

**RENSSELAER POLYTECHNIC INSTITUTE  
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**DATE:** July 13, 2015

**SUBJECT:** Report of Foreign Travel to Paris France – Yaron Danon, RPI.

**TO:** Jerry N. McKamy, Director, Office of Environment, Safety, and Health, National Nuclear Security Administration / NA-00-10/GTN, 1000 Independence Ave., SW, Washington, DC 20585-1290

**FROM:** Yaron Danon, Rensselaer Polytechnic Institute, Troy, NY 12180

**MEETING TITLE:** 27th Meeting Working Party on International Nuclear Data Evaluation Cooperation

**MEETING LOCATION:** NEA Headquarters, Issy-les-Moulineaux, France

**MEETING DATES:** May 18-22, 2015

**ATTENDEES ON BEHALF OF NCSP:** Yaron Danon

**MEETING BENEFITS TO NCSP:**

The meeting occurred during the week of May 18-22, 2015. During 5/18-5/19, there were two parallel sessions of interest SG40 (CIELO) and SG42 (thermal scattering) and the WPEC meeting in May 21-22. NCSP is sponsoring measurements that contribute the topics discussed in the subgroup meeting and feedback and progress by other researchers was discussed.

- During the subgroup meeting related to the CIELO project (SG40), RPI measurements for Fe, U-238, and O were presented in 3 different sessions.
- The new RPI thermal scattering measurements were presented and discussed in WPEC SG42 which is a new subgroup created to better coordinate international effort on thermal

scattering evaluation. The main goal of SG42 is to produce improved thermal scattering evaluations.

- An additional talk was given by Danon during the WPEC meeting to report US data measurements (as reported to CSEWG).

The meeting is an international collaboration on nuclear data. Y. Danon is an official member of the US delegation and chair of the CSEWG measurements committee. Danon presented progress a report on the US ND measurement program including NCSP sponsored work. This venue provides information on the latest ND experiments that are ongoing and planned worldwide and enables interacts with leading researchers from other countries. It enables collaboration and allows better planning of NCSP ND experiments and in some cases access to data that was obtained elsewhere.

### **MEETING PURPOSE:**

The main purpose of the travel is to participate in the WPEC meeting as an official member of the US delegation and to present a report on US experimental ND work during FY14-15. Another objective was to attend subgroups 40 and 42 meetings to report on our measurements and to discuss other measurements and progress related to CIELO isotopes and thermal data.

### **SITES VISITED:**

NEA Headquarters, Issy-les-Moulineaux, France

### **ABSTRACT:**

The traveler participated in the WPEC meeting in NEA Headquarters, Issy-les-Moulineaux, France. The participant is an official member of the US delegation representing CSEWG measurement committed. The participant presented a report on US measurement activity during FY14-15 mostly based on reports provided during the November 2014 CSEWG meeting. He also a member of subgroup C (high priority list), 42 and 40, and participated in the subgroup meetings, an opportunity for interaction of NCSP with subgroup C is discussed in the report

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**REPORT OF FOREIGN TRAVEL**

**Yaron Danon  
NEA Headquarters, Issy-les-Moulineaux, France  
May 18-22, 2015**

**PURPOSE OF TRAVEL**

The purpose of the travel is to participate in the WPEC meeting as an official member of the US delegation and to present a report on US experimental ND work during FY14-15 and also to participate in subgroup 40 and 42 discussing the CIELO project and thermal data..

**REPORT**

The CIELO project is a coordinated evaluation (and measurement) project with the objective to reduce uncertainty in nuclear data of major elements and isotopes that usually appear together and are important to critical systems. This includes H-1, O-16, Fe-56, U-235, U-238 and Pu-239. RPI contributed new measured neutron interaction data for Fe-56 capture and scattering, O-16 total cross section, U-235 capture and fission, and U-238 scattering. These data were presented and discussed during SG40 meeting. We have a good collaboration with IAEA evaluators that use our fast neutron scattering data to generate a new U-238 and Fe-56 fast region evaluation. We recently completed a transmission measurement of O-16 that was designed to resolve and issue in previous measurements that are required for improvement of to the evaluation of O-16. The new data resolved a 3% anomaly in the fast region.

The SG42 subgroup had its first meeting during this WPEC meeting. This SG was created because of the need for improved thermal scattering data; a topic NCSP/NDAG recognized some time ago and RPI is working to provide experimental data that can be used to improve and benchmark the evaluations. Several groups from US, Europe and South America presented their recent efforts on evaluation of new thermal scattering kernels. RPI was the only group that presented new measurement that can support the new evaluation effort and help benchmark the evaluations.

The CSEWG measurement committee report to WPEC was given on Thursday and included reports on experimental activity in different US laboratories:

1. Recent ORNL Neutron Cross-Section Measurements Activities
2. Recent Nuclear Data Research at RPI
3. Nuclear Data Experiments at LANSCE, Brief Highlights 2014-2015

This year the number of US reports was small due to the short November CSEWG that was converted to a CIELO meeting. A mini-CSEWG meeting was held in May 7-8 at BNL but experimental reports were few. Overall 62 slides were provided to the participants which includes details of the experimental nuclear data related activities at ORNL (NCSP), LANL and RPI (NCSP + Other activity).

## Meeting participants

Mark CHADWICK	ENDF / SG 40
Yaron DANON	ENDF
Mike DUNN	ENDF / SG 28
Mike HERMAN	ENDF
Albert (Skip) KAHLER	ENDF
Robert JACQMIN	JEFF / SG 27
Arjan KONING	JEFF
Arjan PLOMPEN	JEFF / SG C
Tokio FUKAHORI	JENDL / WPEC Chair
Hideo HARADA	JENDL / SG 41
Masayuki IGASHIRA	JENDL
Osamu IWAMOTO	JENDL
Kenji YOKOYAMA	JENDL
Tengiz GOLASHVILI	BROND/ROSFOND
Victor IGNATIEV	BROND/ROSFOND
Anatoly IGNATYUK	BROND/ROSFOND
Dimitry S. OLEYNIK	BROND/ROSFOND
Valentin SINITSA	BROND/ROSFOND
Zhigang GE	CENDL
Andrej TRKOV	IAEA (on behalf of Robin FORREST)
Subgroup coordinators	
Cyrille DE SAINT JEAN	SG 34 / JEFF
Toshihiko KAWANO	SG 35 / ENDF
Peter Schillebeeckx	SG 36 / JEFF
Robert MILLS	SG 37 / JEFF
Dennis MCNABB	SG 38 / ENDF
Giuseppe PALMIOTTI SG	39 / ENDF
Invitees	
Young-Ouk LEE	KAERI
Do Heon KIM	KAERI
Xichao RUAN	CENDL
Haicheng WU	CENDL
Secretariat	
Oscar CABELLOS	NEA

## Itinerary

5/16/15 - 5/17/15	Travel from Albany, NY to Paris, France
5/18/15 - 5/20/15	Subgroup 40 meeting CIELO
5/19/15	Subgroup 42 meeting
5/21/14 - 5/22/14	WPEC Meeting in NEA
5/24/15	Travel from Paris, France to Albany, NY

## **DISTRIBUTION**

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