1. **VISITORS** ........................................................................................................................................ 4
2. **MEMBERSHIP AND ATTENDANCE** ................................................................................................. 5
3. **ACTION ITEMS** .................................................................................................................................... 7
   3.1 Action Item Quick-look Table 7
   3.2 New Action Items 8
4. **WORKING GROUP PROCEDURAL RULES** ..................................................................................... 14
   4.1 Rules of the Chair 14
   4.2 Rules Enacted by the Working Group 14
5. **TUESDAY 2011 JAN 25 (0800)** ..................................................................................................... 15
   5.1 Introduction (Lee Linton) 15
   5.2 Roll Call 15
   5.3 Consensus Level 16
   5.4 Agenda Approved 16
   5.5 Business Rules 16
   5.6 Members Reviewed Rules of the Chair (no change) 16
   5.7 Officers Reports 16
   5.8 NRC (Vick) 17
   5.9 New Membership Introductions (Florence) 17
   5.10 Standard Scope Development 17
   5.11 Recessed: 1720 19
6. **WEDNESDAY 2011 JAN 26 (0800)** ............................................................................................... 20
   6.1 Roll Call 20
   6.2 Consensus Level 20
   6.3 Scope –Continued 21
   6.4 Recessed: 1830 24
7. **THURSDAY 2011 JAN 27 (0800)** .................................................................................................. 25
   7.1 Roll Call 25
   7.2 Consensus Level 25
   7.3 Review Project Initiation Notification System (PINS) Form 26
   7.4 Action Item Review 26
   7.5 New Action Items 26
### 7.6 NEW FOCUS AREAS

| 7.6.1 | Tech Support and other Simulator Uses | 28 |
| 7.6.2 | DCS Inclusion | 29 |
| 7.6.3 | Experience Requirements (Reactivity Control Manipulations) | 29 |
| 7.6.4 | Other Simulation Devices | 29 |

### 7.7 NEW BUSINESS

| 7.7.1 | Cyber Security | 30 |
| 7.7.2 | Initial Conditions | 30 |

### 7.8 NEXT MEETING

| 7.9 | ADJOURNED: 1345 | 30 |

### 8. ATTACHMENT - STYLE GUIDE REVIEW (SK CHANG)

---

Approved Minutes Crystal River
1. **Visitors**

<table>
<thead>
<tr>
<th>Visitor</th>
<th>Date</th>
<th>Affiliation</th>
<th>Email, Phone Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Tim Dennis</td>
<td>2011Jan25</td>
<td>645 Lehigh Gap St. P. O. Box 119 Walnutport, PA 18088-0119</td>
<td>Email: <a href="mailto:a243@yahoo.com">a243@yahoo.com</a> Phone: 610-767-0979 Fax: 610-767-7095</td>
</tr>
<tr>
<td>Observer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Burkhard Holl</td>
<td>2011Jan25</td>
<td>PO Box 150251 45242 Essen Germany</td>
<td>Email: <a href="mailto:b.holl@ksg-gfs.de">b.holl@ksg-gfs.de</a> Work: +49/201/4862-172 Fax: +49/201/4862-404</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
## Membership and Attendance

