A technical exchange workshop was held in Arlington, Virginia, in the area of Site Characterization and Contaminant Transport under the auspices of the 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.

The Russian participants were: Dr. E.G. Drozhko, Dr. M. Glinsky, Dr. A.V. Glagolev, Dr. G.A. Zinina, Dr. A.V. Skokov, and Dr. S.A. Ter-Saakyan.

U.S. participants were: Dr. Adam Hutter, Dr. Mike Foley, Dr. Brian Looney, Mr. Ralph Nichols, Ms. A. Winter-Hansen, Dr. Boris Faybishenko, Dr. James McCarthy, Dr. Charlie Cole (PNNL), and Mr. Mark Williams.

Dr. Hutter noted that DOE funding had been cut, and there would be no funding for Tomsk work so that efforts could be focused on completion of the 3-dimensional model of Mayak. He also noted that a goal for the coming year was to identify U.S. site users, and that is why INEEL and LBL had been invited to participate in this workshop.

It was agreed during the workshop that the funding cuts would be taken into consideration when writing the technical tasks for next year.

Dr. Drozhko gave brief introductory remarks and stated that it would be important to complete the tasks that started in 1994.

Dr. Glagolev presented the results of contract # 1: Analysis of 1996 work on the self-cleaning of the Mishelyak River, where he emphasized possible practical applications for both sides. Two papers had been written for publication despite communication difficulties. It was determined that the well-packers were a cost-effective method for monitoring hydraulic conductivity. The results of this work were used to

In Arlington, штат Вирджиния, была проведена рабочая встреча по характеристике предприятий и миграции загрязнений под эгидой Совместного Координационного Комитета по защите окружающей среды и обращению с отходами между Департаментом энергии США и Министерством по атомной энергии Российской Федерации.


Участники со стороны США: д-р А.дам Хаттер, д-р Майк Фоули, д-р Брайэн Луни, г-н Ральф Николс, г-жа А. Винтер-Хансен, д-р Борис Файбишенко, д-р Джеймс МакКарти, д-р Чарли Кул (PNNL) и г-н Марк Уильямс.

Д-р Адам Хаттер сказал, что в связи с сокращением финансирования у ДЭ не будет средств для работ по Томску, поэтому необходимо закончить работы по составлению трехмерной модели "Маяк". Он также отметил, что задачей следующего года является определение пользователей, представляющих предприятия США, поэтому на встречу были приглашены представители INEEL и LBL.

Было решено принять во внимание сокращение финансирования при составлении технических заданий на будущий год.

Д-р Дрохко сделал несколько вступительных замечаний и отметил, что необходимо закончить работу, начатую в 1994 году.

Д-р Глаголев представил результаты работ по контракту № 1: Анализ работы 1996 года по самоочищению реки Мишеляк и отметил возможности применения результатов для обеих сторон. Несмотря на трудности в осуществлении связи, было представлено к публикации две статьи. Пакеры являются экономичным способом контроля гидравлической проводимости. Результаты этой
begin building the geological regional model. All tasks of the contract have been completed.

Mr. Nichols reviewed the field work from 1996. A multi-zone pumping test was conducted on the banks of the Mishelyak River using U.S. equipment that was installed by the Russian side in monitoring wells.

Dr. Glagolev added to the presentation by describing the fracturing. The goal of the work was to evaluate the conductivity by depth, and clarify the flow. He presented figures that characterized each zone and determined its hydraulic conductivity. The hydrology data were used to determine the direction of groundwater flow.

Dr. Foley gave a perspective on how the modeling project came into existence, and gave an overview of how the data handling has occurred. Geologic data are in the process of conversion to hydrologic equivalents. August and September 1997 data updates PNNL’s topographic model, maps the wells used in field work, and provides a geologic map of the Techa River valley with locations of cross-sections. The 1996 model comparison study was completed to compare the differences between the Russian and US models that are inherent in the models themselves, before the effort to model the site. That study is now in the process of publication.

Dr. Zinina and Mr. Williams described the 1996 comparison study: Model intercomparison study to investigate a dense contaminant plume in the complex hydrogeologic system around Lake Karachi. Dr. Zinina discussed the mathematical model and a comparison of the results from the two programs. Mr. Williams described modeling results that were very close. In the first model problem, the results showed only slight discrepancies in the magnitude of surface flux. These results were initial conditions in the second problem - water table elevation comparison over 44 years. Two journal articles written about the comparison are in the process of publication and should be ready by mid-December.

Dr. Zinina and Dr. Cole presented results of Contract #2 (Creation of a Regional Model of Contaminant Mass Transport in Groundwater of the Mayak PA Region). Dr. Zinina summarized the geometry and hydraulic conditions in the model. Dr. Cole presented the PNNL work on development of the FY 1997 3D regional model.
Mr. Nichols presented results from Contract #3 that emphasized the groundwater surface water interactions that controlled the release of contaminants to the Mishelyak River. All reports for Contract #3 were completed in both languages.

Dr. Ter-Saakian discussed the FY 97 results of the Russian work to quantify parameters for both the regional and discharge-zone contaminant modeling. A paper and an article are in preparation on this work.

Dr. Hutter stated that in regard to the direction of future work, some limited resources would be available for 1998. For the Russian side, there will be a total of $145K.

It was agreed that the best use of the available funding should be made.

Tuesday, November 11, 1997

Dr. McCarthy from Idaho National Environmental Engineering Laboratory gave a presentation on the INEEL contaminant migration problems in groundwater at the site. He described the geology and contamination history of the site. A model of the site indicates that contamination will leach out of contaminated soil and go straight through the basalt to the aquifer. The site’s major problem is organic vapor contamination moving through the geology to the Snake River aquifer.

Dr. Faybishenko described the complex hydrology of the site. The results of experiments at four different scales indicated that an averaged modeling approach was inadequate. He stated that there was no solution yet for how to model fractured systems for the whole region.

Dr. McCarthy described contamination at the Test Area North Injection Well, where waste was disposed directly into the aquifer from 1953-1972. He summarized the contaminants in the area that were organic, inorganic, low-level radioactive waste and sanitary sewage sludge. Though the plume is not and has not been growing for the last 10 years, remediation is on-going at the insistence of the Environmental Protection Agency and the state of Idaho.
Dr. McCarthy then presented the INEEL site needs. Vadose zone modeling, including parameter uncertainty, sampling and data interpretation was identified, as well as modeling and sampling of the saturated zone. A third need is to reduce the expense of developing model parameters. Dr. Faybishenko added that there was a need for the study of isotopes, especially carbon 14, in the gas phase (which relates to the on-going remediation efforts).

Wednesday, November 12, 1997

Statements of Work were discussed and finalized.

Signed:

Dr. Adam Hutter
EML, U.S. DOE
Д-р Адам Хаттер
ЭМЛ, ДЭ США

Dr. Mark Glinsky
Hydrospekteologiya, Moscow, Russia
Д-р Марк Глинский
"Гидроспециэология", Москва, Россия

Dr. Evgeny Drozhko
MAYAK Production Association, Ozersk, Russia
Д-р Евгений Дрожко
ПО "МАЯК", Озерск, Россия