

Docketing and Service Branch  
Office of the Secretary  
US Nuclear Regulatory Commission  
1717 H St., NW  
Washington, D. C. 20555

DOCKETED  
APR 11 1986

'86 APR 11 A10:58

Re: Docket No. 50-346-ML; ASLBP No. 86-525-01-ML  
(Davis-Besse Radioactive Waste Landfill)

OFFICE OF THE SECRETARY  
DOCKETING & SERVICE  
BRANCH  
SERVED APR 11 1986

I have tried to state my thoughts and concerns in this matter fully enough that I do not want to be a Party unless that is necessary for this letter to be included in the Hearing File. Except for Limited Appearance Statements not being a part of the Hearing File, I would welcome Limited Appearance status. My thoughts, and documents I've cited should be useful to other Parties in the proceeding. A phone call from the Administrative Judge, to clarify my status, would be welcome; my phone number is (216) 357-3137 (work, M-F, 8-5), or 352-1680 any other time.

I, Russell M. Bimber, reside at 10471 Prouty Road, Painesville, Ohio 44077. I am an MS chemist with more than thirty years experience in the chemical industry, including work with ion exchange resins and radioisotope labelled pesticides and their migration with groundwater. As a part time volunteer, I've been trained as a Lake County Radiological Officer for emergency response related to the Perry Nuclear Power Plant.

My interest in this proceeding is that I hope to reduce radioactive pollution of our total environment; air, water, and land, in the public interest, including that of generations yet unborn. More specifically, my home is served by Painesville City water, which comes from Lake Erie. Davis Besse pollutes the Lake. My wife and I, our three children, and our grandchildren consume water containing radioactive waste from Davis Besse. There is a low probability that one of us may die from this. It seems certain that radioactivity in potable water from nuclear power plants around the Great Lakes will be shown to be killing people within a few decades. If I survive, I expect to bear some cost of these deaths, through governmental compensation programs, higher electric bills or insurance costs, or otherwise. I am a CEI residential electric customer, with no other financial interest in any of the CAPCO companies.

Most specifically, I object to the NRC's saying, in the Federal Register, Oct. 9, 1985, on page 41267, "At the time of decommissioning of the nuclear power plant, the land on which the sludge is disposed is capable of being released for unrestricted use." The identities and amounts of radioisotopes to be buried there are speculative, and not subject to determination. Any release of the land should be based on a radiation survey after use as a dump has been ended.

I hope this proceeding will deny the onsite waste disposal permit, and/or rescind the (illegal?) advance approval for release of the

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dumpsite for unrestricted use. If so, I will feel less oppressed by the NRC and CAPCO. Any short term increase in my electric bills will be well worth it. I expect to live longer and save money by not having to compensate others for unnecessary deaths caused by my utility.

Regulation of radioactive materials is constantly changing: the Federal Register for January 9, 1986, page 1119, concerning proposed changes of 10 CFR 20, says the NRC may add about 500 radioisotopes to those it regulates. And NRC News Release No. 86-27 (3/14/86) renewed the NRC's request for the EPA to take the lead in developing federal guidelines for the unrestricted use of land, etc having residual radioactive contamination. At the time of any possible release of the dump site for unrestricted (or less restricted) use, three decades or so in the future, current regulations should be met. It may be advisable to impose deed restrictions to preclude the dump site being excavated or used for residential purposes unless first surveyed for residual radiation and cleared by appropriate health authorities.

Assuming Toledo Edison's estimate of the radioisotopes in the waste may be correct, the annual radiation dose to a person who might stand on the waste was significantly underestimated by assuming only 100 hours exposure per year. Unrestricted use might involve full time exposures of 8766 hours a year.

The radiation dose was also underestimated by considering only the radioactivity in the top 10 cm of the waste. The waste is to have a minimum thickness of 2 feet according to the Federal Register notice dated 10/9/85, or a minimum thickness of 2 to 5 feet, according to page 3 of Attachment 1 to Toledo Edison's letter of July 30, 1984. Radioactivity from a greater thickness should be considered for at least three reasons:

1. All the radioisotopes in Table I, page 41266 emit highly penetrating gamma radiation.
2. Ion exchange and groundwater movement may tend to concentrate radioisotopes on the surface.
3. The maximum thickness of the relocated waste is not on record.

The second reason may require further explanation. Soluble materials in the surrounding soil and in groundwater moving through the area would be expected to displace radioisotopes from the dredgings by ion exchange. For example, soluble potassium in any fertilizer used to help establish turf in the seeded soil covering (or in groundwater runoff from nearby farmland, etc) would be expected to displace cesium radioisotopes from the dredgings. The resulting soluble cesium would leach from the dredgings and move from its original location, in the direction of groundwater movement. Movement toward the lake would be expected to predominate. But in dry periods, evaporation could draw groundwater from the marshy subsoil and concentrate radioisotopes on the surface. I would expect that radioisotopes from the top 100 cm (3 1/4 feet) might become concentrated on the surface.

Toledo Edison's 7/14/83 letter consists essentially of a Report from a Consultant of questionable competence. The Report does not say whether he visited Davis Besse, or whether he is qualified by education or experience to discuss such topics as wind or water erosion, ground water tables, the chemistry of ion exchange resins, or radiation safety.