<table>
<thead>
<tr>
<th>Present</th>
<th>Member</th>
<th>Address</th>
<th>Notes-Proxy</th>
<th>Email-Phone-Fax</th>
</tr>
</thead>
</table>
| Present | Jim Florence    | Nebraska Public Power District  
P. O. Box 98  
Brownville, Nebraska  68321                                           |                                                                            | Email: jbflore@nppd.com  
Phone: 402-825-5700  
Fax: 402-825-5584 |                                        |
| Present | Robert Felker    | Western Services Corporation  
7340 Executive Way, Suite A  
Frederick, MD 21704                                                      |                                                                            | Email: felker@ws-corp.com  
Phone: 301-644-2520  
Fax: 301-682-8104  
Cell: 240-344-5889 |                                        |
| Present | Keith Welchel   | 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 | L-3 MAPPS  
8565 Cote-de-Liesse  
Quebec, Canada  
H4T 1G5                                                                |                                                                            | Email: butchcolby@comcast.net  
Email: butch.colby@l-3com.com  
Phone: (410) 961-7535  
Fax: (410) 756-1954 |                                        |
| Present | Lawrence (Larry) Vick | US NRC, Office of Nuclear Reactor Regulation  
07-G13  
Washington, DC 20555                                                    |                                                                            | Email: lawrence.vick@nrc.gov  
Phone: 301-415-3181  
Fax: 301-415-3061 |                                        |
| Present | George McCullough | GSE Systems, Inc  
2300 St. Marys Road Suite D  
St. Marys, GA 31558                                                      |                                                                            | Email: gsmccullough@gses.com  
Phone: 912-576-6730  
Cell: 410-707-6946 |                                        |
| Present | Dennis Koutouzis | INPO  
700 Galleria Parkway, NW  
Atlanta, GA 30339-5957                                                   |                                                                            | Email: koutouzisjd@inpo.org  
Phone: 770-644-8838  
Fax: 770-644-8120 |                                        |
| Present | Frank Tarselli   | 129 Abbey Rd  
Sugarloaf, PA 18249                                                     |                                                                            | Email: frankt64@epix.net  
Phone: 570.542.3717  
Cell: 570-956-0303  
Fax: 570.542.3855 |                                        |
| 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 |                                        |
| Present | Robert Goldman   | Entergy  
1340 Echelon Parkway  
Jackson, MS 39213-8298                                                  |                                                                            | Email: rgoldma@entergy.com  
Phone: 601-368-5582  
Fax: |                                        |
| Present | David Goodman    | Luminant  
PO Box 1003  
Glen Rose, TX 76043                                                      |                                                                            | Email: david.goodman@luminant.com  
Phone: 254-897-5636  
Fax: 254-897-5714 |                                        |
| Present | Jody Lawter | VC Summer Nuclear Station  
PO Box 88  
Jenkinsville, SC 29065 | Email: jody.lawter@scana.com  
Phone: 803-345-4854  
Fax: 803-931-5616 |
|---|---|---|---|
| Present | Mac McDade | Progress Energy – Harris Nuclear Plant  
3932 New Hill–Holleman Rd  
New Hill, NC 27562 | Email: mac.mcdaile@pgnmail.com  
Phone: 919-362-3319  
Fax: 919-362-3346 |
| Present | Michael Petersen | Xcel Energy – Prairie island – Monticello  
1660 Wakonade Drive West  
Welch, MN 55089 | Email: Michael.petersen@xenuclear.com  
Phone: 651-388-1121 x 7253  
Fax: 651-330-6282 |
| Present | Pablo Rey | Tecnatom, s.a.  
Avda. Montes de Oca, 1  
San Sebastian de los Reyes, 28703 - Madrid | Email: prey@tecnatom.es  
Phone: +34-6-079-99218  
Fax: +34-9-165-98677 |
| Present | James Sale | North Anna Power Station  
11022 Haley Drive,  
PO Box 402  
Mineral, Virginia 23117-0402 | Email: jim.sale@dom.com  
Phone: 540-894-2464  
Fax: 540-894-2931 |
| Host | Lee Linton | Crystal River 3 Nuclear Power Plant Training Center  
8200 West Venable St.  
Crystal River, FL 34429 | Email: lee.lintonjr@pgnmail.com  
Phone: (352) 795-0504, x 6258  
Fax: |
3. **Action Items**

3.1 Action Item Quick-look Table

<table>
<thead>
<tr>
<th>Open</th>
<th>Complete</th>
<th>Carried to Next Standard</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>11</td>
<td>12</td>
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<tr>
<td>21</td>
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### 3.2 New Action Items

