

# Summary Record of the WPEC Expert Subgroup-C Meeting on the High Priority Request List (HPRL) for Nuclear Data

NEA, OECD Conference Center, Paris, France

9:00-12:30, 9 May 2016

NOTE: *Minutes of the SG-C meeting, 9 May 2016. Including comments of the WPEC meeting, 12-13 May 2016.*

## 1. Review of 2015's Actions.

The meeting started with a revision of past Actions:

1. **Action NEA:** The mandate should be a reference document on the HPRL website (**to do**).
2. **Action NEA:** Remind the projects of the need to appoint new/additional members of SG-C and ask existing members if they wish to continue (**done**).
3. **Action NEA:** modify the SG-C mailing list to reflect its current members and remind the members and WPEC of the way to use it (distribute the name, **to do**).
4. **Action SG-C members:** review the HPRL mailing list (distribution of present list by NEA, **to do**).
5. **Action NEA:** Implement the changes to the request given according to **Annex 2** (See Summary Record 2015) and move the status of the request from "to be checked" to "high priority". An email should be sent to the HPRL list to announce this new request once this is done (**done**).
6. **Action NEA:** Modify the website and database of the HPRL to accommodate requests for special purpose quantity using the guidance provided in **Annex 3** (See Summary Record 2015). The example in **Annex 4** (See Summary Record 2015) provides partial further guidance. A timely implementation is of the utmost importance for a credible follow-up of the SG decisions and its mandate (**see below**).
7. **Action NEA:** Ask for secretarial support from S. Simakov and the NEA secretariat to enter the SPA requests of the proposal by Simakov according to the guidelines given in **Annex 4** (See Summary Record 2015) together with his request (**see below**).
8. **Action AP (done):** Send an email to Robert Mills (NNL), Mark Kellett (LNHB), V. Chechev (Khlopin RI), Dr. F. Minato (JAEA), I. Gauld (ORNL), A. Sonzogni (BNL) to review the list by T. Golashvili (**Annex 5** (See Summary Record 2015)) and modify and add to it in accordance with their view of importance to applications interests. Consult with the SG-C chair in case this email requires assistance.
9. **Action AP (done):** Contact Robert Mills (NNL), Mark Chadwick, Morgan White (LANL), Ian Gauld (ORNL), (JENDL, T. Fukahori), O. Serot (CEA), A. Ignatyuk (IPPE) to provide their suggestions for an SPQ list of Fission Yield requests.

10. **Action AP (done):** Contact G. Noguere (CEA), D. Roubtsov (AECL), Y. Danon (RPI), M. Dunn (ORNL), A. Kahler (LANL), I. Hawari (NCSU), T. Fukahori (JAEA) to provide their suggestions for an SPQ list of Thermal Scattering Law requests.
11. **Action MW:** Prepare requests for nu-bar of U-235 and Pu-239 in consultation with M. Chadwick.
12. **Action MW:** Prepare requests for the PFNS of U-235 and Pu-239 in consultation with M. Chadwick.
13. **Action M. Chadwick:** Propose requests for the fission cross sections of U-235 and Pu-239.
14. **Action MW and AP:** Prepare requests for Pu-239 and U-235 inelastic scattering.
15. **Action AP:** Renew the appeal for feedback to the project responsables, SG-C and WPEC and ensure timely completion of the report and the mandate deliverables.

## 2. New Requests

- No new request in 2016.
- Expected requests for Actions 11-14, in 2016-2017: U5,P9 PFNS, sig-f, sig-inl, nu-bar
- New Requests: Special Purpose Quantities
  - HPRL is extended to spectrum averaged dosimetry/activation cross-sections, Decay data, Fission Yields,... These data will lead to improve evaluations or validation of these data.
  - Implementation to be finalized in 2016 (NEA/IT support for changes in the website)
  - The SPQ proposal is accepted for SG-C.
  - NEA will distribute examples for the new requests using the new form.

