Record of Meeting
8th Joint Coordinating Committee for Environmental Restoration and Waste Management between the U.S. Department of Energy and the Ministry of Atomic Energy for the Russian Federation

September 10-11, 1998
Arlington, Virginia

U.S. Participants: Gerald Boyd (Co-Chair), Elizabeth O'Malley, Dave Geiser, Kurt Gerdes, Charles Nalezny, Mark Gilbertson, Barry Gale, Jud Hightower, Virginia Caress, from DOE Headquarters. Paul Hart from DOE Federal Energy Technology Center, Jenya Macheret from DOE Idaho Operations, Adam Hutter from DOE Environmental Measurements Laboratory, Thomas Albert from T.E. Albert and Associates, Rebecca Longsworth, Anne Winther-Hansen, and Janna Unterzuber from Science Applications International Corporation.

Interpreters: Galina Pendill and Serge Silischev from ASET International

Russian Participants: Victor Gubanov (Deputy Co-Chair), Evgeniy Krukov, Evgeniy Kudriavtsev, Galina Rybkina from MINATOM, Valery Romanovsky from Khlopin Radium Institute, Evgeniy Filippov from Institute of Chemical Technology, Mark Glinsky and Lilia Samonova from Hydrospezgeologiya, Vasily Dzubenko from Institute of Physical Chemistry, Konstantin Kudinov from Mining Chemical Combine, Alexander Pavlov from VNIPET, and Gregory Polyanchikh, Consultant.

Mr. Boyd provided opening remarks by noting that he was pleased with the progress made in FY98 and is certain that FY99 work will prove to just as successful. He noted that the level of effort will remain constant in FY99, but that, due to shifting priorities within DOE, some of the technical focuses of the program will change. Mr. Boyd noted that the overall budget for the Office of Science and Technology has stabilized. Mr. Boyd commented that FY99, among others, will include work in the areas of D&D of facilities, and Vadose Zone activities with respect to Hanford. The U.S. delegation introduced themselves.

Dr. Gubanov thanked DOE for sponsoring the JCCEM Russian delegation. Dr. Gubanov agreed that the cooperation has been very successful for both sides. He commented that D&D, and waste handling continue to be high priorities for MINATOM. He noted that the submarine decommissioning program is being moved under the authority of MINATOM. The Russian side introduced themselves.

Dr. Barry Gale presented an overview of the DOE international Energy Policy. He noted that efforts are underway to renew the inter-governmental Peaceful Uses of Atomic Energy Agreement.

Separations

Dr. Gerdes presented an overview of the separations program. He noted that Cobalt Dicarbollide is currently a strong contender as an alternative to the baseline technology at Idaho. Dr. Gerdes noted that he will continue to investigate possible ways to involve Russian scientists in the EM Basic Science Program. Dr. Valery Romanovsky provided an overview of the Cobalt Dicarbollide program and noted that they have successfully identified an appropriate diluent and completed work on the Universal Process. Dr. Romanovsky presented proposals with respect to the Statement of Work for FY99 work on Cobalt Dicarbollide which will allow the technology to progress from bench scale to larger scale. It was mutually agreed that the FY99 Cobalt Dicarbollide project would be funded at a level of approximately $150K and the technical details will be discussed between the counterparts.

It was mutually agreed that work be continued at the Institute of Physical Chemistry on the Study of Chromium in Hanford Tanks at a level of $80K in FY99. It was confirmed that Kurt Gerdes and Valery Romanovsky are the Points of Contact for Separations.
Dr. Filippov presented an overview of work conducted in the area of Crown Ethers. It was mutually agreed that a project on Crown Ethers will be funded in FY99. Technical discussions will be held at Spectrum ’98, during the week of September 14-19, 1998. It was agreed that during FY99, attention will be focused on identifying a user in the U.S.

Dr. Kudriavtsev noted that MINATOM will be testing Cobalt Dicarbollide and Crown Ethers processes on an industrial scale at Mayak. Input from the U.S. and the end user would be very helpful in determining the parameters for the Mayak testing.

Contaminant Transport and Site Characterization

Dr. Hutter provided an overview of work conducted in FY98. He stressed the success of the program and noted that in FY99, the Russian expertise will be applied to U.S. Vadose Zone issues. He noted that the U.S. and Russian sides participated in an international meeting on Lake Karachay which was sponsored by the European Commission. A discussion was held on the merits of multi-lateral involvement in the Lake Karachai projects. Mr. Glinsky provided a technical overview of the FY98 program. He noted that Russian participation has been started in support of the Vadose Zone.

