



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

May 11, 2010

MEMORANDUM TO: ACRS Members

FROM: Christopher L. Brown, Senior Staff Engineer */RA/*
Reactor Safety Branch A, ACRS

SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS RADIATION
PROTECTION & NUCLEAR MATERIALS SUBCOMMITTEE
MEETING, APRIL 21, 2010, ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on May 11, 2010 as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc w/o Attachment: E. Hackett
 C. Santos



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
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WASHINGTON, DC 20555 - 0001**

MEMORANDUM TO: Christopher L. Brown, Senior Staff Engineer
Reactor Safety Branch A, ACRS

FROM: Michael T. Ryan, Chairman
Radiation Protection & Nuclear Materials Subcommittee

SUBJECT: CERTIFICATION OF MINUTES OF THE ACRS RADIATION
PROTECTION & NUCLEAR MATERIALS SUBCOMMITTEE
MEETING, APRIL 21, 2010, ROCKVILLE, MARYLAND

I hereby certify, to the best of my knowledge and belief, that the minutes of the subject meeting on April 21, 2010, are an accurate record of the proceedings for that meeting.

Certified via electronic mail

/RA/

5/11/2010

Michael T. Ryan, Chairman Date
Radiation Protection &
Nuclear Materials Subcommittee

Certified: May 11, 2010
By: Michael T. Ryan

Issued: May 11, 2010

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MINUTES OF THE MEETING RADIATION PROTECTION
& NUCLEAR MATERIALS SUBCOMMITTEE
ON APRIL 21 2010, IN ROCKVILLE, MARYLAND

Revisions to SRP for Spent Fuel Dry Storage at a General License Facility (NUREG-1536)

INTRODUCTION:

The Advisory Committee on Reactor Safeguards (ACRS) Subcommittee on Radiation Protection & Nuclear Materials met in Room T-2B3 at the Headquarters of the U.S. Nuclear Regulatory Commission (NRC), located at 11545 Rockville Pike, Rockville, Maryland, on April 21, 2010. The Subcommittee was briefed by representatives of NRC's Division of Spent Fuel Storage and Transportation (SFST). The topics included Prioritization Methodology, Radiation Protection, Spent Fuel Oxidation, Damaged Fuel, and Interim Staff Guidance (ISG) - 25.

The Standard Review Plan (SRP) is used as a guidance document for SFST staff to perform a review and evaluation of Dry Storage System (DSS)/dry storage cask for use at a general license facility. In conjunction with the SRP, the SFST developed several Interim Staff Guidance (ISG) documents. The SRP has been revised to reflect and incorporate current ISGs. At the briefing, key radiation protection aspects of the cask design were discussed. These aspects included shielding features, source term, dose assessments, and accident evaluations. Staff discussed a newly developed ISG entitled, "Pressure and Helium Leakage Testing of the Confinement Boundary of Spent Fuel Dry Storage Systems." Staff also discussed how major public comments from the technical disciplines were resolved.

The Chairman for this ACRS Subcommittee was Dr. Michael T. Ryan. Mr. Christopher L. Brown was the cognizant ACRS staff engineer on this topic and served as the Designated Federal Official for this meeting. The entire meeting was open to public attendance. The Subcommittee received no written comments or requests for time to make oral statements from any members of the public concerning the subject of this meeting. This one-day meeting convened at approximately 8:30 a.m. and ended at approximately 11:45 a.m.

The detailed agenda identifying the specific presentation topics comprising this meeting can be found in Attachment 1. The presentation materials can be found in Attachment 2. Both during and following the scheduled presentations, the speakers responded to specific questions and comments from the ACRS Subcommittee members. The scope of the questions, comments, and answers thereto, and the speaker's responses thereto, have been captured in the verbatim meeting transcript. Nevertheless, as a result of Member questions and comments, and speaker responses (answers) thereto – so-called 'Qs and As', a number of follow-up actions were identified for further discussion at subsequent Subcommittee meetings. These follow-up actions will be tracked by the ACRS staff.

ACRS Subcommittee meeting transcripts can be found at the following NRC Internet website location: <http://www.nrc.gov/reading-rm/doc-collections/acrs/tr/subcommittee/>.

ATTENDEES

ACRS

M. Ryan, Subcommittee Chairman	S. Armijo, Member	D. Bley, Member
J. Sieber, Member	S. Abdel-Khalik	C. Brown, ACRS Staff

NRC Staff

R. Lorson	M. Waters	R. Parkhill
E. Thompson	D. Barto	J. Smith
Z. Li	D. Tang	M. Rahimi
M. Call	R. Eniziger	L. Campbell
J. Pearson		

SCHEDULED PRESENTATIONS

The published meeting agenda for this Subcommittee meeting called for the discussion of approximately 4 topics.

