ANS 3.5 Working Group Meeting Minutes
AEP Simulator Learning Center
St. Albans, WV
2002 Oct 28-31

1 Index

1 INDEX 2

2 NEXT MEETING 5

3 MOTIONS 6

4 ACTION ITEM ACTIVITY 9

5 VISITORS 10

6 ROLL CALL 11

7 ACTION ITEM LIST 13

7.1 ACTION ITEM QUICK-LOOK TABLE 13
7.2 ACTION ITEMS 14

8 WORKING GROUP PROCEDURAL RULES 18

8.1 RULES OF THE CHAIR 18
8.2 RULES ENACTED BY THE WORKING GROUP 18

9 MONDAY 2002OCT28 (DAY 1) 19

9.1 INTRODUCTION TO AEP SIMULATOR LEARNING CENTER (GEORGE SIX) 19
9.2 OPENING COMMENTS (DENNIS): 19
9.3 ROLL CALL 19
9.4 OFFICERS: 19
9.5 ADJOURNED 2002OCT28 AT 1800 21

10 TUESDAY 2002OCT29 (DAY 2 8:00AM) 22

10.1 AI-8 (DENNIS) 22
10.2 AI-13 23
10.3 AI-20 23
10.4 AI-44 23

10.5 AI-57 23
10.6 AI-81 24
10.7 AI-83 24
10.8 AI-84 FLORENCE 24
10.9 AI-87 24
10.10 AI-88 (COX) 25
10.11 AI-89 (SHELLY) 25
10.12 AI-40 FLORENCE 26
10.13 AI-70 26
10.14 NRC UPDATE 26
10.15 ADJOURNED 2002OCT29 AT 1730 27

11 WEDNESDAY 2002OCT30 (DAY 3 8:00AM) 28

11.1 SBT 4.4.3.2 28
11.2 AI-88 COX 28
11.3 AI-79 28
11.4 AI-90 29
11.5 AI-83 29
11.6 ADJOURNED 2002OCT30 AT 8:15PM 29

12 THURSDAY 2002OCT31 (DAY 4 8:00AM) 30

12.1 MCCULLOUGH 30
12.2 FLORENCE NEW APPENDIX E 30
12.3 ANS AND SCS 31
12.4 MANTG 31
12.5 NFSC 31
12.6 ADJOURNED 2002OCT31 AT 10:45AM 31

13 APPENDIX 32

13.1 **NRC PRESENTATION (LARRY VICK) 2002OCT29** 32
13.2 **AI-83 COLBY** 32

14 CFR PART 55.59 - REQUALIFICATION 32

14.1 AI-87 COLBY 38
14.2 SECTION 4.4.3.2 - FELKER 40
14.3 AI-40 FLORENCE 2002OCT29 (SUPERCEDED BY 2002OCT30 AMENDMENT, SEE BELOW) 42
14.4 2002OCT30 AI-88 - COX 44

14.5 2002Oct30 New Section 4.4.3.2 Felker 45
14.6 2002Oct30 AI-40 After Adoption on new Section 4.4.3.2 Wording 46
14.7 2002oct31 McCullough Motion to Amend Section 4.4.3.2 47
14.8 2002oct31 Florence New Appendix E 48

15 ACTION ITEMS CARRIED TO 2008 STANDARD 50

16 CLOSED ACTION ITEMS 52

2 Next Meeting

Location: GSE – Columbia, MD
Date: March 10, 2003

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday

3 Motions

Welchel Accept 2002Apr22 Minutes	Motion: **Carried (Unanimous)**
McCullough Revert back to the 1998 Scope Statement with the exception of Language referencing ANS 3.1. Revert to first 1998 paragraph and keep modified scope second paragraph.	Motion: **Not Carried** • 4 – For • 6 – Against • 1 – Abstention Not carried – Simulation may confuse users and Part-task simulators are not defined.
Shelly Change wording in section 4.4.3.1 to: "A simulator operability test shall be conducted once per ***fuel cycle***, to confirm overall simulator model completeness and integration."	Motion **Not Carried**: • 3 – For • 6 – Against • 3 – Abstain
Florence: Accept Appendix E as defined in minutes Appendix AI-40.	Motion **Carried** : • 11 - For • 0 - Against • 1 - Abstain
Vick Change Appendix E title From: **Guideline for Acceptable Documentation for Scenario-based Testing** To **Guideline for Acceptable Documentation of Scenario-based Testing**	Motion **Carried** : • 11- For • 0 - Against • 0 - Abstain
Felker: Motion for new Section 4.4.3.2 4.4.3.2 Simulator Scenario-based Testing. The intent of scenario-based testing is to ensure the	Motion **Carried** : • 9- For • 0 - Against • 2 - Abstain

Comment [bjc1]: Approved change of deleting the words "on either" and "or certification" from April 22-25 meeting. Action item # from April 22-25 meeting. Action item #40. The rule change has eliminated the requirement for certification and the option of either per year or calendar basis.

simulator is capable of producing the expected reference unit response to satisfy predetermined learning or examination objectives by utilizing the existing training and examination scenario validation process. Performance testing credit may be taken for a scenario developed for the simulator, provided that the following conditions are satisfied: 1. the scenario is tested prior to use for operator training and examination including the appropriate instructor interfaces, operator actions, and operator cues; 2. the simulator is capable of producing the expected reference unit response without exceptions, significant performance discrepancies, or deviation from an approved scenario sequence; A record of the conduct of these tests, typically in the form of a completed scenario checklist, and the evaluation of the test results, shall be maintained. Footnote: Appendix E provides an example of an acceptable means of documenting scenario-based testing.	
Florence: Modify Appendix E per minutes Appendix titled: "AI-40 After Adoption on new Section 4.4.3.2 Wording"	Motion Not **Carried** : • 7- For • 3 - Against • 1 - Abstain
McCullough Amend Section 4.4.3.2 See Appendix titled: "2002oct31 McCullough Motion to Amend Section 4.4.3.2"	Motion Not **Carried** : • 6- For • 4 - Against • 1 - Abstain
Florence	Motion **Carried (Unanimous)** :

Florence New Appendix E See Minutes Appendix "2002oct31 Florence New Appendix E"	• 11 For • 0 - Against • 0 - Abstain

4 Action Item Activity

91	Call ANS-21 Chair and get a determination on standards organizational alignment and possible standards name change.	Dennis
92	Improve Definition of Simulation facility to include Part-task and limited scope. (coordinate with Scope State)	Florence Colby Kozak
93	Appendix and Standard Dates referencing Are Appendices required to reference the standard's published date.	Shelly
94	Align Appendix Header dates to Appropriate Published Standard Date	Colby
95	Section 4.4.3.2 New 4.4.3.2 wording and/or integrate 4.4.3.1 and 4.4.3.2	Felker Florence Kozak
96	Locate a copy of INPO document concerning pre-running Scenarios ACAD 90-022 Guidelines for Simulator Training The document uses the word "should" to validate scenarios before use in operator training.	Chang Kozak
97	Determine reference usage within ANS Standards. Can the 3.5 Standard reference an INPO document?	Dennis
98	Insert correct standard Title in appendices headers	Colby

5 Visitors

Visitor	**Date**	**Affiliation**	**Email, Phone Fax**
Jane Neis	2002Oct28	R.E. Ginna Nuclear Power Plant Training Center 1517 Lake Rd Ontario, NY 14519	Email: jane_neis@rge.com Phone: (716) 546-6646 Fax: (716) 524-8278
Bill Fraser	2002Oct28	Three Mile Island Training Deptartment. Simulator Supervisor PO Box 480 Middletown, PA 17057	Email: wfraser@amergen.energy.com Phone: 717-948-2046 Fax:
Tim Vriezema	2002Oct28	AEP Cook Nuclear Plant 1 Cook Place Bridgman, MI 49106	Email: tvriezema@aep.com Phone: 616-466-3333 Fax:

6 Roll Call

Present	Member	Address	Notes-Proxy	Email-Phone-Fax
Present	Timothy Dennis **Chairman**	P. O. Box 119 645 Lehigh Gap St. Walnutport, PA 18088-0119		Email: a243@yahoo.com Phone:610-767-0979 Fax: 610-767-7095
Present	Jim Florence **Vice Chairman**	Nebraska Public Power District P. O. Box 98 Brownville, Nebraska 68321		Email: jbflore@nppd.com Phone: 402-825-5700 Fax: 402-825-5584
Present	Keith Welchel **Secretary**	Duke Power Company Oconee Training Center- MC:ON04OT 7800 Rochester Hwy Seneca, SC 29672		Email: kwelchel@duke-energy.com Phone: 864-885-3349 Fax: 864-885-3432
Present	F.J. (Butch) Colby **Editor**	CAE Inc. 8585 Cote-de-Liesse P.O, Box 1800 Saint-Laurent Quebec, Canada H4L 4X4		Email: butchcolby@cs.com Email: butch.colby@cae.com Phone: (410) 381-3557 Fax: (410) 381-2017
Present	William M. (Mike) Shelly **Style Editor**	Entergy Services, Inc. 1340 Echelon Parkway Jackson, MS 39213-8298		Email: wshelly@entergy.com Phone: 601-368-5861 Fax: 601-368-5816
Present	Larry Vick **Parliamentarian**	US NRC, Office of Nuclear Reactor Regulation 09-D24 Washington, DC 20555		Email: Lxv@nrc.gov Phone: 301-415-3181 Fax: 301-415-2222
Preset	George McCullough	American Electric Power 620 Sixth Ave. St. Albans, WV 25177-2964		Email: gsmccullough@aep.com Email: rifreyberg@aep.com Phone: 304-556-4043 Fax: 304-556-4049 Cell: 304-549-8761
Present	Hal Paris	GSE Systems 8930 Stanford Blvd. Columbia, MD. 21004		Email: hal.paris@gses.com Phone: 410-772-3559 Fax: 410-772-3595
Present	Robert Felker	EXITECH Corporation 102 E. Broadway Maryville,TN 37804		Email: rfelker@EXITECH.com Phone: 410-461-4295 Fax: 410-730-4008
Present	Allan A. Kozak	Dominion Generation North Anna power Station P.O. Box 402 Mineral, VA 23117-0402		Email: allan_kozak@dom.com Phone: 540-894-2400 Fax:540-894-2441
Absent(2)	Dennis Koutouzis	INPO 700 Galleria Parkway, NW Atlanta, GA 30339-5957		Email: koutouzisjd@inpo.org Phone: 770-644-8838 Fax: 770-644-8120

