Double-Teamed: New York Battles the Feds And Entergy to Close Indian Point Nuclear Plant

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By Roger Witherspoon

William Holston was obviously exasperated.

For nearly two hours he had fielded the brunt of increasingly detailed queries from the three Administrative Law Judges, on the adequacy of a deliberately vague set of guidelines to oversee the operations of the Indian Point nuclear power plants for the next 20 years. And though Entergy had four of its own experts on the extended witness stand, most of the judges' queries were directed at the chief examiner for the US Nuclear Regulatory Commission.

The hearing in Tarrytown was focused on the Aging Management Plan (AMP) put forth by Entergy Nuclear, owner of the twin reactors on the Hudson River, which is intended to document how the company will ensure its 16,000 feet of buried pipes will be safe if the Indian Point operating licenses are extended 20 years by the Nuclear Regulatory

Commission. Entergy insisted they would be able to detect corrosion and leaks if they occurred anywhere in the more than three miles of pipes – many carrying radioactive liquids – even though some of it was locked in concrete underneath the foundations of permanent buildings.

It was complicated by the fact that when Entergy applied for a license extension in 2007, the company asserted there were no buried pipes subject to aging management review because they did not carry radioactive liquids. But a leak of thousands of gallons of water containing radioactive material in 2009 proved them wrong.

As a result, the New York Attorney General contended that, for all intents and purposes, "Entergy's AMP for buried pipes contains virtually no enforceable provisions or specific commitments. Any specific details Entergy has offered have come in the form of documents which will not become part of the license and are unenforceable."

"I'm looking for specificity in the planning," said Chief Judge Lawrence McDade. "There is inadequate information from an engineering standpoint about what they are going to inspect, how they are going to inspect, and where they are going to inspect.

"Is there any document that would show that level of specificity aside from general guidance that they will inspect selected piping once every 10 years?"

"Those procedures will be determined by what they find," said the NRC's Holston. "This plant is going to have 30 inspections over the 20 year period, and if they find corrosion they will do another 12 at selected sites. We could ask them to commit to spreading them out over time, but that is not necessary."

"Why not," asked the chief judge. "Shouldn't they have guidance as to how they will go about examining them? Something that says it will be done at five month intervals, 10 month intervals, or some sort of guidance? Shouldn't that part of the documentation that can be checked for compliance?"

"That's not needed," said Holston, a towering, six-foot, five-inch marathon runner who still has his Merchant Marine, ramrod erect bearing. "I have 30 years' inspection experience. I'm pretty comfortable with what Entergy provided me. At a minimum, inspections cost $100,000, and no plant is going to wait till the last minute, and put $4.2 million into one years' worth of inspections.

"We could specify that since you are doing 30, make sure X amount are done in two year intervals. But that isn't necessary."

McDade, who had been leaning forward on the judge's dais, sat back, paused thoughtfully, and said "Entergy has a big investment and they want it to work well. If they are going to do an inspection, they want it to be meaningful. But in viewing whether or not their plans are adequate, how can we do that without knowing what it is they are going to do?"

That exchange provided a microcosm of the nation's longest running, most complicated battle of efforts to extend the life of nuclear power plants. So far, the NRC has issued 20 year license extensions to 71 of the nation's 104 nuclear power plants. The four in neighboring New Jersey – Salem 1&2, Hope and Oyster Creek – were each relicensed in just two years. The difference, however, is that in New York, the state itself is challenging the new licenses.

But the hearings have made clear that the environmental unit of Attorney General Schneiderman's office is not just going up against Entergy: they are also openly fighting against the staff of the nation's nuclear regulatory agency, which has recommended renewing their 40-year operating licenses for another two decades. The license for Indian Point 2 expires at the end of 2013, and the license for Indian Point 3 expires two years later.

The license extensions have been challenged by New York, and the environmental groups Clearwater and Riverkeeper. New York's challenges, or contentions, are backed up by Connecticut Attorney General Robert Snook, whose office is also represented at the legal proceedings.

Collectively, the contentions challenge different aspects of Entergy's plans for ensuring the safe operation of the twin nuclear reactors over the next 20 years and the maintenance of the spent fuel pool for decades after the plants finally retire. Under current NRC rules, the highly radioactive fuel rods could sit at the plant site for a century after the plants shut down, whether or not Entergy, as a company, is still in existence and capable of taking care of them.

The key hurdle for the opponents is the conviction of the professional staff at the NRC that the plants can be safely operated for another 20 years and the licenses should be granted. The final decision is up to the five appointed members of the Commission itself. But the

staff has enormous authority within the agency.

Earlier this year, for example, the staff of the Office of New Reactors, headed by Michael Johnson, recommended approval of the construction and operating license for the new AP-1000 reactor at the Vogtle plant site in Georgia. It is the first new nuclear power plants constructed in a generation and culminated more than six years of analysis in which the staff rejected more than 20 safety systems and innovations in the new reactor as unworkable.

