stated that this plume is leaking into the Hudson River through the groundwater and up into the water table.

SUBCOMMITTEE DECISIONS AND ACTIONS

Following the staff and applicant presentations and discussions, Chairman Maynard asked members if they had additional issues and concerns that needed to be discussed. Members were asked for their overall observations from the presentations. Other than those issues described above, no additional issues were identified. He then adjourned the meeting by thanking everyone for attending the meeting.

BACKGROUND MATERIALS PROVIDED TO THE SUBCOMMITTEE

1. Entergy License Renewal Application for Indian Point Nuclear Generating Unit Nos. 2 and 3, April 23, 2007.
2. Draft NRC Safety Evaluation Report with Open Items, January 2009.
3 NRC Staff Audit Report, dated January 13, 2009.
4. NRC Inspection Report 05000247/2008006 and 05000286/2008006, dated August 1, 2008.

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NOTE:
Additional details of this meeting can be obtained from a transcript of this meeting available in the NRC Public Document Room, One White Flint North, 11555 Rockville Pike, Rockville, MD, (301) 415-7000, downloading or view on the Internet at http://www.nrc.gov/reading-rm/doc-collections/acrs/ can be purchased from Neal R. Gross and Co., 1323 Rhode Island Avenue, NW, Washington, D.C. 20005, (202) 234-4433 (voice), (202) 387-7330 (fax), nrgross@nealgross.com (e-mail).

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