



# CSEWG 101

David Brown

CSEWG Meeting, Nuclear Data Week 2025  
6-9 January, 2026



@BrookhavenLab

# Before ENDF

By 1960, there were many data efforts worldwide

- different formats
- often hard-coded libraries
- proprietary data
- Notable efforts: UKNDL (AWE, UK), NDA library (US), ENDL (LRL, US)

~1962 H. Honeck (BNL), A. Henry (Westinghouse), G. Joanou (GA) met at Colony Restaurant in DC decided on action

- requested Reactor Mathematics and Computation Division of ANS to sponsor 2 meetings to link databases



<http://www.streetsofwashington.com/2013/10/fine-dining-in-washington-dc-in-1950s.html>



# The Cross Section Evaluation Working Group produces ENDF/B library

- Formed 1966 & Chaired by BNL
- Currently ~200 members of the collaboration from 25 institutions
  - US programs, industry and international partners
  - If you see something in the library, at some point a sponsor somewhere wanted it
- All steps of nuclear data pipeline coordinated through CSEWG
- Depending on what needs done, getting required data in library can be major effort

**We are always open to new users and collaborators**



Mini-CSEWG meeting, Fuller Lodge, Los Alamos, NM, Aug. 2024

(this is about 1/3 of CSEWG)

# CSEWG Mission

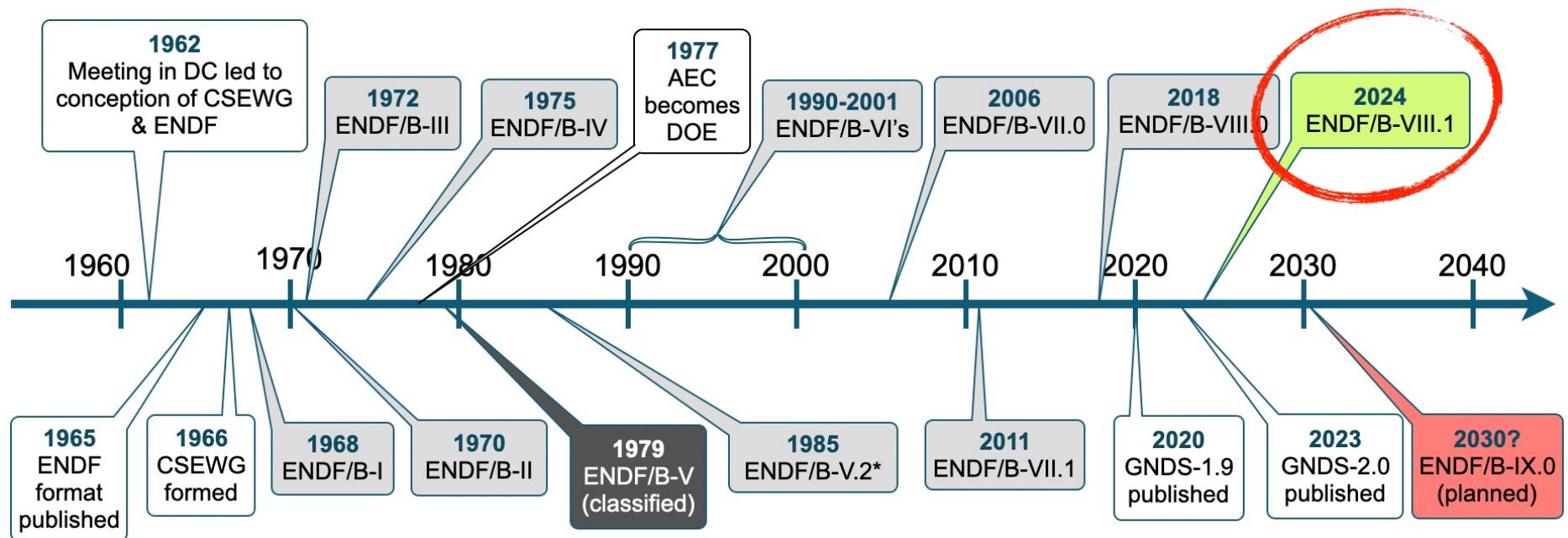
The Cross Section Evaluation Working Group (CSEWG) maintains, updates, extends, validates, verifies, and documents the reference library Evaluated Nuclear Data File Version B (ENDF/B) and establishes standard formats and procedures for its use. CSEWG coordinates differential and integral testing of ENDF/B and utilizes the information for determining the validity of ENDF/B data. CSEWG provides a forum for review of new differential and integral experiments, evaluations and codes that are needed and develops information on specific topics such as Nuclear Data Standards, resonance region formalisms, nuclear model codes, secondary libraries, adjustment results informing future libraries, uncertainty quantification standards, etc. as related to the use of ENDF/B. CSEWG is responsible for distributing this evaluated data and promoting its correct use. CSEWG collaborates and coordinates with other evaluation projects to ensure the success of its mission.

