

U.S. Nuclear Regulatory Commission
Docketing Section
Washington, D. C. 20555
October 24, 2000

**Request for Hearing /
Petition for Leave to Intervene**

Turkey Point Nuclear Units 3 and 4

**Docket Nos. 50-250
50-251**

I am petitioning the Nuclear Regulatory Commission (NRC) for hearings and/or leave to intervene concerning the license renewal application for Turkey Point Nuclear Units 3 and 4, as posted in the Federal Register September 26, 2000. The convening of an Atomic Safety and Licensing Board is requested to decide whether the licensee and the NRC are proposing operations detrimental to the health and safety of the public by considering, for approval, license renewal.

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I am a resident and homeowner in Miami-Dade County. My home is located approximately 15 miles from Turkey Point. I request to be placed on the service list for all correspondence related to license renewal for Turkey Point Units 3 and 4.


Mark P. Oncavage

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Contention No. 1. The aquatic resources of Biscayne National Park will become contaminated with radioactive material, endangering the health and safety of the members of the public who consume aquatic food products originating in the waters of Biscayne National Park.

Around Biscayne Bay and in Biscayne National Park, water flows from the higher land down gradient to the bay. Radioactive spills on the Turkey Point site, intentional or unintentional, will migrate to the waters of Biscayne Bay. The bay is a shallow lagoon with sluggish tidal exchange and contaminants can be biologically concentrated in aquatic lifeforms under these conditions.

Additionally, the unlined cooling canals serve as a low level liquid radioactive waste dump for Turkey Point operations. Although the cooling canals are plugged at the surface from the bay waters, the underlying limestone allows water to pass between the two bodies. This is evidenced by the tidal movement of the cooling canals which parallels the tidal movement of Biscayne Bay. With the high costs and the uncertain future availability of solid low level radioactive dump sites, it is of concern that the licensee will find numerous ways of reducing the volume of radioactive solid waste and increasing the amount of radioactive liquid waste which would be dumped into the cooling canals. Resins, solvents, and wash water containing radioactivity at much higher levels than in the past are likely during the license renewal period. This would place the members of the public who consume fish, lobsters, crabs, shrimp, shellfish, squid, anemones, seaweed, and other aquatic products from the waters, adjacent to Turkey Point, at an unacceptable health risk.

Contention No. 2. The location of Turkey Point poses unusual and severe challenges to the integrity of dry cask storage of high level radioactive spent fuel. At the end of the original license there may be 40 years of spent fuel, per unit, on site. At the end of the license renewal period there may be 60 years of spent fuel, per unit, on site for a total of 120 years of spent fuel on site.

First, the area of Turkey Point is famous for hurricane strikes. Andrew, only a category 4 hurricane, demolished Homestead AFB, located near Turkey Point, so badly, it never reopened. There is deep concern for the integrity of dry cask storage if another hurricane, like Andrew, were to hit full force. Even worse, a category 5 hurricane bringing "catastrophic damage" could make landfall at Turkey Point. Each cask would have to be able to endure hours of bashing among the rocks, buildings, and cooling canal berms without rupturing.

Second, the dry casks could be subject to the effects of an aircraft crash. The Miami-Dade county government is seeking to develop a commercial, international airport at the former Homestead AFB, only 4.9 miles from Turkey Point. Each cask would have to be able to endure a high speed impact, explosion, shearing, fuel spillage, and fire without rupturing. The NRC staff produced a "Safety Assessment," June 20, 2000, concerning plant operations with the development of the airport. The approval in the assessment was based on incomplete data and faulty methodology.

Third, the dry casks would be an inviting target for a missile attack from Cuban Migs. Cuba, a belligerent nation, has a history of using their Migs to shoot down American based airplanes. In the waning days of the Castro regime or an unstable regime trying to replace Castro, an armed attack on Turkey Point must be taken as a serious threat. There is scant hope that dry cask spent fuel storage would survive a high explosive missile attack.

The result of each of the three possibilities would likely leave Biscayne Bay and Biscayne National Park dangerously and hopelessly contaminated. Dry cask storage of high level radioactive spent fuel must never be licensed at the Turkey Point site.

Contention No. 3. The sole source of drinking water for all of Miami-Dade County is the Biscayne Aquifer. The entire human existence of Miami-Dade County relies on this source. It is a surface water filled rock formation. It is porous and permeable. The aquifer's health is subject to surface contamination.

The NRC possesses a study (NUREG/CR-6451) which describes the risk of a catastrophic accident and fire at a spent fuel pool for a shut down commercial reactor. Variations of the configuration of the spent fuel pools can produce a generic risk of permanent contamination of land up to 2,000 square miles. If this catastrophic accident were to occur at Turkey Point and contaminate the aquifer, the entire county would have to be immediately and permanently abandoned.

