

Nuclear Facilities Standards Committee Meeting

March 17-18, 2004 - ANS Headquarters

LaGrange Park, IL

Members Present

Don Spellman, *NFSC Chair, Oak Ridge National Laboratory*
Neil Brown, *Working Group Chair ANS-2.26, Lawrence Livermore Laboratory*
Michael Cross, *Westinghouse Electric Company*
Timothy Dennis, *Individual*
Donald Eggett, *ANS-23 SC Chair, AES Engineering*
Richard Hall, *Exelon Generation Company*
N. Prasad Kadambi, *U.S. Nuclear Regulatory Commission*
Evan Lloyd, *Exitech Corporation*
Jesse Love, *Bechtel Power Corporation*
James F. Mallay, *Framatone/AREVA*
Carl Mazzola, *Shaw Environmental & Infrastructure, Inc.*
Frederic J. Pineau, *Knolls Atomic Power Laboratory*
R. Michael Ruby, *ANS-21 SC Chair, Rochester Gas & Electric Company*
James C. Saldarini, *Tetra Tech FW, Inc.*
John Stevenson, *J. D. Stevenson Consultants*
C.D. Thomas, Jr., *Individual*

Members Absent

Charles Brown, *Southern Nuclear Operating Company*
Robert H. Bryan, Jr., *Tennessee Valley Authority (TVA)*
Harish Chander, *U.S. DOE*
Rick A. Hill, *Chair ANS-22, GE Nuclear Energy*
Malcolm LaBar, *Chair ANS-28, General Atomics*
Robert McFetridge, *Westinghouse Electric Company*
Charles H. Moseley, Jr., *BWXT-Y-12 National Security Complex*
William B. Reuland, *Individual*
Robert E. Scott, *Scott Enterprises*
Steven Stamm, *Stone & Webster, Inc.*
J.A. Wehrenberg, *Chair ANS-24, Southern Nuclear Operating Company*
Michael J. Wright, *Entergy Operations, Inc.*

The meeting began at approximately 10:00a.m. NFSC Chair, Don Spellman identified the plan for the two-day meeting, indicating that the goal of the effort should be to arrive at consensus as to whether any of the NFSC standards could be adopted as performance-based. The questions posed to the committee members included: can the NFSC make performance based optional within an existing standard, and can the group attempt to arrive at a model that could be applied to existing standards. It was suggested that the building code paper be

used as a model for going forward. Spellman then asked Prasad Kadambi to provide an overview of the effort within the NRC to help the NFSC better understand the impact of such an effort by ANS. Prasad stressed that effectiveness must be an important goal before moving forward in this area.

NFSC member, Don Eggett commented as follows:

- A panel discussion to be held at the June meeting in Pittsburgh – Wednesday from 8:30-11a.
- Need panel discussion advertised to get attendance
- Need to develop performance based standards where it makes sense
- Find areas where it makes sense for performance based and leave others alone
- Problems with gray area standards – those should stay prescriptive
- Will prevent fire protection case study in Pittsburgh
- NEI will jump on board if they see ANS and NRC driving forward on this
- Can we use Fire Protection case study – develop model for this?

Don Spellman then responded as follows:

- The performance-based Standards Q&A (written by Prasad) were discussed.
- What does performance based mean to NFSC
- What steps need to be followed to accomplish performance based Standards
- What kind of issues in industry – prescriptive vs. performance based)
- ANS-51.1, 52.1, 53.1 – these would be performance based methodology criteria
- Time line to develop standards (Spellman/Wright)
- Joint meeting with NEI in Pittsburgh if we decide to go forward with performance-based
- Subcommittees will need some type of template to give to writing groups
- Maybe we should start with 53.1 (gas-cooled reactors) – New – instead of trying to re-work a present standard

- John Stevenson commented that performance based is perceived as more of a problem, as utilities like prescriptive standards.

- Member Fred Pineau added that prescriptive standards are easier to check than performance based standards – private sector. He questioned whether the NFSC was really ready to go forward with this type of standard.

Mike Cross:

- How can we get performance-based accepted?
- Who does this – ANS regulation?

Prasad Kadambi:

- Should ANS lead – how can we actually bring in these concepts like defense in depth
- Provide backing & technical information to submit to NRC
- We should be ready to take the lead for NEI
- Risk Informed performance-based standards – most expensive & complex
- Fire Protection no longer wanted to do study – wants to do respiratory protection (Part 20)
- Prasad will send out new Trubatch paper when ready
- Case study will be available in Pittsburgh at June meeting
- Publish a technical paper & presentation in Pittsburgh
- Sub part H respiratory protection – merits of using basic concept v. precise measurements, etc.