## 3. Deliverable and feedbacks

- The deliverable under the present mandate will require some additional time to collect feedback information to be included in the “feedback report”. The report will consist of an introduction, the collected feedback forms and a conclusion.
- Feedbacks:
  - O16(n,alpha), CIELO activities
  - 197Au(n,gamma)
  - 241Am(n,gamma), nTOF data, new entries in EXFOR,...
  - 245Cm(n,fission), nTOF data, new entries in EXFOR,...
  - 56Fe(n,n') CIELO activities
  - 238(n,gamma) , JRC/Geel
  - ...
- It was agreed to renew the appeal for feedback to the project responsables, SG-C and WPEC. The goal is to collect all feedbacks and comments including past and ongoing experimental activities, references in publications (e.g. Journals,...) or databases (e.g., EXFOR,... ). The HPRL must be yearly-updated with these feedbacks and comments. A first list should be prepared before the next NSC meeting 23 June by the members of SG-C through the table given in ANNEX 1.

## 4. Mandate and Chairmanship

- It was agreed to ask for an extension of the mandate + 2 years.
- Renewal due June 2016: chairman and scope
- A. Plompen resigns after 12 years. Candidates will be voted before NSC (proposals for candidates with a deadline of 31 May, vote if needed before 15 June). To ensure that a new chairman can continue to foster the role of HPRL and provide his own angle and energy, candidates should fulfil following criteria:

- an affinity with nuclear physics experiments
- a good understanding of the role of experimental data in modelling and evaluations
- a basic understanding of the nuclear data evaluation and validation processes
- a proven interest in nuclear applications
- the time to travel to Paris to chair the SG-C meeting and report to the WPEC meeting, once per year
- the time (3-4 weeks per year) to develop new initiatives and follow-up on the decision of SG-C
- For the new mandate, SG-C recommends to open the HPRL to other “Nuclear Applications”. To be approved by NSC. See ANNEX 2.

## 5. List of actions

*Related with HPRL website:*

1. **Action NEA:** Finalize activities in the website to accommodate requests for special purpose quantities.
2. **Action NEA:** Updating the category of “Spectrum Averaged cross sections (SPA)” with two different values for “Maxwellian averaged”: 1) Thermal, and 2) 30keV.
3. **Action All:** Feedbacks for the current HPRL website to improve its performance and usability. (e.g. Definition of realistic target uncertainties)

*Related with Feedbacks to be documented in the Deliverable and to update the HPRL website:*

4. **Action AP:** Renew the appeal for feedback to the project responsables, SG-C and WPEC and ensure timely completion of the report and the mandate deliverables.
5. **Action NEA:** Add Feedbacks and comments for the current HPRL. Contact with HPRL mailing list to collect all feedbacks and comments including past and ongoing experimental activities, references in publications (e.g. Journals,...) or databases( e.g., EXFOR,... )

*Related with the new Mandate:*

6. **Action NEA:** Increase the of scope HPRL due to high motivation in a broader list of applications: Nuclear Energy +Medical Applications (e.g. gamma induced reactions)+Fusion (e.g. d induced reactions)+Accelerators (e.g. p induced reactions) +....
7. **Action NEA:** Update the mandate with the following text: “in the field of Nuclear Energy and Nuclear Applications”. To be approved by NSC.
8. **Action AP/NEA:** Election of new chairman of WPEC SG-C. The information is to be sent members of SGC and WPEC. Expected candidates by the end of May, and voting mid-June. New chairman to be proposed in the NSC Meeting.
9. **Action NEA/AP:** Ask for an extension of the mandate + 2 years, until June 2018. To be approved by NSC.