Absent(1)	Oliver Havens, Jr	PSEG Power Hope Creek Generating Station, NTC 244 Chestnut St. Salem, NJ 08079		Email: Oliver.Havens@pseg.com Phone: 856-339-3797 Fax: 856-339-3997
Present	Kevin Cox	Exelon Generation Dresden Nuclear Power Station 6500 North Dresden Rd. Morris, IL 60450		Email: kevin.cox@exeloncorp.com Phone: 815-942-2920 x-2109 Fax: 815-941-7121
Present	SK Chang	Dominion Nuclear Connecticut, Inc. Millstone Power Station L. F. Sillin, Jr. Nuclear Training Ctr. Rope Ferry Road Waterford, CT 06385		Email: Shih-Kao_Chang@dom.com Phone: 860-437-2521 Fax: 860-437-2671
NA	Suriya Ahmad	Standards Administrator American Nuclear Society 555 North Kensington avenue La Grange Park, IL 60526-5592		Email: sahmad@ans.org Phone: 708-579-8269 Fax: 708 352 6464

7 Action Item List

7.1 Action Item Quick-look Table

Open	Complete	Carried to 2008

1	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	8	~~9~~	~~10~~
~~11~~	~~12~~	~~13~~	~~14~~	~~15~~	~~16~~	~~17~~	~~18~~	~~19~~	~~20~~
~~21~~	~~22~~	~~23~~	~~24~~	~~25~~	~~26~~	~~27~~	~~28~~	~~29~~	~~30~~
~~31~~	~~32~~	~~33~~	~~34~~	~~35~~	36	~~37~~	~~38~~	~~39~~	~~40~~
~~41~~	~~42~~	~~43~~	~~44~~	~~45~~	~~46~~	~~47~~	~~48~~	~~49~~	~~50~~
~~51~~	~~52~~	~~53~~	~~54~~	~~55~~	~~56~~	~~57~~	~~58~~	~~59~~	~~60~~
~~61~~	~~62~~	~~63~~	~~64~~	~~65~~	~~66~~	~~67~~	68	~~69~~	~~70~~
~~71~~	~~72~~	~~73~~	~~74~~	~~75~~	~~76~~	~~77~~	~~78~~	~~79~~	~~80~~
~~81~~	~~82~~	~~83~~	~~84~~	~~85~~	~~86~~	~~87~~	88	~~89~~	90
91	92	93	94	95	~~96~~	97			

7.2 Action Items

No.	Status	Date	Assigned To:	Work Assignment
1	Dennis contacted Mike Wright. No Input from Mike. The Scope change should be approved soon. 2001Apr05 Scope statement will be revised based on SubCommittee-1 comments that ANS 3.1 is not Training Criteria	Priority 1 – PINS form will be completed by next meeting (15min)	**Dennis**	DOE Nuclear Facility vs. Power Plant Simulators – Check with ANS 3. Inquire as to whether other simulator issues are addressed/referenced in other ANS 3 standards Dennis will contact Mike Wright (ANS-3 chair). Are DOE issues referencing simulators? 2001Apr05 Dennis Dennis attended the SubCommittee-1 meeting and was informed the PINS form needs to be completed. Additionally, the scope statement states ANS 3.1 establishes Training Criteria, but does not. Accepted 3.5 Scope change and Appendix D **2000mar09** Chandler Comments (NUPPSCO) relating to DOE simulators. We need to resolve Open NUPPSCO comments from the 1998 standards approval process.
8		Priority 1 – PINS form will be completed by next meeting (15min)	**Dennis**	Contact Mike Wright about the scope change Scope and Background submitted to Shawn and Mike. No schedule at present for ANS-3 to review scope change. 2002Oct29 PINs form completed and ready to send to ANS. 2001Apr05

				Contacted Sub-Committee-1 and Dennis needs to complete PINS forms;
36		Priority 2	**Koutouzis** **Havens**	Questions from Review of INPO Documents: Timeline for incorporation of Plant design changes into the simulator Instructor Qualification Long Term Open Simulator Fidelity Issues This is an information AI 2002apr24 Havens – Keep this AI open pending additional input and data. Koutouzis is gathering additional data. Recommends to do nothing right now No Update 2001Apr05 Koutouzis No Update Related AI: 34
68	**Date: 2002oct30** **Status: Re-Opened** **Closed** **2002apr24**	Priority 1	**Colby** **Shelly** **Felker**	Survey #2 Multi-Unit Different OPS Procedures Fuel Cycles Time Delay loading Sim Fuel load Unit Procedure Differences and Training **2002oct30** **Reopened to consider additional Survey data.** **Consider AI-83 - Malfunctions List and Survey Results** 2002apr24

				Colby Recommend Closing due to information will be handled by future Action Items. 2002apr23 Colby Nothing here that would be changed in the 2003 standard. 2001AUG7 All survey's have not been received, so the final results of the survey will be discussed at our next meeting in March.
88			**Cox** **Vick**	Review simulator Fidelity. Standard does not define Software Fidelity, only HW Fidelity 2002oct30 Cox Cox and Vick will recommend new definition.
90			**Florence** **Colby** **Cox** **Chang**	Review all Section for alignment specifically Sections 3.4 and 4.4 and report and recommend new Section alignments 2002oct30 Colby Action deferred to next meeting. See AI-90 meeting minutes 2002oct30.
91			**Dennis**	Call Mike Wright and get a determination on standards organizational alignment and possible standards name change 2002oct28 Dennis
92			**Florence** **Colby** **Kozak**	Improve Definition of Simulation facility to include Part-task and limited scope. (coordinate with Scope State)
93			**Shelly**	Appendix and Standard Dates referencing

				Are Appendices required to reference the standard's published date.
94			**Colby** **Neis**	Align Appendix Header dates to Appropriate Published Standard Date
95			**Felker** **Florence** **Kozak**	Section 4.4.3.2 New 4.4.3.2 wording and/or integrate 4.4.3.1 and 4.4.3.2
97			**Dennis**	Determine reference usage within ANS Standards. Can the 3.5 Standard reference an INPO document?
98			**Colby** **Neis**	Insert correct standard Title in appendices headers

8 Working Group Procedural Rules

8.1 Rules of the Chair

- Interim Voting (Motions) shall be by Consensus
- The Chairman rules that no Motions will be accepted when not in session
- Administrative issues by simple majority;
- The Chair shall be informed of absences;
- The absent member is encouraged to send a proxy;
- A Proxy shall not have voting privileges;
- Members attend the full length of the meeting;
- The two absent policy will be enforced;
- Word 7.0 will be the document format;
- The Host will collect and send all handout material for absent members without proxy;
- Robert's Rules of Order will used a general guide

8.2 Rules Enacted by the Working Group

Missing two consecutive meetings in a row with out representation could result in loss of membership on the committee

9 **Monday 2002Oct28 (Day 1)**

9.1 Introduction to AEP Simulator Learning Center (George Six)

George Six – Welcome and Introduction
Gerorge McCullough – Introduction and tour of building

9.2 Opening Comments (Dennis):

- Welcomed Visitors

9.3 Roll Call

Absent Members:

Dennis Koutouzis (2)
Oliver Havens (1)

Quorum declared - Consensus is 9

Review of Meeting minutes Dated 2002Apr22

Motion to Accept Minutes as Written
Minutes Accepted

9.4 Officers:

Dennis:
Attended ANS-21 meeting

Attended MANTG (Limerick(March), Lancaster (June), Seabrook (Sept))
Plans to attend:

- November 2002 NFSC meeting in Washington, DC
- MANTG at Pilgrim
- SMSI (SCS) WMC NUCS 2003

Florence:

Florence and Paris represented ANS 3.5. WG at SIMWorld 2002

Welchel:

Requested members reply with "No Comment" or reply with "Comments" to distribution and review of minutes;
Requested members reply in a timely manner;

Colby:

Latest Draft 3.5 revision delivered to members

Review of Mission Statement: (Florence)

The ANS 3.5 Working Group will clarify various components of the existing standard and submit to ANS 21 by January 2003 for approval in 2003.

Action Item Screening Criteria:

Committee agreed to use the screening criteria for considering standard language changes.

If the action facilitates clarification of the existing document

THEN
If Clarification results in minimal impact to the 1998 standard

THEN
If work is doable by December 31, 2002

THEN
ACCEPT Action Item for 2003

ELSE

TABLE Item until 2008

Discussion:

Dennis:

- 90 day balloting period
- Possible Final approval by July 2003

Agenda (Dennis):

Complete Priority 1 Actions Items first

Standard Approval Timetable:

- Complete all Priority 1 Action Items during this meeting;
- Refer to Colby document "List of approved Changes to the 98 Standard";
- Colby will distribute the latest ANS 3.5 Document for group members;
- Cleanup of non-prioritized Action Items;
- By end of 2003, we will need to request a one year extension;

AI 86 - Working Group reviewed the plaque Colby made for Frank Collins.

9.5 Adjourned 2002Oct28 at 1800

10 **Tuesday 2002Oct29 (Day 2 8:00am)**

10.1 AI-8 (Dennis)

PINS form completed

Simulation Facility Discussion

- Felker – Simulation facility is a more encompassing that the use as defined in this standard;
- Welchel – Concerns that the committee is trying to move (sync) the 2003 standard to NRC regulation and/or definitions;
- Fraser – Differences in Standard and Regulation do cause confusion; Utilities can create other devices that do not fall under 3.5 space.
- Colby – The next standard should address simulators other than just the full scope simulator.
- Felker – Other devices (i.e. used for JPM's) will now fall under 3.5 space; We are now bringing a lot more under the umbrella of 3.5;
- Vriezema – Concerned that Device-Driven components (e.g. valve trainer) used in operator will be brought under the 3.5 Standard; This could lead to many stand alone devices being brought under the control of 3.5;

Motion:
Revert back to the 1998 Scope Statement with the exception of Language referencing ANS 3.1. Revert to first 1998 paragraph and keep modified scope second paragraph.

Motion Not carried:

- 4 – For
- 6 – Against
- 1 – Abstention

Not carried – Simulation may confuse users and Part-task simulators are not defined.

10.2 AI-13

Florence –

Approved change of 3.1.3 items 1 trough 5 from April 22-25, 2002: Action item #13. The new words in Item 1 include the intent of old items #1, 2, 3, 5, 7, and 10 and as a result has replaced them. Old item # 8 wording changed in new item #2 to be consistent with wording in new #1. Old item # 4, # 6 and #9 were not changed and are now new item #3, 4, and 5. The main reason for the change is to eliminate unnecessary wording contained within various tables of the Standard and to make them a little more in tune with the industry as it exist in today's environment. This was also the consensus of the industry peer group based on a survey conducted by the ANS Working Group.