## Translation:

- CSEWG makes ENDF
- CSEWG makes *the best* ENDF
- CSEWG does stuff to make ENDF even more useful
- CSEWG distributes ENDF & wants to make sure ENDF is used correctly
- CSEWG is collaborative

Adapted from S. Pearlstein Memo "NNCSC-CSEWG Flowchart" (1972).

# ENDF Timeline

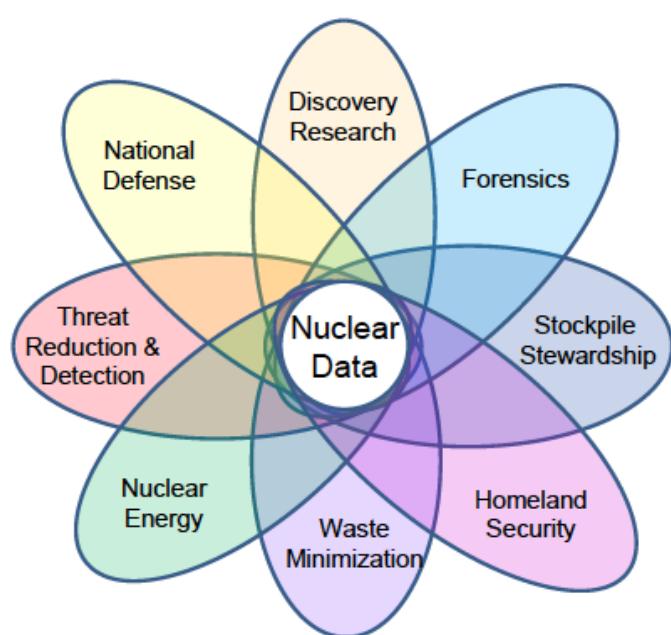


\* everybody's favorite release

Timeline courtesy of Dave Brown

# CSEWG is a long standing collaboration between the data users who are also the biggest content providers

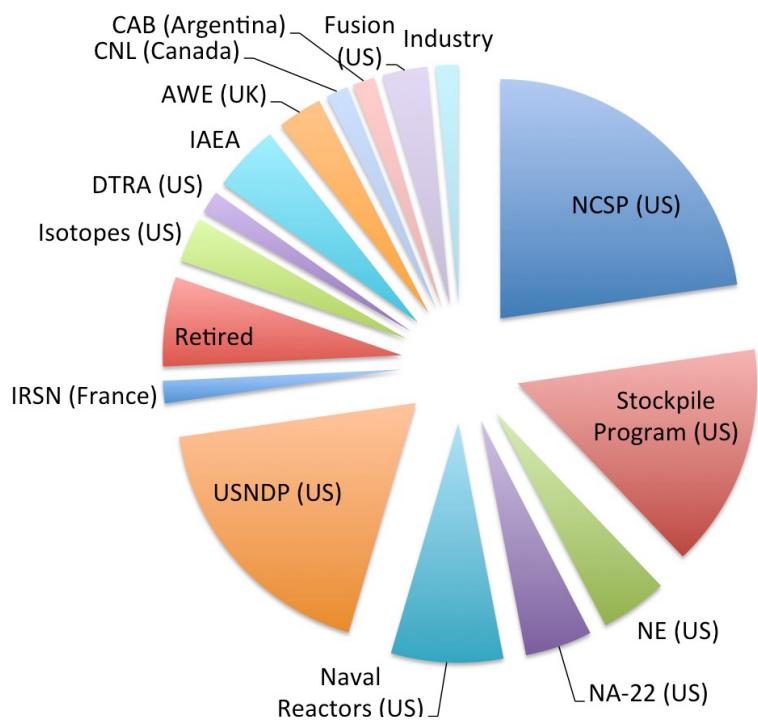
Intersections in Nuclear Data



Dr. Timothy Hallman, Associate Director of the Office of Science for Nuclear Physics  
April 5, 2015