## ANNEX 1

### Feedback to HPRL entry status (as of June 8<sup>th</sup>, 2016)

#	Reaction	Date HPRL entry created ...	Feedbacks by Institution (New experiments, comments, references, EXFOR, ...)
1	14-Si-28(n,np)	21-Sep-05	
2	8-O-16(n,a),(n,abs)	21-Sep-05	<ul style="list-style-type: none"> <li>• n_TOF: (n,a) planned by 2018</li> <li>• LANL: (n,a) planned 2016</li> <li>• Demokritos: (n,a) planned 2016</li> <li>• Khryatchkov, Giorginis et al., (n,a) reaction cross section research at IPPE, CNR3, EPJconf 21(2013)03005; Proc 18<sup>th</sup> Seminar INN, Dubna, p.153 (2011)</li> <li>• G. Giorginis et al., ND2007, Proc. P.525 (2008).</li> <li>• G. Hale, M.W. Paris, CIELO/NEMEA-7, NSC-DOC2014-13, page 13</li> <li>• S. Kunieda et al., NDS118(2014)250 R=matrix Analysis for n+16O cross-sections up to En=6 MeV with covariances</li> <li>• CIELO meeting Brookhaven, CSWEG 2014</li> </ul>
3	94-Pu-239(n,f) Prompt gamma-production	28-Apr-06	<ul style="list-style-type: none"> <li>• S. Oberstedt et al. EPJA 51(2015)178 ongoing work.</li> <li>• A. Chyzh et al., PRC90(2014)014602, Total prompt <math>\gamma</math>-ray emission in fission of U 235, Pu 239,241, and Cf 252</li> </ul>
4	92-U-235(n,f) Prompt gamma-production	10-May-06	<ul style="list-style-type: none"> <li>• n_TOF: planned in 2016</li> <li>• M. Lebois et al., PRC92(2015)034618, Comparative measurement of prompt fission <math>\gamma</math>-ray emission from fast-neutron-induced fission of U235 and U</li> <li>• S. Oberstedt et al. EPJA 51(2015)178</li> <li>• S. Oberstedt et al. EPJConf 62(2013)02003, Prompt fission <math>\gamma</math>-rays from the reactions 252Cf(SF) and</li> </ul>

			<p><math>^{235}\text{U}(n, f)</math> – new data</p> <ul style="list-style-type: none"> <li>• R. Billnert et al. Phys. Procedia 59(2014)17</li> <li>• A. Chyzh et al., PRC90(2014)014602, Total prompt <math>\gamma</math>-ray emission in fission of U 235, Pu 239,241, and Cf 252</li> <li>• M. Lebois et al. Phys.Procedia 59(2014)37, Prompt <math>\gamma</math>-rays from the fast neutron induced fission on 235, 238U and 232Th</li> <li>• E. Kwan et al. NIMA688(2012)55, Prompt energy distribution of <math>^{235}\text{U}(n, f)\gamma\gamma</math> at bombarding energies of 1–20 MeV</li> </ul>
5	72-HF-0(n,g)	28-Apr-06	<ul style="list-style-type: none"> <li>• C. Dean et al., ND2010, J.KPS59(2011)1884, Evaluation of Neutron Cross Sections for Hafnium in the Resolved Resonance Range</li> <li>• G. Noguere et al., NPA831(2009)106 Average neutron parameters for hafnium.</li> <li>• M.J. Trbovich, NSE161(2009)303 Hafnium resonance parameter analysis using neutron capture and transmission experiments</li> <li>• K. Wisshak et al., PRC73(2006)045897, Fast neutron capture on the Hf isotopes: Cross sections, isomer production, and stellar aspects</li> <li>• M.J. Trbovich, AIP conf. 769(2005) 949 Hafnium Resonance Parameter Analysis using Neutron Capture and Transmission Experiments</li> <li>• G. Kim, AIP Conf. 769(2005)740, Measurement of Total Cross Sections at Pohang Neutron Facility</li> <li>• * M. Budak et al., ANE38(2011)2550, Experimental determination of effective resonance energies for <math>^{158}\text{Gd}(n, \gamma)^{159}\text{Gd}</math> and <math>^{179}\text{Hf}(n, \gamma)^{180}\text{mHf}</math> reactions</li> </ul>
6	92-U-233(n,g)	28-Apr-06	<ul style="list-style-type: none"> <li>• n_TOF: [Carrapiço2013], +new exp. in 2016</li> </ul>
7	26-FE-56(n,xn) 7-20 MeV, sig, ddx	13-Jul-06	
8	1-H-2(n,ela)	25-Jul-06	<ul style="list-style-type: none"> <li>• E. Pirovano, JRC-Geel, ongoing work w. HZDR, PTB</li> <li>• R. Nolte et al., ERINDA final workshop CERN –Proceedings-2014-002, p.187, Measurement of the differential neutron-deuteron scattering cross section in the energy range from 100 keV to 600 keV using a proportional counter</li> <li>• N.Nankov et al., ND2013, NDS119(2014)98, The Angular Distribution of Neutrons Scattered from Deuterium below 2 MeV</li> </ul>

