

# **CONNECTICUT COALITION AGAINST MILLSTONE**

[www.mothballmillstone.org](http://www.mothballmillstone.org)

March 2, 2005

Chief  
Rules and Directives Branch  
Division of Administrative Services  
Office of Administration  
Mailstop T-6D59  
U.S. Nuclear Regulatory Commission  
Washington DC 20555-0001

Re: Millstone Nuclear Power Station/Draft Environmental Impact Statement

Dear Sirs:

The Connecticut Coalition Against Millstone submits herewith preliminary comments concerning the draft Environmental Impact Statement (EIS) which the NRC staff has prepared in support of relicensing of Millstone nuclear reactors Units 2 and 3 to extend their terms to the years 2035 and 2045 respectively. These comments will be supplemented with a separate filing with attachments.

The Coalition strongly opposes Millstone relicensing.

The data available to the U.S. Nuclear Regulatory Commission in its environmental review establishes a clear link between Millstone's radiological and chemical discharges to the environment and **major health effects** in the surrounding community.

The data reviewed by the NRC is alarming.

The data strongly suggests – and indeed does so almost to a certainty – that Dominion Nuclear Connecticut, Inc. is operating and will continue to operate the Millstone Nuclear Power Station in violation of NRC regulations requiring limiting doses to the public of 15 millirems per year to any organ.

Put another way, the data strongly suggests that Dominion's Millstone daily operations exceed the permissible dose of radiation to the public and will continue to do so during the proposed relicensing period.

Based on Dominion's own reporting of radiation sampling in the environment, the Coalition believes the available data reviewed by the NRC for the years 2001, 2002 and 2003 prove that routine operations of Millstone are in violation of federal health standards and are illegal.

By its own admission, the NRC confined its review of Millstone radiological releases, for Environmental Impact Statement purposes, to the years 2001, 2002 and 2003. ("Radioactive Waste Management Systems and Effluent Control Systems 2.1.4," DEIS at 2-9) (No explanation is provided in the DEIS as to why the years 1970-2000 and the year 2004 – with the most current data – were excluded from review.)

The Annual Radiological Environmental Operating Report submitted by Dominion Nuclear Connecticut, Inc. to the NRC for the year 2001 – one of the few reports the NRC specifically identified that it had reviewed in its EIS procedure - contains the following information:

On September 19, 2001, a concentration of strontium-90 of 55.5 picoCuries per liter (pCi/l) was measured in a sample of goat milk taken from a location 5.5 miles north-northeast of the Millstone Nuclear Power Station. The uncertainty factor reported was plus or minus 5.3 pCi/L.

A concentration of 55.5 picoCuries per liter is an "extremely large concentration, close to twice the highest concentration measured in Connecticut pooled milk at the height of nuclear weapons testing in 1963 of 23 pCi/L," according to a report dated March 1, 2005 by Dr. Ernest J. Sternglass, Professor Emeritus of Radiological Physics at the University of Pittsburgh School of Medicine and an acknowledged pioneer in the field of the effects of low-level ionizing radiation on living cells. The report appears annexed hereto as Exhibit A.

Moreover, according to Dr. Sternglass, since the measured value is ten times as large as the measurement uncertainty, "this is an extremely significant result, with an astronomically small chance that it is a statistical fluctuation."

Put into perspective, an individual drinking two eight-ounce glasses of the strontium-90-contaminated goat milk on a daily basis would receive a maximum permissible dose of radiation – under NRC guidelines – within 30 days.

This assumes no other radiological contamination of the milk. However, strontium-90 never appears alone in the environment. When the radiological effects of identified concentrations of radionuclides also reported in the same goat milk sample - cesium-134, cesium-137, iodine-131, barium-140 and others – are considered, the effect is even more damaging and far less milk would need to be consumed over fewer days before the maximum permissible radiation doses established by federal law would be exceeded, according to Dr. Sternglass.

