

VSNAP 9-10-12
Received from
Howard
Shaffer

VERMONT STATE NUCLEAR ADVISORY PANEL

Public Meeting September 10, 2012

Submission for the Panel

Re: Emergency Plans – Evacuation

Time Line –Fukushima Daiichi Unit 1 Accident

3-11-11 15:35 Second Tsunami Wave hits –all AC power lost

21:23 Prime Minister orders 3km evacuation

3-12-11 5:15 Site radiation level rising (due to leaks? Venting tried later)

Conclusion: In this real and tragic Meltdown case, there were 12 hours until radioactivity was escaping from the plant. In a US plant we would expect a Precautionary Evacuation of a downwind sector to be ordered by the Governor sooner than it was in Japan.

Re: September 11 Hearing in Chattanooga, TN on Mixed Oxide Fuel (MOX)\

Mixed Oxides are Uranium and Plutonium

Vermont Yankee and all reactors with similar fuel, already have MOX in them. They make it as they go-the breeding process. New fuel is Uranium oxide only.

The immediate purpose of using mixed oxides in new fuel is to Dispose of surplus warhead material-plutonium 239,

The US has already disposed of many tons of surplus Soviet uranium in reactor fuel, beginning in the 1990's.

Attachments:

News Article: One million Shad return to the Connecticut River.

Hartford Courant June 11, 2012

Prior Testimony submitted by email: Operator Errors and Plant Design

December 14, 2011 meeting.

Howard Shaffer PE

Record Year For Shad In Connecticut

1 Million Return To State To Spawn

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June 11, 2012|By ERIK HESSELBERG, Special to The Courant, The Hartford Courant

It's been a banner year for American shad – Connecticut's state fish. Based on counts at the Holyoke dam on the Connecticut River, where migratory fish are tallied, state fisheries biologists estimate that nearly 1 million shad returned to the river this spring to spawn – making it the largest shad run in 20 years.

"You have to go back to 1992 to find a shad run this strong," said David G. Simpson, director of marine fisheries for the state Department of Energy and Environmental Protection. "This is great news." Simpson said the river estimate is based on a count of 480,254 shad lifted over the Holyoke dam as of Monday. Biologists typically double the Holyoke count to arrive at a total estimate of returning shad, because schools of fish are known to spawn well below the dam, such as in quiet stretches of the river in Rocky Hill and Glastonbury. The Holyoke dam, located 86 miles north from the river's mouth at Old Saybrook on Long Island Sound, is the first major barrier for shad returning to the waters of their birth to spawn.

Biologist Ken Sprankle, who is conducting a radio tracking study of shad in Connecticut River for the U.S. Fish and Wildlife Service, confirmed the good news. He said while last year his team struggled to catch 10 fish per drift, this spring they pulled in 50 fish with each haul of the net. "There is no question this was a relatively large return year for shad," Sprankle said in an e-mail Monday.

American shad, the largest of the herring family, spend most of their lives in the open ocean, returning each spring to spawn in New England coastal rivers. Connecticut River shad, nearly two feet long and weighing four or five pounds, are considered a delicacy, especially the female roe, which still fetch high prices in New York and Boston seafood markets. Up until 30 years ago, scores of boats went out at night on the lower river to lay drift nets across the channel for shad. The season runs from April to mid-June. But more and more fishermen gave up this seasonal business as shad stocks dwindled to all-time lows. From a high of 700,000 fish in 1992, the shad count at Holyoke had plummeted to 116,000 fish by 2005, remaining more or less flat for the last five years.

Meanwhile, counts of river herring – alewife and blueback – have also declined sharply, prompting biologists to consider placing the fish on the endangered species list.

Simpson said declining shad and river herring populations have been linked to surging striped bass numbers – the big stripers prey on the smaller fish – as well as schools of shad being inadvertently scooped up at sea by factory ships targeting Atlantic herring, the so-called "intercept fishery."

Simpson said alewife returns are also way up this spring, with record runs on a number of state rivers. Unfortunately, blueback herring populations have not shown similar gains, Simpson said.

Simpson said biologists so far are at a loss to explain this year's strong shad showing. "We haven't seen this kind of abundance in years," he said. "It's very encouraging."

END Copied from the Internet by H Shaffer. Format edited. 9-8-12

From: Howard Shaffer
To: Sarah Hofmann
Sent: Wednesday, December 14, 2011 12:46 PM
Subject: Two recent Operator Errors at Vermont Yankee - VSNAP Testimony

Sarah,

I can not attend the meeting tonight. Please submit this to the Panel, as you did before.

Thank you.

To: Vermont State Nuclear Advisory Panel

From: Howard Shaffer PE (nuclear) Vermont, NH, MA, IL
Startup Engineer and Support Engineer for Vermont Yankee

The two personnel errors at VY open the discussion to consideration of the initial design of the whole nuclear power program, and all our technologies.

In all my Navy Nuclear power and submarine training it was emphasized that the greatest care is required. You must communicate and double check before taking action. Yet it is acknowledged, and proven by experience, that people make mistakes. Therefore, designs must include backups and consideration of "what ifs."

Nuclear Power Plant Design

In nuclear reactor plant design, of all types, it seems to have been considered that there will be failures of hardware, and people. People include Operators, Managers, and Regulators. In addition, it was believed that in spite of all design, training, and precautions, some day, somewhere, a reactor core would be damaged and melt. The radioactive products were assumed to get out of the vessel and piping. Therefore, a backup was needed. It is the Containment. I call it the "garbage can over the tea kettle." It worked at Three Mile Island. At Fukushima the Containments worked for a while, until the lack of cooling for the fuel caused melting and releases. It has been forgotten by the media that the Japanese government ordered an

12/14/2011

evacuation on the first day of the event, long before releases began.

We, the world nuclear power community, have organizations to communicate lessons learned, in addition to the regulatory agencies. These organizations are the Institute for Nuclear Power Operations in the US, and the World Association of Nuclear Operators. Airplane regulators communicate world wide too.

Human Interaction

Comparing nuclear power to perfection is a political ploy. What in human endeavor is perfect? Try comparing airplanes and cars to perfection. The certainty of error is no excuse. Every accident is investigated and lessons learned incorporated. This is true of the flooding after hurricane Irene, the fire in downtown Brattleboro, house fires, plane and train crashes, car accidents, and nuclear power plant accidents and errors. If you are against something politically, compare it to perfection, and demand zero errors.

In my Navy nuclear power training, I had to read the book containing reports of all the errors that had happened to date. By then, 1963, the book was thick. As years went by, the book got too thick to manage. Errors were being repeated. The book was replaced with a manageable volume of the "classic errors." Why were errors repeated? Errors are repeated in spite of all efforts, because people are human. There are always new people, people changing jobs, rules changes, design changes, and time and other pressures.

NRC licensees are required to have a formal program to document, report, investigate, learn from, and take corrective action on, Human Errors. It is always appropriate to ask if any events constitute a pattern.

Conclusion

The nuclear power program, and Vermont Yankee, should be compared to the available alternatives. On this basis, using the measures the EPA uses: deaths, injuries, accidents, and environmental degradation, it appears that in the 1950's Congress made a very wise decision in choosing nuclear power as a replacement for coal.

Footnote

In a recent press release on the Cross Border Air Pollution Regulations, the EPA stated that:

Pollution from Coal Burning is responsible EVERY YEAR for

- 34,000 early deaths due to asthma
- \$280 billion in health costs
- 15,000 non fatal heart attacks
- 19,000 acute bronchitis cases
- 400,000 cases of aggravated asthma
- 1.8 million sick days

