

MOX: SWORDS INTO PLOWSHARES



CNTA

AWARE!

EDITOR'S NOTE: The following is our position paper on the MOX plant that is being designed and built to dispose of surplus weapons plutonium.

The entire world is applauding the United States and Russia for reducing their stockpiles of nuclear weapons and disposing of the enriched uranium and plutonium so that they can never be used again to make weapons. An agreement signed by Vice President Gore September 1, 2000 paves the way for proceeding with the plutonium disposition program. Exactly *how* the U.S will dispose of its plutonium has been the subject of years of intensive study.

Two sub-committees of the prestigious National Academy of Science (NAS) studied options and recommended that the enriched uranium be mixed with uranium-238, reducing the enrichment (percent of uranium-235) below the concentration required to make weapons, then sold to make fuel for commercial power plants. For the plutonium, the NAS selected the Mixed Oxide (MOX) fuel option and the Immobilization option as the two best alternatives. The US Department of Energy subsequently chose both options. The plutonium with chemical impurities would be immobilized with high-level waste and placed in the national geologic repository planned for Yucca Mountain, Nevada. The relatively pure plutonium would be made into MOX fuel and "burned", i.e. used as fuel in existing commercial power reactors. Both the uranium and the plutonium would be used to produce electricity to the benefit of the public, a perfect example of the biblical vision of converting "swords into plowshares".

Unfortunately, anti-nuclear groups are opposing the MOX fuel option, apparently because they fear it may lead to nuclear power plants using MOX fuel. At every opportunity, these groups are presenting scripted arguments against the MOX fuel option, but these arguments do not stand up to informed analysis. One argument is that the U.S. decided to proceed with the MOX fuel option to appease the Russians. This argument ignores the fact that the NAS subcommittees recommended the MOX option in 1994, and DOE chose the MOX option in 1996, and nearly all of this occurred before there were discussions of this subject with the Russians.

Another argument is that "no weapons-grade plutonium has ever been used to make MOX fuel." This statement is incorrect. All of the early MOX fuel used in experimental testing and irradiation was made with weapons-grade plutonium because that was all that was available. The difference between "weapons-grade" and other grades of plutonium now being used in MOX fuel is unimportant because the fuel design will adjust the fuel composition to accommodate the difference. It simply doesn't matter, for example, whether the percentage plutonium-239 is 95%, as it may be in "weapons-grade" or 60 to

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Special points of interest:

- Video tapes of Dr. Harold Agnew's 2000 Teller Lecture are available through the CNTA office. We are asking for a \$10 donation to help offset reproduction and mailing costs.
- Audio tapes of the NPR segment on SRS's 50th Anniversary are available through the CNTA office. We are asking for a \$5 donation to help offset reproduction and mailing costs.
- In the interest of saving money, we have begun sending Up and Atom notices via e-mail to those members for whom we have e-mail addresses. If you have not given us your e-mail address and have one either at home or at work, please let us know.

MOX: SWORDS INTO PLOWSHARES (continued)

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70% as it may be in recycled “reactor grade” plutonium.

Some anti-nuclear groups claim that the MOX option will not destroy a significant amount of the plutonium. This statement is incorrect and deliberately misleading. A large fraction of the plutonium put into the MOX fuel will be destroyed by fissioning. But, that doesn't tell the whole story. The uranium in the MOX fuel will create some new plutonium, but less than would be created if the reactor were operating with its normal low-enriched uranium fuel. The important point, however, is that when the MOX fuel reaches the end of its useful life and is removed from the reactor, the plutonium in the spent fuel would not be attractive for making weapons because it will have a high percent plutonium-240 and low percent plutonium-239. So, the objective of effectively eliminating the weapons potential of the plutonium will have been achieved.



Another oft-repeated, but specious, argument is that the process to manufacture MOX fuel is “dangerous, untested, and experimental”. That is far from the truth. For over 30 years, tons of MOX fuel has been manufactured, tested and irradiated in the U.S., Japan, Belgium, France, Germany, and The United Kingdom. In Europe alone there now are 31 reactors operating safely with MOX fuel. There have been no significant incidents or accidents. The Duke Cogema Stone & Webster team that DOE has contracted to implement the MOX fuel project has a large amount of expertise and successful experience for the technologies that will be used, and that should give everyone confidence that the mission will be completed safely and successfully.

The community of anti-nuclear activists prefers to see all surplus plutonium in the U. S. and Russia, and elsewhere, immobilized and buried. This would be very unwise. First, it would deprive the world of a huge quantity of much needed pollution free electricity that the world's people need to maintain a decent quality of life. Second, it would create weapons-usable plutonium mines that would be vulnerable to being “mined” by unscrupulous nations or terrorist groups bent on committing acts of terrorism. Do we really want such plutonium mines scattered about in Russia, China, and other countries? It is astonishing that anyone could believe that would be a good thing to do to our progeny.

