September 17, 1997

Mr. Dean Triebel
Los Alamos National Laboratory
528 35th Street
Los Alamos, NM 87544

NCI Comments on the Draft EA for the Parallex Project

Dear Mr. Triebel:

We are writing to comment on the predecisional draft *Environmental Assessment for the Parallex Project Fuel Manufacture and Shipment* ["draft EA"]. We believe DOE should cancel the planned export and test irradiation of CANDU MOX fuel. Even from the perspective of a "dual-track" approach to disposition, the experiment is ill-conceived, unnecessary and dangerous.

The CANDU MOX experiments are unnecessary. Ontario Hydro recently announced that for safety and management reasons it will shut down several of its CANDU reactors, including the Bruce A reactors designated for the full-scale use of MOX fuel.1 It appears that neither Ontario Hydro nor the Canadian government has proposed alternative CANDU reactors for the MOX disposition mission. There is no point in proceeding with demonstration of CANDU MOX fuel if the designated Canadian reactors will not be available to use it. In NEPA terms, the desirability of the "no action" alternative is enhanced considerably. Not even a very slight probability of transportation accidents resulting in plutonium exposure and human health hazards is justified if the Parallex Program cannot proceed due to the unavailability of Ontario Hydro's CANDU reactors.

The CANDU MOX experiments are premature. The final PEIS and Record of Decision both treat the CANDU disposition option as a secondary option, rather than a preferred alternative. The Final PEIS stated that "[u]se of Canadian CANDU reactors would be retained in the event a multilateral agreement is made among Russia, Canada, and the United States to implement this."2 To date, it appears that little if any substantive progress has been made toward such an agreement. To our knowledge, Russia has not even agreed to fabricate small amounts of MOX for test irradiation in Canada as part of the Parallex program. The Record of Decision noted other major barriers to a three-government agreement:

> Disposition of Russian plutonium in CANDU reactors ... would require resolving additional transportation issues and additional questions relating to the likely Russian desire for compensation for the energy value of the plutonium.3

Given that CANDUs are only an option in case of a three-way agreement---an agreement whose successful conclusion is not on the horizon---it is premature to proceed with test irradiation of CANDU MOX at this time or in the foreseeable future.

The CANDU MOX experiments would undermine U.S. non-proliferation policy. This proposed export must be examined not simply as an isolated experiment involving a small amount of plutonium, but in the larger context of what to do with surplus U.S. and Russian weapons plutonium and how to stop the further spread of nuclear weapons. There is a special danger in demonstrating the feasibility of using MOX fuel in CANDU reactors. As the draft EA stated, "[t]he ability to successfully reengineer and operate heavy-water-moderated CANDU reactors with MOX

fuel cycles has never been demonstrated on any industrial scale."4 The Parallex Project is undoubtedly being watched carefully by other countries interested in potential plutonium use options. CANDU reactors are operated in the Republic of Korea, India, Romania and Argentina. Each of these countries at some point had an active program to develop nuclear weapons. In India and Pakistan, nuclear weapons have been constructed and, in the case of India, tested.5 Neither nation is a party to the Nuclear Non-Proliferation Treaty, and neither maintains full-scope safeguards on all its nuclear facilities.

Pakistan imported its Kanupp CANDU reactor from Canada. This reactor is under safeguards, but Pakistan is currently constructing a heavy-water-moderated plutonium production reactor at Khusab which is not subject to safeguards.6 China recently concluded an agreement with Canada to purchase two CANDU reactors. China may be interested in developing a plutonium fuel cycle, and it has been the primary source of nuclear technology for Pakistan.7 The significance of a U.S. initiative to develop plutonium MOX fuel for use in CANDU reactors would not be lost on either Pakistan or China.

India today operates four unsafeguarded CANDU reactors which are "considered to be part of the country's potential nuclear-weapons production infrastructure."8 It has been reported, moreover, that South Korea still "would be very interested in obtaining plutonium fuels."9 Should the feasibility of CANDU MOX fuel be demonstrated in Parallex, and should Canada proceed to implement plans actually to burn 50 tons of plutonium, non-Canadian CANDU operators are likely to seize on this as a precedent to justify their own use of plutonium. The likely result would be reprocessing of CANDU fuel in these nations to recover plutonium for MOX fuel, leading to the further stockpiling and use of weapons-usable plutonium in civilian nuclear power programs around the world---a development that would run counter to U.S. Government policy to "not encourage the civil use of plutonium" and "to seek to eliminate where possible the accumulation of stockpiles of highly enriched uranium or plutonium..."10

Thank you for your consideration of these views, which we are also forwarding to Secretary of Energy Peña and NRC Chairman Jackson.

Sincerely,

Paul Leventhal
President

Steven Dolley
Research Director

cc: Federico Peña, Secretary of Energy
Shirley Jackson, Chairman, Nuclear Regulatory Commission

End Notes

1. Ray Silver, "Hydro Says Older Units' Return Depends on Future Economics," *Nucleonics Week*, August 21, 1997, p. 1. Back to document

2. U.S. Department of Energy, Office of Fissile Materials Disposition, *Storage and Disposition of Weapons-Usable Fissile Materials Final Programmatic Environmental Impact Statement*, Volume I, December 1996, p. 2-9. Back to document

3. U.S. Department of Energy, *Record of Decision for the Storage and Disposition of Weapons-Usable Fissile Materials Final PEIS*, January 14, 1997, p.15. Back to document

4. Draft EA, p. xiii. Back to document

5. In fact, India acquired the plutonium used in its 1974 nuclear test explosion through the use of the CIRUS research reactor and a consignment of heavy water supplied by Canada and the United States, respectively. Senator Abraham Ribicoff, "State Department Position on Nuclear Indian Explosion," *Congressional Record*, July 19, 1976, p. S11790. Back to document