<table>
<thead>
<tr>
<th>No.</th>
<th>Status</th>
<th>Date</th>
<th>Assigned To:</th>
<th>Work Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2010oct05</td>
<td><strong>Florence Lawter Sale</strong></td>
<td>Appoint new members for officer development (job shadow for position development). Parliamentarian Assist Lawter, Sale</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>2010oct06</td>
<td><strong>Koutouzis McCullough</strong></td>
<td>2009 AI-60 Define the Term <strong>Training Needs Assessment</strong> in such a manner that it is clear in intent to both Training and Simulator staff</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>2010oct06</td>
<td><strong>Tarselli Vick</strong> Chang Fraser Felker**</td>
<td>2009 AI-132 Review Malfunction Testing. Are all list required? What constitutes Malfunction testing is unclear Better define Malf causes.</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>2010oct06</td>
<td><strong>McCullough Florence Tarselli Colby</strong></td>
<td>2009 AI-134 Minimum testing Periodicity Build Periodicity into the standard</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>2010oct06</td>
<td><strong>Welchel Lawter Petersen</strong></td>
<td>2009 AI-147 2009 AI-180 Non-fully integrated mode performance testing Where applicable run performance test off-line</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>2010oct06</td>
<td><strong>Vick Goldman</strong></td>
<td>2009 AI-150 Review the term Power Range for consistency Confusion about the term Power Range.</td>
</tr>
<tr>
<td>8</td>
<td>2010oct06</td>
<td>Chang</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Tarselli</td>
<td></td>
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<td></td>
<td>Felker</td>
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<tr>
<td></td>
<td></td>
<td>2009 AI-162</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review Appendix B parameters against the standard body</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>MANTG comments App. B parameters and std body &amp; are not consistent.</td>
<td></td>
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</tr>
</tbody>
</table>

| 9 | 2010oct06 | Felker |
|   |           | Lawter |
|   |           | McCullough |
|   |           | Fraser |
|   |           | Colby |
|   |           | Goodman |
|   |           | McDade |
|   |           | Koutouzis |
|   |           | Rey |
|   |           | Sale |
|   |           | 2009 AI-163 |
|   |           | Next generation simulators |
|   |           | New builds. |
|   |           | Public review comments that the WG did not consider new builds. |
|   |           | Examine unique issues with new builds. |
|   |           | Review will ask if 3.5-2009 provides sufficient guidance for new builds. |

| 10 | 2010oct06 | McCullough |
|    |           | Felker |
|    |           | McDade |
|    |           | Goldman |
|    |           | 2009 AI-179 |
|    |           | Real-time and Repeatability testing Periodicity |
|    |           | 2009 Public review comments. |
|    |           | Methodology to demonstrate real-time. |

