

University Researchers Explore Amchitka Island's Marine Environment: Seek to Understand Whether there are Adverse Effects of Underground Nuclear Testing

For release from Adak, Alaska – June 28, 2004 10:00 am

This morning a diverse group of researchers from 5 major research universities leaves Adak, Alaska the western-most settled community in the Western Hemisphere – bound by ship for Amchitka an island in the western Aleutian chain in Alaska, a few miles from the international dateline and site of three significant underground nuclear test shots more than 30 years ago. But before leaving, this research team reported on Friday night to the residents of Adak on the status of their Consortium's two-part expedition this summer at Amchitka. The research effort is seeking to clarify whether there is any current threat to human beings or the environment in the marine surroundings of the 3 nuclear tests conducted by the U.S. government at Amchitka. It also seeks to establish a baseline for any later scientific evaluations of the effects of the tests and provide information to inform any additional surveillance of the sea and marine life near Amchitka. Adak, where the group reported on its mission, is the home of the community of Aleut residents closest to Amchitka and its residents report subsistence fishing activities near Amchitka and its environs. Results from this summer's field work will require extended analysis and are not expected for about 8 months.

Charles W. Powers, the principal investigator for the parent organization overseeing the field testing, The Consortium for Risk Evaluation with Stakeholder Participation (CRESP) headquartered in New Jersey, described the reasons and methods for the initial 10-day effort, completed just 24 hours earlier, to understand and depict the island's undersea substructure, and clarify whether flows from the Island could be detected by new technology and whether they might contain contaminants. The work involved in depicting the substructure intentionally preceded the effort that begins tomorrow, June 26th, to sample for radionuclides the biota at the island, offshore from the locations of the three nuclear shots and to compare the results of this sampling with the results from a reference island, Kiska, which is even further west. That sampling effort will continue until the third week in July.

By meeting to link the physical phase to the biological sampling effort, the 2 groups of researchers hope better to focus their biological sampling program and to do it more safely. The biological sampling will involve not only harvesting from the near offshore waters but also taking samples further from shore by university-based divers and by Aleut residents from the island chain whose sampling will simulate subsistence methods. A/PIA employee Robert Patrick leads the Aleut resident cadre.

Powers, Professor of Environmental and Occupational Medicine at the Robert Wood Johnson Medical School-UMDNJ in Piscataway New Jersey was aided in his explanation of the project by the project's director, Conrad Volz from the faculty at the University of Pittsburgh's Graduate School of Public Health. Volz is the only researcher participating in both phases of the expedition. Joanna Burger, University Professor of Biology at Rutgers University, leads the biological sampling phase of the effort and she described

how she and others have shaped the plan for the expedition in an active two-year dialogue with Aleut residents, other academics and many governmental agencies.

Burger and RWJMS-UMDNJ Professor Michael Gochfeld, also discussed how, as their biological sampling work is done in July, another CRESP researcher will be trawling in the western Aleutians including the Amchitka area as part of a regular NOAA effort. The Amchitka plan is to compare samples from both the NOAA trawl and the more intensive 3-week study of biota near the island. If the results show comparability, this might suggest that the regularly-scheduled NOAA studies in the Aleutians, previously unrelated to Amchitka contamination issues, could provide at least some ongoing data about Amchitka.

The University of Alaska at Fairbanks (UAF) has played a major role in the evolution of the program, beginning with a key workshop at the University in February 2002 that Powers credits with having moved the State and the DOE toward an agreement to look at recent developments at Amchitka. One of the University's two faculty leaders in the CRESP effort, Associate Dean and biochemist Larry Duffy, participated in the Adak meetings. His counterpart chemical engineering faculty member, David Barnes, has provided Alaskan leadership for the effort since early talks in 2001. Steven Jewett research faculty at UAF described to Adak residents how divers from his group will go about their work in the frigid seas at Amchitka to gather biota from ocean waters at depth. One of the "physical science" teams was led by Mark Johnson, from the Institute of Marine Sciences at UAF; he described how his bathymetry and other testing clarifies the underwater picture of the island. Johnson and Martyn Unsworth, a geophysicist from the University of Alberta, Canada, discussed how the data gathering just completed is providing the latest depiction of key information about the island and its structures. And this contemporary delineation helps lay the groundwork both for the safety and effectiveness of the sampling effort; it aids as well as in testing the veracity of the existing model of how the underground water systems at Amchitka would flow into the sea. Models had earlier been developed for the Department of Energy by the Desert Research Institute in Nevada. All the work on the physical characteristics of the island will now be examined by David Kosson, the Vanderbilt University Chair of the Environmental and Civil Engineering Department, when he and Burger lead a team that makes final decisions about how best to prepare the biological samples and ensure their effective analysis.

The CRESP researchers pointed out that this university-based work is being aided by selected technical support and analysis obtained from the U.S. Navy and from several National Laboratories. Nevertheless, the Environmental and Occupational Health Sciences Institute (EOHSI) in New Jersey has been the center of CRESP's independent intellectual effort not only at Amchitka but at other complex contaminated sites for which DOE is responsible. It is the Institute's Vickram Vyas, Assistant Professor at UMDNJ, who will oversee the important data management function for the entire Assessment effort to assure effective integration and tracking of data from all of the components and phases of the effort as it evolves from raw data to its more integrated interpretation. The data management function will also assure effective QA/QC throughout Vyas

participated in the Adak meeting to help build the basis for geospatial delineation of the information developed.

The work conducted this summer represents implementation of a significant piece of the Amchitka Independent Assessment Plan that had been developed by CRESA in 2003 and had been given approval to proceed by the DOE, the Alaska Department of Environmental Conservation, the Aleutian/Pribilof Island Association and by the US Fish and Wildlife Service. Officials of the State of Alaska and DOE had specifically requested that CRESA develop the plan for this study in a Letter of Intent signed in the summer of 2002. Support for the project was made available to CRESA by the DOE's Nevada Offsites office after approval of the plan had been obtained from all four parties.

In explaining the task that lies ahead, the researchers emphasized how long it takes to do the "counting" associated with determining what levels of radiation might be found in any of the marine environment and its life. And even if this counting yields worrisome levels of any radionuclides found, the interpretation of the results of those findings will itself be difficult. That is because some radiation is found in any marine environment and because in the event that levels – whatever their source - are found that could pose a significant risk to anyone who consumes large amounts of marine life near the sampled areas, it will be important to try to determine which of the sources at Amchitka or the many radiation sources elsewhere in the north seas environment might be responsible.

By gathering the results of all of the pieces of the study and relating them to earlier scientific work and to work elsewhere in the world seeking to understand radionuclides in the seas, the group hopes to make its summer's work understandable. It may then be in a position to advise whether, and if so what, additional work might be needed and how longer term efforts, if any, to retest the Amchitka area might best be conducted. The scientists point out that the Consortium had specifically been chosen to do this work precisely because of its record of effectively gathering technical talent, of competent and independent scientific work and a commitment to publish its results and explain them whatever they turn out to be. The research team encouraged Adak residents and all others interested to follow the evolution of the project as it is depicted on the CRESA website at www.CRESA.org.