10.3 AI-20

Paris

- Deferred to 2008 statement

Colby

- Additional technologies need to be included:
  - Virtual Reality
  - WEB Based training
  - DCS

10.4 AI-44

Paris – Refer to 2002apr motion to leave wording as is. This item is closed (originated form 1998 NUPSCO comments TVA);

10.5 AI-57

Dennis - Verified by working group in Standard Draft Rev 6.

Closed: Reference AI-81

10.6 AI-81

Dennis - ANS 3.1 is no longer referenced in ANS 3.5; No need for ANS 3.1.

Closed: Reference AI-57.

10.7 AI-83

Colby –

Reviewed items that are in 10CFR55.59 but are not in the Standard. This item was discussed before. This item may be discussed in AI-68.

Closed

10.8 AI-84 Florence

Florence – Complete Refer to AI-40. Complete Refer to AI-40. AI-84 was completed at Jackson meeting via AI-40. Cannot find reference in past minutes why this AI was created. AI-84 has been completed and is thus Closed.

10.9 AI-87

- Colby – Presented input from MANTG;
- Neis - Concerns that the original Bill of Materials needs to be kept and maintained;
- Welchel – Present wording is present tense and does not require user to maintain old baseline data;
- Felker – Section 5.1 refers to "Current Simulator"
- Colby – Refer to Section 5 documentation is for Current Simulator;

> 5.1 Simulator Design Baseline. The simulator design baseline comprises the **current simulator design data**, hardware configuration, and software configuration. The simulator design base-line includes the following, as each applies to the defined scope of simulation:

(1) Reference unit design data;
(2) Reference unit performance data;
(3) Reference unit engineering analyses;
(4) Simulator supporting calculations and analyses;
(5) Simulator specifications;
(6) Equipment vendor documentation; and
(7) Current approved software.

The simulator design baseline should include the complete data from which the simulator is designed.

Current simulator design data will supersede the possible need of old out of date or not applicable as built data.

10.10 AI-88 (Cox)

Cox – Will review and recommend tomorrow.

10.11 AI-89 (Shelly)

Shelly – Recommended new wording in section 4.4.3.1:

Old Wording
"A simulator operability test[1] shall be conducted once per year on a calendar basis, to…"

New Wording
"A simulator operability test[2] shall be conducted once per fuel cycle, to…"

Motion to Accept new wording

Comment [bjc2]: Approved change of deleting the words "on either" and "or certification" from April 22-25 meeting. Action item # from April 22-25 meeting. Action item #40. The rule change has eliminated the requirement for certification and the option of either per year or calendar basis.

Comment [bjc3]: Approved change of deleting the words "on either" and "or certification" from April 22-25 meeting. Action item # from April 22-25 meeting. Action item #40. The rule change has eliminated the requirement for certification and the option of either per year or calendar basis.

[1] Appendix B provides examples of acceptable simulator operability tests.

[2] Appendix B provides examples of acceptable simulator operability tests.

Motion Not carried:

- 3 – For
- 6 - Against
- 3 - Abstain

10.12 AI-40 Florence

- Florence – Presented new Appendix E for review. (Refer to minutes Appendix AI-40)
- Working Group discussed and amended Appendix E.
- Motion to add Appendix E (Refer to minutes Appendix AI-40)

Motion Carried:

- 11 - For
- 0 – Against
- 1 - Abstain

10.13 AI-70

Florence –

- Viewed USUG WEB site and discussed whether or not to use the same password for USUG and the ANS
- Demonstrated accessing the ANS 3.5 WEB site first through USUG and then through the ANS WEB
- Changes to WEB site:
  - Only latest minutes will be posted
  - Contact Keith Welchel to request previous minutes
  - ANS 3.5 WEB will not be password protected
  - Remove membership contact info accessible by general public

AI-70 is Closed

10.14 NRC Update

Larry Vick update on the New NRC Inspection Procedure 71111.11

10.15 Adjourned 2002Oct29 at 1730

11 **Wednesday 2002Oct30 (Day 3 8:00am)**

11.1 SBT 4.4.3.2

Felker

- Discussed the history of including SBT into the Standard;
- Distributed MANTG based White paper on SBT. Part A – Comment interprets the 1998 Standard as mandating additional requires on the training/use of the simulator;
- Reference Felker Attachment (i.e. Section 4.4.3.2 - Felker) in minutes Appendix
- During the development of section 4.4.3.2, the committee did not recognize that the industry interpretation would require additional requirement on training, instead of using SBT for simulator testing.
- 4.4.3.2 was trying to piggyback on the scenario development process that was already taking place;
- Lengthy discussion considering various 4.4.3.2 versions;
- Florence and Felker will develop new wording to present to members;

11.2 AI-88 Cox

Cox

- Presented new definition of Fidelity;
- Recommends the Definition of "Physical Fidelity" be changed to "Fidelity";
- Kevin will review the use of "Fidelity" to ensure the definition is correct;
- Cox and Vick will develop new wording and bring to committee;

11.3 AI-79

Cox

Lead discussion of Robert's Rules of Order

Dennis

Stated Robert's Rules of Order will be used as a general guide. Accepted with No Objection.

Rule of the Chair - Robert's Rules of Order will be used a general guide.

AI-79 - Closed

11.4 AI-90

Colby

- Presented table showing comparison between sections 3 and 4;
- Too many changes to align 3 and 4;
- Sections do not necessarily align;
- Recommends postponing AI-90 to next meeting;

Felker

Present standard may violate Standard's Background Section. Background presently states that Requirements are in Section 3 and Criteria are in Section 4. If alignment cannot be completed for 2003, the Background may require modification.

11.5 AI-83

- Committee reviewed minutes from 2001apr03 Atlanta AI-13;
- Florence - Do we want to make 10CFR55.59 and Standard Malfunction list consistent?
- Reviewed Denton, 10CFR55.59 and ANS 3.5 malfunction Comparison;
- Discussed that Natural Circ is not specified in the Standard;
- Colby- Regulation requires training on Natural Circ.;
- Florence-Scenario based testing will cover Natural Circ testing;
- Colby- table is no longer needed. Should be moved to Appendix for historical keeping;
- Colby-Malfunctions are in Standard body and Appendix; Why in both?
- Vick-This issues had been discussed twice before and voted down;

AI-83 is Closed.

11.6 Adjourned 2002Oct30 at 8:15pm

12 Thursday 2002Oct31 (Day 4 8:00am)

12.1 McCullough

Section 4.4.3.2 – Recommends removing the word "exceptions," from Item 2:

See Appendix Section Titled: "2002oct31 McCullough Motion to Amend Section 4.4.3.2"

Motion to Amend Section 4.4.3.2 to read:

> "the simulator is capable of producing the expected reference unit response without significant performance discrepancies or deviation from an approved scenario sequence;"

Motion Not **Carried** :

- 6- For
- 4 - Against
- 1 – Abstain

12.2 Florence New Appendix E

- Florence, McCullough and Vick developed new Appendix Wording
- Revisit new language in Appendix E
- Restructured and simplified Appendix E
- Only Scenario Pass Fail instead of Three Criteria
- Motion to Accept new Language: Motion Carried (Unanimous)

12.3 ANS and SCS

Florence will contact Scott Halverson (Callaway) to determine if SCS want an ANS update this year.

12.4 MANTG

Jane Neis and Bill Fraser:

- Approved SBT Guideline
- Developing White paper for Core Updates
- Trying to determine differing industry V&V methods
- Next meeting at Pilgrim in two weeks and Dennis will attend.

12.5 NFSC

Dennis

- Distributed Subcommittee-21 membership list
- Distributed Subcommittee-21 Status
- Dennis will attend the next NFSC meeting in mid November 2002

12.6 Adjourned 2002Oct31 at 10:45am

13 Appendix

13.1 NRC Presentation (Vick) 2002Oct29

Reg. Guide 1.149 Rev 3, IP71111.11, and 10 CFR 55.46 Presentation by Vick

13.2 AI-83 Colby

Action Item 83

Denton Letter GL80-028 & NUREG 0737 Appendix "C"	14 CFR Part 55.59 - Requalification	**ANS 3.5 section - 3.1.4 Malfunctions**
	(A) Plant or reactor startups to include a range that reactivity feedback from nuclear heat addition is noticeable and heatup rate is established.	
	(B) Plant shutdown	
	(C) Manual control of steam generators or feedwater or both during startup and shutdown.	

	(D) Boration or dilution during power operation	
	(E) Significant (¬10 percent) power changes in manual rod control or recirculation flow.	
	(F) Reactor power change of 10 percent or greater where load change is performed with load limit control or where flux, temperature, or speed control is on manual (for HTGR).	
Loss of Reactor Coolant (small and DBA); (2) Steam Generator Tube Rupture (small and large)	(G) Loss of coolant, including Significant PWR steam generator leaks Inside and outside primary containment Large and small, including lead-rate determination Saturated reactor coolant response (PWR).	(1) Loss of coolant: significant Pressurized Water Reactor (PWR) steam generator tube leaks; inside and outside primary containment; large and small Loss of Coolant Accidents (LOCA) demonstrating multiphase flow; and failure of safety and relief valves
	(H) Loss of instrument air (if simulated plant specific).	(2) Loss of instrument air to the extent that the whole system or isolable portions can lose pressure and affect the reference unit's static or dynamic performance

(1) Loss of Offsite Electrical Power; (2) Loss of One Train of Onsite Electrical Power	(I) Loss of electrical power (or degraded power sources).	(3) Degraded electrical power to the station, including loss of offsite power, loss of emergency power, loss of emergency generators, loss of power to the unit's electrical distribution buses, and loss of power to the individual instrumentation buses (including AC as well as DC) that provide power to control room instrumentation or unit control functions affecting the unit's response
Loss of Reactor Coolant Pumps at Full Power and Demonstration of Natural Circulation (PWR); Inadvertent trip of Recirculation Pump (BWR)	(J) Loss of core coolant flow/natural circulation.	Part of (1) above?
Loss of All	(K) Loss of feedwater	(10) Loss of all

