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**ORNL
FOREIGN TRIP REPORT
TA 376094**

DATE: January 16, 2015

SUBJECT: Report of Foreign Travel Buenos Aires, Argentina – Douglas G. Bowen, Reactor and Nuclear Systems Division

TO: Jerry N. McKamy, Nuclear Criticality Safety Program Manager, National Nuclear Security Administration / NA-511/GTN, 1000 Independence Ave., SW, Washington, DC 20585-1290

FROM: Douglas G. Bowen

**MEETING:
TITLE** The 34th Meeting of ISO Technical Committee 85, Subcommittee 5

**MEETING:
LOCATION** CNEA (Comisión Nacional de Energía Atómica)

**MEETING:
DATES** May 26-28, 2015

**ATTENDEES:
ON BEHALF
OF NCSP** Douglas G. Bowen

**MEETING:
BENEFIT TO
NCSP** The NCSP benefits from United States (US) participation in the leadership and development of International Organization for Standardization (ISO) standards related to Nuclear Criticality Safety (NCS) directly from sharing the US perspective on NCS community developments in the ANS-8 series standards. The ISO TC85 (Technical Committee on Nuclear energy) / SC5 (Subcommittee on Nuclear technology) / WG8 (Working Group 8) continues to develop international standards identified as needed by member bodies of ISO. SC5 and the WGs meet on an annual basis for face-to-face discussions for the review, comment, and revision of draft documents addressed during the year. Also, the WGs identify possibly needed additional standards to address evolving technologies and international concerns, economic or otherwise. This information is shared with the ANS-8 subcommittee participants at American Nuclear Society meetings to ensure awareness of ISO NCS standards work in progress, challenges, and guidance needs abroad. Working group chairs can use the developments in the ISO NCS standards to influence or enhance consensus standards

in the US NCS community.

PURPOSE: The purpose of the travel to Buenos Aires, Argentina, was to train and transition into the ISO TC85/SC5/WG8 “Nuclear Criticality Safety” convener and US ANSI/ASTM NTAG ISO deputy overall advisor for “Nuclear Criticality Safety” roles that were held by Mr. Calvin M. Hopper for over twenty years and to participate as an NCS expert in WG8 for assisting with the generation of several draft ISO NCS standards and to discuss other NCS topics of international concern.

**SITES:
VISITED** IRAM (Instituto Argentino de Normalización y Certificación) and (CNEA (Comisión Nacional de Energía Atómica)

ABSTRACT: Bowen traveled to CNEA in Buenos Aires, Argentina to participate in the development of consensus ISO standards for criticality safety use and to transition into positions once held by Mr. Calvin M. Hopper (WG8 convener and NTAG deputy overall advisor for ISO TC85/SC5/WG8 “Nuclear Criticality Safety.”)

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REPORT OF FOREIGN TRAVEL

**Douglas G. Bowen
CNEA (Comisión Nacional de Energía Atómica) in Buenos Aires, Argentina
May 26-28, 2015**

TRIP REPORT

A series of TC85/SC5 “Nuclear Fuel Cycle” meetings were held at CNEA in Buenos Aires, Argentina, over a 3 day period from May 26-28, 2015. The first day of meetings included a welcome and introductory discussion between the ISO TC85/SC5 chairman, Mark Denton, that consisted of changes in ISO procedures and policies since the last meeting. He discussed the status of the various working groups including some modest leadership changes. An introductory meeting was conducted by the TC85 secretary and SC5 chairman to begin the official meetings and to welcome the meeting delegates. Changes in the leadership for ISO TC85 were discussed (new chair is Mr. Herve Maillart) including the organization chart for all of TC85. Revised information regarding the development stages of the ISO standards were discussed along with regular and accelerated times for completion. The default track for a standard is 24 months to draft a standard for ballot with 36 months to publish it. Accelerated and “enlarged” tracks are also options for speeding or slowing the development of an approved standard project, respectively. A tour of IRAM was also provided by the meeting hosts but was not particularly relevant to the meeting goals. The remainder of the first day and all of the second day were dedicated to the individual Working Groups to discuss and debate actual standards development. A variety of discussions were held to support the following work topics in WG8:

