



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

March 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, FEBRUARY 17, 2010, ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on 3/8/2010 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
 M. Afshar-Tous



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March 11, 2010

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

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

SUBJECT: CERTIFICATION OF MINUTES OF THE ACRS Radiation
PROTECTION & NUCLEAR MATERIALS SUBCOMMITTEE
MEETING, FEBRUARY 17, 2010, ROCKVILLE, MARYLAND

I hereby certify, to the best of my knowledge and belief, that the minutes of the subject meeting on February 17, 2010, are an accurate record of the proceedings for that meeting.

/RA/
Michael T. Ryan,
Subcommittee Chairman

03/08/2010
Date

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

February 25, 2010

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 February 17, 2010. The Subcommittee was briefed by representatives of NRC's Division of Spent Fuel Storage and Transportation (SFST). The topics included typical spent fuel dry storage operations, regulatory and design bases of spent fuel dry storage systems, and a newly developed risk-prioritization scheme. As part of the respective review processes, the staff requested to meet with the ACRS to obtain endorsement of the SRP prior to it being approved. The staff has requested another Subcommittee meeting to discuss detailed changes to the SRP and how significant public comments received from the industry were addressed. The next scheduled Subcommittee meeting is April 20, 2010.

With assistance from Information Systems Laboratories (ISL), the SFST staff proposes to issue the SRP for Spent Fuel Dry Storage Systems at a General License Facility this year. The SRP is approximately 322 pages in length with 14 distinct technical areas (i.e., structural, materials, criticality, thermal, confinement, shielding, radiation protection, technical specifications, and quality assurance). The SRP provides guidance to SFST staff in order to review applications for a Certificate of Compliance (CoC) of a dry storage system 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. In accordance with the requirements set forth in 10 CFR 72.212, a spent fuel cask may be used to store SNF in an independent spent fuel storage installation (ISFSI) under a general license. At present, any holder of an active reactor operating license under Title 10, Part 50, of the *U.S. Code of Federal Regulations* (10 CFR Part 50) has the authority to construct and operate an ISFSI using NRC-approved cask designs under the provisions of the general license.

The Chairman for this ACRS Subcommittee was Dr. Michael T. Ryan. Mr. Christopher 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 1:30 pm and ended at approximately 5:30 pm.

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	H. Lindsay	J. Smith
Z. Li	D. Tang	M. Rahimi
M. Call	R, Eniziger	

SCHEDULED PRESENTATIONS

The published meeting agenda for this Subcommittee meeting called for the discussion of approximately 5 topics. Topic 4 related to specific discipline chapters in the revised SRP.

Opening Remarks by the Subcommittee Chair

Subcommittee Chairman Ryan made the opening remarks. He stated that the purpose of the Subcommittee meeting was to receive and information briefing from the staff. First, the Subcommittee wanted to learn more about dry cask storage operations. Second, it was to hear from the NRC staff the nature and scope of the proposed changes to SRP. Dr. Ryan noted that there would be another Subcommittee meeting in April to discuss significant comments from today’s meeting and to learn more about how public comments have been addressed. Dr. Ryan made it known that the ACNW&M has heard presentations from SFST on burnup credit and PRA for spent fuel storage cask and is familiar with portions of the subject area. Further, he mentioned that consultant John Barton will be assisting the Committee with the review of the SRP.

Introductory Statements

Mr. Mike Waters, the SFST Branch Chief responsible for the revisions being made to the SRP, also made an opening statement. Consistent with the published meeting agenda, Mr. Waters noted that the scheduled presentations would cover background and history of dry storage. Additionally, regulatory framework, SRP Chapters updated, the risk prioritization scheme used, key stakeholder comments, and Identify areas of interest for future interactions with ACRS on the final SRP. Note that a brief introduction was also made by Mr. Ray Lorson, Deputy Director, SFST.

SFST Presentation

Mr. Waters discussed the licensing and certification process for spent fuel storage facilities and spent fuel dry cask storage systems. He also showed and explained typical dry cask loading operations in practice in the United States and various cask designs being used at utility/ISFSIs sites.

Mr. Ron Parkhill, lead project manager for the revisions and updates being made to the SRP discussed the regulatory basis and general performance criteria for storage casks. He also introduced each chapter of the SRP that was revised. The chapters are as follows: General Description, Principal Design Criteria, Structural, Thermal, Shielding, Criticality, Confinement, Materials, Operating Procedures, Acceptance Tests, & Maintenance, Accident Analyses, Radiation Protection, and Technical Specifications. Mr. Parkhill indicated that the goal for updating the SRP was to ISGs, include procedures to reflect current review practices, and add risk-informed review procedures. After explaining the review priorities (i.e., high, medium, and low) he turned over the presentation to the technical leads for each chapter. The technical leads briefly explained their respective chapters and explained what was added, revised or removed from their respective chapters. In summary, the staff indicated that the SRP is a better document since several guidance documents have been added along with a new materials chapter. Also, the new risk-informed and prioritized review procedures are suppose to improve the SRP. Mr. Waters indicated that resolution of public comments is currently underway.

Member Comments

Staff stated that the risk insights are qualitative and to some degree they don't know the probability of a design basis accident happening. The regulation is deterministic in nature concerning design basis events. After this statement was made, Dr. Abdel-Khalik indicated that his concern is that these qualitative approaches may really miss the need for step changes in technology. Example: going from vacuum drying to forced-flow drying. He said that this was done at some point because vacuum drying proved to be ineffective at a given heat load. He posed the question as to how does SFST capture this in a qualitative sense? In response, Mr. Waters said that the staff would obviously look at the proposed operation and performance of the drying system will sufficiently dry fuel without exceeding limits. He further said that staff does not have any data on performance of the system since it is a new system. Operational data on some of these evolving technologies are used by the staff. Staff has an expectation that applicants will have corrective action programs in place and these Part 50 licensees when they load these casks if a problem arises with a new system or NRC inspections.

Dr. Bley asked that the staff to qualitatively convince him that it's reasonable that there would be nothing of high priority in accident analysis and radiation protection? In response, staff found that a bit confusing. Note that the shielding section might address this issue since it pertains to staff activities. The staff plans to review this issue and the characterization used in the risk-prioritization scheme in April.

Follow-up Action Items

1	Staff should consider removing the wording "risk-informed." When staff uses the wording "risk-informed" they mean prioritizing it.	Staff indicated that they would look at this request from the Subcommittee
2.	Dr. Armijo requested several documents to support information in the materials chapter relating to clad splitting	Staff has submitted the documents and Dr. Armijo is currently reviewing the documents.
3	Dr. Bley provided an overall since that the risk Prioritization Methodology is not clear. Requested the risk prioritization sheets from ISL.	Staff agreed to provide more details during the April 20, 2010 meeting. Staff will also send over sheets.
4	Mr. Sieber asked about staff's response to the public comments; in particular, NEI's	Staff committed to submit all public comments and responses to comments before the April 20, 2010 meeting.
