

## CSEWG Roles and Responsibilities

Author: David Brown

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Members of the Cross Section Evaluation Working Group (CSEWG), through the support of their various funding agencies and their home institutions, work to achieve the mission of CSEWG. Concisely put, the mission of CSEWG is to oversee the continual improvement of the ENDF/B library. Each member of CSEWG has one or more roles in this effort. Each role has a series of responsibilities.

### CSEWG Members

It is expected that CSEWG members will:

- participate in one or more CSEWG committees and
- attend one or more annual meetings in person or virtually.

Additionally, 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. as required by their sponsoring organization.

### CSEWG Secretariat

The National Nuclear Data Center (NNDC) functions as the Secretariat for CSEWG. Namely the NNDC is responsible for the operations of CSEWG, a role it has held since 1967. These duties include:

- managing the release of versions of the ENDF/B library,
- maintaining the CSEWG and ENDF/B website content and compliance with cybersecurity requirements,
- maintaining CSEWG membership list,
- maintaining CSEWG mailing lists,
- managing the revision control of the ENDF/B library (currently `git.nndc.bnl.gov`) including access and compliance with cybersecurity requirements, and
- other duties as proscribed by the CSEWG Executive Committee.

As the Secretariat for CSEWG, the NNDC serves two specific roles on the Executive Committee: CSEWG Chair and the ENDF Library Manager.

### Committee and Subcommittee Leadership

CSEWG is coordinated by an Executive Committee, currently composed of:

- CSEWG Chair,
- ENDF Library Manager,
- Measurements Committee Chair,
- Validation Committee Chair,

- Formats Committee Chair,
- Evaluations Committee Chairs(s),
  - Neutrons Subcommittee Chair,
  - Thermal Scattering Law Subcommittee Chair,
  - FPY & Decay Subcommittee Chair,
  - Charged Particle Subcommittee Chair,
- Covariance Committee Chair,
- Lab Representatives, and
- at large members.

In addition to the chairs, (sub)committees may have a co-chairs as additional help or to aid in a transition when a (sub)committee chair plans to leave their position.

The Executive Committee is responsible for

- coordinating the development of all aspects of the ENDF library,
- resolving conflicts within CSEWG including multiple evaluation, authorship, etc.,
- establishing standards for accepting evaluations, and
- establishing by-laws for CSEWG including the Code of Conduct and other documents.

Changes to the membership on the Executive Committee are determined by the committee itself. The committee

- is composed of experts in the field of nuclear data,
- strives to keep equitable lab representation, and
- strives to have reasonable representation of stakeholders both within the US federal programs, universities, and industry.

#### *General roles of all committee chairs*

All committee members drive CSEWG towards evaluation solutions that both optimally represent the fundamental data and work in concert with other evaluations to provide an applications library for transport applications, with adequate validation. There are many practical and operational things each committee chair does to meet this goal:

- Collaborate effectively and proactively with other committee chairs and members of CSEWG to optimize outcomes.
- Provide subject matter expertise to guide CSEWG decisions.
- CSEWG meeting duties:
  - chair their respective session during the annual CSEWG and smaller CSEWG meetings (including mini-CSEWG meetings),
  - collect/canvas for contributions to sessions at these meetings,
  - assemble the session agenda for these meetings, and
  - edit the meeting minutes for their respective session.
- Maintain the committee roster.
- Be aware of the status of activities in-between CSEWG meetings, by being prepared to brief the Executive Committee during committee meetings.

- Engage with stakeholders, either in their home institutions or in funding agencies, to ensure stakeholders are aware of CSEWG happenings.
- Library release duties:
  - assist in the maintenance the formats manuals (legacy ENDF-6 format in ENDF-102 and the GNDS specifications),
  - assist coordinating the drafting of ENDF-201, a.k.a. the Big Paper that documents and accompanies each ENDF/B release,
  - publicize library releases when possible, and
  - assist in coordinating the assembly of the library itself.

#### *CSEWG Chair*

The CSEWG chair ensures that both committee chairs and the CSEWG Secretariat are operating effectively and are responsive to CSEWG needs.

- Supervising the NNDC in its Secretariat duties, including, but not limited to:
  - confirming that submissions meet the quality standards,
  - ensuring that reviews are completed in a timely manner,
  - ensuring evaluations were promptly submitted following a review,
  - maintaining the CSEWG and ENDF/B websites, and
  - maintaining the CSEWG mailing list.
- Chairing all CSEWG and CSEWG Executive Committee meetings. This includes:
  - settings agendas and timetables (depending on the scale of the meeting), and
  - drafting the minutes.
- Performing reporting duties at
  - Working Party on Evaluation Cooperation (WPEC) meetings,
  - DOE programmatic meetings as required by current sponsors, and
  - any other meetings as determined by the Executive Committee or sponsoring organizations.
- Coordinate development of CSEWG policies by
  - with the Executive Committee, develop/maintain bylaws and code of conduct,
  - answer policy and procedure questions from network, and
  - lead policy and procedure discussions at CSEWG.

#### *ENDF Library Manager*

The ENDF Library Manager manages the library itself.

- Ensure every evaluation undergoes phase 1 testing. Currently this is automated with a CI/CD system (ADVANCE).
  - In collaboration with other Executive Committee members, define criteria for phase 1 testing and
  - implement tests addressing these criteria including format and physics checking.
- Evaluation refereeing:
  - Developing the review criteria for submissions to ENDF/B and apply to each submitted evaluation. These criteria include those covered in the automated phase1 testing.