The Consultant does not appear to be aware of the past history of flooding around Davis Besse, or of the current threat of flooding in the area, as described in the enclosed article from page 13A of the Cleveland Plain Dealer for 4/5/86.

In describing the settling basins, (page 6, third paragraph), the Consultant contradicts himself by saying there are no mechanisms that could release the basin bottoms to the lake or river, and then describing just such a mechanism! Again on page 8, under Environmental Dose Assessment, he contradicts himself in a similar fashion. And on page 9, at the end of the first paragraph discussing Accidental Release, he said, "release offsite is not feasible", then the next two paragraphs discuss ways such a release might actually occur. (Toledo Edison's letter of 7/30/84 rejected any fixed time schedule for covering or otherwise immobilizing the resins, so the possibilities of wind and water dispersal of the radioactive resins should both be considered.)

The consultant does not appear to be aware of the possibility of the radioactive ions migrating away from the resin. Such release of the radioactive ions is probable, before much radioactive decay occurs. (The half-lives involved range from 0.2 year for Co-58 to 30 years for Cs-137.) Migration of a significant fraction of the dissolved radioactive ions with the groundwater flow into Lake Erie is virtually certain.

The consultant's mention, on page 7, of the NRC 10 CFR 20.306 Rule, concerning H-3 and C-14 (both weak beta emitters) seems not pertinent to the regulation of the gamma emitters which are of concern in this case.

Radioactive waste management should not give anyone a whole body exposure exceeding 25 mr/yr, according to the Federal Register for 9/19/85, page 38085, which cites 40 CFR 191.03. The proposed radwaste disposal at Davis-Besse appears likely to exceed this limit, if it is released for unrestricted use before the radioisotopes leach away, and/or decay. I estimate exposures 877 times Toledo Edison's estimate of 0.7 millirem/year (ie, 614 mr/yr). I differ by considering radioactivity in the top 100 cm of the waste (not just 10), and full time, 8766 hr/yr exposure (not just 100 hr/yr). In any event, a radiation survey after the dump is closed, and not premature speculation, should be the basis for deciding whether the land can be released.

The 8.5 millicuries expected to be contained in each 5 year dredging is small, compared to the 5 Curies per year (of similar materials) and 1000 Curies/year of tritium expected to be

released into Lake Erie by Davis-Besse, during normal, planned operation. (See the Final Environmental Statement on Davis-Besse, USAEC, March 1973, page 3-21.) Actual releases in water were well within these expectations, although power generation was only half that expected, through 1981 ; NUREG/CR 2907, vol. 2, June 1984.

A radioassay of samples from the dump, after it is closed, may reveal unexpected radioisotopes, or other unforeseen problems. Such after the fact sampling is absolutely essential to any honest effort to protect the public.

The Final Environmental Statement related to construction of Davis-Besse, USAEC, March 1973, included certain statements which should be binding on the owners of the plant, and which should make this hearing on the waste disposal site unnecessary:

1. Pages 3-24 + 3-26 say all radioactive wastes will be packaged and shipped offsite to a licensed disposal site.
2. Page 8-10, in the first paragraph about Decommissioning, says the licensee will be required to comply with regulations then in effect.

Unless the NRC and the licensees renege on these solemn promises to the public, how can the waste disposal site be permitted, or the prompt release for unrestricted use be promised?

Sincerely,

*Russell M. Bimber*

Russell M. Bimber

encl: Plain Dealer item cited herein

cc: 3-Docketing & Service,

1 each: Helen Hoyt, Administrative Judge,  
Toledo Edison Company, attn Lowell Roe, VP, Facilities,  
Charles A. Barth, NRC Counsel.

page 13A

# Brimful Erie sure to cause flooding

OHIO

TOLEDO (AP) — It was a year ago last week that Lake Erie caused the first major flood here in more than a decade.

This year, with the lake level at a record height, officials say flooding is inevitable this spring.

U.S. Army Corps of Engineers records show that the monthly mean level is 6 inches above the record of 576.7 feet set in March 1973. The lake is about 2.5 feet above average levels for 1900-1985, records show.

Thousands of sandbags are being filled, evacuation plans prepared and emergency shelters readied.

Gov. Richard F. Celeste came north this week to tour the lakeside counties and announced that Lake, Ottawa, Erie, Lucas and Sandusky counties may be eligible for \$785,000 in flood protection assistance.

"My observation is there is a real need for more erosion control than we have the resources available," said State Rep. Dwight Wise Jr., D-85, of Fremont, whose district includes Sandusky County.

Even if enough money were available, changes in the way projects are funded would make it more difficult to pay for them.

The federal government previously paid the entire cost of such projects. Now, state and local governments each must provide 15% of the costs.

"I'm sure that's going to be a difficult thing — to come up with their share of the funding," Wise said.

"Every time the governor goes out, the public suspects politicking, but there is a serious problem there, and the governor and the state of Ohio are trying to address it."

Celeste said four projects in Ottawa County should be resubmitted for study by the Corps of Engineers as possible sites for flood control work. The four were among 25 proposals the corps rejected, saying the costs outweighed the benefits.