"The dose to bone or the bone marrow when other fission products are present is some 5 to 6 times greater than from strontium-90 alone, and the Dominion reports for goat milk show significant concentrations of other fission products, such as cesium-137, in significant concentrations," Dr. Sternglass states in his report, Exhibit A.

"Using the NRC NUREG 1.109 dose factor of 0.0172 mrem/pCi/l [millirem] from Table A-5, a mere 2.4 pCi/l daily intake results in the maximum permissible dose to any organ of 15 mrem per year set by NRC guidelines, 23 times the amount measured in a single liter," according to the Sternglass report.

Attached to Dr. Sternglass' report are measurements, reported to the NRC by Dominion, of strontium-90 in goat milk sampled at locations within 5 miles of Millstone during the years 2001, 2002 and 2003.

The reported samples of measurements show concentrations of 13 to 14 pCi/l on other days during the three-year period. According to Dr. Sternglass, these are also significantly high readings since strontium-90, concentrating in milk due to atmospheric nuclear weapons testing which ended in 1980, has declined to less than 1 pCi/l in areas far removed from any nuclear reactors.

Since the samples are collected by Dominion only twice a month, it is unknown whether actual concentrations on other days exceeded the levels reported.

In 1997, Millstone's previous owner, Northeast Utilities, persuaded the NRC to permit it to discontinue sampling for strontium-90 in its air filter monitoring program. As the 1997 Annual Radiological Environmental Operating report states:

Section 4.5 Air Particulate Strontium (Table 5)

Table 5 in past years was used to report the measurement of Sr-89 and Sr-90 in quarterly composited air particulate filters. These measurements are not required by the Radiological Effluent Monitoring Manual (REMM) and have been discontinued. Previous data has shown the lack of detectable station activity in this media. This fact, and the fact that milk samples are a much more sensitive indicator of fission product existence in the environment, prompted the decision for discontinuation. In the event of widespread plant related contamination or special events such as the Chernobyl incident, these measurements may be made.

Strontium-90 is among the most deadly byproducts of nuclear fission. Once ingested, its highly-energetic electrons damage and cause mutations in nearby cells. Exposure to low levels of strontium-90 and other bone-seeking radioactive chemicals routinely released by nuclear power plants does not merely increase the risk of bone cancer or leukemia, but it weakens the immune defenses provided by the white cells of the blood that originate in the bone marrow. See Declaration of Ernest J. Sternglass (August 8, 2004) submitted to the NRC in *In the Matter of Dominion Nuclear Connecticut, Inc.*, Docket No. 50-336-LR, 50-423-LR, ASLBP No. 04-824-01-LR, annexed hereto as Exhibit B.

"As recently shown in the 2003 report by the European Committee on Radiation Risk, numerous epidemiological and laboratory studies have shown that the risk of cancer and other diseases produced by local internal doses to critical organs from fission products that are inhaled or ingested have been underestimated by extrapolation from high external doses by factors of hundreds to thousand of times," according to the Sternglass report, Exhibit A.

"This explains why it now appears that releases from nuclear plants, often acting synergistically with other environmental pollutants, are a major neglected reason for the recent rise of illness and deaths both among newborns and the elderly observed in the U.S. in the last two decades, as also discussed in the ECRR report," according to Dr. Sternglass. Id.

"For these reasons, it is my professional opinion that the Millstone Nuclear Plant should not be relicensed," Dr. Sternglass stated. In his report, Exhibit A.

The Coalition has previously submitted, in these and the related Atomic Safety and Licensing Board proceedings, documentation from Joseph Mangano and Michael Steinberg which links the Millstone radiological effluent releases – including strontium-90 - to significant negative health consequences in the community. These documents are incorporated by reference herein.

**CONNECTICUT COALITION  
AGAINST MILLSTONE**

---

Nancy Burton

Please address correspondence to:  
Nancy Burton  
147 Cross Highway  
Redding Ridge CT 06876  
Tel. 203-938-3952