Neil Brown:

- Commented that he felt Prasad's handout on performance-based is more work than needed to have risk informed performance-based
- Idea – pick one standard from handout sheet that could fit performance-based (i.e. 2.26)
- We should take one or two at a time to look at and compare to 2.26 which could lead to performance-based
- Single Failure Criteria standards – would seem to be more probable for performance-based – Volunteers needed for this
- Qualitative – Quantitative?? – Performance risk level
- Qualitative Goals – Quantitative Goals – Design aspect, functional requirements

Carl Mazzola

- Regulatory uncertainty?
- Costs?
- Have any other SDO's taken this on?
- Grant from NEI for ANS to study feasibility of performance based.

Jim Mallay:

- DOE/NRA will pay only for something specific.

Jesse Love:

- What is process for performance based?
- Goals & Objectives – relate/apply to standards in particular group

Jim Saldarini:

- We should develop prototype – not sure if 2.26 is the one to use.

Performance System Model – (done on board)

PERFORMANCE SYSTEM MODEL:

Goals & Objectives

- Achieve earthquake safety
- Provide adequate seismic design
- Ensure worker & public health, safety & protection of the environment

Functional Statement

- Assign SSC categories and limit states

Operative Requirements – Performance Requirements

- Section 6.0
- Table 1 (pg. 12)

Performance/Risk Level

- Appendix A

Criteria

- ANS-2.26 / ANS-2.29 & ASCE xxx

Verification

- ASCE
- Peer review (of Section 6)

Additional thoughts/notes:

- Appendix C – deals with most difficult aspects
- ANS-2.26, 2.27, 2.29, ASCE xxx – family of standards – would fit well into model.
- Foreword – Need to emphasize benefit to use this standard
- Need feedback from ANS members of their feeling on Performance-Based standards.
- Is 2.26 performance based? Can we match 2.26 with performance model?
- Need to get NEI on board – utilities/user group

- Articles in ANS News & Nuclear Standards News on performance-based standards
- We need to sell performance based idea to NRC and utilities
- We need to get idea out about performance-based:
 - values
 - benefits
 - dollars for kilowatt hours
 - accountability for technological effectiveness
- Need to be careful about promoting all in the ANS-2 category as performance- based. It was noted that 2.27 is more prescriptive.
- PINS can be done on 2.15 and 2.16 and could be ready for the June meeting. These two standards will be pursued as performance based.
 - What's going on with ANS-53.1?
 - NEI – Point of contact for performance-based – *Steve Floyd*
 - Propose a family of standards for model if this should take off
 - ANS-2 standards need to be updated. 10CFR52 causes ANS to consider reactivating many of the ANS-2 standards. Many of the standards in this classification have been withdrawn.
 - Technical Session at June & November, 2004 meetings – can we work something about performance based into that?

Meeting ended at 4pm and reconvened March 18, 2004 at 8:30a.m.

- Jim Saldarini addressed the NFSC Policies and Procedures manual. He explained that a revised draft #3 will be sent to the full NFSC. It includes policies that are a bit outdated; that these items need to be addressed the full NFSC as a group. It also needs ANS-28 added to it as a subcommittee. In addition, Jim Mallay indicated that he will be sending two more policies for Saldarini to include in the manual. The draft will be sent to the NFSC for comment using the comment and ballot form. Saldarini questioned whether performance based should be included in the manual. He requested that the NFSC respond back with comment no later than May 1.
- Jim Mallay then informed the committee that the ANS Accredited Policies and Procedures Manual has not been updated in almost 21 years. He has been working with staff to bring the document up to date. In addition, he

noted that about 10-12 policies need to be added to the manual. The completely revised manual will then be sent to the Standards Board prior to the June meeting.

- It was noted that N-16 and N-17 do not have policies and procedures manuals.

NFSC Chair Spellman then provided a wrap-up of the two-day effort for the committee. If ANS is to really adopt performance based standards, ANS would most likely benefit from this in the maintenance area. Spellman then stated that ANS should be able to then go to ANSI regarding the maintenance aspect. Mazzola suggested that a Pro-Con Analysis be done citing advantages and disadvantages to each standard moving to performance-based. Fred Pineau agreed to prepare such an analysis and work through Prasad for feedback before sending on to the full NFSC. It was hoped that this document could be ready for discussion at the NFSC's June meeting in Pittsburgh.

The Chair asked that the committee take an action to brainstorm ideas as to how it might come up w/new ideas on how to promote ANS standards. ANS staff was also requested to suggest ideas as well.

Respectfully submitted,

Donald J. Spellman, Chair
NFSC