Fraction of evaluations provided for ENDF/B-VIII.0



# By sharing through CSEWG many sponsors reap the benefit of collaboration

Program	Measurement	Theory	Compilation	Evaluation	QA (V&V, IE)	Infrastructure (gitlab, etc.)
DTRA	✓					
International (IAEA,NEA,...)	✓	✓	✓	✓	✓	✓
NA-22	✓	✓		✓		
Naval Reactors	✓			✓	✓	
NCSP	✓	✓		✓	✓	✓
Nuclear Energy					✓	
Other (IP, Fusion, ...)	✓	✓				
Defense Programs	✓	✓		✓	✓	✓
USNDP	✓	✓	✓	✓	✓	✓

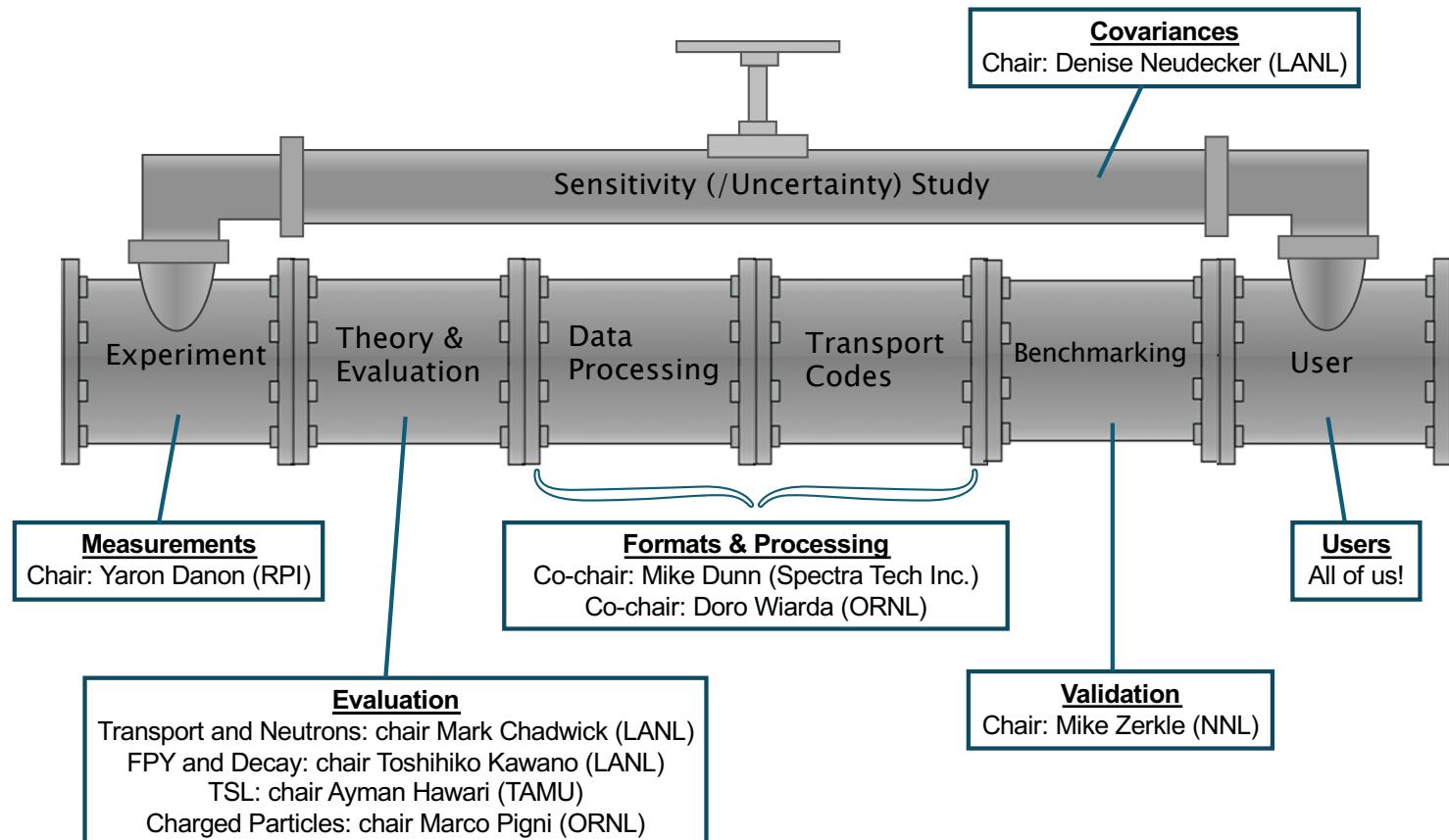
# All steps of nuclear data pipeline are coordinated through CSEWG

