



DOE proposes to allow underground experiments at the WIPP

The U.S. Department of Energy (DOE) is proposing to expand availability of Waste Isolation Pilot Plant (WIPP) facilities and infrastructure to scientists who wish to conduct experiments there. DOE would allow these experiments if they can be conducted without interfering with the WIPP's primary transuranic waste disposal mission and if they reflect contemporary budget priorities. This fact sheet presents questions and answers about the proposed action and its alternative.

The deep geologic repository at the WIPP could provide a favorable environment for experiments in many scientific disciplines, including particle astrophysics, waste repository science, mining technology, low radiation dose physics, fissile materials accountability and transparency, and deep geophysics. Los Alamos National Laboratory has been conducting one experiment in astrophysics at the WIPP for several years. Six other teams of scientists have proposed astrophysics experiments to DOE and are seeking funding from the scientific community for them.

DOE has prepared a draft *Environmental Assessment for Conducting Astrophysics and Other Basic Science Experiments at the WIPP Site*. This document examines the potential environmental consequences from conducting particular types of scientific experiments in an area of the WIPP underground called the experiment gallery. The environmental assessment also looks at the potential cumulative impacts of simultaneously conducting experiments and operating the WIPP as a transuranic waste repository.

Why conduct experiments at WIPP?

Unused research areas, far from the WIPP's waste disposal rooms, offer promise for studying particle astrophysics and understanding more about our universe. The environment is ideal, since the experiments would be shielded deep in the earth from cosmic radiation, and the rock salt in the repository has very low background radiation.

Worldwide, few laboratories are suitable for performing research on these particles. The WIPP is the United States' most promising location for a high-energy astrophysics laboratory. Scientists believe the WIPP site has two principal advantages over other comparable facilities around the world. First, because the WIPP is owned by the U.S. government and its purpose is not to sell excavated resources, access to it is not likely to be affected by economic demand, as would access to a commercial mine. Sites in working, privately owned mines do not offer an environment of stability and continuity, particularly for experiments that may take two decades or more to reach conclusions. Second, because the WIPP site is in the United States, its use would reduce travel and living expenses for U.S. scientists, many of whom have been traveling to Japan, Canada, or Italy to conduct their experiments. Allowing the use of the WIPP facilities for these experiments would further the mission of

the national scientific community and the DOE Office of Science and would ultimately benefit taxpayers by decreasing the total costs of experimental programs now funded by the government.

What other alternatives are being considered?

The only alternative to the proposed action addressed in the draft environmental assessment is the no-action alternative. Under the no-action alternative, no astrophysics or other proposed or anticipated basic science experiments would be conducted at the WIPP. These experiments perhaps could be conducted at other underground facilities (for example, the proposed Yucca Mountain repository in Nevada, mines located in various parts of the United States or the world, existing astrophysics facilities), or a new national underground laboratory could be constructed. However, these decisions are not before DOE at this time nor are they within the DOE's jurisdiction.

How do I get more information?

For more information about experiments at the WIPP, or to be placed on the WIPP mailing list, call the WIPP Information Center at 1-800-336-WIPP (9477). Or you may review the full environmental assessment on the WIPP Home Page at <http://www.wipp.carlsbad.nm.us/library/ea/ea.htm>. If you prefer, write to:

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U.S. Department of Energy
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The Waste Isolation Pilot Plant