

Comments of Intervenors in the Fermi 3 Combined Operating License Application
Presented by

Michael J. Keegan
Don't Waste Michigan
P.O. Box 331
Monroe, MI 48161
To: Fermi3.COLEIS@nrc.gov

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Water Intake and Drinking Water Quality - Inadequate Consideration and Omissions

Independent Audited Radiation Monitors are needed to protect the public from radiation exposure. Additional equipment for detecting other persistent toxic chemical contamination allowed under the Fermi 3 NDPEs permits must be provided to the City of Monroe. Adequate financial resources must be provided to City by DTE to install such equipment.

The monitoring must be established in a transparent manner and capable of audit. DTE must not be contracted, sub-contracted, to operate, maintain, or calibrate the instrumentation. To do so is a direct conflict of interest in protecting Monroe residents and residents from other communities. Financial resources should be provided to the City to higher staff to operate, maintain, and calibrate equipment and then to provide reports for public consumption. The Communities of Toledo, Luna Pier, in Downriver, Amherstburg, and Windsor Ontario must be consulted and provided equipment to protect their water supply as well. This monitoring should be set up with 'Real Time' and remote data access. Radiation Monitor system onto water intake that can be read in real time and by remote access.

Currently DTE is doing the maintenance on the City Water Intake. The calibration is not independent. There can be no appearance of a vested interest in low balling radiation reports.

Independent Methodologies for Radiation Monitoring equipment must be transparent. In 1986 through citizen initiatives, DTE was required to place a radiation monitoring system onto the City water intake, at the City's request. Real time monitoring with independent verification provided in the public domain, with remote reading and observation is needed.

In the DEIS and in the Environmental Report there is a failure to analyze the impact of the addition of decomposing dead aquatic life that would be returned to Lake Erie. The aquatic life is caught on screens, and then returned to the lake. This is the equivalent of fertilizing the water in the lake. No environmental impact has been provided for this addition of nutrients to the lake and the surrounding shoreline. (Please see page 3-11 and ch. 7 Cumulative Impacts DEIS Fermi 3.) This certainly will have negative impact on quality of drinking water. This is an omission of the DEIS and Environmental Report and must be addressed.

The water intake station jointly owned by Monroe City and Frenchtown Township withdraws water from Lake Erie and supplies water to these communities. Fermi 3 is also planning to

receive water for plant potable needs from the Frenchtown Township Water Treatment Plant which receives water from this intake.

The impacts of planned discharges from Fermi 3 on water quality within Lake Erie is discussed in EIS section 5.2.3.1 (beginning on page 5-10). Normal operational discharges are required to be within effluent limits specified by the NPDES permit with MDEQ for Fermi 3. This permit covers CWA Section 316(a) and limits are set to protect the public and the environment. Regular testing is required to verify compliance with these limits. The radiological impacts of normal operation were also analyzed and discussed in Section 5.9 of the EIS.

In this analysis the pathway causing the highest potential calculated dose to residents was determined. One of the scenarios evaluated was the ingestion of drinking water. Protection of the public is also the primary focus of the NRC safety review, under the 10 CFR Part 52 review process. Impacts to drinking water and members of the public due to the accidental release of radiological effluents are evaluated in the Final Safety Analysis Report (or FSAR) Section 2.4.13.

In this analysis NRC staff considers the release of the highest potential concentration from the liquid waste management system and flow to the nearest potential water user using conservative site-specific parameters (dilution, velocity, sorption, etc.). According to the schedule on the NRC public website, this document should be ready for review by 9/12 (contact the Project Manager Adrian Muniz with questions (301) 415-4093).

It is precisely because there is the potential for radioactive effluents through planned releases as under licensing conditions referred to as 'Permissible Allowable Levels' and accidental releases that Independent Monitoring as described above is essential.

Below is a letter from the City of Monroe Water System speaking to the concerns and potential for damage to the City Water Intake and overall quality of water. We adopt those concerns as ours Intervenors as well.