**Chair:**

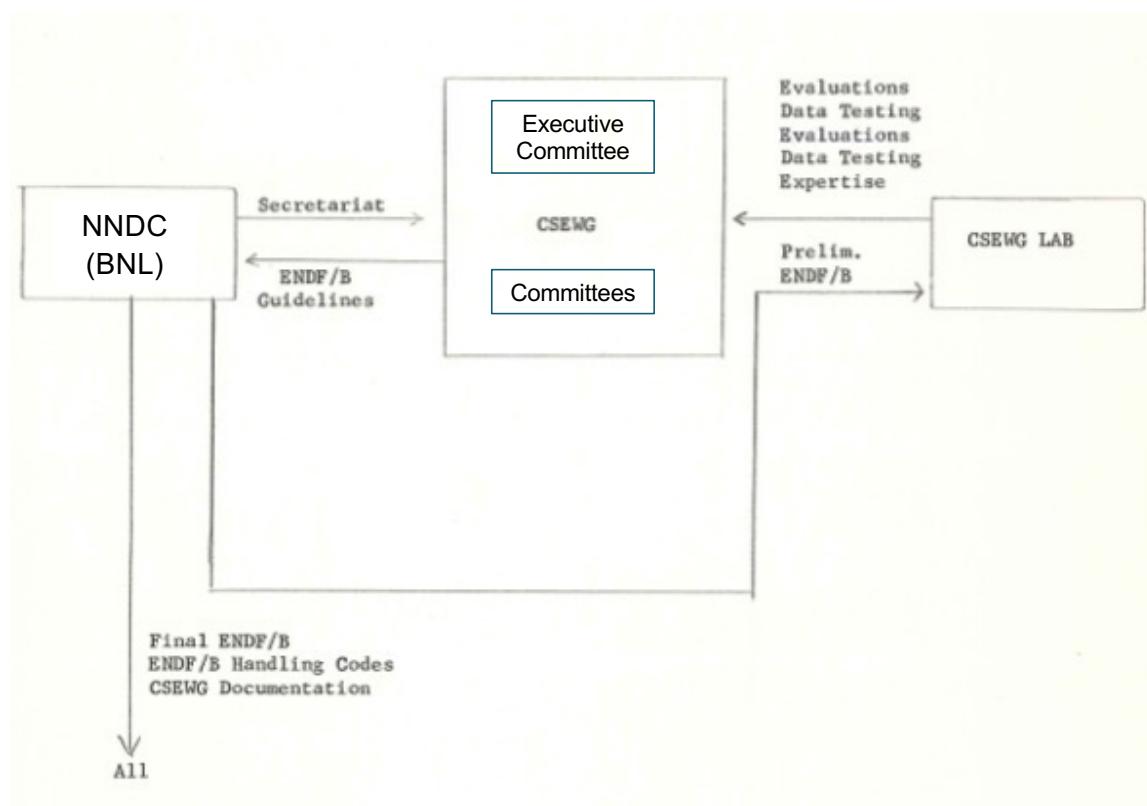
David Brown (BNL)  
[dbrown@bnl.gov](mailto:dbrown@bnl.gov)

**Library Manager:**

Gustavo Nobre (BNL)  
[gnobre@bnl.gov](mailto:gnobre@bnl.gov)



# CSEWG organization



## Members (current best guess):

ANL, **AWE**, **BNL**, CEA Cadarache, CNL, JSI, KAERI, IRSN, **LANL**, LBNL/UCB, **LLNL**, IAEA, NIST, **NCSU**, **NNL**, **ORNL**, PNNL, **RPI**, SpectraTech, **Studsvik**, UTK, Westinghouse

Highlighted CSEWG labs have lab reps and are “core members”

While nominally a US collaboration, CSEWG has traditionally been open to outside participation