| 11 | 2010oct06 | Goodman |
|    |           | Vick |
|    |           | Petersen |
|    |           | Chang |
|    |           | 2009 AI-181 |
|    |           | Section 5 rewrite |
|    |           | 2009 Westrain Comment #60 |
|    |           | Configuration Management expectations needs strengthening |
|    |           | Performance based. |
|    |           | V&V is part of configuration mgt. (Section 4) possible a better fit in Section 5 |
|   | Complete: 2010oct22 | 2010oct06 | Florence | Invite ANS-21 Chair to WG meeting
|   |                   |           |          | ANS-21 Chair
|   |                   |           |          | Gene Carpenter
|   |                   |           |          | Two White Flint North
|   |                   |           |          | Washington, DC 20555-0001
|   |                   |           |          | Mobile Ph: 202-579-5155
|   |                   |           |          | Work Ph: 301-415-7333
|   |                   |           |          | Email: gene.carpenter@nrc.gov |
| 12 | Complete: 2011jan28 | 2010oct06 | Florence | Send letters of appointment to new working group members and their respective facility management
|   |                   |           |          | Letter to new working group member and manager. |
| 13 | Complete: 2011jan28 | 2010oct06 | Florence | Coordinate next ANS-3.5 Meeting at the Crystal River Nuclear Power Plant in January 2011 |
|   |                   |           |          | Send a letter to the NEI in an effort to promote NEI participation in the ANS-3.5 Working Group and to develop a more collaborative relationship. |
| 15 | Complete: 2011jan28 | 2010oct06 | Florence | Sale
|   |                   |           |          | Rey
|   |                   |           |          | McCullough
|   |                   |           |          | Tarselli
|   |                   |           |          | Chang
|   |                   |           |          | Koutouzis
| 16 | 2011jan28          |           | Sale     | Consider the option to include other uses of the simulator in footnote 1 on Page 1 of the Standard (e.g. - technical support). This was a consideration during the development of the scope statement in lieu of explicitly mentioning other uses of the simulator in the scope statement.
<p>| | | | |</p>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>17</strong></td>
<td>2011jan28</td>
<td><strong>McDade</strong>&lt;br&gt;Tarselli&lt;br&gt;Koutouzis&lt;br&gt;Petersen</td>
<td>Consider placing language in Section 1.2 Background to insert “experience requirements”: “It is intended that in meeting the criteria of this standard, the simulator will be sufficiently complete and accurate to meet the training needs of the industry as well as the requirements of the NRC, as described in <em>Code of Federal Regulations</em>, Title 10, “Energy,” Part 55, “Operators' Licenses” (10CFR55) and <em>station mandated experience requirements</em>. Consider language in Section 1.2 Background to add clarification regarding control manipulations allowed by 10CFR55.46 and how this standard supports it.</td>
</tr>
<tr>
<td><strong>18</strong></td>
<td>2011jan28</td>
<td><strong>Florence</strong>&lt;br&gt;Rey&lt;br&gt;Holl&lt;br&gt;Fraser</td>
<td>1) Contact ANS to determine international opportunities in Standard development. 2) Consider language in Section 1.2 Background to mention use of this standard by the international community. 3) Additional consideration in the Standard body for the international community. Acknowledge international regulatory authorities.</td>
</tr>
<tr>
<td>Page</td>
<td>Date</td>
<td>Name</td>
<td>Task</td>
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<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>19</td>
<td>2011jan28</td>
<td>Tarselli</td>
<td>Review the list below for inclusion into ANS 3.5 or other standards and basis for the recommendation:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>McCullough</td>
<td>• Engineering Assist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Goodman</td>
<td>• Simulation Assisted Engineering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chang</td>
<td>• EP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rey</td>
<td>• DCS Logic Control Validation</td>
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<td></td>
<td>• HFE – Human Factors Engineering</td>
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<td>• Tech Training – I&amp;C / Mechanical</td>
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<td>• Process Flow Diagrams</td>
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<td>• Spec. Operating Parameters</td>
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<td>• PRA</td>
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<td>• SAMG</td>
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<tr>
<td>20</td>
<td>2011jan28</td>
<td>McCullough</td>
<td>Identify areas in the standard that can be improved to address DCS</td>
</tr>
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<td></td>
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<td>Colby</td>
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<td>Tarselli</td>
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<td>Lawter</td>
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<tr>
<td></td>
<td></td>
<td>Fraser</td>
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<tr>
<td>21</td>
<td>2011jan28</td>
<td>McCullough</td>
<td>Evaluate the need for inclusion into the standard other simulation devices derived directly from the full scope control room simulator.</td>
</tr>
<tr>
<td></td>
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<td>Felker</td>
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<td></td>
<td>Koutouzis</td>
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<td>Lawter</td>
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<td></td>
<td></td>
<td>Goodman</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>2011jan28</td>
<td>Lawter</td>
<td>Review the recent regulatory cyber security guidance and OE to determine if cyber security should be included in the standard.</td>
</tr>
<tr>
<td></td>
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<td>Sale</td>
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<td></td>
<td></td>
<td>Welchel</td>
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<td>Vick</td>
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<td>Felker</td>
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</tr>
<tr>
<td>23</td>
<td>2011jan28</td>
<td>Vick Tarselli Rey Sale Florence Chang</td>
<td>Evaluate the need for including into Section 3.3.1 a set of IC criteria for ICs that are to be used when conducting the performance tests required by this standard.</td>
</tr>
<tr>
<td>24</td>
<td>2011jan28</td>
<td>Florence</td>
<td>Submit PINS Form to ANS Administrator</td>
</tr>
</tbody>
</table>
4. **Working Group Procedural Rules**