The study appears to be based on the spent fuel inventory of a single unit after 40 years, having the hot core recently off-loaded. The licensee is seeking renewal for 2 units which could bring the spent fuel inventory at Turkey Point to 120 years.

Initiating events for a catastrophic accident range from the mundane to the unusual; equipment failure, worker error, freak accident, hurricane, aircrash, and Cuban Mig missile attack. An initiating event could also be from a cause that has never been foreseen. The risk to the health and safety of the public is unacceptably high. The application for license renewal needs to be denied.

Contention No. 4. The radioactive airborne emissions from Turkey Point put at risk the health and safety of the public, especially the people working at Biscayne National Park and Homestead Air Force Reserve Base. Also at risk from airborne emissions are the consumers of winter vegetable and fruit crops grown in the farming regions of Miami-Dade County.

Turkey Point has a history of high radioactive airborne emissions, most likely due to the rapid degradation of the original steam generator tubes. The licensee and the NRC appear to be having difficulty controlling tube degradation. In addition to tubes leaking airborne radioactive effluent to the human environment, there is also the probability of burst tubes creating a more severe radiological accident for the local population and consumers of the winter vegetable and fruit crops.

The license renewal is for 20 years and there are many years of operation before the renewal period starts. The probability and the consequences of radioactive airborne emissions and continuing steam generator tube degradation unduly puts the health and safety of the public at a high risk.

Contention No. 5. The license renewal period of 20 years per unit added to the original license puts nuclear workers at a higher risk of contracting fatal/nonfatal cancers than did the original license. The plant workers, especially those assigned to work inside the steam generator channel head will be working in increasingly more intense radiation fields just to perform the same operations of eddy current testing, circular probe testing, and tube plugging. The more intense radiation fields will either increase individual dosage, or increase collective group dosage, or both.

The steam generator replacement at Surry units 1 and 2 (VEPCO) helped the nuclear workers by installing a new channel head. The licensee apparently rejected the pipe cut method used at Surry for the channel head cut method used at Turkey Point. This kept the contaminated channel head, which is part of the reactor coolant system, as a work site for tube testing and plugging. There needs to be a survey of current radiation fields inside the channel head as well as a projection of radiation fields for the end of the original license and a projection of radiation fields for the end of the license renewal period for each unit.

It is likely that during the license renewal period, the increasing radiation fields of the channel head become so toxic that worker exposures have to be scaled back and that tube testing and plugging operations become compromised. This could result in increased public exposure to airborne radioactive effluents.

Contention No. 6. The Florida Keys is a populated archipelago connected by U. S. Highway 1. There is a bottleneck where U. S. Highway 1 and Card Sound Road converge in Florida City. These two roads are the only roads connecting the Florida Keys to the mainland and they converge very close to Turkey Point. In the event of a core melt with severe radiological consequences, the closeness of these roads to Turkey Point would make safe evacuation from the Keys to the mainland, impossible. The Keys resident and tourist population may flee to the cul-de-sac of Key West and then hope that the wind never blows from the Turkey Point direction.

The increased probability of this situation comes from the ever decreasing ductility of the reactor beltline welds at Turkey Point. The reactor vessels at Turkey Point were defectively manufactured with beltline welds containing copper and nickel. The years of neutron bombardment have steadily decreased the ability of the weld material to withstand a pressurized thermal shock event without cracking.

The license renewal period is fraught with the ever increasing danger that a pressurized thermal shock incident will result in a core melt accident with severe radiological consequences. This hits the thousands of residents and tourists of the Florida Keys the hardest since there is no evacuation route to safety. For the probability and consequences of this situation, the license renewal application needs to be denied.

Contention No. 7. The NRC is mandated to write a Supplemental Environmental Impact Statement (SEIS) which studies the costs, benefits, risks, and consequences to the human environment. This mandate has not been adequately satisfied.

The Code of Federal Regulations mandates that probabilities and consequences be analyzed and explained. This mandate has not been adequately satisfied.

This petition discusses:

1. The consequences of contaminating Biscayne Bay and Biscayne National Park,
2. The probability of contaminants from Turkey Point migrating into Biscayne Bay,
3. The consequences of problems associated with radioactive solid waste dumps,
4. The unusual risks of dry cask storage at Turkey Point,
5. The consequences of high level radioactive contamination from Turkey Point,
6. The consequences of contaminating the Biscayne Aquifer,
7. The probabilities of a catastrophic accident and fire at the spent fuel pools,
8. The consequences of radioactive airborne emissions on public health,
9. The probability of continued steam generator tube degradation,
10. The consequences of personnel working in locations with increasing radiation,
11. The consequences of residents and tourists in the Florida Keys unable to evacuate to safety,
12. The probability of a core melt accident due to the increasing loss of ductility in the beltline welds of the reactor vessels.

The Supplemental Environmental Impact Statement needs to study all the health and safety issues discussed in this petition.


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