

October 31, 2007

The Hon. Byron L. Dorgan, Chair
Subcommittee on Energy and Water Development
Senate Appropriations Committee
186 Dirksen Senate Office Building
Washington, DC 20510-6030

The Hon. Pete V. Domenici, Ranking Member
Subcommittee on Energy and Water Development
Senate Appropriations Committee
188 Dirksen Senate Office Building
Washington, DC 20510-6030

Dear Senators,

We write to oppose the Department of Energy's (DOE) Global Nuclear Energy Partnership (GNEP) plan for reprocessing spent nuclear fuel because it undermines U.S. nonproliferation policy, would cost taxpayers \$100 billion or more, and, as many in the nuclear industry point out, does not solve the nuclear waste problem. The Senate Appropriations Committee Fiscal Year 2008 Energy and Water Appropriations bill provides \$243 million for GNEP, while the House approved \$120 million in its version of the bill. We urge you to eliminate funding for the program.

Although GNEP has never been authorized by Congress, DOE is seeking funding to dramatically increase reprocessing research and development activities and build full-scale facilities in the United States, while energetically promoting GNEP abroad. Shifting from its earlier proposals for small-scale projects, DOE now plans to build a full-scale reprocessing plant, a commercial-sized fast reactor, and a fuel cycle "research" facility (which itself will have significant reprocessing capacity), before any of the necessary technologies have been demonstrated outside the laboratory. These efforts are ill-advised and premature, as there is no evidence that GNEP will be able to fulfill the highly optimistic goals claimed by its promoters.

Although DOE is promoting GNEP internationally on nonproliferation grounds as a way to slow the spread of technologies used to produce fissile material for nuclear weapons, the program has had the opposite effect. Since GNEP's inception, eight countries have notified the International Atomic Energy Agency that they reserve the right to pursue enrichment and reprocessing technologies, including South Africa and Argentina, which are considering reviving their enrichment programs. The DOE's tacit endorsement of these plans, together with its pursuit of reprocessing and fast reactor technology agreements with several other nations, undermines President Bush's 2004 non-proliferation policy. For instance, the DOE is cooperating with South Korea on reprocessing technology, and President Bush extended invitations to Australia and Canada to join GNEP as "fuel cycle" states with no constraints on their domestic enrichment and reprocessing facilities.

Moreover, DOE's goal of "no more separated plutonium" (the key ingredient in modern nuclear weapons) has also been set aside. DOE has allowed France and Japan to become key partners in GNEP even though both countries will continue to produce annually many tons of separated plutonium — the equivalent of thousands of bombs — for decades to come. And DOE's current preferred technology for U.S. reprocessing plants would separate a mixture of uranium, plutonium and neptunium, which would not be significantly more difficult for terrorists to steal and process than pure plutonium. Proposed enrichment or reprocessing programs in other countries create similar dangers. Clearly, GNEP is fostering the spread of reprocessing technologies and dangerous nuclear weapons-usable materials, undermining U.S. nonproliferation goals.

The cost of GNEP to U.S. taxpayers is likely to be prohibitive. Data from a recent study by Idaho National Laboratory for DOE indicate that pursuing a GNEP reprocessing program involving a mix of light-water and fast reactors would cost over \$1 billion per year more than the current once-through system using light-water reactors.¹ The estimates do not include the “life-cycle” costs of building or operating the reactors, which would drive up GNEP expenses, perhaps by additional billions per year.

Reprocessing produces huge volumes of liquid high-level nuclear wastes; as a result, contaminated sites at Hanford, WA, Savannah River Site, SC, and West Valley, NY have required massive clean-up efforts that have, and continue to, cost billions of dollars. It is astonishing how DOE could propose a vast new reprocessing program when it has failed to effectively deal with the legacy wastes from prior reprocessing activities.

Finally, many in the U.S. nuclear industry do not consider GNEP a viable solution. A June 2007 report coauthored by, among others, representatives from the Nuclear Energy Institute and nuclear utilities such as Exelon, Entergy, Southern Nuclear, GE Energy-Nuclear, Duke Energy, and FPL, concluded that GNEP “is not a strategy for resolving either the radioactive waste problem or the weapons proliferation problem” and that “critical elements of the GNEP are unlikely to succeed.”²

Among the shortfalls outlined in the report were problems with GNEP’s cost-effectiveness, technological viability, and capacity to eliminate waste streams. Contrary to GNEP proponents’ claims that reprocessing would reduce the burden on a geologic repository, the report notes that the current practice of reprocessing “does not significantly reduce capacity requirements at Yucca Mountain,” and that “the volume of low-, and intermediate level wastes substantially increases with reprocessing.” Moreover, the report states that “the program as currently envisioned could actually further proliferation risks.”

Given the proliferation risks, the high monetary costs of reprocessing, and the lack of industry support, we urge Congress to zero out funding for GNEP.

Sincerely,

National Organizations

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¹ The study by Idaho National Laboratory for DOE, David Shropshire et al, “Advanced Fuel Cycle Economic Sensitivity Analysis,” INL/EXT-06-11947, December 2006, estimated that a GNEP-type system with reprocessing and a mix of 73% light-water reactors and 27% fast burner reactors would have fuel cycle costs, on average, about 0.015 cents per kilowatt-hour more expensive than the current system based on a once-through system with light-water reactors. For a nuclear energy system around 100 GWe, this would correspond to a cost penalty of over \$1 billion per year associated with the GNEP system. These estimates does not include reactor capital and operating costs, and thus do not reflect the cost penalties associated with considerably higher costs of fast reactors compared to thermal reactors.

² The Keystone Center, *Nuclear Power Joint Fact-Finding*, June 2007.

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cc: Senate Appropriations Committee Members