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NUCLEAR ENERGY AGENCY
NUCLEAR SCIENCE COMMITTEE

Working Party on International Evaluation Co-operation

25th Meeting of the NEA NSC Working Party on International Nuclear Data Evaluation Co-operation (WPEC)

Summary Record

23-24 May 2013
NEA Headquarters
Issy-les-Moulineaux, France

Emmeric Dupont
emmeric.dupont@oecd.org
+33 1 45 24 10 84

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WORKING PARTY ON INTERNATIONAL NUCLEAR DATA EVALUATION CO-OPERATION
25TH MEETING

NEA Headquarters, Issy-les-Moulineaux, France

23-24 May 2013

SUMMARY RECORD

The WPEC chair, **R. Jacqmin**, opened the meeting and welcomed all participants (a list is given in Annex 1).

Adoption of the Agenda **(NEA/SEN/NSC/WPEC(2013)1)**

1. The proposed agenda was adopted with the addition of a presentation on DOI issues by the US participants under item 5 of the agenda (Brief progress report from the evaluation projects and discussion of future plans).

Approval of the Summary Record of the 24th WPEC meeting **(NEA/SEN/NSC/WPEC(2012)2)**

2. The summary record of the twenty-fourth meeting was approved without modification.

Membership and observers

3. **E. Dupont** reminded the participants that **A. Ignatyuk** has been representing the Russian evaluation project through the IAEA delegation for many years and thanked the IAEA for this. Following the accession of the Russian Federation to the NEA on January 1st, 2013, the Russian authorities nominated three additional delegates to represent the Russian file project delegation at WPEC: T. Golashvili (excused, represented by **S. Badikov**), V. Ignatiev (excused, represented by **M. Kalugin**), and **V. Sinitsa**. The list of current WPEC members is given in Annex 1. Apologies for absence were received from M. Igashira (JENDL), P. Schillebeeckx (SG36, represented by Y. Danon) and Y.-O. Lee (JEFF/KAERI).

4. **M. Herman** commented on the ENDF proposal to allow up to five formal delegates in WPEC (the current limit being four). Actually, the US Cross Section Evaluation Working Group (CSEWG), which is responsible for the production of the ENDF/B file, is composed of one executive committee and five standing committees (Evaluation, Data Validation, Formats and Processing, Measurements, and Covariances). Ideally, the chairs of these six committees should represent the ENDF/B project in formal WPEC meetings. However, the size of WPEC meetings should stay reasonable and the US delegation would be satisfied with an increase from four to five of the maximum number of delegates. There was no objection from other delegates. *The WPEC approved this proposal.*

Reports on experimental activities

5. Experimental nuclear data activities of relevance to the evaluation projects were reviewed. Detailed information about the experimental activities is given in the reports and viewgraphs presented at the meeting (see Annex 2).

- *Europe*

  A. Plompen reported on a broad range of experimental activities in Europe, covering differential measurements performed at different facilities from EC-JRC-IRMM (Belgium), CERN/n_TOF (Switzerland), JYU (Finland), ILL, GANIL, CENBG, CEA/DAM (France), HZDR, GSI (Germany), OCL (Norway), CCFE (United Kingdom), NPI (Czech Republic), TSL (Sweden), and integral measurements performed at PROTEUS (PSI, Switzerland), MINERVE, EOLE (CEA, France), GUINEVERE (SCK•CEN, Belgium), FNG (ENEA, Italy). The presentation summarized results presented at the Nuclear Data Week held at the NEA in November 2012, and reflects progress in the French GEDEPEON project, as well as the European ANDES/CHANDA, ERINDA and EUFRAT projects, amongst others.