# Executive Committee

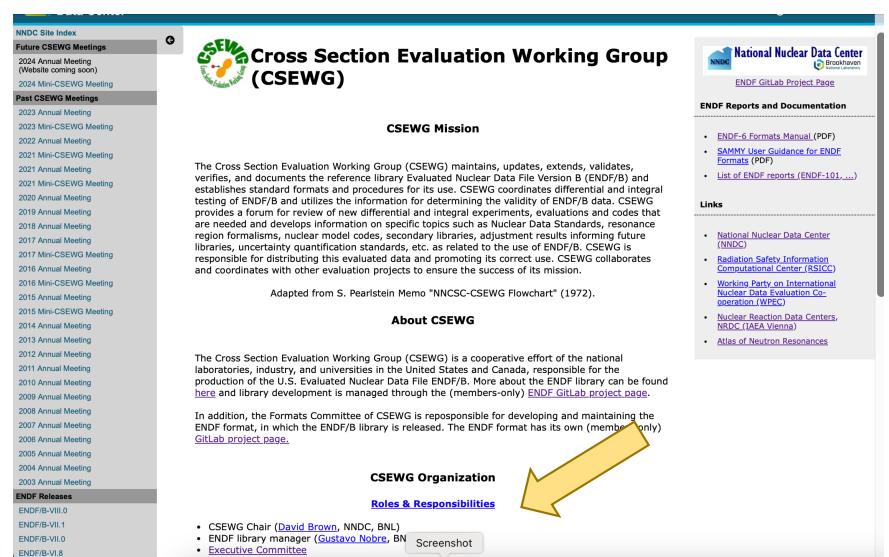
- [David Brown](#), BNL, chair
- [Gustavo Nobre](#), BNL, *ENDF library manager*
- Committee Chairs:
  - Mark B. Chadwick, LANL & Roberto Capote, IAEA
  - Yaron Danon, RPI
  - Michael Dunn, Spectra Tech Inc
  - Dorothea Wiarda, ORNL
  - Denise Neudecker, LANL
  - Michael Zerkle, NNL
  - Marco Pigni, ORNL
  - Ayman Hawari, TAMU
  - Toshihiko Kawano, LANL
- Lab Representatives:
  - Mark Cornock, AWE-NST
  - David Brown, BNL
  - Nathan Gibson, LANL
  - Yaron Danon, RPI
  - Ayman Hawari, TAMU
  - Jo Ressler, LLNL
  - Jason Thompson, NNL
  - Marco Pigni, ORNL
  - Charles Wemple, Studsvik
- At Large Members:
  - Allan D. Carlson, NIST
  - Catherine Percher, LLNL
  - Luiz Leal, ORNL
  - Ian Thompson, LLNL

Consists of the CSEWG Chair, committee chairs, and additional members selected by the CSEWG Chair with the approval of the Executive Committee to provide broader representation of the CSEWG member organizations.

# Roles & Responsibilities

- Latest version at  
<https://www.nndc.bnl.gov/csewg/docs/CSEWG-Roles-and-Responsibilities-v4.pdf>

- Key Roles:
  - Executive Committee: Cabal of SME's, lab reps & committee chairs
    - Chairs organize meetings & coordinate activities
    - Lab reps rally the troops
    - SME's are just smart
  - Committees
  - NNDC is secretariat
  - CSEWG Labs (traditionally, membership in CSEWG is *by lab*, not by people!)



**CSEWG Cross Section Evaluation Working Group (CSEWG)**

**CSEWG Mission**

The Cross Section Evaluation Working Group (CSEWG) maintains, updates, extends, validates, verifies, and documents the reference library of the Nuclear Data File Version B (ENDF/B) and develops standard formats and procedures for its use. CSEWG performs differential and integral testing of ENDF/B and utilizes the information for determining the validity of ENDF/B data. CSEWG provides a forum for review of new differential and integral experiments, evaluations and codes that are needed and develops information on specific topics such as Nuclear Data Standards, resonance region formalisms, nuclear model codes, secondary libraries, adjustment results inform future libraries, uncertainty quantification standards, etc. as related to the use of ENDF/B. CSEWG is responsible for distributing this evaluated data and promoting its correct use. CSEWG collaborates and coordinates with other evaluation projects to ensure the success of its mission.

