



Oak Ridge National Laboratory
1 Bethel Valley Road
Oak Ridge, Tennessee 37830



Subject: Report on Foreign Collaboration Meeting ISO TC85/SC5/WG8 "Nuclear Criticality Safety"
Date: 07/06/2022
To: Dr. Angela Chambers, Nuclear Criticality Safety Program Manager, National Nuclear Security Administration / NA-511
From: Doug Bowen

Meeting Title: ISO TC85/SC5/WG8 Virtual Meetings to support the TC85/SC5 Plenary

Meeting Location: Virtual - MS Teams

Meeting Date: May 23-24, 2022 (6-10am each day)

Attendees on behalf of NCSP:

Doug Bowen

Meeting Purpose:

Doug Bowen is the WG8 convenor. He worked with WG8 to schedule meetings to discuss the various work items in progress to develop new standards and to maintain the 11 ISO standards currently available. The attachment provided is the final report for the May 23-24, 2022 meetings and a summary was presented to the ISO TC85/SC5 committee to inform them of progress on important work in progress, as well as other work items being considered.

Meeting Benefits to the NCSP:

ISO standards in NCS are important for the NCSP international collaborations in progress. For example, low temperature TEX experimental need was first discussed in WG8 long before the requests were made by the UK Working Party for Nuclear Criticality Safety.

Purpose of Travel:

Meetings were virtual only.

Persons Contacted at Meeting:

See the attached report.

Presentations, Chair Responsibilities, Etc.

Bowen planned and executed the WG8 meetings in conjunction with the co-convenor of WG8, Gregory Caplin, and the other members of WG8. All projects were discussed and resolutions finalized to prepare for the next meeting in Nov. 2022.

Distribution:

Angela Chambers, anagela.chambers@nnsa.doe.gov

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24th Plenary of ISO TC85
“Nuclear Energy, Nuclear Technologies, and Radiological Protection”
ISO TC 85/SC5/WG8, Nuclear Criticality Safety REPORT to ISO TC85 and ISO TC5/SC5
WG8 Virtual Meeting (MAY 23-24, 2022)

CONVENOR	Douglas G. BOWEN (US)
CO- CONVENOR	Gregory CAPLIN (FR)
NUMBER OF PARTICIPANTS:	16 Total representing 7 ISO Member Countries (see attached attendance list) + SC5 chairman and secretary
COUNTRIES REPRESENTED:	3-CA, 4-FR, 1-SE, 2-UK, 4-US, 1-FI, 1-JP
DOCUMENTS DISTRIBUTED	See attached agenda, ISO TC85/SC5/WG8 Final Meeting Agenda
DOCUMENTS DISCUSSED	See attached agenda, ISO TC85/SC5/WG8 Final Meeting Agenda
WG MEETINGS SINCE THE LAST PLENARY (DATES AND PLACES)	Topic specific virtual meetings (MS Teams): <ul style="list-style-type: none"> - December 7, 2021, about the resolution of NWIP comments on ISO 7753 revision - January 19, 2022, about the “risk assessment” project - February 9, 2022, about the future revision of ISO 1709 WG8 meetings were held virtually via MS Teams May 23-24, 2022.
WORK ITEMS IN PROGRESS	<ul style="list-style-type: none"> • Work Item #1 – WG8 Business • Work Item #2 – 2-Column Guidance N-document • Work Item #3 – Proposed Risk Assessment Standard • Work Item #4 – Proposed Revision to ISO 7753 • Work Item #5 – Terms and Definitions N-document • Work Item #6 – Proposed revision to ISO 16117 “Estimation of the Number of Fissions of a Postulated Criticality Accident” • Work Item #7 – Future Revision to ISO 1709 • Work Item #8 – ISO Standard Summary Documents (Brochures) • Work Item #9 – Proposed ISO Standard for Validation of Computational Methods • Work Item #10 – Amendment to ISO 11311 • Work Item #11 – Other Business
DIFFICULTIES MET	WG8 discussed the value of in-person rather than virtual/hybrid ISO meetings. Virtual meetings have affected WG8 productivity since 2020.