Throughout the MOX fuel plant's project there will be numerous opportunities for the public to review progress, ask questions, and make comments. These interactions will provide further assurance that environmental and safety issues are given top priority. During this process we urge the regulators to heed the advice from bona fide experts that have thoroughly studied this subject and are familiar with the technologies.

CNTA Speakers' Bureau

By Tom Parkinson, Speakers' Bureau Committee Chairman

In keeping with CNTA's role as a not-for-profit educational organization, a Speakers' Bureau Committee has been in

operation for several months. Members include: Mel Buckner, Todd Crawford, Ben Cross, Mike Hosang, Gail Jernigan, Mal McKibben and myself, Tom Parkinson, as Chairman.



Current efforts are concentrated on gathering materials and recruiting speakers for the following topics: Nuclear Medicine, Plutonium Disposition and MOX Fuel, Food Irradiation, Fusion—Energy of the Future?, Comparing Nuclear Risks with Everyday Risks, Economic Impact of SRS on the CSRA, Transportation of Nuclear Fuels and Wastes, The Case for Nuclear Power, SRS-Past, Present and Future, Environmental Restoration at SRS, National Nuclear Waste Management—Long Range, Health Effects of Low Levels of Radiation, and Tracking Atmospheric Releases.

A brochure has been printed describing the programs available from the Speakers' Bureau; this document is now being distributed to civic clubs, church groups, professional organizations and other groups. Already, several presentations have been given to Rotary Clubs and other groups.

Preliminary discussions have been held with public school administrators on the possibility of offering classroom presentations. We have also met with representatives of the Savannah River Forest Service to explore their participation in our Speakers' Bureau. We welcome any suggestions on additional topics and speakers.

DNFSB Statement

The following statement was given to the DNFSB on November 24, 2000:

Good Evening. My name is Mal McKibben. I am Executive Director of Citizens for Nuclear Technology Awareness (CNTA). CNTA is a non-profit corporation – the largest pro-nuclear educational group in the US with about 2000 members. We are a grassroots organization, and some of our members are nuclear experts. We are pleased that you are having your meeting here. CNTA appreciates your interest in getting public comments on your work, and we want you to know that CNTA also appreciates your past and present contributions to safe and efficient operations at SRS. I have a short statement relative to two current issues.

CNTA shares with the Board a concern about premature shutdown of one of SRS's "Canyons". At this time there are several potential needs for the canyons that have not been fully defined. These include stabilization of "orphan" legacy materials that the Board is already aware of. It also includes the possible stabilization or refurbishment of strategic materials scheduled to be retained. It would be unwise, and potentially quite costly, to prematurely shut down these facilities.

In addition to those potential needs for the Canyons, CNTA continues to believe, as indicated in an earlier letter to you, that it would be preferable (cheaper, safer, quicker) to process aluminum clad enriched uranium research reactor fuel through the Canyon. From a nonproliferation standpoint, that would be the fastest way to render the enriched uranium un-proliferable.

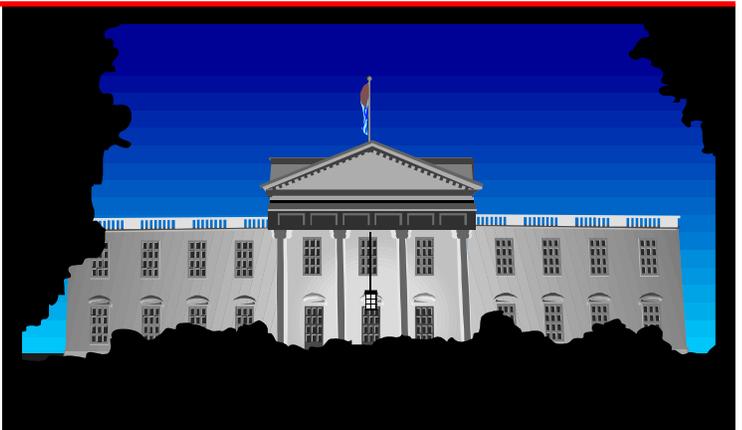
Over the past forty-six years these amazingly sturdy and versatile canyons have served the nation well, and are continuing to do so. But, in the future, the nation will need new, smaller, and more technically up-to-date facilities for chemical separation and purification of nuclear materials. It is not too early to initiate research and development toward this end.

Our organization, like DNFSB, has a concern about the decision not to construct a new facility at SRS for long-term safe storage of plutonium. Such a facility would meet the requirements of the DOE standard 3013, and would make it possible to safely consolidate all of the nation's stored plutonium rather than leave it scattered throughout the nation. The storage facility that was recently constructed in K Area will provide immediate relief for SRS storage needs, but it does not address the larger problem.