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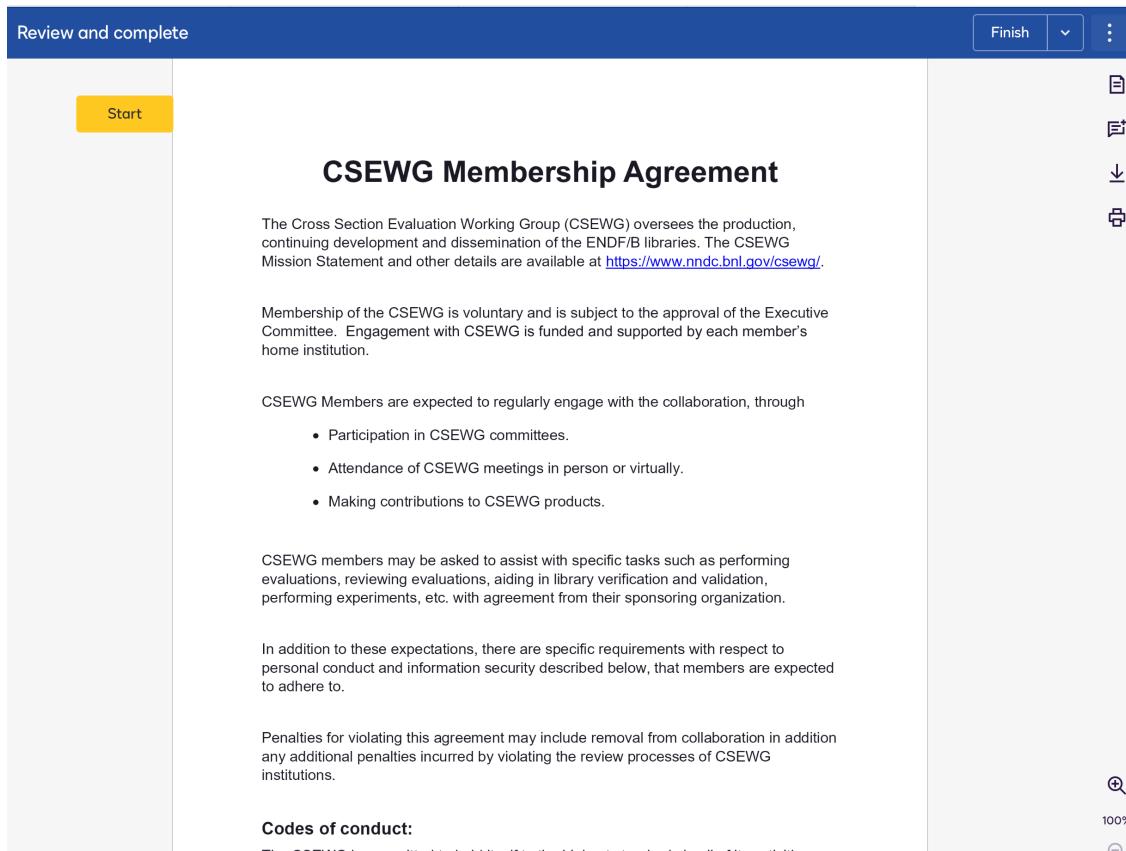
**CSEWG Organization**

**Roles & Responsibilities**

- CSEWG Chair ([David Brown](#), NNDc, BNL)
- ENDF library manager ([Gustavo Nobre](#), BN)
- [Executive Committee](#)

<https://www.nndc.bnl.gov/csewg/>

# CSEWG now has a membership agreement



The screenshot shows a digital form titled "CSEWG Membership Agreement". The top bar is blue with the text "Review and complete" on the left and "Finish" with a dropdown arrow on the right. Below the title, there is a yellow "Start" button. The main content area contains the following text:

**CSEWG Membership Agreement**

The Cross Section Evaluation Working Group (CSEWG) oversees the production, continuing development and dissemination of the ENDF/B libraries. The CSEWG Mission Statement and other details are available at <https://www.nndc.bnl.gov/csewg/>.

Membership of the CSEWG is voluntary and is subject to the approval of the Executive Committee. Engagement with CSEWG is funded and supported by each member's home institution.

CSEWG Members are expected to regularly engage with the collaboration, through

- Participation in CSEWG committees.
- Attendance of CSEWG meetings in person or virtually.
- Making contributions to CSEWG products.

CSEWG members may be asked to assist with specific tasks such as performing evaluations, reviewing evaluations, aiding in library verification and validation, performing experiments, etc. with agreement from their sponsoring organization.

In addition to these expectations, there are specific requirements with respect to personal conduct and information security described below, that members are expected to adhere to.

Penalties for violating this agreement may include removal from collaboration in addition any additional penalties incurred by violating the review processes of CSEWG institutions.