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RESOLUTIONS	<p>May2022 Resolution #1: ISO TC85/SC5/WG8 welcomes Andy SUTTON and Jacky DUNCAN as the new SC5 Chairman and SC5 Secretary, respectively.</p> <p>May2022 Resolution #2: ISO TC85/SC5/WG8 thanks Mark DENTON and Steven LLOYD for their support and service as the SC5 Chair and SC5 Secretary, respectively.</p> <p>Work Item #1 – WG8 Business</p> <ul style="list-style-type: none"> • May2022 Resolution #3: Send the updated WG8 Roadmap to WG8 for review and comment. BOWEN (US) – May 2022 • May2022 Resolution #4: Finalize the WG8 Roadmap and create an agenda item at the next WG8 meeting to discuss the Roadmap and potential work items. BOWEN (US) – May 2022 • May2022 Resolution #5: Create a WG8 agenda item at the next WG8 meeting to discuss finalized WG8 internal business NDOCS (Role Definitions, Internal Processes, Transportation Position and Brochures) for potential updates based on work since the last meeting. BOWEN (US)/CAPLIN (FR) – May2022 <p>Work Item #2 – 2-Column Guidance N-document</p> <ul style="list-style-type: none"> • May2022 Resolution #6: Share the three 2-column NDOCS (1. Prevention/procedures, 2. Prevention/applications, and 3. Accident) based on discussions with SE, UK, and CA WG8 members to reduce the scope of the terms to simplify and make the 2-column guidance simpler and more effective to WG8. Eliminate overlap with NDOC for Terms and Definitions and recently published WG8 standards. PRIGNIAU (FR) – Sept. 2022 • May2022 Resolution #7: Update the three 2-column NDOCS based on discussions with SE, UK, and CA WG8 members. PRIGNIAU (FR) – Nov. 2022 • May2022 Resolution #8: Create a WG8 agenda item at the next WG8 meeting to discuss progress on Resolution #6. BOWEN (US) – Nov. 2022 <p>Work Item #3 – Proposed Risk Assessment Standard</p> <ul style="list-style-type: none"> • May2022 Resolution #9: Generate a Preliminary Work Item (PWI) draft of the proposed Risk Assessment Standard for distribution 2-weeks before the next WG8 meeting. KHOTYLEV/MCNALLY (CA) – Nov. 2022 • May2022 Resolution #10: Include a general discussion in the next WG8 meeting. BOWEN (US)/KHOTYLEV (CA)/MCNALLY (CA) – Nov. 2022 <p>Work Item #4 – Proposed Revision to ISO 7753</p> <ul style="list-style-type: none"> • May2022 Resolution #11: Michael LAGET (FR) to submit the draft ISO 7753 for a DIS ballot. LAGET (FR)/ BOWEN (US) – Jun. 2022 <p>Work Item #5 – Terms and Definitions N-document</p> <ul style="list-style-type: none"> • May2022 Resolution #12: Neil HARRIS (UK) to send to WG8 for final review. BOWEN (US) – Nov. 2022 • May2022 Resolution #13: Publish final Terms and Definitions NDOC on ISOLINK. BOWEN (US) – Nov. 2022
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	<p>Work Item #6 – Proposed revision to ISO 16117 “Estimation of the Number of Fissions of a Postulated Criticality Accident”</p> <ul style="list-style-type: none"> May2022 Resolution #14: Provide WG8 with details about a proposed, minor, revision to ISO 16117, “Estimation of the Number of Fissions of a Postulated Criticality Accident.” YAMANE (JP) – Sept. 2022 <p>Work Item #7 – Future Revision to ISO 1709</p> <ul style="list-style-type: none"> May2022 Resolution #15: Lauren FLINT (UK) and Neil HARRIS (UK) to resolve feedback from the virtual meeting with WG8 on 09FEB2022 regarding the ISO 1709 general revision scope and plan. FLINT (UK)/HARRIS (UK) – Jun. 2022 May2022 Resolution #16: Include a general revision discussion in the next WG8 meeting agenda. BOWEN (US)/FLINT (UK)/HARRIS (UK) – Nov. 2022 <p>Work Item #8 – ISO Standard Summary Documents (Brochures)</p> <ul style="list-style-type: none"> May2022 Resolution #17: BOWEN (US) to post the new brochure about the recently published ISO 23133 on the ISOLINK and the DOE/NNSA Nuclear Criticality Safety Website (http://ncsp.llnl.gov) for public access. BOWEN (US) – May 2022 <p>Work Item #9 – Proposed ISO Standard for Validation of Computational Methods</p> <ul style="list-style-type: none"> May2022 Resolution #18: Jeremy MUNSON (US) will share an update of the “Status and Items to Discuss List” with WG8 for the proposed Validation standard for discussion at the next WG8 meeting. MUNSON (US) – Nov. 2022 <p>Work Item #10 – Amendment to ISO 11311</p> <ul style="list-style-type: none"> May2022 Resolution #19: Gregory CAPLIN to resolve DIS ballot comments on ISO 11311 amendment and submit a document for FDIS ballot. CAPLIN (FR)/ BOWEN (US) – Oct. 2022 <p>Work Item #11 – Other Business</p> <ul style="list-style-type: none"> May2022 Resolution #20: Doug BOWEN (US) to create an agenda item in the next WG8 meeting to discuss the use of Preliminary Work Items (PWIs) for future WG8 standards work (Risk Assessment, Validation, CAAS need, etc.). BOWEN (US) – Nov. 2022 May2022 Resolution #21: Doug BOWEN (US) to update ISOLINK with 2021 and 2022 WG8 Project Files. BOWEN – Nov. 2022
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MONDAY 23 MAY 2022 – 0700 AM – 1000 AM Eastern Time		
Time (Duration in Min.) {Cumulative}	Topic of Discussion	Lead
(20) {20}	Introductory remarks <ul style="list-style-type: none"> – Status report of the WG8 Meeting on 17 NOV 2021 – Summary of WG8 resolutions – Current ballots – Membership report/SC5 leadership changes 	BOWEN (US) CAPLIN (FR)
(20) {40}	Work Item 1: WG8 Business <ul style="list-style-type: none"> – Nov2021 Resolution #1: <ul style="list-style-type: none"> • For the next WG8 meeting, create an agenda item to discuss appending the WG8 roadmap (WG8 NDOC 336) with a list of standards from other standards organizations to identify gaps to help guide WG8 future work. Doug BOWEN to research making the WG8 Roadmap available on ISOLINK. BOWEN (US) – Mar. 2022 Complete 	BOWEN (US)
(20) {60}	Work Item #2 – 2-Column Guidance N-document <ul style="list-style-type: none"> – Nov2021 Resolutions: <ul style="list-style-type: none"> • Nov2021 Resolution #2: Split the current version of the 2-Column Guidance NDOC (NDOC 349) into three separate NDOCs (1. Prevention/procedures, 2. Prevention/applications, and 3. Accident), and reduce the scope of the terms to simplify and make the 2-column guidance simpler and more effective to WG8. PRIGNIAU (FR) – Dec. 2021 Complete • Nov2021 Resolution #3: PRIGNIAU (FR) to determine the path forward with SE, UK, and CA for discussion in the next WG8 meeting – Apr. 2022 	PRIGNIAU (FR)
(20) {80}	Work Item #3 – Proposed Risk Assessment Standard <ul style="list-style-type: none"> – Nov2021 Resolutions <ul style="list-style-type: none"> • Resolution #4: CA to host a virtual meeting (19Feb2022) with US, UK, SE, and FR WG8 members to discuss the current draft and resolve comments from WG8 review year. KHOTYLEV/MCNALLY (CA) – Feb. 2022 Complete • Nov2021 Resolution #5: Generate an NWIP draft of the proposed Risk Assessment Standard for distribution 2-weeks before the next WG8 meeting. KHOTYLEV/MCNALLY (CA) – Mar. 2022 • Nov2021 Resolution #6: Include a general discussion in the next WG8 meeting agenda. BOWEN (US)/KHOTYLEV (CA)/MCNALLY (CA) – Apr2022 Complete 	McNALLY (CA)
(15) {95}	Break	