Opening Remarks by the Subcommittee Chair

Subcommittee Chairman Ryan made the opening remarks. The purpose of this meeting is to receive a follow-up briefing from the staff in the Division of Spent Fuel Storage and Transportation staff on the SRP for Spent Fuel Dry Storage at a General License Facility (NUREG-1536). The Subcommittee was briefed on February 17, 2010 in which the staff discussed cask operations and vendor designs and highlighted some of the pertinent changes made to the SRP. Today, we will hear more details about the SRP revisions; in particular, concerns raised about the risk prioritization approach and radiation protection. Also, fuel cladding integrity and ISG-25 will be discussed.

Introductory Statements

Mr. Ray Lorson, SFST Deputy Director responsible for the revisions being made to the SRP made an opening statement. Consistent with the published meeting agenda, Mr. Ron Parkhill, lead project manager, indicated that the scheduled presentations would cover carry over items from the prior ACRS briefing (2-17-10), public comments (only industry submitted), and areas of interest for future interactions with ACRS on the final SRP.

SFST Presentation

Dr. Dennis Damon discussed the new Prioritization Methodology contained in the SRP. The methodology focuses staff resources by assigning high, medium or low to items in the review procedures. He indicated that uncertainties in PRA were not a part of the scope. Further, he explained why no high priorities items were identified in Chapter 11 (Radiation Protection) and 12 (Accident Analyses). Ms. E. Thompson provided an overview on radiation protection and operations. She discussed the key radiation protection aspects of the design that are reviewed by SFST. Additionally, she discussed the fuel loading operation under site's radiation protection program. Dr. Einziger discussed spent fuel integrity; in particular, damaged fuel and cladding oxidation. He explained the definition of damaged fuel and how spent fuel could become oxidized. Damaged fuel and cladding oxidation is a criticality concern should the cask be involved in a hypothetical accident during transportation. Mr. Luis Cruz discussed ISG 25, "Pressure and Helium Leakage Testing of the Confinement Boundary of Spent Fuel Dry Storage Systems." The ISG highlights the hydrostatic pressure and leak rate tests for a cask loaded with spent fuel. In summary, Mr. Parkhill indicated that the revised SRP incorporated several ISG's, reflect current review practices, presents a new materials chapter, and incorporates a prioritized review procedures.

Major Member Comments

Chairman Ryan and Member Armijo and expressed concerns about burnup credit measurements. In the course of their review, the granting of burnup credit was found to be governed primarily by the staffs concern with potential misidentification and misloading of spent fuel assemblies. In the SRP, poolside measurements are required to verify and adjust reactor records of assembly burnups prior to the granting of burnup credit. Acceptable measurement methods are not described, but the staff indicated that poolside gamma scans could be used. It is not clear why reactor burnup records would not be acceptable without additional measurements once fuel assemblies are verified. Supplementary poolside burnup measurements should be required only if assemblies cannot be unambiguously identified, and verified. In response, the staff indicated the changed to clarify the SRP that a confirmatory measurement, which would be based on reactor records, is needed to prevent misloading of assemblies that do not meet the loading criteria for burnup credit.

Follow-up Action Items

1	Dr. Ryan asked Ms. Liz Thompson to provide a discussion on the radiation protection; in particular, during loading operations to the Full ACRS Committee.	Staff indicated that they would support this request from the Subcommittee
2.	Dr. Armijo requested the staff present a convincing argument on the need for applicant to perform burnup credit measurements.	Staff has submitted ISG-8 on burnup credit.
3	Dr. Armijo asked the staff to provide a discussion to the Full Committee on damaged fuel	Staff agreed to provide more details during the May 5, 2010 meeting. Staff will also show several photos showing clad splitting.
4	Dr. Ryan asked for a discussion of the Prioritization Methodology to the Full ACRS Committee in May.	Staff plans to discuss this methodology

Advisory Committee on Reactor Safeguards
 Updating and Risk Informing
 SRP for Spent Fuel Dry Storage at a General License Facility (NUREG-1536)

Rockville, MD

Agenda

Thursday, May 6, 2010

Cognizant Staff Engineer: Christopher L. Brown (301)-415-7111, Christopher.Brown@nrc.gov

Item	Topic	Presenter(s)	Time
1	Opening Remarks and Objectives	Dr. Michael Ryan, ACRS	8:35 - 8:40 a.m.
2	Staff Opening Remarks	Ray Lorson, SFST	8:40 - 8:45 a.m.
3	SRP Update Project and Risk-Prioritization Approach	Dennis Damon/Ron Parkhill	8:45 – 9:00 a.m.
4	Spent Fuel Oxidation/Damaged Fuel/ISG-25, other issues	Ron Parkhill	9:00 - 9:25 a.m.
5	Committee Discussion	Dr. Ryan, ACRS	9:25 - 9:30 a.m.
6	Adjourn		9:30 a.m.

NMSS/SFST Notes:

- During the meeting, 301-415-7360 should be used to contact anyone in the ACRS Office.
- Presentation time should not exceed 50 percent of the total time allocated for a given item. The remaining 50 percent of the time is reserved for discussion.
- Thirty five (35) hard copies (2 B&W slides per page) of each presentation or handout should be provided to the Designated Federal Official 30 minutes before the meeting.
- 10 full page colored copies for the ACRS members and the court reporter.