			<ul style="list-style-type: none"> <li>• D. Roubtsov et al., ND2013, NDS118(2014)414 , Reactivity Impact of 2H and 16O Elastic Scattering Nuclear Data on Critical Systems with Heavy Water</li> <li>• G.J. Weisel et al., PRC89 (2014) 054001, Neutron-deuteron analyzing power data at <math>E_n=22.5</math> MeV (Of interest to theoretical models for evaluations)</li> <li>• J.A. Frenje et al., PRL107(2011)122502 Measurements of the Differential Cross Sections for the Elastic n-H3 and n-H2 Scattering at 14.1 MeV by Using an Inertial Confinement Fusion Facility</li> <li>• M. Stanoiu et al. ND2010, J.KPS 59(2011)1825, Neutron-Deuteron Elastic Scattering Measurements; AIP Conf. 1224(2010)234</li> <li>• J.P. Svenne et al., ND2007, EDP Sciences p.243 (2008) Re-evaluating low-energy neutron-deuteron elastic scattering using three-nucleon theory.</li> </ul>
9	92-U-233(n,g)	19-Apr-07	<ul style="list-style-type: none"> <li>• cf. #6</li> <li>• J.E. Escher and F.S. Dietrich, PRC81(2010)024612, Cross sections for neutron capture from surrogate measurements: An examination of Weisskopf-Ewing and ratio approximations</li> <li>• E. Berthoumieux et al. ND2007, Simultaneous measurement of the neutron capture and fission yields of 233U</li> </ul>
10	79-AU-197(n,tot)	18-May-07	<ul style="list-style-type: none"> <li>• B. Becker et al., NDS118(2014)381, Evaluation of the Covariance Matrix of Estimated Resonance Parameters (GELINA, JRC-Geel)</li> <li>• R. Hannaske et al., EPJA 49(2013)137, Neutron total cross section measurements of gold and tantalum at the nELBE photoneutron source (HZDR)</li> <li>• I. Sirakov et al., EPJA 49(2014) 144, Results of total cross section measurements for 197Au in the neutron energy region from 4 to 108 keV at GELINA.</li> <li>• A.B. Smith ANL/NDM-161 (2005) Neutron Scattering from the Standard 197Au (calculated n,tot MeV range).</li> </ul>
11	94-PU-239(n,f), (n,g)	09-May-07	
12	92-U-235(n,g)	29-Aug-07	<ul style="list-style-type: none"> <li>• n_TOF: [Balibrea2014]</li> </ul>
13	24-CR-52(n,xd), (n,xt)	23-Oct-07	
14	94-PU-242(n,g), (n,tot)	06-Jul-07	<ul style="list-style-type: none"> <li>• n_TOF: (n,g) [Lerendegui2016]</li> </ul>
15	95-AM-241(n,g), (n,tot)	08-Nov-07	<ul style="list-style-type: none"> <li>• n_TOF: (n,g) [Fraval2014] [Mendoza2016]</li> </ul>