- *Japan*

  H. Harada reported on nuclear data measurements performed at different facilities across Japan. He first announced the creation of the Japanese Nuclear Data Measurement Network (JNDM-net, cf. http://meteor.nucl.kyushu-u.ac.jp/ndmnet/) as a new Working Group within the Japanese Nuclear Data Committee with the objective to promote cooperation between experimentalists and to discuss the best strategy for nuclear data measurements. He highlighted recent results obtained at J-PARC/MLF/ANNRI (neutron capture cross-sections of long-lived fission products), at JAEA Tandem Facility (surrogate experiments to infer some actinide fission cross-sections and fission-fragment yields, and the ratio of capture cross-sections for Gd isotopes), at KEK (DDX data on Carbon-induced fragment emission reactions for light-medium targets), at Tokyo Tech (neutron capture cross-section and γ-ray spectra of Pd isotopes), at Kyoto university (neutron capture cross-section at low energy and activation cross-section at high energy), at Osaka university (integral benchmark of scattering cross-sections at large angles), at Konan university (photo-neutron measurements performed at the new experimental station GACKO of the NewSUBARU facility), and at Kyushu university (Double-differential neutron yields from thick target irradiated by deuterons, and DDX from heavy-ion interactions).

- *USA*

  Y. Danon reported on activities in the USA covering experiments carried out at different facilities. The report emphasized neutron reaction data measurements performed or planned by LANL ((n,xγ) with GEANIE, (n,γ) with DANCE, (n,f) with LSDS, ionisation chamber, Chi-Nu, the future Time Projection Chamber (TPC), and fission-fragment yields with SPIDER), LLNL (prompt gamma fission data and (n,γ) with DANCE, and surrogate reactions), ORNL (transmission and capture in the resonance region measured at Geel, Belgium), LBNL (thermal capture cross-sections measured at Budapest, Hungary), RPI (transmission, scattering, capture and fission in the resonance region, and thermal neutron scattering on compounds), and NIST (reviews of standards). More details about these activities are available on the CSEWG web page.

- *Russian Federation*

  A. Ignatyuk reported on Russian experimental activities. Partial ^{10}B(n,αt) and ^{50,52}Cr(n,α) cross-sections in the incident energy range 4-7 MeV were measured at IPPE by the Khryachkov group. The INR Lead Slowing Down Spectrometer was used to repeat the measurement of the fission

cross-section of Cm-243 in the sub-threshold energy region. New measurements at higher energy are in preparation.

- *China*

  Zhigang Ge reported on China nuclear data measurement activities. He highlighted results obtained at CIAE with the HI-13 Tandem (neutron emission DDX for n+D) and with the 600 kV Cockcroft-Walton accelerators (^{69}Ga(n,2n) cross-section). Fission yields of n+U-235 were measured using HPGe spectrometers and a fission chamber for monitoring the absolute fission rate. The HI-13 accelerator was also used to irradiate Zn-nat foils and to measure the half-life of ^{66}Ga. Other experimental activities are ongoing at Peking university (^{40}Ca(n,α_i) differential cross-sections) and Lanzhou university (activation cross-sections). Additional measurements on light nuclides were performed for astrophysics. New facilities are under construction. The Chinese Spallation Neutron Source (CSNS) should be available in 2017 with two experimental halls devoted to nuclear data measurements. The neutron facility of the Shanghai Institute of Applied Physics (SINAP-NF) is an electron linac that will be used for time-of-flight measurements of (n,tot) and (n,γ) cross-sections. The Hefei intensified d-T neutron generator (HINEG) will be available at the end of 2014 for fusion and ADS related nuclear data measurements.

Brief progress reports from the evaluation projects and discussion of future plans

6. Progress in the major nuclear data evaluation projects was presented. Detailed information about the status of the evaluated nuclear data libraries is given in the reports and viewgraphs presented at the meeting (see Annex 2).

- *ENDF*

  M. Herman reported on the validation of ENDF/B-VII.1, on progress related to evaluation techniques (reaction codes, PFNS, assimilation), and on the upgrading of CSEWG/NNDC infrastructure to allow continuous verification and validation of the library. The extensive validation published in Nuclear Data Sheets 113 (2012) 2935-3005 by S. van der Marck shows good overall performance of the library, but also areas to improve. The decay data sub-library has been fully integrated into ORIGEN and feedback is excellent. The ADVANCE system for continuous integration will allow immediate and automated feedback to evaluators (in future benchmarking). There are now numerous but minor fixes to ENDF/B-VII.1. The highest priority for the next release will be improvement in covariances, standards, and CIELO key isotopes (^{239}Pu, ^{235}U, ^{238}U, ^{56}Fe, ^{16}O, ^{1}H). There is no set date for the next ENDF/B-VII release.