**Codes of conduct:**

THE CSEWG CODE OF CONDUCT IS ATTACHED AS AN ADDITIONAL DOCUMENT TO THIS AGREEMENT.

## Basic requirements:

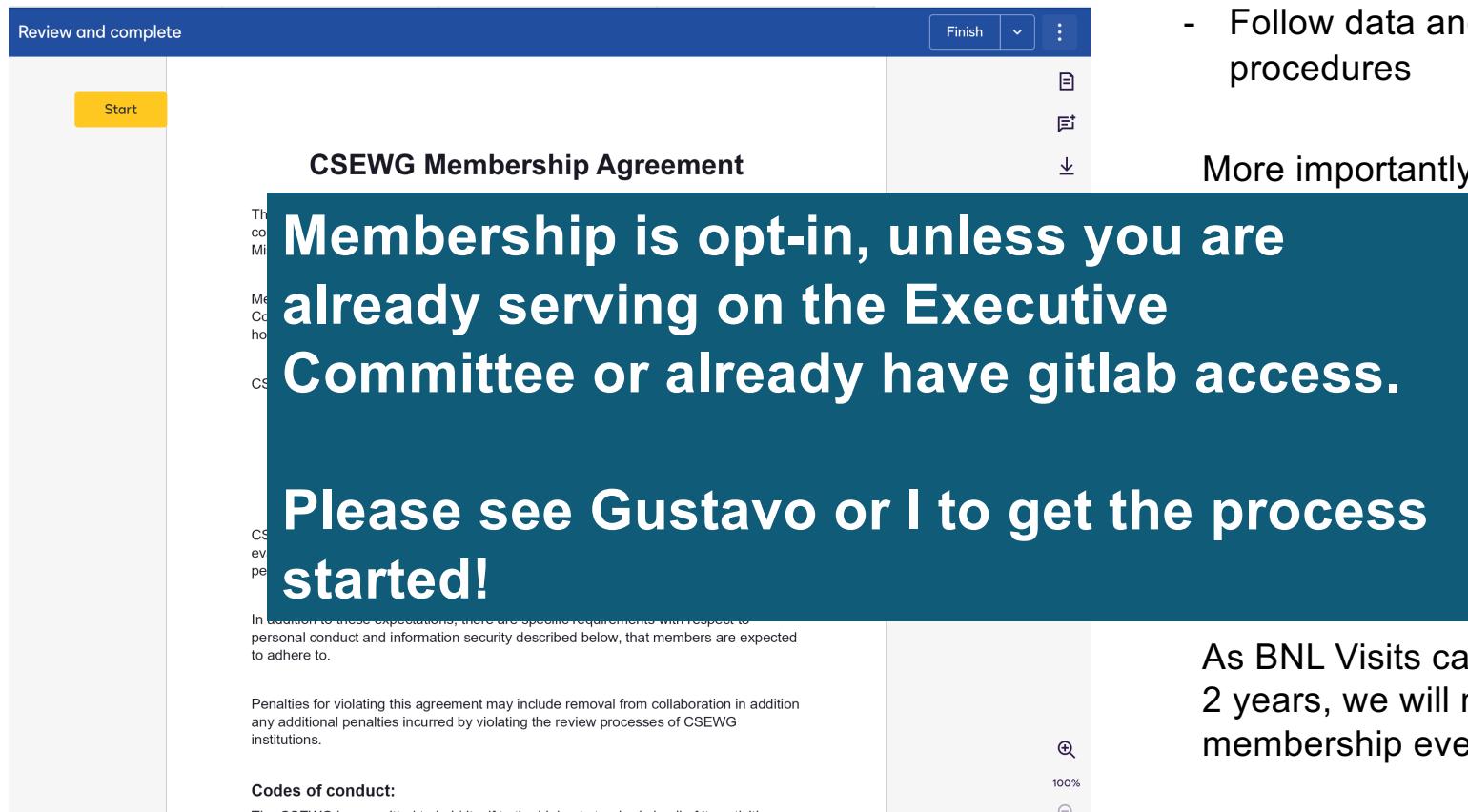
- Follow Codes of Conduct
- Participate in meetings & events
- Maintain BNL Guest Appointments (as needed)
- Follow data and paper release procedures

More importantly, this allows us to make sure your BNL guest appointments, gitlab access and training are up to date.

Also, your lab representatives will now know who specifically they represent 😊

As BNL Visits can last for at most 2 years, we will need to renew the membership every two years.

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Review and complete

Finish

Start

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