4.1 Rules of the Chair

- Interim Voting (Motions – Substantive Changes) shall be by Consensus (75% [rounded up] of quorum in session);
- The Chair rules that no Motions will be accepted when not in session;
- Administrative issues by simple majority (quorum in session);
- The Chair shall be informed of absences;
- The absent member is encouraged to send a proxy.
- A Proxy shall have voting privileges
- Members shall attend the full length of the meeting;
- Word 7.0 shall be the document format;
- The Host shall collect and send all handout material for absent members without proxy;
- Robert’s Rules of Order shall be used as a general guide;
- Guest Individual Contributors may receive working copy of the draft standard based on need;
- Chair approval shall be required for distribution of working copies of the draft standard;
- Members shall not Vote against their own non-amended Motion;
- The WG will through the course of normal business, generate confidential documentation applicable to the WG charter. As a result of this business, documentation could be released to the public through approved minutes posted on the ANS 3.5 WEB site. Other information may be released to the public as deemed appropriate by the WG Chair or Vice-Chair. In addition, information may be supplied to non-working group members on a need-to-know basis for the purpose of review and comment.

4.2 Rules Enacted by the Working Group

Missing two consecutive meetings in a row without representation could result in loss of membership on the committee.
5. **Tuesday 2011 Jan 25 (0800)**

5.1 Introduction (Lee Linton)

5.2 Roll Call

Present:
- Chang, SK
- Colby, Butch
- Florence, Jim
- McCullough, George
- Tarselli, Frank
- Vick, Larry
- Welchel, Keith
- Felker, Bob
- Koutouzis, Dennis
- Robert Goldman
- David Goodman
- Jody Lawter
- Mac McDade
- Michael Petersen
- Pablo Rey
- James Sale

Absent:
None
5.3 Consensus Level

16 - Voting members
16 - Voting members Present
9 - Quorum (Majority Total Membership)
12 - Consensus (75% Membership Attendees)
11 – Super Majority (2/3 Membership Attendees)
9 – Majority (> 50% Membership Attendees)

5.4 Agenda Approved

5.5 Business Rules

Roberts Rules of Order

5.6 Members reviewed Rules of the Chair (no change)

5.7 Officers reports

Florence
   No report
Welchel
   No report
Colby
   The standard working copy will be maintained in a two column format. The working copy is confidential to the working group and should not be shared outside the working group.
Chang
   Style Review (Attachment)
Koutouzis (INPO)
   Realism – Main emphasis are items within instructor control
   Fidelity – Time limited and performance triggered
USUG (Florence)
   No report
5.8 NRC (Vick)

- Reg Guide 1.149 Rev 4 - Proposed publication target end of March 2011
- IP71111.11 Inspection Process– No proposed changes
- NRC FAQ – Total review
- NRC is encouraging industry to adopt ANS 3.5-2009
- Note: Reg Guide is not a Rule

5.9 New Membership Introductions (Florence)

New members were introduced and welcomed to the working group:

Robert Goldman
David Goodman
Jody Lawter
Mac McDade
Michael Petersen
Pablo Rey
James Sale

5.10 Standard Scope Development

Brought forward from minutes 2010 Oct 05-06 Section 6.1 Standard Scope Development

- List of Simulator uses:
  - Engineering Assist
    - 201x – Needs Definition
  - Meeting Experience Requirements
    - 201x – Needs Definition
    - Utilize Classroom or Simulators other than Full Scope
  - Classroom, Soft Panel, Glass Top, etc Simulators
    - 2009 Appendix D is not referenced in standard body
    - Possibly use for meeting experience requirements
• List of new technologies and uses
  o New Builds
    ▪ Engineering Assist
    ▪ Human Factors
    ▪ Separate sections in next Standard could identify needs for:
      • Initial (new) Build Simulators
      • Continuing maintenance on “legacy” simulators
  o DCS
    ▪ Engineering Assist
    ▪ Human Factors
    ▪ Emulation
  o Virtual Reality

Discussion:

Moving the standard towards Engineering Assist: Today’s simulators are mainly used for the issuance of operator license examination requirements and changing the scope should not invalidate this main requirement.

Possible additions:

• Infrequently performed evolutions
• EP
• EOF Tech support

Today a simulator’s main use is in meeting training objectives.

Engineering simulator requirements are beyond the scope of training requirements.

Engineering Assist does not imply Engineering Simulator.

