

To:
Senator Moran
Senator Roberts
Representative Jenkins
Representative Pompeo

From:
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Date:
Mon, May 19, 2014

Subject:
Solution of *FOUR* pressing national problems using existing funds.

Ref:
<http://www.cnn.com/id/101676653>

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The Energy Department will stop charging the fee by court order Friday. It's only a small percentage of most customers' bills, but adds up to \$750 million a year. The fund now holds \$37 billion.

The money was collected to build a long-term disposal site for the highly radioactive nuclear waste generated by the nation's nuclear power plants that is, by law, the federal government's responsibility.

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It is rare an opportunity exists to solve 4 separate serious national problems, without requiring considerable additional funding.

What is suggested is the funding of "crash" program to productize existing LFTR [liquid fluoride thorium reactor] technology for serial manufacture and deployment, using [most of] the existing \$37 billion in the high level nuclear waste disposal trust fund [Yucca Mountain]. For LFTR details see <http://mcduffee-associates.us/DROP%20BOX/LFTR01.pdf>

*PROBLEM 1: Disposal of high level nuclear waste. The large bulk of the high level waste is "spent" uranium/plutonium fuel rods, which are not waste at all, as these still contain 99.5% of the original nuclear energy. LFTR can use these rods as auxiliary fuel, extracting the remaining 99.5% of energy, reducing the bulk by 95% or more, and reducing the required secure storage time from tens of thousands of years, to a few hundred, and the waste is already vitrified [in glass] so is much safer (no leaks). Hundreds of tons of "spent" fuel rods exist in the U. S. which can supply fuel for many years.

*PROBLEM 2: Energy shortages in the U.S., for large scale desalinization and pumping because of the drought, and as electricity generation as coal is phased out. Deployment of LFTRs can supply the energy, and in many cases can be retrofit to existing coal fired electrical generating stations because of the much higher LFTR operating temperature. Once a LFTR is in place, it should only require a few weeks to reroute the steam lines, avoiding significant downtime.

*PROBLEM 3: There is an increasing waste disposal problem, of not only municipal but also

agricultural wastes. The inexpensive electricity and high process heat of LFTR makes the conversion of most any organic material, including municipal and agricultural waste as well as coal to synthetic petroleum very economically viable. Synthetic petroleum produced from municipal/agricultural waste and shale gas is particularly valuable because it is ultra low sulfur/wax, producing premium diesel and jet fuel.

*PROBLEM 4: STEM unemployment and under-utilization of domestic heavy industry remains high. Productization and deployment of LFTR will provide significant employment for the large numbers of highly skilled STEM workers currently unemployed, and will provide our heavy industry with considerable demand for many years for their services. In many cases these will not need to be reactor companies, but ship yards, refinery or oil rig manufacturers, etc. for much of the material. Deployment will also provide a considerable boost to our domestic electronic/electrical firms. These are not short-term “make work” jobs but are economically productive, and LFTR operation/maintenance will provide long-term high-tech, high-pay jobs. The improvement in the availability of domestic energy will support our transition into the 21st century global economy.

I would be pleased to discuss this in greater depth, with you or a member of your staff. Please feel free to forward this email.