	Feedwater (normal and emergency) (PWR) & (BWR)	(normal and emergency).	feedwater, both normal and emergency
		(L) Loss of service water, if required for safety.	(6) Loss of service water or cooling to individual components
	Loss of RHR Shutdown Cooling with the RCS Temperature 200 Deg F to 300 Deg F (PWR) & (BWR)	(M) Loss of shutdown cooling.	(7) Loss of shutdown cooling
		(N) Loss of component cooling system or cooling to an individual component.	(8) Loss of component cooling system or cooling to individual components
	Loss of Normal Feedwater at Full Power	(O) Loss of normal feedwater or normal feedwater system failure.	(9) Loss of normal feedwater, or normal feed-water system failure
		(P) Loss of condenser vacuum.	(5) Loss of condenser vacuum, including loss of condenser level control
		(Q) Loss of protective system channel.	(11) Loss of a protective system channel
	Dropped Control Rod While at Power (BWR)	(R) Mispositioned control rod or rods (or rod drops).	(12) Control rod failure, including stuck rods, uncoupled rods, drifting rods, rod drops, and misaligned rods
	Failure of Rod Control System	(S) Inability to drive control rods.	(13) Inability to drive control rods
		(T) Conditions requiring	Part of (?) above/below?

	use of emergency boration or standby liquid control system.	
	(U) Fuel cladding failure or high activity in reactor coolant or offgas.	(14) Fuel cladding failure resulting in high activity in reactor coolant or off-gas, and the associated high radiation alarms
Turbine Trip from Full Power	(V) Turbine or generator trip.	(15) Turbine trip (16) Generator trip
	(W) Malfunction of an automatic control system that affects reactivity.	(17) Failure in automatic control systems that affect reactivity and core heat removal
Failure Open of One or More Turbine Bypass Valves While at (a) Full Power, (b) Hot Standby (PWR); Turbine Bypass Valve Failure to Open Following Trip (BWR)	(X) Malfunction of reactor coolant pressure/volume control system.	(25) Reactor pressure control system failure, including turbine bypass failure for Boiling Water Reactors (BWRs).
Reactor Trip from Full Power (PWR) & (BWR)	(Y) Reactor trip.	(19) Reactor trip
Steam Line Break (inside-outside containment) (BWR)	(Z) Main steam line break (inside or outside containment).	(20) Main steam line break, as well as main feed line break, both inside and outside containment

	(AA) A nuclear instrumentation failure.	(21) Nuclear instrumentation failures
Failure of Pressurizer Level and Pressure Automatic Controls; (2) Failure of Automatic Steam Generator Level Controls		(18) Failure of reactor coolant pressure and volume control systems for PWRs
		(22) Process instrumentation, alarms, and control system failures
		(23) Passive failures of components in systems, such as engineered safety features or emergency feedwater systems
		(24) Failure of the automatic reactor trip system; and
Load Rejection of Greater than 10% (PWR) & (BWR);		
Failure Open of Power Operated Relief Valve (PWR); Inadvertent Opening of Relief Valve (BWR)		
Stuck Open Pressurizer Safety		

	Valve (PWR); Reactor Pressure Control Failure (BWR)		
	Inadvertent Safety Injection While at Power (PWR)		
	Inadvertent Isolation of MSIV's while at Power (BWR)		
	Cold Water Transient at Power (BWR)		
	Inadvertent Start of Idle Recirculation Pump (BWR)		
	Malfunction of Reactor Water Level Automatic Controls (BWR)		

14.1 AI-87 Colby

New action Item

Question from MANTAG - Under Documentation the committee should address the "historical" vender documentation issue. Many utilities do not update or maintain their original vendor supplied documentation but maintain a record in the modification packages, in the simulator software code, or in new upgrade model vendor manuals. We need to address the age of this original documentation as some of it may not be on a current form of electronic media and cannot be updated. It should be considered as an historical reference with the current (evolved) design documentation may be in other

forms.

4.3 Simulator Instructor Station Capabilities. Each simulation facility organization should ensure that the necessary software design documentation is generated and updated.

5. Simulator Configuration Management. (3) Documentation to support simulator testing and maintenance

Appendix A

Guideline for Documentation of Simulator Design and Test Performance

The purpose of this Appendix is to provide an acceptable format for demonstration of a simulator's conformance to the requirements of this standard. It is intended that documentation be provided to the extent necessary to form a sufficient basis for verification of simulator performance, configuration control, and maintenance. Electronic media is an acceptable method of maintaining documentation. The following paragraphs describe typical sections included in simulator documentation.

A1. Simulator Information. The intent of this section of the simulator documentation is to provide familiarization with the specific simulator and its general applicability as an operator training and evaluation vehicle.

A3. Simulator Documentation. The following simulator-specific documentation should be controlled and maintained:

(1) *Simulated systems documentation*. This documentation provides design details for each simulated system model, e.g., simulation diagrams, math model description, assumptions, simplifications.

14.2 Section 4.4.3.2 - Felker

Current 98 Standard Language	Suggested Revision Language
4.4.3.2 Simulator Scenario-Based Testing. Scenarios developed for the simulator, including the appropriate instructor interfaces and cueing, shall be tested before use for operator training or examination. The simulator shall be capable of being used to satisfy predetermined learning or examination objectives without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence.	4.4.3.2 Scenario-based Testing. Scenarios developed for the simulator, including the appropriate instructor interfaces and cueing, shall be tested before use for operator training and examination. The simulator shall be capable of being used to satisfy predetermined learning or examination objectives without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence. The intent of scenario-based testing is to demonstrate that the simulator is capable of producing the expected reference unit response in support of predetermined learning or examination objectives for operator training and examination.

	Performance testing credit may be taken for scenarios previously approved [3]for use in operator training and examination. When the configuration of simulation has been modified significantly since the scenario was last tested, the affected portion of the scenario shall be re-tested.
A record of the conduct of these tests, typically in the form of a completed scenario or lesson plan checklist, and the evaluation of the test results, shall be maintained.	A record of the conduct of these tests, typically in the form of a completed scenario or lesson plan checklist, and the evaluation of the test results, shall be maintained
1) I suggest adding "Simulator" back into the section header for two reasons, 1) 4.4.1 and 4.4.2 testing applies to portions of the simulator and not the simulator as an integrated unit; 2) to be consistent with 4.4.3 and 4.4.3.1 since those sections apply to testing of the simulator as an integrated unit. 2) There are no changes to the first or second sentences of either version. Just a question for our style editor or grammar guru, should "cueing" be "cues"? 3) The third sentence of the proposed new language, in my opinion, duplicates the intent of the second sentence but then weakens that intent by not mentioning "without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence." I further believe that SBT is one element of an integrated test program that does help to demonstrate that the simulator is capable	

[3] Previously approved denotes those scenarios approved prior to the adoption of this Standard.

of “producing the expected reference unit response” however, this is the desired goal of all of Section 4 “Testing Requirements”, not just SBT. I believe this sentence is redundant and unnecessarily assigns excessive value to the process of SBT and should be deleted.

4) In my opinion, the fourth and fifth sentences of the proposed new language represent the introduction of a “regulatory guide” type statement in the middle of the standard. I believe we have crossed that line in the sand where we not only tell people what the requirements are but also how to do it. I realize the fourth sentence uses the action verb “may” but, we all know that over time many “mays” have become “shalls” simply by being around for some period of time. A utility may wish to take credit for previous testing. Great! Go for it! Other utilities may wish to test all of their scenarios for any number of reasons. Great! Go for it! Still other utilities may have a completely different idea as to how to accomplish the requirement. Great! Go for it! It is dangerous for the committee within the body of the standard to even comment on the acceptability of one implementation approach compared to other possibilities. That is a Licensee call that should be made by the technically cognizant individual within the utility in conjunction with Training and probably their Licensing Department, not the ANS 3.5 committee. I believe this sentence should be deleted from the body of the standard.

5) There are no changes within the last sentence of either version.

In summary, I believe we should retain the language from the 98 standard, unaltered, for section 4.4.3.2.

14.3 AI-40 Florence 2002oct29 (Superceded by 2002oct30 Amendment, see below)

~~Appendix E~~

~~(This Appendix is not a part of American National Standard for Nuclear Power Plant Simulators for~~

Use in Operator Training, ANSI/ANS-3.5-2003, but is included for information purposes only.)

Guideline for Acceptable Documentation of Scenario-based Testing

E1. The purpose of this Appendix is to provide an acceptable means for documenting simulator conformance to Section 4.4.3.2 of the standard.

E2. The following is an example of acceptable documentation for scenario-based testing.

SIMULATOR SCENARIO-BASED TESTING FORM

Scenario/Lesson Plan No.: _____ Date Tested:

Scenario/Lesson Plan Title:

The simulator is capable of being used to satisfy predetermined learning or examination objectives without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence, including the appropriate instructor interfaces and cueing.

Scenario Validated by:

The simulator is not capable of being used to satisfy predetermined learning or examination objectives without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence, including the appropriate instructor interfaces and cueing. Discrepancies were documented and submitted to the simulator support staff for resolution, or;

Minor simulator performance discrepancies were documented and submitted to the simulator support staff for resolution for which compensatory measures were taken to satisfy predetermined learning or

~~examination objectives.~~

~~Discrepancy Report Number(s):~~

~~Discrepancy Report Initiator:~~

14.4 2002Oct30 AI-88 - Cox

- Webster Definition: 1. Faithfulness to obligation, duties, or observances. 2. Exact correspondence with fact or a given quality, condition, or event: ACCURACY. 3. The degree to which an electronic system accurately reproduces the sound or image of its input signal.

physical fidelity. The degree of similarity between the simulator and the reference unit, such as physical location of panels, equipment, instruments, controls, labels, and related form and function.

Fidelity. The degree of similarity and **accuracy** between the simulator and the reference unit. **Similarity** such as physical location of panels, equipment, instruments, controls, labels, and related form and function**, accuracy within allowable limits of the standard.**

Fidelity. The degree of similarity between the simulator and the reference unit including **accuracy within allowable limits of the standard,** physical location of panels, equipment, instruments, controls, labels, and related form and function.

The degree of accuracy between the Simulator and reference

unit.

14.5 2002Oct30 New Section 4.4.3.2 Felker

2002oct30
Motion **Carried** :

- 9- For
- 0 - Against
- 2 - Abstain

4.4.3.2 Simulator Scenario-based Testing.

The intent of scenario-based testing is to ensure the simulator is capable of producing the expected reference unit response to satisfy predetermined learning or examination objectives by utilizing the existing training and examination scenario validation process.

Performance testing credit may be taken for a scenario developed for the simulator, provided that the following conditions are satisfied:

1. the scenario is tested prior to use for operator training and examination including the appropriate instructor interfaces, operator actions, and operator cues;
2. the simulator is capable of producing the expected reference unit response without exceptions, significant performance discrepancies, or deviation from an approved scenario sequence;

A record of the conduct of these tests, typically in the form of a completed scenario checklist, and the evaluation of the test results, shall be maintained.