  D. Brown presented a new US initiative to assign Digital Object Identifiers (DOI) to evaluated nuclear data files. The objective is to unambiguously identify a data set and to facilitate handling of evaluated files, as already done for publications, by large database publishers, e.g. OSTI of the US DOE or the DataCite organization. After discussion, it was felt that no decision could be taken at the level of WPEC at this stage, as such an initiative has implications that extend to national policy levels.

- *JEFF*

  R. Jacqmin presented the status of the JEFF project, which includes contributions from both the fission and fusion communities. He reminded the participants of the background and organization of the project. The JEFF-3.1.2 update of the General Purpose file was released in February 2012. The JEFF-3.2 library will contain updates of many important isotopes, with covariance data, and will address the needs of fast reactors and transmutation applications, while preserving the performance of the JEFF-3.1 series for light water reactors. The JEFF-3.2 release is expected in 2013 for the General Purpose file and 2014 for Special Purpose files. Finally, he mentions

ongoing discussions on JEFF beyond JEFF-3.2: needs, priorities, resources, international context, with a tentative target date of 2019 for the next major release.

- *JENDL*

  T. Fukahori presented the status of the JENDL project and organization. The Japanese Nuclear Data Committee established two new bodies in 2013. The first one is a working group on nuclear data processing and the second one is an advisory subcommittee on the development of JENDL. Benchmarking and evaluation activities are continuing after the release of JENDL-4.0. Improved JENDL-4.0u files are made available on the JNDC web site to update the initial JENDL-4.0 release (2010). The report associated to the new radioactive decay data file (JENDL/FPD-2011) and fission yields file (JENDL/FPY-2011) was release in July 2012 as JAEA-Data/Code 2011-025. A new photonuclear data file will be released in 2013.

- *ROSFOND/BROND*

  A. Ignatyuk reported on the status of the BROND and ROSFOND libraries. He mentioned that the Russian Data Centres are still active, but there is no national Nuclear Data Committee. The BROND-3 general purpose file was updated with revised evaluations for Pu-241 and structural materials. Moreover, covariance data were added for the 38 most important reactor materials, including minor actinides. The ROSFOND-2013 library will be updated accordingly and revised evaluations from the BROND-3A activation library will be added (e.g. activation cross-sections of Pb and Bi-Pb).

- *CENDL*

  Zhigang Ge presented the status of the CENDL project and related activities at CNDC. The evaluation and validation work continues in preparation of the CENDL-3.2 release. A specific evaluated library (CENDL-TMSR) was assembled and processed for Th/U fuel cycle studies, and more specifically for the Chinese Thorium Molten Salt Reactor (TMSR) project. Another part of the nuclear data evaluation and validation efforts focussed on ADS needs (for the Chinese ADS project). Some evaluation activities on thermal neutron scattering data started in 2012. In addition, the CNDC develops a new R-Matrix code (FDRR), as well as models and codes related to covariance data, S/U analysis and nuclear data adjustment.

- *IAEA*

  R. Forrest presented the activities of the IAEA Nuclear Data Section (NDS), including the international networks of nuclear reaction experiments and nuclear structure/decay data evaluation, as well as contributions to the JEFF project. The IAEA-NDS organizes Coordinated Research Projects (CRP), Data Development Projects (DDP) and training activities. Three CRPs are active and another three are planned. The CRP on Prompt Fission Neutron Spectra for Actinides will held its final RCM meeting in November 2013. The two other CRPs on Nuclear data for Particle Induced Gamma Ray Emission (PIGE) analysis, and on Charged-Particle Monitor Reactions and Nuclear Data for Medical Isotope Production, should be completed in 2014 and 2015 respectively. The planned CRPs on the validation of the International Dosimetry Library IRDFF, on the evaluation of beta-delayed neutron emission, and on Primary Radiation Damage cross-sections will start in 2013. Within the DDP framework, a Consultant Meeting will be held on neutron cross-section standards, 8-12 July, Vienna.