1. Preparation of working draft for *Nuclear criticality safety dimensions*
2. Development of an ISO TC85/SC5/WG8 Position Statement Regarding Nuclear Material Transportation regarding ISO TC85/SC5/WG8 standards revision/development
3. *Two-column* translations of foreign words and phrases potentially specific to NCS
4. Preparation of a working draft for a *Waste* standard
5. Revision of ISO 1709
6. “Road Map” and gap analysis for ISO TC85/SC5/WG8 standards development
7. Preparation of working draft for *Operations training*

The last day of meetings consisted of the ISO TC85/SC5 plenary meeting and included introductions of the delegate heads for the member nations and a report from the SC5 secretariat that included the total SC5 workload with respect to new work item proposals, approved work items, committee drafts, draft international standards, final draft international standards and international standards under publication. The information provided also included the changes to the ISO procedures regarding the time required for standard development from the initial proposal through publication. Also, the SC5 secretariat provided the overall workload and productivity for SC5 (71 standards published total, 10 published since 2013, 1 published in 2015 and 21 active standards projects in progress). The plenary included presentations from each of the SC5 working groups, WG1 “Analytic Methodology,” WG4 “Transport of Radioactive Material,” WG5 “Waste Characterization,” WG8 “Nuclear Criticality Safety,” and WG13 “Decommissioning.” The TC85/SC5 Chair, Mark Denton, announced the next meeting (meeting of all of TC85) would likely be at a location in India in June 2016.

ISO/TC 85/SC5 /WG8, Nuclear criticality safety
REPORT to ISO/TC 85/ SC 5 on 2015/05/27 - 28 meeting at IRAM & CNEA
in Buenos Aires, Argentina



Document ISO/TC 85/SC 5/WG 8

| | |
|--|---|
| CONVENOR | Calvin Mitchell HOPPER |
| CO- CONVENOR | Sylvie TARLE |
| NUMBER OF PARTICIPANTS: | 14 Total (see attached attendance list) |
| COUNTRIES REPRESENTED: | 2-CA, 5-FR, 1-JP, 1-KR, 2-UK, 3-US |
| DOCUMENTS DISTRIBUTED | See attached agenda, ISO TC85/SC5/WG8 Final Meeting Agenda Outline |
| DOCUMENTS DISCUSSED | See attached agenda, ISO TC85/SC5/WG8 Final Meeting Agenda Outline |
| WG MEETINGS SINCE THE LAST PLENARY (DATES AND PLACES) | None since the 28 October 2014, Paris, France |
| WORK IN PROGRESS | <ol style="list-style-type: none"> 1. Preparation of working draft for <i>Nuclear criticality safety dimensions</i> 2. Development of an ISO TC85/SC5/WG8 Position Statement Regarding Nuclear Material Transportation regarding ISO TC85/SC5/WG8 standards revision/development 3. <i>Two-column</i> translations of foreign words and phrases potentially specific to NCS 4. Preparation of a working draft for a <i>Waste</i> standard 5. Revision of ISO 1709 6. “Road Map” and gap analysis for ISO TC85/SC5/WG8 standards development 7. Preparation of working draft for <i>Operations training</i> |
| DIFFICULTIES MET | None |