Footnote: Appendix E provides an example of an acceptable means of documenting scenario-based testing.

14.6 2002Oct30 AI-40 After Adoption on new Section 4.4.3.2 Wording

2002oct30
Motion **Not Carried** :

- 7- For
- 3 - Against
- 1 - Abstain

~~Appendix E~~

~~(This Appendix is not a part of American National Standard for Nuclear Power Plant Simulators for Use in Operator Training and Examination, ANSI/ANS-3.5-2003, but is included for information purposes only.)~~

~~Guideline for Acceptable Documentation of Scenario-based Testing~~

~~E1. The purpose of this Appendix is to provide an acceptable means for documenting simulator conformance to Section 4.4.3.2 of the standard.~~

~~E2. The following is an example of acceptable documentation for scenario-based testing.~~

~~SIMULATOR SCENARIO-BASED TESTING FORM~~

~~Scenario/Lesson Plan No.: Date Tested:~~

~~Scenario/Lesson Plan Title:~~

~~The simulator is capable of being used to satisfy predetermined learning or examination objectives without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence, including the appropriate instructor interfaces, operator actions, and operator cues.~~

~~The simulator is capable of being used to satisfy predetermined learning or examination objectives however, minor simulator performance discrepancies were documented and submitted to the simulator support staff for resolution for which compensatory measures were taken to satisfy predetermined learning or examination objectives.~~

~~The simulator is not capable of being used to satisfy predetermined learning or examination objectives without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence, including the appropriate instructor interfaces, operator actions, and operator cues. Discrepancies were documented and submitted to the simulator support staff for resolution.~~

~~Discrepancy Report Number(s):~~

~~Discrepancy Report Initiator:~~

~~Scenario Validated by:~~

14.7 2002oct31 McCullough Motion to Amend Section 4.4.3.2

Motion **Not Carried :**

- 6 - For
- 4 - Against
- 1 - Abstain

~~4.4.3.2 Simulator Scenario based Testing.~~

~~The intent of scenario based testing is to ensure the simulator is capable of producing the expected reference unit response to satisfy predetermined learning or examination objectives by utilizing the existing training and examination scenario validation process.~~

~~Performance testing credit may be taken for a scenario developed for the simulator, provided that the following conditions are satisfied:~~

~~(1) the scenario is tested prior to use for operator training and examination including the appropriate instructor interfaces, operator actions, and operator cues;~~
~~*(2) the simulator is capable of producing the expected reference unit response without significant performance discrepancies or deviation from an approved scenario sequence*;~~

~~A record of the conduct of these tests, typically in the form of a completed scenario checklist, and the evaluation of the test results, shall be maintained.~~

~~Footnote: Appendix E provides an example of an acceptable means of documenting scenario-based testing.~~

14.8 2002oct31 Florence New Appendix E

Motion **Carried (Unanimous)**:

- 11 For
- 0 - Against
- 0 - Abstain

Appendix E

(This Appendix is not a part of American National Standard for Nuclear Power Plant Simulators for Use in Operator Training and Examination, ANSI/ANS-3.5-2003, but is included for information purposes only.)

Guideline for Acceptable Documentation of Scenario-based Testing

E1. The purpose of this Appendix is to provide an acceptable means for documenting simulator conformance to Section 4.4.3.2 of the Standard.

E2. The following is an example of acceptable documentation for scenario-based testing.

SIMULATOR SCENARIO-BASED TESTING FORM

Scenario Lesson Plan No./Revision: Date Tested:

Scenario Lesson Plan Title:

This test verifies that the simulator may be used to satisfy predetermined learning or examination objectives without exception, significant performance discrepancies or deviation from the approved scenario sequence, including the appropriate instructor interfaces, operator actions, and operator cues.

- ❑ This scenario-based test demonstrates that the simulator performed as expected.
- ❑ This scenario-based test demonstrates that the simulator did not perform as expected.

Performance discrepancies identified during the performance of this test were documented and submitted to the simulator support staff for resolution.

Discrepancy Report Number(s): _____

Scenario Tested by: _____

15 Action Items Carried to 2008 Standard

20	**Date: 2002oct29** **Status: Deferred to 2008**	Priority 1 –	**Paris** **Colby** **Kozak**	Exploiting technology changes and future industry trends. What's coming around the corner; 2002oct29 Paris Deferred to 2008. Additional technologies will need to be considered (e.g. Virtual reality, DCS, WEB based training) 2001Apr05 Paris Presentation: What is Around the Corner (See Attachments Section) **2001Aug09** Paris Presentation – Distributed Control Systems scope needs to be considered in the standard (Hal will e-mail his presentation to Butch).
25	**Date: 2002Apr??** **Status: Deferred to 2008**	Priority 2 –	**Dennis**	Process Guidelines (Mods and Testing) ;Institutionalizing Procedures 2002apr24 Dennis Gave presentation on Millstone experience Defer AI-25 to 2008 2001Apr05 Dennis Deferred
60	**Date: 2002Apr??** **Status: Deferred to 2008**	Priority 1	**McCullough** **Shelly**	Define the Term **Training Needs Assessment** in such a manner that it is clear in intent to both Training and Simulator staffs

				2002apr23 McCullough History presentation of Training Need Assessment. See Appendix 2001Apr05 McCullough Trainers and Simulator personel view Training Needs Assesments Differently; Training Needs Analysis and Training Needs Assessment are npot used consistently. McCullough will revisit this item in a future date; Reference: ACAD-85-006 "A Suppliment to Principles of Training Systems Development"
80	**Date: 2002Apr??** **Status: Deferred to 2008**		**Florence**	2008 Copy and Paste RG 1.149 Rev 3 Section 1.5 into the 2008 Standard. (Software V&V)

16 Closed Action Items

No.	Status	Date	Assigned To:	Work Assignment
2	**Date: 2000oct25** **Status:** Additional Editorial Review Required **Date: 2000mar09** **Status: Complete**		**Colby** **Welchel**	Obtain a Master Copy of the ANS 3.5 standard in Dual Column (working/1998) format. The WordPerfect copy from Shawn does not port into WORD correctly Assigned to Butch Colby.
3	**Date: 1999sep14** **Status: Complete**		**Welchel**	Get NUPPSCO comments to members
4	**Date: 1999sep14** **Status: Complete**		**Welchel**	Send copy of meeting minutes 1998Nov04 and 1999Mar02-03 to Jim Florence
5	**Date: 1999sep14** **Status: Complete**		**Florence**	Jim will look at creating a survey on the USUG WEB concerning the Action Items and for soliciting info from the industry
6	**Date: 1999sep14** **Status: Complete**		**Dennis**	Jeff will contact ANS about ANSI Historical standards Cataudella-Spoke with ANS Standards Secretary, Shawn Coyne-Nalbach Historical Standards: Past standards are retired and are only available as historical standards. 1979, 1981, 1985, and 1993 are no longer endorsed by ANSI and ANS only the 1998 standard is endorsed.
7	**Date: 2001Aug9** **Status complete**		**Shelly** **Vick** **Dennis**	Talk to ANS about use of footnotes, asterisks, etc in standards To review style guide. 2001Apr05 Shelly Shelly will call Shawn.
9	**Date: 2001Apr05**		**Dennis**	Is ANS 3 considering that the standard may address other

	Status: Complete **Dennis**			simulators not specific to NRC Regulatory Commission licensing? 2001Apr05 Dennis - No - per SubCommittee-1 Tamp Meeting Dennis will verify with Mike concerning additional scope (adding DOE facilities into 3.5). 2001Apr05 Dennis - No - per SubCommittee-1 Tamp Meeting **2000mar09** Dennis will check at the next ANS 3 meeting
10	**Date: 2001Apr04** **Status: Awaiting Kozak conversation with Chandler and Mallay** **Date: 2001Aug09** **Status: Complete** **Pending input from Alan Kozak** **Date: 2001Aug27** **Status: Complete**		**Kozak** **Collins (Vick)** **McCullough**	Propose security criteria for Simulators operating in Exam Mode 2001aug27 Kozak Contact was made with James Mallary (NUPPSCO) to clarify the comment concerning "non-prescriptive" His concern was the inclusion of further details within the body and stated that if this was not the case then he has no further comment. Contact could not be made with Harish Chandler. Information gathered via the ANS survey presents the fact that all of the responding sites are applying Exam Security measures that meet the requirements of their training programs and review from other agencies, i.e. NRC, INPO. It can be safely assumed that non responders are doing like wise. Based on this information no further action should be needed for this AI. 2001Apr04

				Kozak PPT Presentation outlining several Security concerns. The presentation is included in the AI-10 documentation dated 2001Apr04. Final conclusion was that the current wording is sufficient. AI Originator: Parking Lot Issue 2001Apr05 Kozak Two NUPPSCO comments: NUPPSCO supporting comment: James: Mallay stated that this item should be non-prescriptive. NUPPSCO supporting comment: Harish Chandler Kozak will call Chandler and Mallay and discuss their NUPPSCO **2000mar09** Determine source of Exam Security comment
11	**Date: 2001Apr05** **Status: Complete** **Moved to AI 13**		**Felker** **Collins** **(Vick)**	Standard Section 3.1.4 - Add information notices and any other information; establish threshold of documents to be reviewed. Correspondences change over time. Discuss at next meeting with Felker present. Origin: Parking Lot List 2001Apr05 Deferred for later discussion pending more important issues
12	**Date: 2001Aug09** **Status: Complete**			Intentionally Left Blank
13	**Date: 2002oct29** **Status: Complete**	Priority 1 – Waiting input from Florence on	**Felker** **Florence** **Colby**	Standard Section 3.1.3(7) - Rated coolant Flow - are BWR's OK with this? Review entire list in section 3.1.3 for applicability. Review present parameter list.

		feedback from industry		Colby has additional information for discussion at the next meeting. Consider instrument accuracy relating to different plant types. 2002OCT29 Florence Approved change of 3.1.3 items 1 trough 5 from April 22-25, 2002: Action item #13. The new words in Item 1 includes the intent of old items #1, 2, 3, 5, 7, and 10 and as a result has replaced them. Old item # 8 wording changed in new item #2 to be consistent with wording in new #1. Old item # 4, # 6 and #9 were not changed and are now new item #3, 4, and 5. The main reason for the change is to eliminated unnecessary wording contained within various tables of the Standard and to make them a little more in tune with the industry as it exist in today's environment. This was also the consensus of the industry peer group based on a survey conducted by the ANS Working Group. Origin: Parking Lot List Review all List; Combined with the 3.1.3(7) item (Moved from 23); Standard Section 3.1.4 - Add information notices and any other information; establish threshold of documents to be reviewed. Correspondences change over time. Discuss at next meeting with Felker present. Note: Review associations between removal of List and Appendix. 2001Apr05 Moved AI 11 to AI 13