  M. Herman mentioned that it was recommended during the SG38 meeting earlier this week to update the RIPL segments relative to masses, levels (and maybe resonances) for insertion in the new data structure.

- *TENDL*

  A. Koning reported on the status of the TALYS-based Evaluated Nuclear Data Library. The TENDL project started at NRG, but now involves additional collaborators from CCFE, JUKO Research, University of Uppsala and CEA. The project is based on a new approach using the TALYS and Total Monte Carlo (TMC) systems to produce, reproduce, improve and validate a complete set of nuclear data evaluations, including covariance data for neutron cross-sections and resonance parameters. The TENDL-2012 release consists of sub-libraries for neutron, proton, deuteron, triton, helium-3, alpha and gamma induced reactions up to 200 MeV on about 2400 targets each. In complement to default results obtained with TALYS-1.48, the neutron sub-library includes 340 evaluations based on carefully adjusted TALYS calculations, and another 200 reaction channels normalised on standard libraries. The validation shows good performance for thermal criticality systems, decay heat and integral activation measurements, but improvements are needed for systems sensitive to Ti, Ni, Mo, Pb, and in general for fast critical systems.

Review of final or near-final subgroup reports

7. Results and conclusions of completed or near-completed subgroups were discussed. A summary table of all subgroup status is given in Annex 3.

- *Subgroup 27 (Prompt photon production from fission products)*

  This subgroup is closed. **R. Jacqmin** proposed to circulate the draft report by the end of August. *The final report would be issued by the end of 2013.*

- *Subgroup 28 (Processing of covariance data)*

  This subgroup is closed. **M. Dunn** proposed to circulate the draft report by the end of August. *The final report would be issued by the end of 2013.*

- *Subgroup 31 (Meeting nuclear data needs for advanced reactor systems)*

  This subgroup is closed. **H. Harada** reported on the status of the (near) final report, and on subgroup recommendations. *The final report will be issued by the end of 2013.*

  H. Harada proposed to establish an international framework to facilitate collaborations between experimentalists from worldwide facilities, and an international committee that would periodically review nuclear data and associated uncertainties, i.e. something similar to the Committee on Data for Science and Technology (CODATA) in the field of fundamental physical constants.

  It was recalled that, when the NEA Working Party on International Nuclear Data Measurement Activities (WPMA) was merged with WPEC in 1999, participants agreed that the proposed international framework for experimentalists should be part of WPEC. Therefore, if the proposed new activity is to be general, it could be considered as part of subgroup C (HPRL). If not, its scope should be made specific. **H. Harada** agreed to draft a proposal by the next meeting.

- *Subgroup 33 (Methods and issues for the combined use of integral experiments and covariance)*

  M. Salvatores reported on the final conclusions of this subgroup. In particular, it was shown that the statistical adjustments methodologies used worldwide are well understood and essentially equivalent. The results of the benchmark adjustment exercise indicate common trends for important data, even when starting from different basic nuclear data and different covariance matrices. In this respect, adjustment methodologies can provide a powerful tool for nuclear data (and associated uncertainties) improvement if used in an appropriate manner. The final report was reviewed at the last subgroup meeting on May 22 and should be published within a few

months. A proposal for a follow-up subgroup will be discussed under item 8 of the agenda (Proposals for new subgroups). *The WPEC decided to close the subgroup. The final report will be issued by the next meeting.*