Referencing other standards is not permitted. Standards Law.
A robust discussion ensued concerning engineering use of an “operator training simulator.” Terms centered on Engineering Simulator and Engineering Assist. These terms are sometimes used interchangeably, when the actual use is quite different.

Several members stated the present standard is sufficient to build the new plant design simulators. Several other members expressed reservations that the present standard adequately addresses the new designs and DCS.

Additional discussions centered on DCS and possibly additional language specific to DCS.

Concerns were expressed that engineering references can possibly open the door for 10CFR50 Appendix B and NQA 1 audits.

Standard changes and additions that address recent technological shifts or improvements should be considered as to not become obsolete in short order.

Reoccurring themes from today’s discussion for Scope change considerations:

- Experience requirements – Reactivity control manipulations to satisfy experience requirements
- Engineering Assist – Simulator use in assisting unit engineering with unit modifications
- DCS – New and unique requirements and functionality
- Classroom Simulators – FS Simulation code used outside the FS Unit Control Room

5.11 Recessed: 1720
6. **Wednesday 2011 Jan 26 (0800)**

6.1 Roll Call

Present:
Chang, SK
Colby, Butch
Florence, Jim
McCullough, George
Tarselli, Frank
Vick, Larry
Welchel, Keith
Felker, Bob
Koutouzis, Dennis
Robert Goldman
David Goodman
Jody Lawter
Mac McDade
Michael Petersen
Pablo Rey
James Sale

Absent:
None

6.2 Consensus Level

16 - Voting members
16 - Voting members Present
9 - Quorum (Majority Total Membership)
12 - Consensus (75% Membership Attendees)
11 – Super Majority (2/3 Membership Attendees)
9 – Majority (> 50% Membership Attendees)
6.3 Scope –Continued

The morning was utilized discussing the scope regarding the use of the term Full Scope, and the characterization of operator training. Various scope examples were put forth by members and discussed.

Motion

<table>
<thead>
<tr>
<th>Motion:</th>
<th>Motion: Withdrawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCullough 2011 jan 26</td>
<td>x – For</td>
</tr>
<tr>
<td></td>
<td>x – Against</td>
</tr>
<tr>
<td></td>
<td>x – Abstained</td>
</tr>
</tbody>
</table>

This standard establishes the minimum functional requirements for nuclear power plant control room simulators for commercial power reactors subject to U.S. Nuclear Regulatory Commission (NRC) regulation. The standard also establishes criteria for the scope of simulation, performance, and functional capabilities of nuclear power plant control room simulators.

McCullough Supporting discussion:

- Added minimum because the standard defines the minimum required
- Simulator changed to Control Room Simulator further defines the subject matter
- Commercial Power Reactor used to further defines the subject matter

Concern was expressed that the proposed wording excludes remote panels in other rooms/locations. The Standard requires that actions taken by the operator do are not different than those taken in the actual control room. The location of the remote panel is irrelevant.

The proposed wording does not meet the NSFC minimum requirements.
Full Scope is missing.

The NRC’s definition of reference plant and reference unit were reviewed.

Motion withdrawn.

The Scope discussion continued and the working group reviewed and discussed alternative scope wordings.

<table>
<thead>
<tr>
<th>McDade</th>
<th>2011 Jan 26</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motion:</strong></td>
<td>This standard establishes the functional requirements for full scope nuclear power plant control room simulators that are subject to U.S. Nuclear Regulatory Commission (NRC) regulation for use in operator training, examination and experience requirements. The standard also establishes criteria for the scope of simulation, performance, and functional capabilities of nuclear power plant control room simulators. This standard does not establish criteria for the use of simulators in operator training programs.</td>
</tr>
</tbody>
</table>

**Motion:** Amended
- x – For
- x – Against
- x – Abstained

McDade supporting discussion

- Bound to singular full scope simulator device
- Experience requirements used instead of reactivity control manipulations due to broader coverage. Could cover a lot more than just reactivity control manipulations.

The discussion is centered on the meaning of “Experience Requirements” (e.g. Reactivity control manipulations only or a much broader meaning encompassing much more)

McDade – Experience requirements are those activities expected to be completed on the simulator.
Amended Motion:
This standard establishes the functional requirements for full scope nuclear power plant control room simulators that are subject to U.S. Nuclear Regulatory Commission (NRC) regulation for use in operator training and examination. The standard also establishes criteria for the scope of simulation, performance, and functional capabilities of nuclear power plant control room simulators.