				Deferred for later discussion pending more important issues Felker: The Simulator shall cause an alarm or automatic action only if the reference plant would have caused an alarm or automatic action. Suggestion to replace Sections 4.1.3 and 4.1.4 with the language above. 2001Apr05 Felker – Tables that remain in the 2003 Std should updated or noted as Historical. Florence – Recommendation for wording in Section 3.1.3. See Notes in Minutes Body. 2001Apr04 Colby Presented the History of the Critical Parameters list. 2001
14	**Date: 2002apr23** **Status: Complete** **Motion**	Priority 1 –	**Paris** **Felker** **Florence** **Chang**	2001Aug 09 SK Chang proposes including *synchronization* in the new definition for stimulated device. Hal Paris and SK Chang to provide working group a revised document regarding stimulated devices in one month. Members shall respond within 30 days. Review guidance on stimulated devices. Combine stimulated hardware and stimulated devices. Issues relating to various stimulated device functions and compatibility with the simulator (e.g. Run/Freeze, History retention and Recalls/Backtracks, software revision control) 2002apr23

				Motion: Change Definition of Stimulated Hardware to Stimulated Components with the definition of Stimulated Components: • **stimulated components** Hardware/software components that are integrated to the simulator process via simulator inputs/outputs which perform their functions parallel to, and either independently of or synchronized with the simulation process • Replace Stimulated hardware and Stimulated Device with Stimulated Components 2001Apr04 Paris Recommends new definition: Old Definition: "**Stimulated hardware.** Components or devices that perform their functions independently of and parallel to the simulation process" 2001Apr05 Paris Considerations for new definitions for later review New Definitions: Suggested choices for new definitions: **stimulated hardware.** Components or devices that are integrated to the simulator process via simulator inputs and/or outputs which perform their functions independently of and

				parallel to the simulation process". **stimulated components.** Hardware or software components that are integrated to the simulator process via simulator inputs and/or outputs which perform their functions independently of and parallel to the simulation process". **stimulated components.** Components or devices that are integrated to the simulator process via simulator inputs and/or outputs which perform their functions independently of and parallel to the simulation process". **stimulated components.** Hardware or software components that perform their functions independently of and parallel to the simulation process" and Change Stimulated Hardware to Stimulated Device Originator: NUPPSCO comments 1998 review process and in Butch's survey **2000mar09** Determine the source of this comment
15	**Date: 2000mar09** **Status: Complete** Presentation by Allan Kozak		**Collins (Vick)** **Kozak** **McCullough**	Numerous uses of Training Needs Assessment (TNA) Collins - Add paragraph in Section 3.0 detailing TNA and then remove all other references to TNA. Training Needs Assessment was changed to Training Impact Assessment **2000mar09** Determine Source of this comment
16	**Date: 2002apr24** **Status: Complete**	Priority 1 –	**Welchel** **Dennis**	Coordinate use of Discrepancy and Deviation. Consider Yoder #12.

	Motion No Carried			NUPPSCO Comment 2002apr24 Welchel Prepared and presented Deviation/Discrepancy and Differences replacement. Closed – Motion Not Carried **2001apr03** Welchel Discrepancy is used in sections 4.4.3.2 and 5.2. Webster's definition: Discrepancy-inconsistency Deviation – diverge
17	**Date: 2001Aug09** **Status: Complete**		**Dennis Welchel**	Get feedback from industry on actually how the 1998 standard is actually used. Use USUG meetings. Cataudella – Seabrook MANTG meeting (Aug-1999) comments: How to document Scenario Based Testing? Expand on what is V&V and what is necessary. Shelly – User feedback is not available for inclusion at this time. Develop Mission statement for working group. Cataudella – Problems implementing Scenario Based Testing. Benchmarking of various sites has shown use of V&V and scenario validation. **2000mar09** Welchel – Add relevant SSNTA meeting minutes to WG minutes. Wait for industry experience 2001Apr05

				Industry Feedback Callaway has implement the 1998 Standard and presently reports no concerns. **2001apr03** Welchel As of Jan 2001, Callaway (Scott Halverson) is the only simulator presently implementing the 1998 standard. The industry consensus, as expressed at the 2001 USUG meeting, is that implementing Scenario based testing for License Class Simulator Scenarios is unworkable. It is generally agreed that the Regulatory carrot for using the simulator for License Candidate Reactivity Manipulations, is a significant positive for adopting the 1998 3.5 ANS standard. Activity: MANTG Mar 2001 SSNTA Jan 2001 SCS Jan 2001 USUG Jan 2001
18	**Date: 2000mar09** **Status: Complete** **Closed Statement (**Do we need to put some boundaries as to the limits simulator**)**		**Kozak** **Shelly** **Cox** **Havens** **Florence**	Part-Task – Should Part-Task become part of the standard or remain as an appendix. Possibly look at tying the Standard body to the Appendix; Application of Full Scope Simulators. Outside interest are asking for uses of simulators that are not related to Operator Training. ~~Do we need to put some boundaries as to the limits simulator;~~(Closed 2001Apr05) Origin: Scope Change at Oconee Meeting 2001Apr05 Florence Moved from AI 22 Look at the use of Simulator, Simulation Facility; Definitions change Simulation Facility becomes Simulator; Simulation Facility is now defined as the collection of Simulators;

				Coordinate use of Simulator and Simulation Facility. 2001Apr05 Kozak Close the Boundry issue *Do we need to put some boundaries as to the limits simulator;* 2001Apr05 Kozak See Minutes Body **2000mar09** Presentation of Virginia Power Classroom/Part-task trainer at the 2000mar09 meeting Related AI: 41
19	**Date: 2001apr05** **Status: Complete** (This Item will be ask on Survey#2)		**Colby** **Florence**	Using the simulator for other than Operator Training. Uses in predictive analysis and design mods, SAMGS procedures changes; 2001Apr05 Colby Include this as part of Survey #2 and Closed **2000mar09** Scope change. This will require approval from ANS-3
21	**Date: 2000mar10** **Status: Complete** Keith Welchel wanted to dismiss this item. The WG agreed.		**Collins (Vick)** **Welchel** **Chang**	(JFC/KPW/JS) Hybrid Simulators. Hybrid Simulator refers to a simulator that implements many different technologies, source code vendors, different operating systems, integration vendors, etc. Maybe we need to have words that stipulate that testing needs to cover all the other changes we make to the simulator that may affect the operation of the simulator: Instructor Console, Operating Systems, New I/O, etc. (Voted to Dismiss-Consensus) Comments on regulation - The Working Group will not comment on regulations. The Standards Working Group is working in

				Working Group space. **2000mar10** Keith Welchel moved to dismiss this item. Jim Florence Seconded;
22	**Date: 2001apr05** **Status: Complete**		**Florence Kozak**	~~Workshops on Testing Philosophy (what are the benefits? testing that provides results); USUG participation;~~ ~~Schedule workshop during USUG at SCS in Jan. 1999. Develop materials for handout. Florence lead material development.~~ Closed 2001Apr05 Complete Look at the use of Simulator, Simulation Facility; Definitions change Simulation Facility becomes Simulator; Simulation Facility is now defined as the collection of Simulators Coordinate use of Simulator and Simulation Facility. Closed Moved to AI 18 Jim gave a presentation at the 2000 SCS conference during the USUG meeting.
23				Intentionally Left Blank
24	**Date: 2000mar09** **Status: Complete** **No Action.** Real-time at this time does not seem to be an industry concern at this time. Committee members had no issues with the definition or Section 4.1.1. Therefore, this		**Dennis DeLuca**	Real Time - Dennis will give further consideration and he will look at industry standards; Measuring Real-Time;

	AI was Closed.			
26	**Date: 2000mar10** **Status: Complete** Historical information was presented at the SCS conference. Dennis checked with ANS Headquarters and this issue was discussed in detail		**Dennis**	1985 ANS 3.5 Standard is Historical Standard; Dennis will follow up with Shawn and Mike Wright about Historical/Active Standards and how the present process does not follow the five year; How should we handle or should we comment that the 1985 ANS/ANSI 3.5 standard is now an Historical standard and is no longer in the ANSI catalog. Does the ANS 3.5 Working Group need to comment on this issue; Utilities would need to take exception by treating Certification as other; Mark up the Form 474 and state the other that you are going to do. Scenario Based testing (> 25%/yr.); Performance Based testing Plan Dennis will call Mike Wright confirming ANS-3 understands the Historical Standard issue
27	**Date: 2001Aug09** **Status: Complete**		**Collins(Vick)** **Dennis Koutouzis**	(JFC/TD) Possible cross-pollination with other standards. Frank and Dennis will contact others 2001Apr05 Dennis Reference: ANSI/ISA–77.20–1993 Fossil Fuel Power Plant Simulators – Functional Requirements Reviewed FAA WEB Site: www.faa.gov/nsp Simulator Qualifications: www.faa.gov/nsp/ac.htm Colby –To research Navy Simulator Systems Colby – To research Germany regulatory standards
28	**Date: 1999sep15** **Status: Complete**		**Florence**	Suggested a letter to Jim Stavely asking for a commitment to attend meetings along with 02Mar1999 meeting minutes; however, Jim Stavely resigned and submitted replacement resume Oliver Havens, Jr;
29	**Date: 2000mar10**		**Florence**	Vice-chair prepare letter to Jim Davis asking for commitment to

	Status: Complete		**Dennis**	attend meetings along with 02Mar1999 meeting minutes; Chair to sign and send. Chair to send letter to Jim Davis and Ken Rach thanking them for their past participation and asking them for substitute resumes.
30	**Date: 2001Apr05** **Status: Complete**		**Florence** **Welchel**	Jim Florence suggested that the following information be placed on the USUG Web Page: ANSI-3.5 Membership List, approved meeting minutes, meeting schedules and meeting agendas. Florence/Welchel will ensure WEB page is updated Florence: Check with Shawn (ANS) for WEB space. Check with USUG for WEB Space 2001Apr05 Florence Membership List Minutes Meeting Schedules Will not use ANS WEB Site All future approved ANS WG minutes will be placed on the USUG WEB site.
31	**Date: 1999sep15** **Status: Complete**		**Dennis**	Mission statement for Working Group for the 2003 standard. AI #31 added 1999sep14 **1999sep15:** Voted not to complete
32	**Date: 2001Apr04** **Status: Complete** **Motion**	**1999sep15**	**Colby** **Collins** **Koutouzis** **Havens** **Felker** **McCulough**	Description: Multi-Units. Application of reference unit simulators to non-referenced units. Butch has offered to survey the industry. INPO will assist by supplying information from their databases; Misc Info: Reg Guide 1.149 refers to Multi-Unit Plant, but 3.5 does not.