R. Jacqmin complimented the subgroup for this excellent work and the co-ordinators for their efficient role.

- *Subgroup 34 (Coordinated evaluation of ^{239}Pu in the resonance region)*

  C. De Saint Jean reported on the co-ordinated evaluation of the ^{239}Pu resolved resonance region. This subgroup was established to investigate a general discrepancy when calculating PU-SOL-THERM and PU-INTER assemblies with the most recent evaluated data libraries. Sensitivity analysis performed by the participants showed that these benchmark experiments are mainly sensitive to the ^{239}Pu fission, capture cross sections, nu-bar and prompt fission neutron spectrum (PFNS). Participants produced improved Pu-239 resonance parameters and associated covariance data, consistent with all differential information, and leading to improvements in the calculations of thermal systems. However, improvements of intermediate and fast systems would require additional studies in the unresolved resonance region and beyond. The final report is in preparation. *The WPEC decided to close the subgroup. The final report will be issued by the next meeting.*

  M.B. Chadwick acknowledged the progress made on this evaluation, which would be a good starting point for the new CIELO subgroup (see below). **R. Jacqmin** stressed that the final report should make clear what work remains to be done.

- *Subgroup 35 (Scattering angular distribution in the fast energy range)*

  T. Kawano reported on progress made to improve evaluation methods for neutron scattering angular distributions for different materials, to identify integral benchmarks sensitive to scattering data, to provide better evaluations and recommend new scattering measurements if necessary. He presented subgroup conclusions based on the review of scattering data and evaluation methods used in the current evaluated files, on sensitivity analysis showing that variations in P1 data of Na, U or Fe can have a sizeable impact on neutron leakage (e.g. for ZPPR9 or PERLE experiments). The final report is in preparation. *The WPEC decided to close the subgroup. The final report will be issued by the next meeting.*

Status of ongoing subgroups

8. Activities of ongoing subgroups were presented. A summary table of all subgroup status is given in Annex 3.

- *Subgroup C (High priority request list for nuclear data)*

  A. Plompen reported on SG-C status. There was no new request to review since the 2012 meeting. The review and update of all HPRL entries proposed last year is ongoing, but time consuming. A more detailed report is expected by the next meeting.

- *Subgroup 36 (Reporting and usage of experimental data for evaluation in the resolved resonance* region)

  Y. Danon (on behalf of P. Schillebeeckx) reported on methods and best practices to produce accurate cross-section data together with reliable covariance information in the resonance region. Members of SG36 continued the review of the uncertainty components of experimental data, the different evaluation methods, and the analysis of case studies. They also recommended a list of key information to report and store in an international database (e.g. resolution function of the

facility/spectrometer). *The subgroup was given a one-year extension to complete the work and prepare the report.*

- *Subgroup 37 (Improved fission product yield evaluation methodologies)*

  R. Mills reported on this new subgroup, which was established to develop improved methodologies for future evaluations that are consistent with the new theoretical knowledge and experimental measurements, and include common covariance methods and data formats. This subgroup is also motivated by the perspective of a large number of new fission yield measurements, in connection with upgraded or new facilities. The new methodologies will allow calculations with improved accuracy and the generation of uncertainties on calculated engineering parameters. The first subgroup meeting was successfully held on May 22, prior to this meeting. It is important to maintain the initial momentum, most discussions will be carried out over email but opportunities for another subgroup meeting in the fall 2013 will be investigated. *Subgroup activities will continue in 2013 and 2014 with the objective to complete the work in 2015.*

- *Subgroup 38 (A modern nuclear database structure beyond the ENDF format)*

  D. McNabb reported on progress made to define a new and improved standard structure for storing nuclear reaction data. The main objective of this subgroup is to define a common data model/organisation, to agree on best practices for evaluations, and how to implement them in the new structure and in QA tools, as well as defining a process to publish and update the standard structure. A first workshop was organized in November 2012 to exchange on the vision and goals of the new structure and draft a requirements document. A second workshop was held on May 21-22, prior to this meeting, to complete these requirements and discuss how to organize the activities around seven specific tasks (Basic data containers, Nuclear reaction hierarchy, Nuclear structure hierarchy, Infrastructure for data handling/processing/plotting, Advanced Programming Interface (API) for reading/writing data, QA tests, Documentation and governance). The requirements document is being finalized and will be sent to all file projects for approval. *Subgroup activities will continue in 2013 and 2014 with the objective to complete the work in 2015.* The possibility to establish, as a long-term WPEC subgroup, a future international committee responsible for this new data structure was informally proposed.