This standard does not establish criteria for the use of simulators in operator training programs.

Guidance is provided in Appendix D to adapt this standard to part-task and limited-scope simulators to ensure fidelity appropriate to the intended use for operator training and examination.

Motion: Carried
- 16 – For
- 0 – Against
- 0 – Abstained

Vote called on the Amended Motion.

The Amended Motion was accepted by unanimous vote and replaced the original motion.
This standard does not establish criteria for the use of simulators in operator training programs.

1) Guidance is provided in Appendix D to adapt this standard to part-task and limited-scope simulators to ensure fidelity appropriate to the intended use for operator training and examination.

Reasons Against: Missed opportunity to move the standard forward.
Reason Abstained: Scope does not reflect simulators for use in meeting experience or for use in engineering support.

6.4 Recessed: 1830
7. **Thursday 2011 Jan 27 (0800)**

7.1 Roll Call

Present:
Chang, SK
Colby, Butch
Florence, Jim
McCullough, George
Tarselli, Frank
Vick, Larry
Welchel, Keith
Felker, Bob
Koutouzis, Dennis
Robert Goldman
David Goodman
Jody Lawter
Mac McDade
Michael Petersen
Pablo Rey
James Sale

Absent:
None

7.2 Consensus Level

16 - Voting members
16 - Voting members Present
9 - Quorum (Majority Total Membership)
12 - Consensus (75% Membership Attendees)
11 – Super Majority (2/3 Membership Attendees)
9 – Majority (> 50% Membership Attendees)
7.3 Review Project Initiation Notification System (PINS) Form

The ANS-3.5-201X Scope was documented on the PINS form.

The PINS Form (Page 1) was approved by the working group.

<table>
<thead>
<tr>
<th>AI 24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit PINS Forms to ANS Administrator.</td>
</tr>
</tbody>
</table>

7.4 Action Item Review

Action Items review and table updated.

7.5 New Action items

See Action Item Table for final disposition

<table>
<thead>
<tr>
<th>AI16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider the option to include other uses of the simulator in footnote 1 on Page 1 of the Standard (e.g. technical support). This was a consideration during the development of the scope statement in lieu of explicitly mentioning other uses of the simulator in the scope statement.</td>
</tr>
</tbody>
</table>
AI17 Part 1

Consider placing language in Section 1.2 Background to insert “experience requirements”: It is intended that in meeting the criteria of this standard, the simulator will be sufficiently complete and accurate to meet the training needs of the industry as well as the requirements of the NRC, as described in Code of Federal Regulations, Title 10, “Energy,” Part 55, “Operators' Licenses” (10CFR55) and station mandated experience requirements.

AI 18

Consider language in Section 1.2 Background to mention use of this standard by the international community.

AI 17 Part 2

Consider language in Section 1.2 Background to add clarification regarding control manipulations allowed by 10CFR55.46 and how this standard supports it.
7.6 New Focus Areas

7.6.1 Tech Support and other Simulator Uses

- Engineering Assist
- Simulation Assisted Engineering
- EP
- DCS Logic Control Validation
- HFE – Human Factors Engineering
- Tech Training – I&C / Mechanical
- PR Tours
- Process Flow Diagrams
- Spec. Operating parameters
- PRA
- SAMG

Concerns with users utilizing the simulator but are not aware with the simulator’s limitation.

In many instances, the simulator is the only device available to support the complex testing required.

Possible AI - Develop an Appendix that gives guidance for using the simulator for other purposes.

Possible AI – Of the list above what should be included into the std body and/or other standards.

<table>
<thead>
<tr>
<th>AI 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review the list below for inclusion into ANS 3.5 or other standards and basis for the recommendation:</td>
</tr>
<tr>
<td>• Engineering Assist</td>
</tr>
<tr>
<td>• Simulation Assisted Engineering</td>
</tr>
<tr>
<td>• EP</td>
</tr>
</tbody>
</table>
7.6.2 DCS Inclusion

AI 20

Identify areas in the standard that can be improved to address DCS.

