

**Record of Meeting of the Fourth Joint Coordinating Committee for Radioactive and Mixed Waste Management Meeting Between U.S. Department of Energy (DOE) and Argentina National Commission of Atomic Energy (CNEA) Under the Science and Technology Implementing Arrangement for Cooperation on Radioactive and Mixed Waste Management**

**December 3 - 4, 1997**

The Fourth Joint Coordinating Committee for Radioactive and Mixed Waste Management (JCCRM) meeting between DOE and CNEA was held in Miami, Florida on December 3-4, 1997. The Argentine delegation was led by Dr. Jaime Pahissa Campa, Advisor of the CNEA President and Director of the Waste Management Program. The U.S. delegation was led by Gerald Boyd, Acting Deputy Assistant Secretary for the Office of Science and Technology, DOE Office of Environmental Management (EM).

Argentine participants included: J. Pahissa Campa, M. H. de Pahissa, A. Goldschmidt, P. Adelfang, P. Haluska and D. Russo from CNEA. U.S. participants included: G. Boyd, E. O'Malley, P. Hart, S. Bossart U.S. DOE; M. Mayerle and A. Ebadian, Florida International University; R. Gilchrist, Pacific Northwest National Laboratories, Connie Cicero Herman and Bill Holtzscheiter, Westinghouse Savannah River Company; T. Albert, Thomas Albert and Associates, Inc.; I. Karousatos and R. Longworth, Science Applications International Corporation.

**December 3, 1997**

Gerald Boyd welcomed the Argentine delegation to the X-Change '97: The Global D&D Marketplace Conference and the Fourth JCCRM meeting held between DOE and CNEA. Mr. Boyd expressed his appreciation to the CNEA delegation for traveling to the United States and participating in the conference and the Fourth JCCRM meeting. After reviewing the meeting agenda, he discussed the major changes in the DOE-EM program, and assured CNEA that the government-to-government agreement would be honored and continued. Gerald Boyd confirmed that Elizabeth O'Malley is the DOE point-of-contact for all work conducted under the agreement.

Dr. Pahissa Campa welcomed the U.S. delegation and discussed the changes in the CNEA program, their funding reductions, and the importance of the cooperative agreement.

Elizabeth O'Malley provided a summary of the FY 97 projects, which included a D&D technical workshop, 1 D&D scientist activity, and 1 uranium mill tailing scientist activity. She also discussed the three completed FY 97 projects: Molybdenum-99/Crystalline Silicotitanate; Resin Loading/Modeling; and Resin Vitrification.

Dr. Marta H. de Pahissa welcomed everyone to the meeting and provided a detailed overview on these specific projects. She followed the overview with a technical presentation on CNEA's Characterization of Spent Ion Exchange Resins. She requested an invitation to visit a glass melter facility at Clemson University to observe testing of waste vitrification. She requested that the U.S. side make a recommendation for a melter for CNEA, including manufacturers, suppliers, and costs.

#### **U.S. Presentations**

Roger Gilchrist provided an overview of the Mo-99/Crystalline Silicotitanate (CST) Modeling project, which was conducted in FY 97.

It was mutually agreed that DOE would provide information and contacts at Union Oil Products (UOP) for the signing of a non-disclosure agreement by CNEA. UOP has agreed to provide samples of CST sufficient for CNEA evaluation.

Bill Holtzscheiter provided an overview on CST Glass Formulation (vitrification). A report summarizing Oak Ridge's experience with loading resins and vitrification was provided to CNEA at the 4<sup>th</sup> JCCRM meeting.

Connie Cicero-Herman presented information regarding Radiolysis Studies on Argentine Ion Exchange Material. This presentation was prepared from characterization information provided by CNEA on ion exchange resins from Embalse and Atucha. Reports on these irradiation tests will be provided to CNEA by Elizabeth O'Malley.

Connie Cicero-Herman also gave a presentation on the Vitrification of Representative Argentine Ion Exchange Material. This presentation was prepared from vitrification testing on divinylbenzene/styrene based resins provided by CNEA. Characterization information from CNEA was used as the basis of the studies.

Marta H. de Pahissa requested samples of the glass and Connie Cicero-Herman agreed to provide them to CNEA through Elizabeth O'Malley. Furthermore, Marta H. de Pahissa asked for the American Society of Testing Materials (ASTM) durability procedure and DOE agreed to provide this to CNEA.

Paul Hart reported that the scheduled D&D activities assigned at the 3rd JCCRM were delayed due to delays in construction of the D&D (glovebox) facility at Rocky Flats and budget constraints. He stated that Los Alamos National Laboratory has been selected as the new site where the DOE/CNEA plutonium glovebox activities will be conducted in FY 98.

**December 4, 1997**

### **Argentine Presentations**

Adrian Goldschmidt reviewed the three scientist activities which took place in FY 97. The first activity was framed under an IAEA sponsored meeting on returning spent fuel to its host country; the second activity was a site tour and related discussions of the CP-5 Reactor in Chicago, IL; and the third was a demonstration held at Florida International University (FIU), in Miami, Florida.