				Felker - Simulators other than the referenced unit are not covered by this standard; 2001Apr04 The WG, by Motion, closed AI 51 and 32. There was agreement that the 3.5 Standard does not cover simulator configured for Multi-Unit use. The Multi-Unit issues are basically training related and are not minimum reference unit Standard's space. Additional Survey questions will be directed by AI 50. The WG approved a motion to delete AI 32 and AI 51 and Colby will still ask survey questions concerning multi-unit plants. **2000Oct26:** **Butch will request bullets on Multi-Unit from the Group for next meeting**
33	**Date: 2001Apr04** **Status: Complete**		**Havens** **Kozak** **Shelly** **Welchel**	Change 24-month design change limit to some shorter period. **2001apr03** Welchel Proposed new wording: ***5.3.1.2 Subsequent Upgrade.*** *Following the initial upgrade, reference unit modifications determined to be relevant to the training program shall be implemented on the simulator within 24 months of their reference unit in-service dates, or earlier if warranted by a training needs assessment.* Requiring that a determination of the relevance to training and that a training needs assessment be completed should be sufficient. Recommendation is that the "24 months" be removed and that section 5.3.1.2 should read: ***5.3.1.2 Subsequent Upgrade.*** *Following the initial upgrade, reference unit modifications determined to be relevant to the training program shall be implemented on the simulator based on*

				training needs assessments in accordance with the criteria provided in 4.2.1.4. ***5.1.2.2 Subsequent Update.*** *Following the initial update, new data shall be reviewed, and the simulator design data base appropriately revised, once per calendar year. Modifications made to the reference unit shall be reviewed for determination of the need for simulator modification within 12 months.* ***5.1.2.2 Subsequent Update.*** *Following the initial update, new data shall be reviewed, and the simulator design data base appropriately revised, once per calendar year. Modifications made to the reference unit shall be implemented on the simulator based on training needs assessments in accordance with the criteria provided in 4.2.1.4.* . WG agreed to close this AI with no further discussion. The 12 and 24 month timelines could be used to ensure the modifications.
34	**Date: 2001Apr05** **Status: Complete**	**1999sep15**	**Welchel** **McCullough** **DeLuca** **Koutouzis**	Present standard does not address software bugs, discrepancies, and enhancements. Time limits only relate to plant design changes, no time limits are associated for simulator fidelity and enhancements. Origin: Welchel 2001Apr05 Closed – Other issues are handled with the Simulator Configuration Process Related AI: 36
35	**Date: 2001Apr05**	**2000mar08**	**McCullough**	Review the double column Draft Working Document prepared by

	Status: Complete		**Collins(Vick)**	Butch Colby 2001Apr05 McCullough Reviewed and recommend no changes at this time. Footnotes in the side-by-side format do not agree with the original document but this should clear up when the double format is deleted. Additional editorial work may be needed to ensure the footnotes align correctly.
37	**Date: 2001Apr05** **Status: Complete** **Group agreed to closed this item. No additional information required.**	2000mar08	**Koutouzis** **Collins(Vick)**	Five Required Control Manipulations Clarification 2001Apr05 Koutouzis No Update
38	**Date: 2001Apr05** **Status: Complete**	2000mar08	**Dennis**	Discuss the ANS definitions and process of Clarification and Interpretation 2001Apr05 Refer to Meeting Minutes {find the meeting minutes and place here}
39	**Date: 2001Apr05** **Status: Complete**	2000mar08	**McCullough** **Florence** **Felker**	Consider differentiating validation of Requal and Initial License Scenarios 2001Apr05 McCullough {Add LTI Document Here}
40	**Date: 2002oct31** **Status: Complete**	Priority 1	**Cox** **Vick** **Florence**	Appendix Update for Scenario Based Testing Documentation. 2002oct31

			Collins **McCullough**	Florence New Appendix E Accepted See Minutes Appendix 2001Apr05 Draft a Scenario Based Testing Guideline (new) Appendix
41	**Date: 2000Oct26** **Status**: **Complete**	2000mar08	**DeLuca** **Colby**	Appendices consideration up-front and not as an after thought. Tie documentation and Testing to the Standard Body Related AI: 18 **Resolution (2000Oct26 – Colby)**: Continue using Appendices A and B as is Recommendation to revisit appendices content Consider moving Appendix D (Part-Task) into standard main body Related AI-18
42	**Date: 2002apr23** **Status: Complete** **Motion**	Priority 1 -	**Chang** **Felker** **Cox**	Use of Verification and Validation Origination: Colby Survey **2002apr23** **Closed by Motion** **2000Oct26:** **Change to look at Survey and determine the issues with Verification and Validation and bring to next meeting** **Origin: ANS 3.5 WG Survey #1** **2001Apr05** **Felker** **The use of V&V as espoused through the IEEE 7xxx**

				standards for SW Validation. We have outside documentation regarding the use of the term SW Validation &Verification; **It is not V&V as defined in the Nuclear Industry.** **2001Aug09** **SK will put out a revised document on V&V in one week. Members shall respond within 30 days.**
43	**Date: 2001Apr03** **Status: Complete**	2000mar08	**Welchel**	Send 1998 Standard NUPPSCO comments to: Hal Paris Bob Felker Bud Havens **2001apr03** Welchel - Delivered 2001apr03
44	**Date: 2002oct29** **Status: Complete**	Priority 1 -	**Paris** **Havens** **Chang**	Clarify Simulator Repeatability wrt to Real-time and not Scenario Based Testing. Repeatability is not specified for Scenario Based Testing but is related to Real-time. 2002oct29 Paris Closed Refer to 2002apr motion to leave wording as is. This item is closed (originated form 1998 NUPSCO comments TVA) 2001Apr05 Paris Concern: What is Repeatability? Further review is needed. See Attachment for AI 44 **2000Oct26:** **Hal and Group will review the use of these terms and consistency**

45	**Date: 2000Oct26** **Status: Complete**	2000mar08	**Shelly Chang Havens**	Clarify Overrides do not have to be tested like Malfunctions and are not Malfunctions. (Survey Comment 3.15 p20) **2000Oct26:** **Non-issue because it's related to CFR and not the standard** Not all Overrides need to be tested Only Overrides in Scenarios need to be tested AI45 Originated from Colby survey Confusion between the CFR about 25%/yr and the 98 standard linking Overrides to Malfunctions Recommend that this is a non-issue and should be closed because its not an issue with the standard but is with the 10CFR Part 55
46	**Date: 2001Aug09** **Status: Complete**		**Committee**	Request members review the other parts of the survey and comment. Members are ask to review and submit two bullets that they consider important for further ANS3.5WG consideration
47	**Date: 2000Oct26** **Status: Complete**	2000mar09	**Colby**	Send Thank You notes to all Survey Participants
48	**Date: 2000Oct26** **Status: Complete**	2000mar09	**Colby**	Modify DCD Training Needs Assessment to Training Impact Assessment **2000Oct26:** **Deleted due to Motion by Felker being Carried** **WG decided to revert back to Training Needs Assessment**
49	**Date: 2000Oct26** **Status: Complete**	2000mar09	**Kozak**	Determine source of Training Needs Assessment Related AI: 15 **2000Oct26:** **Could not determine the Source of Training Needs Assessment**
50	**Date: 2001Apr04** **Status: Complete** **Redundant to AI 10**	2000mar09	**Colby**	Additional survey concerning Exam Security Concerns 2001Apr05

				Colby Close redundant to AI 10. Closed 2001Apr04 Kozak presented a PPT presentation outlining and defining security issues Closed based on better understanding of NUPPSCO.
51	**Date: 2001Apr04** **Status: Closed by Motion**	2000mar09	**Colby**	Send out another survey concerning Multi-unit questions and will try to target Simulator, Training, and OPS 2001Apr04 The WG, by Motion, closed this AI 51 and 32. There was agreement that the 3.5 Standard does not cover simulator configured for Multi-Unit use. The Multi-Unit issues are basically training related and are not minimum reference unit Standard's space. Additional Survey questions will be directed by AI 50. The WG approved a motion to delete AI 32 and AI 51 and Colby will still ask survey questions concerning multi-unit plants;
52	**Date: 2000Oct26** **Status: Complete**	2000mar09	**Felker**	Locate previous Multi-Unit work completed by the 1993 WG. Bob will contact Bill Geiss **Resolution**: 2000Oct26 Felker Material does not exist.
53	**Date: 2001Aug09** **Status: Complete**		**Colby**	Review the Appendix A – A(3) (BOM). Consider removal of the BOM list and replace with I&C list 2001Apr05 Colby March 2000 meeting minutes Working Doc Editor to remove BOM from Appx A
54	**Date: 2000Apr05**	2000mar09	**Vick**	Aquire US Government Style Guide

	Status: Complete			2001Apr05 Style manual given to Style Editor.
55	**Date: 2000Oct25** **Status: Complete**	2000oct25	**Dennis**	Distribute Robert Boire work assignments 2001Oct25 Completed
56	**Date: 2000Oct26** **Status: Complete**	2000oct25	**Colby**	Contact Mr. Cox (Com Ed) for 3.5 WG participation. **2000Oct26** **Colby called Mr Cox but Mr Cox is out until 2000Oct30.** **Terrill Laughton attended on behalf of Mr Cox**
57	**Date: 2002Oct29** **Status: Complete**	Priority 1 -	**Dennis** **Vick** **Colby**	Remove all references to 3.1 2002oct29 Dennis - Closed Verified by working group in Standard Draft Rev 6. 2002apr24 Dennis Vick and Colby will determine the changes necessary and bring these to the committee for approval. Revised wording presented to Working Group. One negative comment resolved by personal review of ANS-3.1; Motion passed to accept wording (see 14.11 2002apr22 minutes) 2002apr23 Dennis Get Copy of 3.1 for review. 2001Apr05

