

ATTACHMENT 1A-2
SIERRA CLUB

CATAWBA LICENSE REQUEST

OCTOBER 23, 2001

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To: The NRC Staff
Subj: Catawba License Request

The South Carolina Chapter of the Sierra Club has been following the license renewal process for the Duke Energy Catawba Nuclear Station. Leading up to these hearings, an integral component of Duke's activities has been a public relations effort to educate the public on its plans to very shortly introduce MOX as a fuel in the Catawba station.

This MOX fuel is to be fabricated from weapons grade plutonium that is to be shipped to South Carolina's Savannah River site. The Governor of South Carolina is opposed to these shipments unless the Department of Energy agrees to a clear exit strategy. At this time no agreement has been reached.

Duke Energy, in its public relations efforts to embrace MOX as an alternative fuel source, places heavy emphasis on the cost effectiveness of MOX and on reducing the inventory of weapons grade material. If the long-range strategy is to introduce MOX as a fuel, the South Carolina Sierra Club finds it strange that the license renewal application does not state that the plant will use MOX as a fuel source during the operating life of the request.

On Saturday October 20, the South Carolina Sierra Club unanimously passed resolution #01-05, titled Plutonium Disposition as Mixed Oxide Reactor Fuel. I will not read the entire resolution but will cite those sections that refer to MOX and the Catawba Nuclear Station. A copy of the complete resolution is attached to my remarks for insertion into the record of this hearing.

* The SC Chapter of the Sierra Club expresses its support for Governor Hodges' call for the restoration of funding for plutonium immobilization.

* Plutonium is a key component of nuclear weapons and also can be a deadly component of a radiation-dispersal weapon; consequently plutonium is an attractive object for theft by terrorists and rogue governments and as such poses a critical security risk at all vulnerable points in transport and handling.

* The use of MOX fuel instead of traditional uranium fuel in the Catawba Nuclear Station could increase greatly the number of cancer deaths in a severe core-melt accident due to the presence of greater quantities of highly radiotoxic elements. Use of MOX fuels in these reactors, for which they were not designed, may pose additional and yet unknown operating risks.

* The Catawba plant is one of the thin-walled ice condenser designs and is more vulnerable to a catastrophic, early containment failure that would release radioactive material to the environment.

* The use of irradiated MOX will still contain plutonium even after "burning" which will remain stored on-site and may never exit South Carolina.

Regarding today's proceedings, the South Carolina Chapter of the Sierra Club unanimously opposes the shipment of plutonium by DOE to South Carolina's Savannah River Site for fabrication as MOX and the shipment, use and storage of MOX fuel at the Catawba Nuclear Station.

Furthermore, in that the application for license renewal under scoping review today does not indicate that the Catawba Nuclear Station will utilize MOX as part of its fuel component, the South Carolina Sierra Club views this application as incomplete and seriously flawed. The Club recommends that NRC immediately instructs Duke Energy to withdraw its application and that the process be terminated.

Sincerely,

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Rock Hill, SC 29730
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Sierra Club South Carolina Chapter
SCSC Resolution 01-05