- Receive submissions to ENDF projects on [git.nndc.bnl.gov](http://git.nndc.bnl.gov), phase1 branch,
- send those submissions for review by subject matter experts within CSEWG,
- oversee discussions between reviewers and evaluators (make editorial decisions if necessary), and
- “publish” reviewed evaluations to phase2 branch for validation.
- Work with validation committee to review entirety of phase2 branch
- Work to maintain the overall quality of the library by
  - correcting errors in database when identified,
  - maintaining the currency of the library issue tracker/bug lists, and
  - organizing Hackathons as needed to address library errors.
- Issue library releases
  - Issue beta for testing by the validation committee
  - Issue main ENDF releases
  - Coordinate drafting of ENDF-201 (the Big Paper), describing library releases

#### *Evaluations Committee Chair and subcommittees chairs(s)*

The Evaluation Committee is responsible for creating the evaluations that comprise the ENDF/B library. These evaluations comprise recommended values for nuclear reaction or decay properties as determined from the best available measurements and theory. The Evaluation Committee Chair is usually also an evaluation subcommittee chair, typically for the neutron subcommittee. In this role, the committee chair and subchairs

- canvas CSEWG members for new evaluations,
- coordinate the development of new evaluations within CSEWG,
- work with the nuclear science community to develop new theories and evaluation methodologies to improve CSEWG generated evaluations,
- work with other data projects and programs coordinate evaluation efforts outside of CSEWG, including WPEC Subgroups and IAEA projects, and
- assist the ENDF Library Manager on refereeing all submitted evaluations.

#### *Formats Committee Chair(s)*

The Formats Committee develops and maintains the nuclear data formats and processing codes that provide the crucial link between evaluations and users. In this role, the chairs

- work with or function as editors of ENDF-102, ensuring it is both clear and up to date as it must be released with each library release,
- resolve file format ambiguities,
- manage all new format proposals (currently this is handled as a gitlab project on [git.nndc.bnl.gov](http://git.nndc.bnl.gov)),
- work with processing code developers and evaluators to ensure proper function of all formats and timely adoption of new ones, and
- liaise with processing code developers in the US and worldwide, other CSEWG committees and EG-GNDS on new formats. In this role, it is essential for members of the formats committee to serve on the Expert Group (EG-GNDS).

### *Validation Committee Chair(s)*

The Validation Committee is responsible for ensuring the overall quality of the library through extensive testing. In this role, the committee chair(s)

- ensure each release (beta or otherwise) phase2 integration/acceptance testing of the full library is properly done.
- identify and coordinate with nuclear data stakeholders (including the NCSP Nuclear Data Advisory Group, national laboratories, and commercial nuclear industry) who can provide additional acceptance testing, and
- document relevant unclassified testing in ENDF-201/“the Big Paper”.
- Ideally the chair should have Q-clearance to coordinate any needed classified validation.

### *Measurements Committee Chair*

Measurements are the foundation upon which evaluations are built and form the “ground truth” of any evaluation activities. Measurements are expensive and often take years to plan and execute. Therefore, coordination is essential, both within the US (within CSEWG and CSEWG’s partners) and globally. In this role, the Measurements Committee chair

- works with CSEWG and external stakeholders to identify measurement gaps,
- works with the NEA High Priority Request List to publicize measurement gaps,
- perform reporting duties at WPEC and other venues,
- publicize new experimental results to promote use in new evaluations, and
- document new experiments supporting ENDF evaluations in ENDF-201/“the Big Paper”.

### *Covariance Committee Chair*

No evaluation is complete without corresponding estimates of uncertainties. Data customers need to understand how closely we (CSEWG) estimate our evaluations are to reality. This is usually communicated in the form of covariance data. We (CSEWG) must provide the necessary tools for customers to interpret and use these covariance data. Given this, the Covariance Committee chair:

- strongly encourages CSEWG members (especially evaluators) to achieve 100% covariance coverage in the ENDF/B library,
- works with members of CSEWG to improve quality of covariance data through methods development, putting uncertainty quantification standards for evaluation input in place, and covariance data testing,
- encourages subcommittee members to provide timely verification and validation of covariances,
- in collaboration with the formats committee, develops formats that ensure proper representation of uncertainties in evaluations, and
- works with members of the nuclear science community to improve the methods used to generate and use uncertainty data in the ENDF/B library,
- offer a venue to discuss adjustment results that drive understanding of issues in mean values and covariances that should be fixed in future releases.

### *Laboratory Representatives*

CSEWG representation is by laboratory and not to individuals to assure continuity of participation. Experts from laboratories both inside and outside of CSEWG are present as needed. There is no attempt to include all experts on a problem but only a number such as is necessary to reasonably deal with the technical question at hand. Laboratory representatives in most cases are expected to bring to CSEWG a consensus of the broad data interests of their laboratory even if the subject matter may be outside their specialty. In this coordinator role, each Laboratory representative is expected to:

- coordinate CSEWG participation for their host institution,
- regularly attend CSEWG meetings (either in person or virtually), and
- assist the CSEWG Secretariat in maintaining the membership list, specifically for those CSEWG members from their host institution.

### *At large members*

At large members of the Executive Committee are Subject Matter Experts who assist the other committee members on an as needed or ad hoc basis. As such, at large committee members roles are defined by the Executive Committee. In addition to these yet-to-be determined roles, at large members:

- lead task forces appointed by the executive committee to deal with specific topics (standards, structure, coordinating the Big Paper, etc.), and
- assist the ENDF Library Manager on evaluation refereeing.