RESOLUTIONS

1. WG8 will not pursue the development of a standard regarding soluble boron credit for PWR storage pools as the result of insufficient ISO member support.
2. Definitions for inclusion in the ISO 1709 revision are to be amended to ensure consistency with WG8 standards.
HARRIS – 31 October 2015
3. An N-document “Road Map” is to be issued for WG8 guidance regarding the structuring topical areas for standards development.
TARLE/HAMPARTIZOUNIAN – 31 December 2015
4. Use “Road Map” guide to identify existing gaps in WG8 standards topics/subjects
TARLE/HAMPARTIZOUNIAN – 2016 ISO meeting
5. Revise latest 2-Column Guidance to ensure consistency with existing 1709 and WG1 Terminology standard along with received comments for WG8 review and subsequent issuance of an N-document
FILLASTRE – 31 October 2015
6. Identify 2-Column Guidance words/phrases for WG1 consideration
FILLASTRE – 2016 ISO meeting
7. Revise Skeleton Draft on Nuclear Criticality Risk Assessment Methodology to include deterministic analysis and ALARP concept
JOHNSTON – 2016 ISO meeting
8. Address UK comments on the proposed waste standard and submit revised draft for WG8 review/comment
ELLIS – 29 February 2016
9. Submit an NWIP/DIS for the proposed standard on Nuclear Criticality Safety Dimensions
BARDALAY – 31 July 2015
10. Use the proposed standard scope “boiler plate” Position Statement Regarding Nuclear Material Transportation in the scope of the 1709 revision
HARRIS – 31 July 2015
11. Issue an N-document regarding the “boiler plate” Position Statement to WG8 members for comment
HARRIS – 31 July 2015
12. Provide comments on the “boiler plate” Position Statement to HARRIS
WG8 – 31 October 2015
13. WG8 to send remaining comments to HARRIS regarding the NCS Operations Training Standard
WG8 – 30 June 2015
14. Issued revised draft of NCS Operations Training Standard to WG8 for review/comment
HARRIS – 31 December 2015
15. Issue an N-document regarding roles and responsibilities for training in the developing NCS Operations Training Standard
HARRIS – 30 September 2015
16. WG8 welcomes Dr. Douglas Bowen as the new convener of WG8
17. ISO TC85/SC5/WG8 thanks Dr. Roberto M. CORCUERA for his discussion about his career in the nuclear industry and encouragement to WG8 for continuing to pursue nuclear science as a career.
18. ISO TC85/SC5/WG8 thanks Dr. Richardo WALDMAN for his presentation regarding the 1983 RA-2 research reactor accident
19. ISO TC85/SC5/WG8 thanks IRAM/CNEA and particularly Ms. Carolina Popp for hosting the 2015 ISO TCV85/SC5/WG08 and arranging the presentation from Dr. Richardo WALDMAN.

ISO TC85/SC5/WG8 Meeting Agenda
Centro Atómico Constituyentes
Avda.Grfal.Paz y Constituyentes, Pcia.
Buenos Aires, Argentina

Wednesday, 27 May 2015, 1000 – 1545 hrs

| Time | Topic | Lead |
|--------------------|---|--|
| 1000 – 1010 | Welcome, introductions and distribution of attendance list Review, modification, and acceptance of agenda | HOPPER (US) WG8 Members |
| 1010 – 1015 | Status of inquiry about the support for a standard about soluble boron in fuel storage pools | HOPPER (US) |
| 1015 - 1100 | Development of appropriate definitions for ISO 1709 <i>01 - Harris - Definitions for ISO-1709 - 13-5-15.xlsx</i> | HARRIS (UK) |
| 1100 – 1130 | Break | |
| 1130 - 1200 | WG8 Roadmap – Working methodology <i>02- WG8_2015_WG8_Roadmap_Working_methodology.ppt</i> | TARLE/ HAMPARTZOUNIAN (FR) |
| 1200 – 1300 | Two-Column Translation Guidance <i>03 - 2015_Buenos Aires_présentation.pptx</i> <i>04 - Fillastre - N document Cover Page.doc</i> | FILLASTRE/GAGNIER (FR) |
| 1300 – 1400 | Lunch | |
| 1400 – 1445 | Skeleton Draft ISO Standard – Nuclear Criticality Risk Assessment Methodology Review and Comment <i>05 - Johnston - Nuclear Criticality Risk Assessment Johnston.pptx</i> | JOHNSTON (CA) |
| 1445 – 1500 | Break | |
| 1500 – 1545 | Status and review of WD on waste <i>06 - Ellis - ISO Waste Crit Proposal Argentina.ppt</i> | ELLIS (UK) |
| 1700 – 1900 | Visit to Museo de Arte Latinoamericano and cocktail | All Delegates and Acompanying Persons |