Plutonium Disposition As Mixed Oxide (MOX) Reactor Fuel

1. Whereas, in pursuit of the laudable goal of permanently removing plutonium from nuclear weapons, thereby reducing the threat posed by their deliberate or accidental use, the U.S. Department of Energy (DOE) has designated the Savannah River Site (SRS), located near Aiken, South Carolina, Duke Power's Catawba Nuclear Station near Rock Hill, South Carolina, and McGuire Station near Charlotte, North Carolina, for disposition of plutonium deemed excess to national security needs; and,
2. Whereas, the DOE has committed for more than five years to a dual-track approach to plutonium disposition in which surplus plutonium either is manufactured into mixed oxide (MOX) fuel to be used in a commercial nuclear power reactor or immobilized by conversion into a ceramic form for disposition with vitrified high-level radioactive waste already being produced at the SRS; and,
3. Whereas, under this dual-track approach, the SRS would undertake activities including the transport, receipt, storage, and processing of surplus plutonium to make MOX fuel and to immobilize plutonium, and the Catawba and McGuire reactors would receive MOX fuel from the SRS, use the fuel to operate, and then store the resultant spent nuclear fuel; and,
4. Whereas, throughout the 1990s the SRS stored approximately 2 metric tonnes (MT) of plutonium, and the plutonium disposition program would increase that amount to between 34 and 50 MT, and the disposition program would process and transport over 25 MT of that plutonium from the SRS to the Catawba and McGuire reactors, which have no experience storing or handling such high-plutonium-content fuel; and,
5. Whereas, the DOE has committed to the people of Colorado that it will close the Rocky Flats nuclear weapons facility near Denver by 2006, and to do so, DOE intends to ship approximately 7 to 10 MT of plutonium in various forms to the SRS over the next two to three years as part of the total coming to the SRS from all sources; and,
6. Whereas, the DOE has failed to provide an adequate, safe, long-term plutonium storage capability at the SRS and has effectively terminated work on the plutonium immobilization program by canceling funding for needed facilities and reducing the budget for the immobilization track to termination levels; and,
7. Whereas, South Carolina Governor Jim Hodges has opposed any shipments of plutonium to the SRS in the absence of a firm and legally enforceable "exit strategy" including a restored commitment to resuming and fully funding the terminated immobilization program; and,
8. Whereas, the South Carolina Chapter of the Sierra Club has previously expressed its support for Governor Hodges' call for the restoration of funding for plutonium immobilization and his opposition to the shipment of additional plutonium to the SRS without a safe, clear, and legally enforceable exit strategy; and,
9. Whereas, plutonium is a radioactive material which poses an extraordinary hazard to human health and the environment, and which has a half life of 24,000 years, requiring safe and secure storage essentially forever; and,
10. Whereas, plutonium is a key component of nuclear weapons and also can be a deadly component of a radiation-dispersal weapon; consequently, plutonium is an attractive object for theft by terrorists and rogue governments and as such poses a critical security risk at all vulnerable points in transport and handling; and,

11. Whereas, the manufacture of MOX fuel poses significant environmental, public health, and safety risks not posed by immobilization; and,

12. Whereas, the use of MOX fuel instead of traditional uranium fuel in the Catawba and McGuire nuclear reactors, located in the metropolitan Charlotte area, could increase greatly the number of cancer deaths in a severe core-melt accident due to the presence of greater quantities of highly radiotoxic elements, and because use of MOX fuels in these reactors, for which they were not designed, may pose additional and yet-unknown operating risks; and,

13. Whereas, the Catawba and McGuire nuclear plants represent four of only nine U.S. reactors with thin-walled, so-called "ice-condensor" concrete containments that the Nuclear Regulatory Commission estimates are significantly more vulnerable to a catastrophic early containment failure that would release radioactive material to the environment; and,

14. Whereas, like other nuclear plants, the Catawba and McGuire reactors are vulnerable to the now-plausible direct hit by a modern jumbo jet traveling at high speed, which could unleash a catastrophic chain of events including destruction of the plant's cooling system, melting of the reactor core, a hydrogen explosion, and the release of the MOX core's inventory of radiotoxic materials to the atmosphere; and,

15. Whereas, after use as fuel in the Catawba and McGuire reactors, the irradiated MOX fuel assemblies will still contain plutonium even after "burning," which must remain stored on-site and actively managed in storage facilities including the spent fuel storage pools, and will not exit South and North Carolina for many years, if ever, until a permanent high-level nuclear waste storage facility becomes operational; and,

16. Whereas, by contrast, immobilizing plutonium in a ceramic matrix with existing nuclear waste at SRS is: less expensive than MOX disposition; requires less handling than MOX, thus reducing the risk of accident or theft as is so critical during this time of national emergency; reduces liquid radioactive waste generation; provides a shorter and easier step to provide an irradiation barrier, creating a plutonium form that is less attractive for weapons than MOX fuel; requires less transportation; and involves no use of commercial nuclear reactors for irradiation and storage:

NOW, THEREFORE BE IT RESOLVED, by the South Carolina Chapter of the Sierra Club that

- We oppose the shipment of plutonium by DOE to South Carolina without a firm, legally enforceable "exit strategy;"
- We oppose the shipment of plutonium by DOE to any site without safe, secure long-term storage facilities;
- We oppose short-cutting a fair, open, and credible scientific and public process for determining how best to manage radioactive wastes;
- We oppose the shipment of plutonium by DOE to South Carolina for fabrication as MOX fuel at the Savannah River Site and the use and storage of MOX fuel at the Catawba and McGuire nuclear plants; and,
- We support timely and full funding and continued development of the plutonium immobilization program as the best alternative for the disposition of all weapons grade plutonium shipped to South Carolina.

*Recommended unanimously by the Nuclear Affairs Subcommittee on 7 October 2001
to the Executive Committee on 20 October 2001*

_____, 20 October 2001; Vote: _____, Aye, _____, No, _____, Abstain