It was agreed that FY99 work in support of the Mayak site and Vadose Zone issues will be funded at a level of $170K. Additionally, the Tomsk modeling effort that was started in FY96 will be resumed at a level of $30K. Mr. Boyd reiterated the urgent importance of the Vadose Zone issues. Skip Chamberlain was introduced to the delegation as the DOE Point of Contact for Vadose Zone issues. The Russian side named Dr. Evgeniy Drozhko as the Point of Contact for Data Transmission.

It was confirmed that Dr. Hutter, Dr. Drozhko and Mr. Glinsky will serve as Points of Contact for Contaminant Transport.

It was agreed that a meeting be held in November 1999 in Richland, Washington to determine the technical scopes of work for the projects.

HLW Tanks

Dr. Dave Geiser presented an overview of the HLW Tanks program. He noted that efforts are underway to procure three systems of the pulsating pump and monitor for deployment in an Oak Ridge Gunnite and Associated Tanks. This deployment represents the first of a technology developed under the JCCEM. Negotiations between Russian technology developers and Oak Ridge end users are being held. It was agreed that in FY99, a project will be initiated in the area of Chemical Cleaning of Tanks for $100K.

The National Tank Closure Workshop will be held in September 1999. It was agreed that the 2nd Users/Developers Retrieval Workshop be conducted at that time. Mr. Geiser requested a proposal in the area of Pipeline un-plugging. Dr. Kudinov provided a technical overview of the work conducted in FY98.

It was confirmed that Dave Geiser and Konstantin Kudinov are the Points of Contact for this area.

Mr. Boyd announced that under the Basic Science Program, a proposal between Los Alamos National Laboratory and the Institute of Physical Chemistry on actinide chemistry has been selected for FY99 funding ($184K). It was agreed that the U.S. side will work to develop a process for ensuring that Russian proposals are submitted for consideration. It is expected that the next topic for call for proposals will address Vadose Zone issues.

Mixed Waste

Jenia Macheret presented an overview of work conducted on the Iron Phosphate Ceramics and Tin Dioxide projects. He noted based on the results of the recent demonstration of the Iron Phosphate
Ceramics technology in Idaho, DOE is confident that the technology can be used on a large scale on contaminated ash. Subsequent testing will show if the leaching characteristics are acceptable.

A patent application was filed on this technology on August 7, 1998. Data on the most recent demonstration will be distributed to potential U.S. users.

Dr. Romanovsky added brief remarks on the Iron Phosphate Bonded Ceramics project. Dr. Filippov remarked that the Russian side has received 2 patents associated with the Plasma Induction Cold Crucible Melter, which is now located at Mississippi State University.

It was agreed that all work conducted under the Mixed Waste area is complete. Mr. Boyd explained that the reason Mixed Waste is being closed out is due to the fact that DOE's work in Mixed Waste is complete. The Iron Phosphate Ceramics technology will be moved to the Transuranic Stabilization area.

**Transuranic Stabilization**

Dr. Macheret reviewed the progress made in the area of Transuranic Stabilization. The Silica Gel technology was demonstrated in Russia to work on Pu waste streams. The data on Silica Gel was transferred to the Savannah River Site. The thermodynamics of Crystalline Matrices project was successfully completed and the results have been given to the end user (Los Alamos Basic Research Group). Efforts in FY99 will continue to transition this technology to users. Results from the Radiolytic Gas Generation project were positive and it was shown that the waste form meets the WIPP transportation requirements. It was noted that this technology could save money and accelerate clean-up schedules.

The Plutonium Focus Area will continue to assess the application of Iron Phosphate Ceramics technology for Plutonium bearing waste streams. It was agreed that in FY99, the following projects will be funded in the area of Transuranic Stabilization:

- Iron Phosphate Ceramics, $20K
- Plasma Denitrification, $20K
- Gubka, $80K

The U.S. side received 2 proposals relating to the Silica Gel technology. It was agreed that the Plutonium Focus Area technical review panel in Idaho will review them. DOE will respond to MINATOM as soon as the review is complete.