Since it could take a decade for the plant to be built and begin operating, then NRC Chairman Greg Jaczko wanted the license to have "binding obligations that these plants will have implemented the lessons learned from the Fukushima accident before they operate."

The Chairman directed the staff in February to prepare language for the full Commission to consider reflecting that condition. Johnson refused on the grounds that it cast aspersions on the hard, detailed work the staff had done over the preceding six years, and the ability of the staff to monitor any new developments and incorporate them in the inspection process.

Jaczko resigned shortly after the unprecedented rejection by his staff, and Johnson was promoted to Deputy Director of the entire agency, a move roundly criticized by many nuclear watchdog groups.

"People who think that Johnson and the other professionals are in the pocket of the industry are mistaken," said David Lochbaum, of the Union of Concerned Scientists. "These are professionals with a Navy background who are confident in their ability and used to putting a lot of trust in their various systems.

"They are not the type who can be pushed around by industry. Their views, however, often

coincide."

Indeed, Johnson, his boss, Director William Borchardt, and Victor McCree, head of Region 2 which includes all southern reactors and oversight of all new reactor construction, came out of the nuclear program at the Naval Academy. It is that military mindset and professionalism at the civilian regulatory agency which most confounds opponents of Indian Point.

"I have become increasingly aware of this alignment between what should be an oversight agency and the nuclear industry they regulate," said Manna Jo Greene, environmental director of Clearwater.

"It's disappointing to see New York State having to protect the well-being of its citizens from a federal agency whose job it should be to primarily protect the public. It is so extreme that there have been times during the pre-trial hearings when it seemed that Entergy was being more reasonable and generous and amenable to negotiations than the NRC staff. . There were things that we requested or Riverkeeper requested, or New York State requested, motions that were filed, that the NRC was more in opposition to than Entergy."

The allied views of the NRC staff and Entergy will face their stiffest test beginning today when hearings resume in Tarrytown. New York, led by Assistant Attorney General John Sipos, is challenging the proposed exclusion of transformers from the purview of the Aging Management Program. It is the most contentious issue of 12 being reviewed by the judicial panel, and the one with the most far reaching implications.

Transformers are huge pieces of equipment which change the voltage of electricity and, according to the state's brief, "are intended to function passively, just as electric cables and water-carrying pipes do."

There are four to 12 transformers at a nuclear power plant, some increasing the voltage and others decreasing the voltage. Not all are involved in powering safety-related systems. The State contends "they have the critically important function of providing power to equipment that is necessary for accident prevention, accident management, and accident mitigation at

nuclear power plants."

But precisely because they are passive, it is extremely difficult to know when their components are wearing out. There are no "leaks" of electricity, as if they were pipes, and they transmit all the electricity they are supposed to transmit until something breaks. At that point, they don't transmit anything.

It is the state's contention "that failure to effectively manage the aging of electrical transformers could compromise the integrity of the reactor coolant pressure boundary, the capability to shut down the reactor and maintain a safe shutdown condition, or the capability to prevent or mitigate the consequences of accidents."

Because these are passive systems, it is difficult to predict when they will fail. NRC records show that there have been 88 transformer failures at nuclear power plants since 1983. There have been 18 transformer failures in the past five years, including explosive failures at Indian Point 2 and 3.

During Superstorm Sandy, a transformer blew up at Entergy's FitzPatrick nuclear power plant upstate New York and oil spreading into various conduits proved too difficult for the plant's resident fire brigade to handle. The local fire department had to be called in to extinguish the blazes.

Still, it is the position of both Entergy and the NRC staff that there is no need for an Aging Management Plan for transformers. If they break, that can be dealt with at that time. Both the NRC staff and Entergy opposed the inclusion of the transformer issue in the formal ASLB hearings. But the judges ruled that "neither Entergy nor Staff provided any legally binding justification to exclude transformers from an aging management review."

Now, however, Entergy and the NRC staff are seeking to reclassify transformers – which have no moving parts – as "active" pieces of equipment because the electricity changes voltage as it goes through it.

That is a novel definition of an "active" piece of equipment.

New York, in its brief, contends "if Staff and Entergy's interpretation carried the day, pipes, containment domes, electrical cables … to name only a few, would be considered active systems because things inside them change…

"…the electric current is no more a part of the transformer than is the water in a hose a part of the hose, or the water in a steam generator a part of the steam generator, or the electricity

flowing in a cable part of the cable."

If the three judge panel ultimately agrees with the NRC staff and Entergy, much of the Indian Point infrastructure – from its three miles of inaccessible, underground pipes to the reactor dome itself – could be exempt from a mandatory oversight program.