We are pleased that you attended our banquet and Teller Lecture Tuesday evening. This was the culmination of a yearlong series of community events celebrating the 50th anniversary of the Savannah River Site. I hope it was evident to you that the Savannah River Site has always enjoyed outstanding support from our local communities.

Congressional Nuclear Caucus

By Mel Buckner Republican Senator Pete Domenici of New Mexico hosted the House/Senate Nuclear Caucus event on March 5 and 6. The event was entitled "U.S. Leadership" and was jointly sponsored by the Center for Strategic and International Studies (CSIS), the Eagle Alliance, and the American Nuclear Society (ANS) Special Committee on Nuclear Nonproliferation. The objective of the event was to expand membership in the Congressional Nuclear Caucus and to draw attention to the need to revitalize and reformulate the U.S.'s approach to nuclear technologies. Sen. Domenici has been the leading advocate for a stronger role for nuclear technology in our nation's energy, security and also in regard to achieving our nonproliferation objectives.



CNTA supported this event by contacting congressional staff members from South Carolina, Georgia, and Alabama to encourage their attendance. This was part of a concentrated effort, which was also supported by the DOE National Laboratories, key universities with strong nuclear programs, the Eagle Alliance, and ANS, to publicize the event.

The event included presentations by former Secretary of Energy James Schlesinger, CSIS Director Robert Ebel, and Marvin Fertel, Senior Vice President of the Nuclear Energy Institute on the first day. The theme for these presentations was the current

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Congressional Nuclear Caucus (continued)

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status of the global energy situation, and the impact of nuclear on the U.S. energy policy. Fertel presented operating data that showed the operating cost (expenses for fuel, operations, and maintenance) for nuclear is now slightly lower than coal, and much lower than oil-fired or natural gas plants. Also, nuclear plants have led the way during our coldest winter in years by operating at record levels (89.6 % capacity factor for 101 operating plants).

On Tuesday, the theme was focused on leadership with presentations by Bill Martin, Chairman of Washington Policy & Analysis; Dale Klein, Chancellor for Special Programs, University of Texas; and Roger Hagengruber, Senior Vice President for National Security, Sandia National Laboratories. Klein emphasized the decline that has occurred in the nuclear education infrastructure with more than half of the nuclear engineering programs shutting down over the last fifteen years. Sen. Jeff Bingaman, D-NM, kicked-off the session on Tuesday with a call for action, and Sen. Domenici closed the session with a brief preview of his nuclear energy bill entitled, "Nuclear Energy Electricity Assurance Act of 2001", which he introduced publicly in a news conference on March 7. The bill, which has bipartisan support, contains a comprehensive set of provisions aimed at fostering greater use of nuclear energy while supporting advanced research into technologies to minimize waste created by this environmentally friendly energy source.

Hopefully, these three days will be remembered as the real beginning of a new nuclear era in the U.S. and a revitalization of the U.S. position in global management of nuclear proliferation risks.

Up and Atom

By Mal McKibben, Executive Director

At the time of this writing, we have had three outstanding Up and Atom breakfasts so far in 2001. These are summarized below.

February 15th

Dr. John Cameron gave a very informative and entertaining presentation, "The Good News About Radiation." The "good news" was that the large and growing body of data leads us to believe that modest increases in our radiation above our background dose is beneficial to health. The explanation is that increased radiation stimulates our body's natural immune system. This, of course, refutes the basis for current regulations which assumes that adverse health effects are proportional to dose all the way down to a "zero" dose.

March 13th

Dr. Robert Addis gave an enlightening presentation, "Global Warming: Is It Real?", in which he presented accumulated worldwide data on global temperatures and the effects of these trends on weather. One interesting aspect of increasing global temperature is that it causes weather extremes, both high and low—storms, extreme droughts and floods, and both high and low temperature systems. He left it to the audience to reach the obvious conclusion that nuclear power, which releases no "greenhouse" gases, could significantly reduce the long-term effects of global warming.

April 10

Dr. Ruth Weiner gave an authoritative presentation on transporting radioactive materials, "Radioactive Materials Transportation: Mobile Chernobyl?" It was clear that transportation of radioactive material is much more highly regulated than the transportation of non-radioactive hazardous materials, and the safety record of nuclear transportation is by far the best in the transportation industry. Indeed, the risks to anyone in the public from the radiation is vanishingly small. The facts stand in sharp contrast to the shrill hyperbole of the anti-nuclear zealots.