Bill Scott, Evgeniy Kudriavtsev and Albert Aloy are the Points of Contact for Transuranic Stabilization.

**Decontamination and Decommissioning (D&D)**

Paul Hart opened his presentation by noting that the Russian side has extensive D&D experience that is of great value to DOE.

The UF6 conversion project at the Institute of Chemical Technology has been on-going for 2 years and is of interest to the Office of Nuclear Energy. Discussions are underway with Charles Bradley, DOE-NE, regarding a technical workshop to further discuss possible cooperation. The sponsor of this workshop will be Nuclear Energy, however programmatic coordination will be provided by Elizabeth O'Malley of the Environmental Management International Program.

In FY99, efforts will be directed toward involving the Russian side (VNIIEPIET and Khlopin) in the Pu Glovebox Decommissioning Large Scale Demonstration at Los Alamos National Laboratory (LANL), and demonstration of Russian foam and electropolishing decontamination technologies in Russia or at LANL.

In FY99, the following two projects will be implemented:
In addition to the above mentioned projects, discussions will continue with the Russian side with respect to the removal of tritium for tritiated concrete.

Dr. Hart noted that during his recent trip to Russia he identified a host of available and developed technologies on which the U.S. is still conducting research and development. Discussions will continue with NIKIMT on establishing a mechanism for leasing or buying equipment from Russia for application in the U.S. Additionally, Dr. Hart committed to reviewing technical documents provided by NIKIMT on a variety of D&D technologies and equipment.

It was concluded that the U.S. has a lot to learn from the Russian experience in D&D and FY99 activities will be focused on working to involve the Russian specialists and technologies in the D&D Large Scale Demonstrations. It was agreed that a tour of D&D sites be arranged for a Russian delegation in order to continue discussions about additional areas of cooperation.

Dr. Krukov noted that both countries are facing similar D&D problems and needs. He stressed that in order to ensure that the Russian side is of use to the D&D effort in the U.S., it is essential that the Russian side needs to really understand the U.S. needs.

It was agreed that during the Spectrum '98, discussions be held to identify the participants from the Russian side in support of the five D&D projects described by Dr. Hart.

Scientist Exchange

Dr. Macheret provided an overview of the successful student exchange program that was conducted at Idaho State University. All graduated with degrees in nuclear engineering.

Dr. Gubanov stated that the two sides should try to identify additional opportunities for scientist exchange. Mr. Boyd and Dr. Hart proposed that the idea of a long term exchange in the area of D&D and Environmental Management be explored.

Intellectual Property Rights

It was mutually agreed that additional information regarding the specific procedures which address the timing of filing U.S./Russian patents is required. Upon revision of the document the Russian side will submit the process for review by the Russian patent review board. It was agreed that the process adopted by the JCCEM should mirror other IPR provisions as they are stated in the annex to the Nuclear Cities agreement. The sides should do it in the next several months and consider adopting similar language for the JCCEM. Jud Hightower, DOE-General Counsel, will represent the U.S. side in discussions between DOE and MINATOM legal experts.

Miscellaneous Business

Mark Gilbertson was identified as the U.S. Point of Contact for Basic Science program. It was noted that the Institute of Physical Chemistry was recently awarded a $184K project in the area of actinide chemistry research under the Basic Science program. The U.S. side will forward the Basic Science Report to Congress to the Russian side for review and, upon review of the report, the Russian side will identify a Point of Contact.
It was agreed that a U.S. delegation from Hanford and Idaho travel to Russia in order to observe separations processes being conducted at Mayak and HLW tank retrieval operations at Krasnoyarsk. Specific details regarding the composition of the delegation and timing of the trip will be agreed to by the technical counterparts.

In the area of Emergency Response, Mr. Boyd agreed to continue to serve as an interface between the Russian side and U.S. Emergency Response officials. It was agreed that attention will be given to identifying a potential project in the area of risk assessment for potential implementation at the 9th JCCEM.

It was agreed that the 9th JCCEM meeting be held in the first half of October 1999 in Russia. The Russian side confirmed its invitation to the delegation of American experts led by Co-Chair Mr. Boyd to visit several Russian facilities (Mayak, Krasnoyarsk) prior to the meeting.


Mr. Gerald Boyd  
DOE JCCEM Co-Chair

Dr. Viktor Gubanov  
MINATOM JCCEM Deputy Co-Chair