POGO PROJECT ON GOVERNMENT OVERSIGHT

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MOX Fact Sheet

Background:

The Mixed Oxide Fuel Fabrication Facility (MOX) is a partially constructed building located at the Savannah River Site in Aiken, South Carolina. The facility is designed to convert weapons grade plutonium into mixed oxide fuel for commercial nuclear power reactors as part of a diplomatic deal with Russia in which both countries agreed to dispose of 34 metric tons of plutonium. The MOX program is an earmark that has exploded in cost overruns and no longer has any reason to exist. MOX is opposed by the Project On Government Oversight, Taxpayers for Common Sense, and National Taxpayers Union.

The Department of Energy has spent approximately $4.5 billion on construction thus far. The most recent DOE budget request asks for $375 million for MOX in FY 2016.

Cost Overruns and Delays:

- When Congress first appropriated funds for the construction of the MOX facility in 2003, it was expected to cost $1.6 billion and be fully operational by 2007.
- In 2013, the Government Accountability Office stated that construction for MOX would cost $7.7 billion. DOE estimated life-cycle costs (the cost of building and operating the plant for 20 years) would be $30 billion total.
- Updated cost estimates place the life-cycle cost at $47.5 billion if annual appropriations hold steady at $500 million per year, or $25.1 billion if annual appropriations hold steady at $700-800 million per year with a completion date around 2025, though funding would likely be required through 2040.

Selling Something No One's Buying:

- In 2008, the contractor in charge of the MOX project, Shaw AREVA MOX Services, lost its contract with the only customer it had secured for the mixed oxide fuel, Duke Energy. Since then, the contractor hasn't been able to find a single replacement customer interested in purchasing the MOX fuel if or when the plant is finally operational.
- There are significant challenges to finding new customers. This is because the use of the fuel in certain reactors will still need significant safety testing, particularly in light of concerns raised about the use of MOX fuel in the boiling water reactor at Fukushima Daiichi. Moreover, extensive and expensive modifications will be required to use MOX fuel in LEU reactors, including security upgrades.

Security Concerns:

- The MOX facility was exempted from several Material Control & Accounting (MC&A) requirements, essentially the use of monitoring measures to accurately account for all special nuclear material at a site, which includes preventing and detecting the loss of any material. Although the Nuclear Regulatory Commission requires facilities to be able to

verify the location of all special nuclear material items stored at a facility within 72 hours, the MOX contractor admitted it could take 180 days to physically verify the presence of some items—60 times the minimum safety requirements.

Can't Handle It:

- The agreement with Russia is for each country to dispose of 34 metric tons of weapons grade plutonium. However, the MOX facility cannot process nearly 20 percent of the plutonium declared as excess to military needs (the first step toward disposal) because it is "impure" plutonium.

Construction Problems:

- The National Nuclear Security Administration recently confirmed that some equipment had been improperly installed at the MOX facility and had to be removed and re-installed. The NNSA engineer also indicated that other "legacy" problems had yet to be addressed.

Alternatives Exist:

- An alternative to the MOX strategy, called downblending (or the dilute-and-dispose method), would provide a significantly cheaper and less risky long-term plutonium disposition plan.
- Though some critics have stated this method would not be possible because it would require amending the original deal with Russia, a Red Team of nuclear experts hired by DOE recently found that the MOX project is so far behind in meeting timing requirements that negotiations will have to be renewed anyway.