16	95-AM-243(n,f)	08-Nov-07	<ul style="list-style-type: none"> <li>n_TOF: [Belloni2011]</li> </ul>
17	96-CM-244(n,f)	08-Nov-07	
18	92-U-238(n,inl)	28-Mar-08	<p>- new experiment done with the prompt spectroscopy gamma method coupled to time of flight measurements @ GELINA (JRC/IRMM). Beam from 2011 to 2013.</p> <p>- analysis in progress : finalization phase</p> <p>(36 (n,n' g) cross sections but also (n,2n g) and (n,3n g))</p> <p>The final publication of the results is planned for the end of 2016 or the beginning of 2017</p> <p>- entry EXFOR :</p> <p><a href="http://www.nndc.bnl.gov/EXFOR/22795.002">http://www.nndc.bnl.gov/EXFOR/22795.002</a></p> <p>the data are not present as they are still preliminary.</p> <p>- Bibliography :</p> <ul style="list-style-type: none"> <li>From <math>\gamma</math> emissions to (n,xn) cross sections of interest : the role of GAINS and GRAPhEME in nuclear reaction modeling. M. Kerveno, et al.</li> <li>Eur. Phys. J. A, 51 12 (2015) 167</li> <li>(n,xn <math>\gamma</math>) reaction cross section measurements for (n,xn) reaction studies. M. Kerveno, et al.</li> <li>WONDER 2012, 3rd International Workshop on Nuclear Data Evaluation for Reactor Applications, Aix-en-Provence, 25-28 septembre 2012 (EPJ web of conference, 42, 01005 (2013))</li> <li>Study of (n,xn <math>\gamma</math>) reactions on 235,238U. A. Bacquias, et al.</li> <li>13th International Conference on Nuclear Reaction Mechanisms, Varenna, Italie, 11-15 juin</li> </ul>

			2012 (CERN-Proceedings-2012-002) — (2012)
19	94-PU-238(n,f)	31-Mar-08	
20	95-AM-241(n,f)	31-Mar-08	<ul style="list-style-type: none"> <li>• n_TOF: [Belloni2013]</li> </ul>
21	95-AM-242M(n,f)	31-Mar-08	
22	96-CM-244(n,f)	04-Apr-08	
23	96-CM-245(n,f)	04-Apr-08	<ul style="list-style-type: none"> <li>• n_TOF: [Calviani2012]</li> </ul>
24	11-NA-23(n,inel)	04-Apr-08	<ul style="list-style-type: none"> <li>• J.R. Vanhoy et al., Nucl.Phys. A939, 121 (2015), Neutron scattering differential cross sections for <math>^{23}\text{Na}</math> from 1.5 to 4.5 MeV; Int. Nucl. Phys. Conf. 2013 (IUPAP, Firenze), EPJ conf. 66(2014)03091; Kentucky University</li> <li>• P. Archier et al., NDS 118 (2014)140, New JEFF-3.2 Sodium Neutron Induced Cross-sections Evaluation for Neutron Fast Reactors Applications: from 0 to 20 MeV</li> <li>• C. Rouki et al. NIM A672(2012)82, High resolution measurement of neutron inelastic scattering cross-sections for <math>^{23}\text{Na}</math> (GELINA).</li> </ul>
25	94-PU-239(n,g)	04-Apr-08	
26	94-PU-241(n,g)	04-Apr-08	
27	26-FE-56(n,n')	04-Apr-08	
28	94-PU-241(n,f)	04-Apr-08	
29	92-U-238(n,g)	15-Sep-08	<ul style="list-style-type: none"> <li>• H.I. Kim et al. EPJA 52(2016)170 Neutron capture cross section measurements for <math>^{238}\text{U}</math> in the resonance region at GELINA</li> <li>• n_TOF: [Mingrone2016][Wright2016]</li> <li>• Kopecky et al., Status of Evaluated Data Files for <math>^{238}\text{U}</math> in the Resonance region, JRC Technical Report, EUR 27504 EN (2015).</li> <li>• H. Naik et al., Radioanal.Nucl.Chem.303(2015)2497, Neutron induced reaction cross-section of <math>^{232}\text{Th}</math> and <math>^{238}\text{U}</math> at the neutron energies of 2.45 and 14.8 MeV.</li> <li>• J.L. Ullmann, et al., Phys. Rev. C 89, 034603 (2014), Cross section and <math>\gamma</math>-ray spectra for <math>^{238}\text{U}(n, \gamma)</math></li> </ul>