				Dennis Deferred for later discussion.
58	**Date: 2002apr24** **Status: Complete**	Priority 1	**Dennis**	Send Robert Boire a note of thanks for his participation 2002apr24 Dennis Closed Letter reviewed by members. 2002apr23 Dennis Letter sent. Get copy of letter for members review. 2001Apr05 Dennis Letterhead not available. Florence will contact Shawn at ANS and request letterhead.
59	**Date: 2002apr23** **Status: Complete**	Priority 1	**Florence McCullough**	Develop a list of Action Items for 3.5-WG resulting from the 2000Oct26 USUG Ops Test Directors Meeting at DC Cook 2002apr23 Closed Closed – Items were reviewed by WG in the Oct 2000 meeting and they were incorporated into the Working Groups public comment to the NRC's proposed rule change. 2001Apr05 Florence Deferred until Florence communicates with McCullough
61	**Date: 2001apr03** **Status: Complete**	2000oct26	**Welchel** **Dennis**	Write letter to NRC concerning the WG comments on the proposed rule change 2001apr03 Welchel – Letter Written and mailed to NRC stating the three

				issues regarding the proposed rule change.
62	**Date: 2001Aug09** **Status: Complete**		**Koutouzis**	Send Meeting Materials to Absent members;
63	**Date: 2001Aug09** **Status: Complete**		**Dennis**	Address the problem of other standards placing requirements on the ANS 3.5 Standard without our knowledge. (NFSC Sub-Committee I);
64	**Date: 2001Aug09** **Status: Complete**		**Florence** **Dennis**	Florence to prepare W. DeLuca letter for T. Dennis signature;
65	**Date: 2001apr03** **Status: Complete**		**Welchel**	NUPPSCO comment to Kevin Cox (Complete)
66	**Date: 2001Aug09** **Status: Closed**		**Havens**	Scan NRC Form 398 and Email to WG members
67	**Date: 2001Aug09** **Status: Complete**		**Dennis**	Contact Shawn concerning Clarification Statement 2001jul11 Ms. Shawn M. Coyne-Nalbach NFSC Secretary American Nuclear Society 555 North Kensington Avenue La Grange Park, IL 60526-5592 Dear Ms. Coyne-Nalbach: Subject: Request for Clarification Reference: ANSI/ANS-3.5-1998 Standard Document, Section 4.4.3.2 I am a supervisor for the Nebraska Public Power District's Cooper Nuclear Station responsible for maintaining the functional requirements for our full-scope nuclear power plant control room simulator used for operator training and examination. I am writing this letter to your organization to request a clarification to the reference document in regards to Simulator Scenario-Based Testing.

				Section 4.4.3.2 of the reference document states that scenarios developed for the simulator, including the appropriate instructor interfaces and cueing, shall be tested before use for operator training or examination. The simulator shall be capable of being used to satisfy predetermined learning or examination objectives without exceptions, significant performance discrepancies, or deviation from the approved scenario sequence. A record of the conduct of these tests, typically in the form of a completed scenario or lesson plan checklist, and the evaluation of the test results, shall be maintained. I am concerned that the Standard requires scenarios developed for the simulator shall be tested before use for operator training or examination. It appears that this requirement may not be achievable with all operator training programs, namely initial license candidate training programs. Please clarify the preceding paragraph by addressing the following questions: 1. What is the intent of scenario-based testing? Does scenario-based testing impose additional training program requirements? ANS-3.5 Working Group answer: Scenario Based Testing is intended to best utilize, to the extent possible, the existing training scenario development process without imposing additional training program requirements. 2. How does scenario-based testing interface with simulator performance testing? ANS-3.5 Working Group answer: Simulator performance testing comprises Operability and Scenario Based Testing and establishes a test program to ensure simulator performance for the use in operator training and examination. 3. Do simulator users have to test each scenario before every use, including those utilized to support initial license candidate training programs? Can training programs that utilize simulators currently certified to previous editions of the standard take testing credit for

				simulator performance testing and simulator scenarios previously developed and approved for use in operator training or examination? ANS-3.5 Working Group answer: Users of the standard are encouraged to take testing credit for simulator performance testing and simulator scenarios previously developed and approved for use in operator training or examination. This does not imply that a scenario shall be tested before every use, however the following items should be considered before subsequent use of the approved scenario developed for operator training or examination: * If the training process requires revalidation of the scenario; * Whenever models or simulator capabilities are changed or modified in a way that affects the scenario performance. If any of the above items have occurred and impact the scenario, the scenarios shall be re-tested before use for operator training or examination. I would appreciate a clarification statement from the ANS-3.5 Working Group. Thank you for your attention to my request. Sincerely, James B. Florence Simulator Supervisor Nebraska Public Power District Cooper Nuclear Station Brownville, NE 68321 Phone: 402-825-5700 Pager: 402-977-3692 Fax: 402-825-5584 Email: jbflore@nppd.com
69	**2002apr24** **Status Complete**		**Vick**	Check out and report information on SECY-01-0125 2002apr24 Vick

				Simulator rule is in effect Nov 16,2001 and SECY reference is now background info only.
70	**Date: 2002oct29** **Status: Complete**		**Florence**	Come up with a set of rules for use and what will go on the web site. **2002oct29** Florence Closed WEB Site Changes: • Only latest minutes will be posted • Contact Keith Welchel to request previous minutes • ANS 3.5 WEB will not be password protected • Remove membership contact info accessible by general public 2002apr24 Florence Handout presented to members for review. AI-70 will be closed when the ANS 3.5 WEB site is password protected. Password protect the ANS 3.5 WEB site and post amended ANS 3.5 WEB page use policy.
71	**Date: 2002apr24** **Status: Complete**		**Dennis**	Vary if ANS normally provide the minutes of group meetings 2002apr24 Dennis Provided by request by ANS.
72	**Date: 2001Nov27** **Status: Complete**		**Shelly**	Check if we can add an appendix and still reaffirm **2001Nov27** **Shelly**

				I contacted Suriya with this question, and his response was that a standard can be reaffirmed if the appendix/annex will be informative. If the additional appendix is informative, then you should supply a statement in the foreword regarding this informative piece. The statement in the forward is NOT required but highly recommended. The standards can not be reaffirmed if the additional appendix will be normative. In this case the standard will have to be considered under the revision process through ANSI. According to Webster's, NORMATIVE means "of, relating or conforming to, or prescribing norms". Based on this, we could add an appendix to the standard and still reaffirm the current standard, but we must ensure the appendix contains clarifying information and doesn't prescribe any new requirements or parameter limits. I consider this action closed unless someone knows of a need for further: research this issue.
73	**Date: 2002apr24** **Status: Complete**		**Dennis**	Send the clarification letter to ANS on the Scenario Based Testing 2002apr24 Dennis Published in the Nuclear Standards News, Vol. 33/No. 2 March-

				April 2002
74	**Date: 2002apr24** **Status: Complete**		**Dennis**	Contact ANS Standards Administer to determine if we can refer to documents other than ANS Standards 2002apr24 Dennis
75	**Date: 2002apr24** **Status: Complete**		**Florence**	Contact the industry 2002apr24 Florence does not know what this is about. Recommend to close .
76	**Date: 2002apr24** **Status: Complete**		**Colby** **Paris**	To research Germany regulatory standards and navy standards 2002apr24 Colby Most International simulator customers refer to ANS 3.5 in their purchase spec
77	**Date: 2002apr22** **Status: Complete** **Dennis**		**Dennis**	Determine if the ANS 3.5 Working Group name will change due to the ANS 3 to ANS-21 name change. Closed 2002apr22 Dennis contacted Suriya Ahmad at ANS headquarters and no change is planned for ANS 3.5.
78	**Date: 2002apr24** **Status: Complete**		**Welchel**	AI16 - Prepare a document for review by ANS members that shows the result of substituting Difference for Deviation/Discrepancy. 2002apr24 Colby

				Prepared summary of all Deviation/Discrepancy and Difference replacements and reviewed with members.
79	**Date: 2002oct30** **Status: Complete**		**Vick** **Cox** **Kozak**	Bring to the committee recommendation for implementing Roberts Rules or Order. (i.e. Revisiting Motions Not-carried) **2002Oct30** **Cox** **Consensus that Robert's Rules of Order will used a general guide**
81	**Date: 2002Oct29** **Status: Complete**		**Dennis**	Get copy of ANS 3.1 for members review. **2002oct29** **ANS 3.1 is no longer referenced in ANS 3.5; No need for ANS 3.1.** **2002Apr24 Closed** **Dennis** **Copy of ANS-3.1 obtained from ANS Standards Secretary.** **Copy given to requesting Working Group member for review.**
82	**Date: 2002apr24** **Status: Complete**		**Dennis**	Get copy of Letter of thanks to Robert Boire for members review 2002apr24 Dennis Members reviewed letter
83	**Date: 2002oct30** **Status: Complete**		**Colby**	Compare 3.1.4 Malfunction List with 10 CFR Part 55.59 **2002oct30** **Colby** **Reviewed items that are in 10CFR55.59 but are not in the Standard. This item was discussed before.** **This item may be discussed in AI-68.**

				2002oct29 Colby Reviewed 10CFR55.59 List (See Appendix AI-83)
84	**Date: 2002oct29** **Status: Complete**		**Florence**	Review 4.4.3.1 for clarity concerning SBT and to remove Certification reference **2002oct29** **Florence** Complete Refer to AI-40 AI-84 was completed at Jackson meeting via AI-40. Cannot find reference in past minutes why this AI was created. AI-84 has been completed and is thus Closed.
85	**Date: 2002Oct28** **Status: Complete**		**Welchel**	Create another Bucket to place 2008 deferred AI's **2002Oct28 Closed** **Welchel** **New Section and Table to Hold Deferred Action Items**
86	**Date: 2002oct29** **Status: Complete**		**Colby** **Florence**	Create Frank Collins Plaque for review membership 2002oct29 Colby Colby create a plaque for the group to consider. Plaque is mahogany base with Brass ANS Logo and wording.
87	**Date: 2002oct29** **Status: Complete**		**Colby**	Review MANTG Simulator Historical base-line data 2002oct29 Colby Closed – Reference Section 5.1 "Current Simulator"
89	**Date: 2002oct29** **Status: Complete**		**Shelly** **Vick**	Review 4.4.3.1 "once per year on a calendar basis language"

				2002oct29 **Shelly** **Defeated on Motion**
96	**Date: 2002Oct30** **Status: Complete**		**Kozak** **Chang**	Locate a copy of INPO document concerning pre-running Scenarios and determine what validation is required. **2002Oct30** **ACAD 90-022 – "Guidelines for Simulator Training"** **The document uses the word "should" to validate scenarios before use in operator training.** **This document is only a guide.**