ISO TC85/SC5/WG8 Meeting Agenda
Centro Atómico Constituyentes
Avda.Grfal.Paz y Constituyentes, Pcia.
Buenos Aires, Argentina
Thursday, 28 May 2015, 1000 - 1700

| Time | Topic | Lead |
|--------------------|--|-----------------------|
| 1000 – 1030 | Review of Draft NCS Dimension Standard <i>07 - Bardelay - Oral_presentation_ISO2015.ppt</i> <i>08 - Bardelay - Draft_NCSD_Updated_Version2015.doc</i> | BARDALAY (FR) |
| 1030 – 1100 | Development of an ISO Position Statement Regarding Nuclear Material Transportation <i>09 - Harris - Transport - Position Statement for ISO WG8 - Draft 1.docx</i> | HARRIS (UK) |
| 1100 – 1115 | Break | |
| 1115 – 1200 | Review and discussion regarding draft NCS Operations Training standard <i>10 - Operations Training - ISO Buenos Aires - May 2015.ppt</i> | HARRIS (UK) |
| 1200 – 1215 | Status of IAEA standards and guides <i>11 - Hopper - IAEA Status.pdf</i> | HOPPER (US) |
| 1215 – 1235 | Canadian Nuclear Criticality Safety Regulation and Guidance <i>12 - Wang - RD and GD 327.pdf</i> | WANG (CA) |
| 1235 – 1250 | Status of Japanese standards, regulations and needs <i>13 - Status of Japanese standards, regulations and needs (rev2).pptx</i> | YAMANE (JP) |
| 1250 - 1300 | UK Standards and regulations status <i>14 -</i> | ELLIS (UK) |
| 1300 - 1400 | Lunch | |
| 1400 – 1500 | Description/discussion about the 1983 Argentine Research Reactor Accident <i>15 - Accidente RA-2 v3.ppt</i> | Richardo WALDMAN (AR) |
| 1500 – 1515 | US NRC regulation/guidance status and activities of ANSI/ANS-8.12 and -8.24 <i>16 - Tripp - Tripp ISO Working Group May-2015 Tripp.pptx</i> | TRIPP (US) |
| 1515 - 1530 | Break | |
| 1515 – 1600 | US DOE regulation/guidance and balance of ANSI/ANS-8.XX standards evolution <i>17 - Bowen - Bowen DOE ANSI Summary May2015.pptx</i> | BOWEN (US) |
| 1600 – 1615 | New items for consideration/discussion Review of D. Mennerdahl email concerns/comments <i>18 – Mennerdahl email zip file</i> | WG8 |
| 1615 – 1700 | Consolidation and approval of WG8 Resolutions | WG8 Members |

ISO TC85/SC5/WG8 May 2015 Buenos Aires, AR Meeting Attendance Sheet

| First Name | Surname | Cntry |
|-------------|-----------------|-------|
| Aurelie | Bardelay | FR |
| Douglas | Bowen | US |
| Michel | Doucet | FR |
| Duncan | Ellis | UK |
| Eric | Fillastre | FR |
| Mickael | Hampartizounian | FR |
| Neil | Harris | UK |
| Calvin | Hopper | US |
| Susan | Johnston | CA |
| Ansup | Kim | KR |
| Sylvie | Tarle | FR |
| Christopher | Tripp | US |
| Jingjing | Wang | CA |
| Yuichi | Yamane | JP |

Itinerary

- 5/24/15 - 5/25/15 Travel from Knoxville, TN, USA to Buenos Aires, Argentina
- 5/26/15 - 5/28/15 Meet with ISO WG8 participants at CNEA to conduct meetings to discuss and debate consensus standards in ISO TC85/SC5/WG8 “NCS.”
- 5/29/15 - 5/30/15 Travel from Buenos Aires, Argentina to Knoxville, TN, USA

DISTRIBUTION

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