7.6.3 Experience Requirements (Reactivity Control Manipulations)

No additional discussion

7.6.4 Other Simulation Devices

Other simulation devices are used in operator training and should be considered for inclusion into the standard

AI 21

Evaluate the need for inclusion into the standard other simulation devices derived directly from the full scope control room simulator.
7.7 New Business

7.7.1 Cyber Security

Possibly the WG can develop useful guidance for Cyber Security

Presently the standard only addresses exam security and the WG discussed if cyber security should be included.

AI 22
AI Review the recent regulatory cyber security guidance and OE to determine if cyber security should be included in the standard.

7.7.2 Initial Conditions

Vick – The standard is basically silent on the number and type of Initial Conditions.

Define a set of ICs with pedigree that would be used in the conduct of the performance tests.

AI 23
Evaluate the need for including into Section 3.3.1 a set of IC criteria for ICs that are to be used when conducting the performance tests required by this standard.

7.8 Next Meeting

Date: 2011 June 7
Sponsor: William Fraser
Location: Westinghouse Cranberry, PA
7.9 Adjourned: 1345
8. **Attachment - Style Guide Review (SK Chang)**

<table>
<thead>
<tr>
<th>201x Standard - Style Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ANSI Style Guide-sheet – 2003</td>
</tr>
<tr>
<td>Available at <a href="http://www.ansi.org/">http://www.ansi.org/</a></td>
</tr>
<tr>
<td>A. General guide-lines</td>
</tr>
<tr>
<td>● Heavy emphasis on technical integrity (accurate, complete, consistent), a spelling error would only be a minor issue.</td>
</tr>
<tr>
<td>● Consistency throughout the document: format, capitalization, etc..</td>
</tr>
<tr>
<td>B. Strong recommendations:</td>
</tr>
<tr>
<td>● No requirements in foreword, scope, background, definitions, footnotes.</td>
</tr>
<tr>
<td>● Use of “shall” to indicate a requirement; use “should” to indicate a recommendation. Avoid use of “must”.</td>
</tr>
<tr>
<td>● References: full and complete. Annex is a preferred term to Appendix.</td>
</tr>
<tr>
<td>● Number the footnotes sequentially.</td>
</tr>
<tr>
<td>C. Completeness and consistency of document:</td>
</tr>
<tr>
<td>Pagination, indentation, punctuation, numbering of sections, footnotes, etc.: follow 2009 Standard.</td>
</tr>
</tbody>
</table>

2. ANSI Style manual, 8th edition, version 1.0, 3/1/91. [historical]

This has been replaced by the 2003 guide, but ANS keeps it for reference.

3. ANS NFSC Policy and Procedures Manual

Section 7.3 Specifying Requirements in a Standard (Shall, Should, and May) (approved Jan 2010).
Directions given in the standard shall use “shall”, “should”, and “may”:
Shall, to designate a mandatory action.
Should, to delineate a recommended action. “Should also indicates that the issue must be addressed and that either the recommended action shall be taken or an equivalent action shall be taken and a basis given for equivalency.”
May, to designate a permissive action.
Avoid “shall consider”, “shall, if possible” and equivalent phrases
Note: Three occurrences of “shall consider” or equivalent are found in the 2009 Standard. These may deviate from NFSC rules.

Section 3.2.1.2, end of 1st paragraph: “The following items shall be considered:”

Section 3.2.1.3, end of 1st paragraph: “The following items shall be considered:”

Section 4.4.3.2, end of 4th paragraph: “Evaluation of the test data shall consider:”

Section 7.4 Use of units SI units shall be used either parenthetically with English units
or SI units exclusively (approved Nov 2004).

It refers to the NBS publication concerning SI units:

The current version is “NIST Special Publication 330. 2008 Edition; U.S. Department of Commerce, National Institute of Standards and Technology” available at


The 2008 edition has no impact on the SI units used in Appendix C of the Standard: MPa and °C

4. Other References:

Google dictionary: http://www.google.com/dictionary
Merriam-Webster: http://www.merriam-webster.com/