Both sides agreed that the topic of Spent Fuel would be under a separate agreement if needed and not included in the DOE/CNEA agreement activities.

Pablo Adelfang reviewed his visit to the CP-5 Reactor and FIU and stated the success and usefulness of the exchange. Diego Russo reviewed the Argentine project on the vitrification of ion exchange resins. Pedro Haluska discussed his visits to various Uranium Mill Tailing sites throughout Colorado and Utah. He stated that CNEA was modeling parts of their program after Spain's design, but after attending the site tour and having discussions with the U.S. uranium mill tailing remediation experts, he was able to take back to Argentina alternative methods of remediating their uranium mill tailings. He commented that this visit was a tremendous success that would benefit Argentina.

Gerald Boyd agreed to contact Civilian Radioactive Waste Management (RW) and request that they respond to CNEA's interest in working in technical projects for which RW has responsibility.

### **FY 98 Activities**

#### **Decommissioning and Decontamination**

Paul Hart explained that the original plans as stated in last years JCCRM Record of Meeting to develop a Large Scale Demonstration Project at Rocky Flats for demonstrating technologies for Decontamination and Decommissioning (D&D) of Pu gloveboxes has changed. An agreement with Rocky Flats was not achieved thus resulting in delays in accomplishing the FY97 JCCRM action items.

However, it was confirmed that Los Alamos National Laboratory has been selected as the FY 98 site for the D&D of the Pu gloveboxes. LANL has 313 Pu gloveboxes to D&D and have recently received funding for this program. The D&D Focus Area has obtained an agreement with LANL to demonstrate mature and new technologies. The demonstration project is anticipated to occur over a period of 18-24 months.

The planning for the demonstration project, as with previous demonstration projects, will be accomplished by an Integrating Contractor Team (ICT). It was agreed that CNEA participate as a member of this Integrating Contractor Team. Regular meetings of the ICT will be held in the next year. It is anticipated that there will be quarterly meetings at LANL and monthly telephone conferences in the intervening months. It was agreed that CNEA participate in these meetings and telephone conferences.

Paul Hart explained that it is expected that it will take approximately 6 months in order to organize the first demonstrations of new technologies at LANL. During this startup period there may be possible opportunities to evaluate or test technologies in Argentina. He said that no promises can be made at this time, but suggested that such opportunities should continue to be explored.

Adrian Goldschmidt acknowledged that this was a departure from the original plan and agreement but that the reasons for the new approach are understandable and reasonable. He commented that there is a mandate to D&D two Argentine gloveboxes in FY98. He said that they would be willing to provide these gloveboxes for potential demonstration on new technologies. Lic. Goldschmidt stated that CNEA had funding for the D&D of their gloveboxes.

Possible demonstrations included characterization and decontamination technologies of plutonium gloveboxes. DOE/CNEA agreed that the decision on the dates for the Summer 1998 demos will be made by March/April 1998.

CNEA stated that the D&D technical area is very important to them in FY 98 as part of their overall program

## CST

Points-of-contact of Union Oil Products (UOP) would be provided by Elizabeth O'Malley to CNEA. At this point, UOP and CNEA will contact each other directly. CNEA will sign a non-disclosure agreement with UOP, who have agreed to provide CNEA with samples of CST for testing.

Once the sample is received by CNEA, a schedule will be drafted. This activity is proposed for early FY 98.

DOE will participate with CNEA to conduct cold and hot tests.

Further analysis, design activities, and disposal options will be worked cooperatively.

A timetable for these activities will be drafted at a later date.

## Resin vitrification

Both sides agreed to hold resin testing in the melter at Clemson University and conduct tests with resins provided by the CNEA in a prototypical melter.

DOE will provide the Hanford LLW product acceptance criteria.

Savannah River Site report on resin vitrification will be delivered to CNEA once it is released.

Both sides agreed CNEA will prepare and bring to Clemson University samples of their nuclear power plant resins for melter testing.

DOE will arrange a scientist exchange to Clemson at an agreed upon schedule.

Testing will be conducted at the Clemson melter to gather data. Runs will be conducted with CNEA provided non-radioactive resins. CNEA will participate and provide technical results of resin characterization work. Schedule of the above activities will be developed as soon as practical.

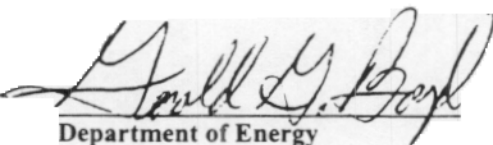
A final report of Argentine fusion and sintering resins results will be provided to DOE.

### Uranium Mill Tailings

CNEA will provide their uranium mill tailings plan to DOE for review and consideration for possible future cooperation.

It was agreed upon that the 5<sup>th</sup> JCCRM meeting will be held at Spectrum '98 in Denver, Colorado in September 1998.

Signed:

  
Department of Energy

  
Argentina National Atomic Energy Commission

12/4/97  
Date

12/4/97  
Date