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MONDAY 23 MAY 2022 – 0700 AM – 1000 AM Eastern Time		
Time (Duration in Min.) {Cumulative}	Topic of Discussion	Lead
(50) {145}	Work Item #4 – Proposed Revision to ISO 7753 <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Nov2021 Resolution #7: Develop a Committee Draft (CD) of the proposed revision to ISO 7753 based on WD ballot comments. LAGET (FR) – Nov. 2021 Complete Nov2021 Resolution #8: Distribute CD draft to WG8 and for feedback. LAGET – Nov. 2021 Complete Nov2021 Resolution #9: Michael LAGET (FR) to host a virtual meeting on 07DEC2021 (7-9AM eastern time) to discuss ISO 7753 to discuss the WG8 feedback. LAGET – Dec. 2021 Complete Nov2021 Resolution #10: Michael LAGET (FR) to submit the draft ISO 7753 for a CD ballot. LAGET (FR)/ BOWEN (US) – Dec.2021 Complete 	LAGET (FR)
(20) {165}	Work Item #5 – Terms and Definitions N-document <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Nov2021 Resolution #11: Neil HARRIS (UK) to reformat Issue 4 of the Terms and Definitions NDOC to include the appendix within the NDOC. HARRIS (UK) – Mar. 2022 Complete Nov2021 Resolution #12: Neil HARRIS (UK) to send to WG8 for final review. BOWEN (US) – Mar. 2022 Nov2021 Resolution #13: Publish final Terms and Definitions NDOC on ISOLINK. BOWEN (US) – Apr. 2022 	HARRIS (UK)
(15) {180}	Day 1 Meeting discussion	WG8
	Day 1 Adjourn	