  S. Badikov commented on the necessity to expand the ENDF-6 format for discrete radiation spectra. Physically justified decay data evaluations imply taking the accurate balance relationships into account. The inclusion of such relationships in the evaluation procedure leads to strong correlations between some of the evaluated parameters. For this reason, the ENDF-6 decay data format needs to be revised to provide the possibility for the representation of evaluated covariance data for discrete spectra. **M. Dunn** acknowledged that this proposal could be discussed at the forthcoming annual meeting of the CSEWG Formats Committee (November, 2013). **S. Badikov** expressed his readiness to program new QA tests for covariance matrices of the experimental and evaluated data within the SG38 activities.

  V. Sinitsa expressed his interest to participate in SG38 activities, especially in activities related to nuclear data processing codes. He is considering the possibility to adapt the GRUCON processing code to the new structure/format.

Proposals for new subgroups

9. The following subgroup proposals were reviewed by WPEC. Detailed information about these proposals is given in the documents and viewgraphs presented at the meeting (see Annex 2).

G. Palmiotti presented the first proposal. In the continuity of subgroup 33 activities, this new subgroup would develop criteria and practical approaches to use effectively the results of sensitivity analyses and cross section adjustments for feedback to evaluators and differential measurement experimentalists, in order to improve the knowledge of neutron cross sections, uncertainties, and correlations to be used in a wide range of applications. *The WPEC approved the proposal and established the subgroup as number 39 (SG39).*

M. Chadwick presented the second proposal, which is a follow-up of the ad-hoc review group established by WPEC in May 2012 to consolidate current knowledge and to investigate the reasons for the present discrepancies between evaluated files and propose actions to try to reconcile these discrepancies. This new subgroup aims to foster evaluated nuclear data advances on 6 key nuclides: ^{239}Pu, ^{235}U, ^{238}U, ^{56}Fe, ^{16}O, ^{1}H. After much discussion, it was proposed to put more emphasis on the documentation of the evaluation work produced in the framework of this subgroup and to further discuss the subgroup organization. As a first step, the WPEC agreed to have project chairs as additional subgroup monitors. The goals of the new subgroup can be summarized as (1) to further study and document reasons for the discrepancies between the latest evaluated files, and whenever possible improve cross sections and covariances for these isotopes, including specific integral validation; (2) to identify future work needed to further improve these evaluations; (3) to provide recommendations on the possible extension of this collaborative effort to other isotopes. *The WPEC approved the proposal and established the subgroup as number 40 (SG40).*

M. Kalugin asked if Thermal Scattering Law (TSL) data of hydrogen compounds will be part of this subgroup's activities. After discussions, the participants agreed that the scope of this subgroup was already quite large and that TSL data on hydrogen and other elements would certainly deserve a specific subgroup. **L. Leal** mentioned that he would be interested to organize international co-operation in this area, and that he might propose a new subgroup at the next meeting.

10. In view of these ambitious new subgroup proposals, **R. Jacqmin** reminded participants that WPEC is only a framework and that "WPEC activities" are funded by national sponsors with various national priorities. He recommended making sure with contributing organizations that sufficient manpower could be secured for all planned tasks and that the listed potential participants would be approved when drafting subgroup work plans.

Method of work

11. **E. Dupont** presented the main WPEC objectives and working methods. The Working Party is a formal OECD body to exchange information among participating evaluation projects. The Subgroups (SG) are less formal WPEC technical groups that provide a framework for cooperating activities between evaluation projects. Subgroups outcomes are publicly available on the NEA website, unless otherwise specified. The SG coordinator is responsible for subgroup activities and for reporting to WPEC. The SG monitors represent WPEC delegates and ensure that subgroup activities are in line with the mandate. The WPEC meets once a year, preferably at the NEA HQ, but there is no formal constraint on the location and frequency of SG meetings.