May 15

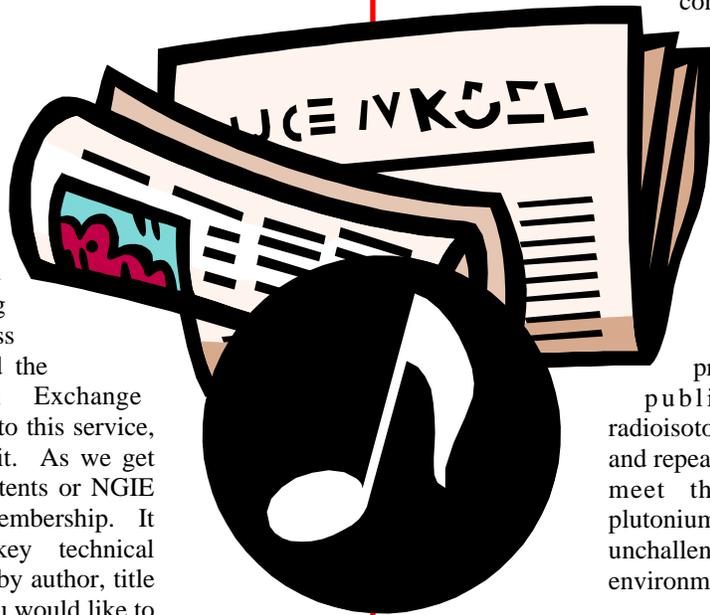
Our next Up and Atom breakfast will be at Houndslake Country Club at 7:30 a.m. on May 15th. Our speaker will be Dr. Paul Robinson, who is Director of Sandia National Laboratory. The title of his presentation is "Preserving Peace in the 21st Century". He will discuss plans for nuclear weapons production and the evolving roles of the National Laboratories.



Executive Director's News and Notes

NGIE

A small pro-nuclear citizens group, Center for Reactor Information, associated with Argonne National Laboratory, and supported by the American Nuclear Society, is establishing a private email network, or LISTSERVE, to facilitate information exchange among pro-nuclear organizations across the U.S. This service is called the Nuclear Group Information Exchange (NGIE). CNTA has subscribed to this service, and will be providing input to it. As we get more information about the contents or NGIE we will pass it along to our membership. It already has thousands of key technical documents that can be accessed by author, title or key words. Let us know if you would like to



contains a new Epilogue that takes the Hanford Site up through late 1996 and costs only \$20 (plus \$4 for shipping and handling for the first book and 50 cents for each additional book, if ordered from the University of Nebraska Press).

Read how Du Pont and the later contractors set limits to protect the workers and the public from releases of radioisotopes—and then consistently and repeatedly exceeded those limits to meet the production goals for plutonium. They essentially went unchallenged up to issuance of the first environmental impact statement for

Interesting Reading

Submitted by John Pullen

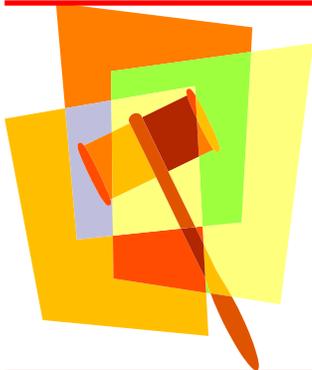
On the Home Front—The Cold War Legacy of the Hanford Nuclear Site, by Michele Stenehjem Gerber, is available at bookstores or order toll-free, 1-800-755-1105 (University of Nebraska Press). The paperback edition (new in August 1997)

By-Laws Update

By Bill Reinig

CNTA started 2001 with revised by-laws. These were the first revisions since the by-laws were prepared in 1991. An "atta-boy" to Board member Wes Smith for taking on and completing this needed task. Copies of the by-laws are available from the Executive Director.

Board of Directors Nominations



In accordance with our updated by-laws, the CNTA Board of Directors has formed a Nominating Committee for the purpose of filling vacant seats and electing new Board members. If you would like to nominate someone for our Board of Directors, additional names of candidates for Directors can be nominated by petition bearing the signatures of any ten (10) CNTA members including at least one member of the Board of Directors. Petitions will need to be filed with CNTA no later than June 18, 2001.

Nominations will be closed at 5:00 p.m. on June 18, 2001. Thereafter the nominations will be circulated to the Board of Directors and voting will take place at the Board of Directors' Meeting on July 26, 2001. New members will be seated immediately at this meeting and will be participating members.

Our Web Site

By Elizabeth Maryniak, Webmaster

The CNTA website is undergoing some exciting new changes! We are in the process of completely redesigning the site, giving it a sleek, updated new look. If you have any suggestions for changes either in content or design that you would like to see us incorporate, please let us know! Send your ideas to CNTA@mindspring.com or call us at 1-800-299-2682.





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