TUESDAY 24 MAY 2022 – 0700 AM – 1000 AM Eastern Time		
Time (Duration in Min.) {Cumulative}	Topic of Discussion	Lead
(15) {15}	Day 1 Summary and Discussion of Day 2 agenda <ul style="list-style-type: none"> Visit from Andy Sutton 	WG8
(10) {25}	Work Item #6 – Role Definitions N-document <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Nov2021 Resolution #14: Lauren FLINT (UK) to provide final Role Definitions document to Doug BOWEN (US) to publish as a new NDOC to replace NDOC 362 on ISOLINK. FLINT (UK)/BOWEN (US) – Nov. 2021 Complete 	FLINT (UK)



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TUESDAY 24 MAY 2022 – 0700 AM – 1000 AM Eastern Time		
Time (Duration in Min.) {Cumulative}	Topic of Discussion	Lead
(20) {45}	Work Item #7 – Proposed revision to ISO 16117 “Estimation of the Number of Fissions of a Postulated Criticality Accident” <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Nov2021 Resolution #15: Provide WG8 with details about a proposed, minor, revision to ISO 16117, “Estimation of the Number of Fissions of a Postulated Criticality Accident.” YAMANE (JP) – Apr. 2022 	YAMANE (JP)
(30) {75}	Work Item #8 – Amendment to ISO 1709 Standard and future revision <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Resolution #16: Lauren FLINT (UK), Neil HARRIS (UK) and Grégory CAPLIN (FR) to schedule a virtual meeting in JAN 2022 to discuss preparations for the FDIS ballot and to resolve DIS ballot comments for the ISO 1709 Amendment. FLINT (UK)/HARRIS (UK)/CAPLIN (FR) – Jan2022 Complete Resolution #17: Lauren FLINT (UK) and Neil HARRIS (UK) to organize a dedicated virtual meeting (09FEB2022) to discuss the ISO 1709 general revision scope and plan. FLINT (UK)/HARRIS (UK) – Feb. 2022 Complete 	FLINT HARRIS (UK)
(5) {80}	Work Item #9 – ISO Standard Summary Documents (Brochures) <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Nov2021 Resolution #19: Ben WEBBORN (UK) and Karin RANTAMÄKI (FI) to generate a draft brochure for the recently completed ISO 23133 “Operations Training” standard. WEBBORN (UK)/ RANTAMÄKI (FI) – Apr2022 Complete 	RANTAMÄKI (FI) WEBBORN (UK)
(10) {90}	Work Item #10 – Proposed ISO Standard for Validation of Computational Methods <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Nov2021 Resolution #20: Jeremy MUNSON will share an update of the “Status and Items to Discuss List” with WG8 for the proposed Validation standard for discussion at the next WG8 meeting. MUNSON (US) – Apr2021 	MUNSON (US)
(15) {105}	Break	
(15) {120}	Work Item #11 – Other Business <ul style="list-style-type: none"> Nov2021 Resolutions <ul style="list-style-type: none"> Nov2021 Resolution #21: Gregory CAPLIN to submit a draft of the ISO 11311 amendment for DIS ballot to WG8 for a 2-week review. CAPLIN (FR)/ BOWEN (US) – Dec2021 Complete Nov2021 Resolution #22: Gregory CAPLIN to submit the draft ISO 11311 amendment for a DIS ballot. CAPLIN (FR)/ BOWEN (US) – Jan2022 Complete 	BOWEN (US) CAPLIN (FR)



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TUESDAY 24 MAY 2022 – 0700 AM – 1000 AM Eastern Time		
Time (Duration in Min.) {Cumulative}	Topic of Discussion	Lead
(60) {180}	New Business <ul style="list-style-type: none"> Standards and regulations status – country reports <ul style="list-style-type: none"> US (BOWEN), UK (HARRIS) Preliminary Work Item (PWI) discussion for “unofficial subjects” (risk assessment, code validation, etc.) (CAPLIN) ISO TC85/SC6/WG1 activities (BOWEN) Systematic reviews <ul style="list-style-type: none"> ISO 27468 (burnup credit standard) Resolution discussion Upcoming meetings 	WG8
	Day 2 Adjourn	

ISO TC85/SC5/WG8 Attendance List for Meetings May 23-24, 2022, Meetings

D. BOWEN (US) – convenor
G. CAPLIN (FR) – co-convenor
M. DULUC (FR)
M. PRIGNIAU (FR)
M. LAGET (FR)
K. RANTAMÄKI (FI)
R. DRANGA (CA)
C. McNALLY (CA)
J. WANG (CA)
L. FLINT (UK)
N. HARRIS (UK)
A. SUTTON (UK)* – SC5 chairman
J. DUNCAN (UK)* – SC5 secretary
A. LANG (US) - Observer
C. HOPPER (US)
J. MUNSON (US)*
D. MENNERDAHL (SE)
Y. YAMANE (JP)*

*Partially attended the WG8 meetings on May 23-24, 2022.