			<p>measured with the DANCE detector array at the Los Alamos Neutron Science Center</p> <ul style="list-style-type: none"> <li>• A. Wallner et al., PRL112(2014)192501, Novel Method to Study Neutron Capture of <math>^{235}\text{U}</math> and <math>^{238}\text{U}</math> Simultaneously at keV Energies</li> <li>• T. Wright et al. ND2013, NDS119(2014)26, High-precision Measurement of the <math>^{238}\text{U}(n,\gamma)</math> Cross Section with the Total Absorption Calorimeter (TAC) at n_TOF, CERN</li> <li>• F. Mingrone et al., ND2013, NDS119(2014)18 Measurement of the <math>^{238}\text{U}</math> Radiative Capture Cross Section with C6D6 at the CERN n_TOF Facility</li> <li>• R. Dagan et al., ND2013, NDS 118(2014)179, Impact of the Doppler Broadened Double Differential Cross Section on Observed Resonance Profiles</li> <li>• Q. Ducasse et al., ND2013 NDS119(2014)233 Neutron-induced Cross Sections of Actinides via the Surrogate-reaction Method</li> <li>• C. Lampoudis et al. ND2013, NDS119(2014)14 <math>^{238}\text{U}</math> Neutron Capture Cross Section Measurements at the GELINA Facility</li> <li>• R. Crasta et al., NSE 178(2014) 66, Measurement of the <math>^{238}\text{U}(n, \gamma)^{239}\text{U}</math> and <math>^{238}\text{U}(n, 2n)^{237}\text{U}</math> Reaction Cross Sections Using a Neutron Activation Technique at Neutron Energies of 8.04 and 11.90 MeV</li> <li>• J. Ullmann et al., ND2010, J.KPS59(2011)1406, Measurement of the <math>^{238}\text{U}</math> Neutron-capture Cross Section and Gamma-emission Spectra from 10 eV to 100 keV Using the DANCE Detector at LANSCE</li> <li>• H. Derrien et al., NSE161(2009)131, R-Matrix Analysis of <math>^{238}\text{U}</math> High-Resolution Neutron Transmissions and Capture Cross Sections in the Energy Range 0 to 20 keV</li> <li>• * A. Carlson et al., ND2007, EDP Sciences, p.1233 (2008), An international neutron cross section standards evaluation</li> </ul>
30	94-PU-240(n,f)	15-Sep-08	<ul style="list-style-type: none"> <li>• n_TOF: [Tsinganis2015]</li> </ul>
31	94-PU-240(n,f)	15-Sep-08	<ul style="list-style-type: none"> <li>• cf. #30</li> <li>• P. Salvador-Castiñeira, Phys. Rev. C 92, 014620, Neutron-induced fission cross section of <math>^{240}\text{Pu}</math> from 0.5 MeV to 3 MeV, JRC-IRMM – Data in EXFOR</li> </ul>
32	94-PU-242(n,f)	15-Sep-08	<ul style="list-style-type: none"> <li>• n_TOF: [Tsinganis2014]</li> <li>• P. Salvador-Castiñeira , Phys. Rev. C 92, 044606 , Neutron-induced fission cross sections of <math>^{242}\text{Pu}</math> from 0.3 MeV to 3 MeV, JRC-IRMM – Data in EXFOR</li> </ul>
33	14-SI-28(n,inl)	15-Sep-08	<ul style="list-style-type: none"> <li>• A. Negret et al., PRC 88(2013)034604, Cross sections for inelastic scattering of neutrons on <math>^{28}\text{Si}</math> and</li> </ul>