12. **E. Dupont** reported on requests he had received to hold WPEC and Subgroup meetings in parallel. The advantage would be to allow experts continue in-depth technical discussions started earlier during (too) short subgroup meetings. *The WPEC approved this idea, but insisted that these parallel meetings should be limited to in-depth technical discussions on specific topics.*

Renewal of the WPEC mandate for the period 2013-2016

13. The delegates reviewed the proposed mandate extension that was updated to cover subgroup activities planned for the next three years. As discussed earlier during the meeting, the mandate now specifies that *"The Working Party will consist of up to five representatives of each of the following four nuclear data evaluation projects: […]"*. In addition, the delegates agreed to emphasize the nomination of representatives from the nuclear data measurement[1] and nuclear application communities: *"At least one member of each group will be a representative of the nuclear data measurement community, and another one a representative of the nuclear application community"*. *The WPEC approved the updated extension of the mandate, which will be submitted to the delegates of the Nuclear Science Committee.*

Conferences and meetings of interest to the nuclear data community

14. **M. Herman** briefly reported on the latest Nuclear Data conference (ND2013) that took place on 4-8 March, 2013 at the Sheraton Hotel & Towers in Manhattan, New York, USA. There were more than 400 participants and roughly as many presentations. The papers are being reviewed by NNDC staff and by external referees that should send comments during the summer. The proceedings will be published in three consecutive issues of *Nuclear Data Sheets* in January, February, and March 2014.

15. **A. Plompen** reminded the participants that JRC-IRMM will organize the next Nuclear Data conference (ND2016) in Bruges, Belgium, in spring or September 2016.

16. **E. Dupont** briefly reviewed the forthcoming meetings of interest to the nuclear data community. This information is available on the WPEC web page at www.oecd-nea.org/science/wpec/calendar.html.

Selection of Working Party chair

17. In line with the agreed rotation policy among the heads of the evaluation projects, **T. Fukahori** accepted to chair the WPEC for the next two years. The Working Party members thanked **R. Jacqmin** for having served as chair during the past two years.

Any other business

18. No other questions or issues were raised.

Time and place of next meeting

19. The next WPEC meeting will be held at the NEA Headquarters, Issy-les-Moulineaux, France, on 15-16 May 2014. Subgroup coordinators will have the opportunity to hold short technical meetings the same week on 12-16 May. However, subgroup meetings in parallel with the WPEC meeting on May 15-16 should be limited to in-depth technical discussions on specific topics.

[1] The constraint to have at least one delegate from the nuclear data measurement community was introduced when the Working Party on International Nuclear Data Measurement Activities (WPMA) was merged with the WPEC in 1999.

ANNEX 1

Participation at the twenty-fifth WPEC meeting
NEA Headquarters, Issy-les-Moulineaux, France, 23-24 May 2013

Representatives from evaluation projects

Mark CHADWICK	ENDF	
Yaron DANON	ENDF	
Mike HERMAN	ENDF	
Albert (Skip) KAHLER	ENDF	
Ulrich FISCHER	JEFF	
Robert JACQMIN	JEFF / SG27 / WPEC Chair	
Arjan KONING	JEFF	
Arjan PLOMPEN	JEFF / SG-C	
Tokio FUKAHORI	JENDL	
Hideo HARADA	JENDL / SG31	
Masayuki IGASHIRA	JENDL	(excused)
Makoto ISHIKAWA	JENDL	
Sergei BADIKOV	ROSFOND/BROND	(on behalf of Tengiz GOLASHVILI)
Mikhail KALUGIN	ROSFOND/BROND	(on behalf of Viktor IGNATIEV)
Anatoly IGNATYUK	ROSFOND/BROND	
Valentin SINITSA	ROSFOND/BROND	
Robin FORREST	IAEA	
Zhigang GE	IAEA/CENDL	