Fermi3CEm Resource

From: Laroy, Barry [barry.laroy@monroemi.gov]

Sent: Sunday, December 11, 2011 8:16 PM

To: Fermi3COLEIS Resource

Cc: Knight, Christopher; Brown, George

Subject: Fermi 3 Project Comments

To Whom it May Concern:

The City of Monroe Water System is generally in favor of the overall Fermi 3 project. The City of Monroe is located adjacent to Frenchtown Charter Township such that the City & Frenchtown co-own a raw water facility (Raw Water Partnership) used to serve potable water to their respective retail and wholesale customers. The City of Monroe maintains the raw water facility for the partnership were Lake Erie is the raw water source. Between both water systems, approximately 75,000 people are served potable water. The City of Monroe and Raw Water Partnership are in receipt of the correspondence for the proposed Fermi 3 Project.

The project will aid in employment opportunities and retail revenue for Monroe County. We have reviewed the proposed plans such that concerns with the construction project will likely produce soil erosion and may increase sediment transport into Lake Erie. Lake Erie is the source of both water

systems and due to the site work proximity to the intakes used to draw raw water from the lake, we are concerned that a decrease in raw water quality may result from the project conversely increasing water treatment plant costs to treat the water to safe drinking water standards.

Also, details on the Fermi 3 containment system to be used are not available. Any potential radioactive leakage from the containment system into the lake is not desirable due to the amount of customers served by both water systems and limited raw water sources. The partnership currently has a DTE provided & maintained radioactive metering system used to detect any radioactive raw water while being drawn in via intakes such that it is desired that the system continue to be maintained and or upgraded with the project with newer technology to allow both water systems adequate time to change raw water sources or alternatives in the event of a catastrophic event.

Thank you for the opportunity to offer our comments.

Barry S. LaRoy, P.E.
Director of Water & Wastewater Utilities
barry.laroy@monroemi.gov
City of Monroe
(734) 384-9122
(734) 384-9108 fax
www.monroemi.gov

In addition Section 5.221 Line 1 after line 16 states that the Great Lakes Compact of 2008 requires that any new water use of more than 5 MGD be subjected to a regional review, So Fermi 3 would be subject to such a review by the other Great Lakes States and provinces.

While this statement is correct, the State of Michigan has also adopted a water withdrawal model that should be part of this review.

In addition there is a 2011 report by Limnotech that shows the algae in the area of where Fermi 3 is to be built which is not reported or discussed in the EIS.

NOAA MODIS satellite imagery available for Lake Erie in 2011 shows massive algal blooms along the Monroe shoreline from July through October. Researchers say that the Lake Erie 2011 algal bloom was the largest ever recorded. Detroit Edison in their EIS depicted Lake Erie as being healthier and thriving when in fact the water quality and types of aquatic habitat it can support are declining. USEPA, Ohio EPA and others can verify the growing algae problem in Lake Erie. The Fermi Three plant will heat an estimated additional 4% of the water in western Lake Erie which will contribute to undesirable toxic algae growth which is a threat to human health and the environment. Contribution to algae growth and degradation to the fish population from the additional algae was not evaluated in the EIS.

Because of thermal plume from Fermi 3 discharges there is higher potential for more intense Algae Blooms. Including the Lyngbya Wollei which is a toxic blue-green algae.

The Water Intake for the City of Monroe is at the end of Pointe aux Pouix road. This is approximately (air) 1/4 mile south of the Fermi 2. Fermi 3 is north of Fermi 2 and that is

where water out-take / discharge for the Fermi will occur. There is direct and indirect potential for the thermal zone to impact the water intake.

It is noted in the DEIS that the permissible "mixing zone" will be determined by state of Michigan agencies MDEQ/DNRE and has not yet been decided (p 523 of the DEIS pdf). Estimates of plume range of up to approximately 1.3 surface acres, reported as 300 ft in length.