			<p>comparison with the <math>^{25}\text{Mg}(\alpha, n)^{28}\text{Si}</math> reaction (GELINA inelastic)</p> <ul style="list-style-type: none"> <li>• A. Negret et al., PRC88(2014)027601, Neutron inelastic scattering measurements for background assessment in neutrinoless double <math>\beta</math> decay experiments</li> <li>• A. Negret J. KPS59(2011)1765 Cross Sections for Neutron Inelastic Scattering on <math>^{28}\text{Si}</math></li> <li>• * H.-Y.Zhou, PRC82(2010)047602, Investigation of discrete <math>\gamma</math> radiation in interactions of 14.9-MeV neutrons with natural silicon by a total <math>\gamma</math>-radiation measurement technique</li> </ul>
34	82-PB-206(n,inl)	15-Sep-08	
35	82-PB-207(n,inl)	15-Sep-08	
36	1-H-1(n,n)	29-Apr-11	
37	93-NP-237(n,f)	11-May-15	<ul style="list-style-type: none"> <li>• n_TOF: [Paradela2010] [Diakaki2016]</li> </ul>

## References

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<http://dx.doi.org/10.1016/j.nds.2014.08.005>
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<http://dx.doi.org/10.1051/epjconf/201611102005>
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<http://dx.doi.org/10.1103/PhysRevC.89.044609>
- [Mendoza2016] E. Mendoza, et al., NDS 119 (2014) 65-68 (+final paper in preparation)  
<http://dx.doi.org/10.1016/j.nds.2014.08.020>
- [Belloni2011] F. Belloni, et al., EPJ A 47 (2011) 160  
<http://dx.doi.org/10.1140/epja/i2011-11160-x>

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- [Calviani2012] M. Calviani, et al., PRC 85 (2012) 034616  
<http://dx.doi.org/10.1103/PhysRevC.85.034616>
- [Mingrone2016] F. Mingrone, et al., NDS 119 (2014) 18-21 (+final paper in preparation)  
<http://dx.doi.org/10.1016/j.nds.2014.08.007>
- [Wright2016] T. Wright, et al., NDS 119 (2014) 26-30 (+final paper in preparation)  
<http://dx.doi.org/10.1016/j.nds.2014.08.009>
- [Tsinganis2015] A. Tsinganis, et al., Conf. on Nuclear Reaction Mechanisms, Varenna, June 2015  
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- [Tsinganis2014] A. Tsinganis, et al., NDS 119 (2014) 58-60  
<http://dx.doi.org/10.1016/j.nds.2014.08.018>
- [Paradela2010] C. Paradela, et al., PRC 82 (2010) 034601  
<http://dx.doi.org/10.1103/PhysRevC.82.034601>
- [Diakaki2016] M. Diakaki, et al., PRC 93 (2016) 034614  
<http://dx.doi.org/10.1103/PhysRevC.93.034614>

## ANNEX 2

### Mandate 2016-2018 WPEC Expert Group on the High Priority Request List for Nuclear Data

#### *WPEC Expert Group on the High Priority Request List for Nuclear Data*

- Chair:** Emmeric Dupont (JEFF)
- Members:** Representatives of the co-operating nuclear data evaluation projects (ENDF, JEFF, JENDL, ROSFOND/BROND) or NEA member countries
- Observers:** International Atomic Energy Agency (IAEA), *By agreement*  
Chinese Evaluated Nuclear Data Library (CENDL) Project, *By invitation*
- Date of creation:** May 1991
- Duration:** June 2018
- Mandate:**
- Agreed at the 16<sup>th</sup> meeting of the Working Party on International Nuclear Data Evaluation Co-operation [NEA/SEN/NSC/WPEC(2004)2]
  - Extended mandate as a part of WPEC activities at the 23<sup>rd</sup> meeting of the Nuclear Science Committee in June 2012 [NEA/SEN/NSC(2012)3]
  - Revised and extended at the meeting of the NEA Nuclear Science Committee in June 2013 [NEA/NSC/DOC(2013)2]
  - Revised and extended at the 26<sup>th</sup> meeting of the Working Party on International Nuclear Data Evaluation Co-operation [NEA/SEN/NSC/WPEC(2014)2] and endorsed by the NEA Nuclear Science Committee in June 2014 [NEA/SEN/NSC(2014)2]
  - Revised and extended at the 28<sup>th</sup> meeting of the Working Party on International Nuclear Data Evaluation Co-operation [NEA/SEN/NSC/WPEC(2016)2] and endorsed by the NEA Nuclear Science Committee in June 2016 [NEA/SEN/NSC(2016)X]

