



## Status of WPEC SG50

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33<sup>rd</sup> Meeting of the Working Party on International Nuclear Data Evaluation Co-operation

May 14, 2021

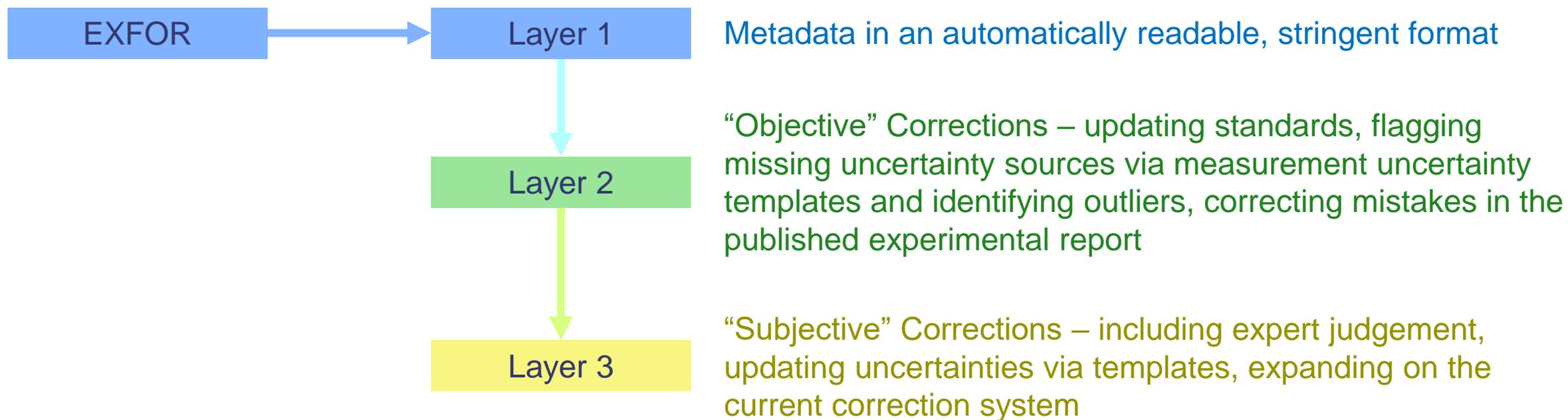
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# SG50: Developing an Automatically Readable, Comprehensive, and Curated Experimental Reaction Database

- SG Chairs: Amanda Lewis (Naval Nuclear Laboratory) and Denise Neudecker (LANL)
- Monitor: Arjan Koning (IAEA)
- Our goal is to create a new database for experimental data that will build on EXFOR and will store “subjective” corrections to the data sets made by people other than the authors.



# Meetings Held

- “Unofficial” kick-off meeting September 14-15, 2020
  - Presentations on EXFOR, current work on parsing EXFOR, user needs, experimental metadata
  - Split up into 5 sub-subgroups (keywords and metadata; NRDC-coordination; codes and database; corrections and quality flags; output tests)
- Meeting about the Requirements Document November 12, 2020
- Keywords and Metadata SSG meeting February 9, 2021
- NRDC-Coordination SSG meeting March 1, 2021
- Codes and Database SSG meeting April 6, 2021
- Presentation at NRDC 2021 meeting May 7, 2021

# Overview of Requirements Document Progress

- The requirements document is in progress, it currently is 26 pages with 31 contributors
- We have split up the experiment information into the categories:
  - Observable
  - Bibliographic Information
  - Incident Particles
  - Background(s)
  - Detector(s)
  - Sample(s)
  - Resolution Function
  - Outgoing Energy
  - Reference Data
  - Corrections/Environmental Effects
  - Correlations to other Datasets
- We are working on compiling experimental metadata and attribute lists for each of the categories
  - The lists started with the current EXFOR keywords and codes
  - The measurement uncertainty templates were consulted to add more metadata
  - Examples will be used to find missing or confusion attributes

# Overview of the Examples Created

- Examples were created by 5 participants for experiments measuring:
  - $(n,f)$
  - $\nu$ -bar
  - Activation
  - Transmission
  - $(n,n'\gamma)$
  - Fission yields
- Through these examples we have uncovered some issues that are being corrected
- We will translate the examples into a simple and general JSON format, then use them to determine the type of database and format we want to use

# Deliverables

- **Requirements document (2021-2022)**
  - What metadata we will store
  - What keywords/values we will use
- Specifications document (2022 – 2023)
  - What type of database we will use
  - What data types or structures we will use
- Codes to produce each layer
  - **Example files for layer 1 (2021 – 2022)**
  - Example files for layer 2 (2022 – 2023)
  - Example files for layer 3 (2023-2024)