Subgroup coordinators

Cyrille DE SAINT JEAN	SG34 / JEFF	
Mike DUNN	SG28 / ENDF	
Toshihiko KAWANO	SG35 / ENDF	
Dennis MCNABB	SG38 / ENDF	
Robert MILLS	SG37 / JEFF	
Giuseppe PALMIOTTI	SG33 / ENDF	
Massimo SALVATORES	SG33 / JEFF	
Yaron DANON	SG36 / JEFF	(on behalf of Peter SCHILLEBEECKX)

(MORE)

ANNEX 1 (CONT'D)

Participation at the twenty-fifth WPEC meeting
NEA Headquarters, Issy-les-Moulineaux, France, 23-24 May 2013

Observers and scientific advisers

Dave BROWN	ENDF	
Samuel HOBLIT	ENDF	
Luiz LEAL	ENDF	
Young-Ouk LEE	JEFF/KAERI	(excused)
Richard MCKNIGHT	ENDF	
Jing QIAN	CENDL	
Nengchuan SHU	CENDL	
Haicheng WU	CENDL	

Secretariat

Emmeric DUPONT	NEA

ANNEX 2

Documents presented at the twenty-fifth WPEC meeting
NEA Headquarters, Issy-les-Moulineaux, France, 23-24 May 2013

The following reports, presented at this meeting, can be found on the WPEC webpage (*www.oecd-nea.org/science/wpec*) and the subsequent link to the "List of WPEC documents". The documents will have the identification NEA/NSC/WPEC/DOC(2013)XXX, where XXX correspond to the number below. The viewgraphs presented at the meeting have not been given an official number; they can be found on the webpage *www.oecd-nea.org/science/wpec/meeting2013.*

439 Progress of Nuclear Data Measurement in China during 2011-2012; Ge Zhigang, Ruan Xichao

440 Present status of the JENDL project (May, 2013); T. Fukahori, O. Iwamoto, M. Ishikawa

441 Requirements for a new nuclear data structure - Part 1: Vision and Goals; D. McNabb on behalf of WPEC Subgroup 38

442 WPEC Subgroup proposal on "Methods and approaches to provide feedback from nuclear and covariance data adjustment for improvement of nuclear data files"; G. Palmiotti, M. Salvatores

443 WPEC Subgroup proposal on a "CIELO (Collaborative International Evaluated Library Organization) Pilot Project"; M.B. Chadwick

444 WPEC mandate proposal (2013-2016)

ANNEX 3

Subgroups Status

Short-term subgroups

	Topic	Co-ordinator	Status in May 2013
27	Prompt photon production from fission products	R. Jacqmin, JEFF	Closed; final report to be issued by the end of 2013
28	Processing of covariance data	M. Dunn, ENDF	Closed; final report to be issued by the end of 2013
31	Meeting nuclear data needs for advanced reactor systems	H. Harada, JENDL	Closed; final report to be issued by the end of 2013
33	Methods and issues for the combined use of integral experiments and covariance data	M. Salvatores, JEFF G. Palmiotti, ENDF	Closed; final report to be issued by the next meeting
34	Coordinated evaluation of ^{239}Pu in the resonance region	C. de Saint-Jean, JEFF	Closed; final report to be issued by the next meeting
35	Scattering angular distribution in the fast energy range	T. Kawano, ENDF	Closed; final report to be issued by the next meeting
36	Reporting and usage of experimental data for evaluation in the resolved resonance region	P. Schillebeeckx, JEFF	Ongoing (extended)
37	Improved fission product yield evaluation methodologies	R.W. Mills, JEFF	Ongoing; established in 2012 with effective start in 2013
38	Beyond the ENDF format: A modern nuclear database structure	D. McNabb, ENDF	Ongoing; established and started in 2012
39	Methods and approaches to provide feedback from nuclear and covariance data adjustment for improvement of nuclear data files	G. Palmiotti, ENDF M. Salvatores, JEFF	Approved
40	CIELO pilot project	M. Chadwick, ENDF	Approved

Long-term subgroups

C	High Priority Request List	A. Plompen, JEFF	Ongoing