## **Purpose, scope and membership**

The concept of a nuclear data request list has a long history in applied nuclear science. The concept is that if requests from applied users of data are collected in a convenient location it should provide a stimulus to measurers, modellers, and evaluators to undertake work that could lead to certain requests becoming satisfied.

A revised High Priority Request List (HPRL) for nuclear data needed for applications has been in existence under the auspices of the OECD Nuclear Energy Agency (NEA) for several years. This List provides a point of reference for nuclear data stakeholders and developers and has led to many new initiatives in nuclear data measurement, evaluation and validation. Its effectiveness in stimulating new measurements, evaluations and verification actions required to meet the expressed needs is well established.

A standing expert group is essential to maintain the HPRL as a point of reference in nuclear data research and development. The expert group will consist of at least three representatives from each data project: one from the data user, one from the evaluation and validation community and one from the experimental community. The expert group may have additional representatives from the IAEA Nuclear Data Section, as well as countries not represented in the above mentioned projects.

The HPRL will reflect the actions undertaken by WPEC and will help guide future activities. The expert group will report to WPEC.

## **Objectives**

The expert group is responsible for managing the activities related to the HPRL, in particular for guaranteeing that the entries are up-to-date and well-motivated by current interests in the field of nuclear energy and other nuclear applications. The group is also responsible for stimulating follow-up to the entries and collecting the feedback provided by any of the related activities that may further the resolution of a request. The expert group will work mainly by electronic mail exchanges. Physical meetings will be held typically once a year.

The HPRL is organized as follows:

1. The List consists of one list with truly high priority requests, a list with general requests and a list with special purpose quantities divided in categories. This third list is an extension to the present List.
2. Stringent criteria are applied for entries on the lists. These will be evaluated by the Expert Group that will take the final decision for adopting a request.
3. A “high priority request” is justified by quantitative sensitivity studies (or the equivalent) and sufficiently documented.
4. A “general request” is well motivated for a specific quantity on a specific nucleus and is documented, but lacks a detailed backing by a sensitivity analysis or an impact study.
5. A “special purpose request” in a well-defined category is of interest to a recognized important subfield of applied nuclear science for which it is essential to stimulate new activity. Such a request may not satisfy the criteria as in the case of points 3. and 4.

The request lists will be subjected to periodic review to monitor progress and determine whether each individual request should continue to be included in these lists.

## **Deliverables**

- A report on the status of all requests describing completed activities and outlook.
- An up-to-date online version of the “High Priority Request List for Nuclear Data”.

**SG-C Participants List**  
**NEA Nuclear Data High Priority Request List**  
**WPEC/SG-C Meeting: Monday, 18 May 2015**

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## Agenda

**Organisation for Economic Co-operation and Development  
Nuclear Energy Agency  
WPEC 2016 Meetings**

### Agenda

#### SG-C

**OECD Headquarters  
Conference Center  
2 Rue André Pascal,  
Paris 75016**

#### **Room CC 16**

Starting at 09:00 am – Ending at 06:00 pm

***Please note:** Only registered participants with a valid ID card or passport will be allowed access to OECD premises.*

#### **Monday, May 9, 2016**

9:00 – 9:10	Welcome	A. Plompen
9:10 – 9:30	Implementation of the changes to the HPRL request	O. Cabellos
10:00 – 10:20	Discussions	All
<b>10:20 – 10:40</b>	<b>Coffee Break</b>	
10:40 – 12:00	Discussions	All
<b>12:00 – 13:30</b>	<b>Lunch Break</b>	