The Michigan DEQ does not permit mixing zones in locations where there is long-term (chronic) human exposure, such as wading beaches or drinking water intakes. <http://www.deq.state.or.us/wq/wqpermit/mixingzones.htm>

Elsewhere in the DEIS, Section 5.2.3.1 discusses the mixing zone/thermal plume as be about 55,000 square feet. This conflicts with a recent mixing zone/thermal study conducted by BP (British Petroleum) for the Ohio EPA in Maumee Bay in approximately eight feet of water which is near equivalent as the reported Fermi 3's estimated depth. That study documented that the plume extended in some cases over one mile – significantly more than the Detroit Edison information suggests, this is odd, since it appears from same research and that the same model was used. NRC should review the BP thermal report recently completed which includes analysis of fish kills and determine why there are such discrepancies in the mixing zone calculations. Section 5.2.2.1 line 6 page 5-9 talks about the water quantity withdrawal impacts when considering the Monroe/Frenchtown water intake. There is no discussion of the impact on the water intake from the discharged waters of Fermi 3 – both from water quality changes and from temperature changes. The State of Oregon bans drinking water intakes from being in a mixing zone. Given the shallow nature of the water – estimated at 8.5', it is imperative that the EIS include an analysis of impacts on the Monroe drinking water intake for the public health. Once again the Michigan DEA does not permit mixing zones in locations where there is long-term (chronic) human exposure, such as wading beaches or drinking water intakes. <http://www.deq.state.or.us/wq/wqpermit/mixingzones.htm>

This 'Water Intake' excerpt is from page 729 line 16 of the DEIS.

As described in Section 5.2.2.1 ...'There are also two water intakes on Lake Erie and in the vicinity of the Fermi site for public water supply: the Frenchtown Water Plant, which uses 8 million gallons per day (MGD), and the Monroe County Water Plant, which uses 7.5 MGD (Frenchtown Charter Township 2010; AWWA 2009). The impacts of these two water plants and the other projects listed in Table 7-1 are considered in the analysis in Sections 4.2 and 5.2 and would not be detectable or would be so minor that they would not affect surface water use.' There are also two water intakes on Lake Erie and in the vicinity of the Fermi site for public water supply: the Frenchtown Water Plant, which uses 8 million gallons per day (MGD), and the Monroe County Water Plant, which uses 7.5 MGD (Frenchtown Charter Township 2010; AWWA 2009). The impacts of these two water plants and the other projects listed in Table 7-1 are considered in the analysis in Sections 4.2 and 5.2 and would not be

detectable or would be so minor that they would not affect surface water use.

<http://www.deq.state.or.us/wq/wqpermit/mixingzones.htm>

Below is the table of contents on the DEIS for Radiological Impacts. It is precisely because the operation of a nuclear power plant allows for the routine effluents of gaseous, liquid and solid radionuclides below ‘permissible allowable levels’ and during routine operation, and during accidental discharges, that Independent Monitoring is needed.

The DEIS and the Environmental Report have omitted a great deal in the consideration of Water Intake and Safe Drinking Water. What has been provided is a tertiary overview which does not address the gravity of the situation.

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Because...There are also two water intakes on Lake Erie and in the vicinity of the Fermi site for public water supply: the Frenchtown Water Plant, which uses 8 million gallons per day (MGD), and the Monroe County Water Plant, which uses 7.5 MGD (Frenchtown Charter Township 2010; AWWA 2009). The impacts of these two water plants and the other projects listed in Table 7-1 are considered in the analysis in Sections 4.2 and 5.2 and would not be detectable or would be so minor that they would not affect surface water use.

Because the chemical content of the water vapor emitted from the cooling towers is unknown, there is also a failure to analyze the environmental impact of the contents of the water vapor emitted from the cooling towers. The environmental impact cannot be assessed if the chemical content of the drift from the towers is unknown. The total dissolved solids in the drift water were assumed to be salt (see pages 5-18, 5-91, 5-138 of the Fermi 3 DEIS). Such an assumption does not constitute a science-based analysis of the actual conditions and completely fails to consider the impact of other chemicals in the drift, many of which could be far more environmentally destructive than salt and could appreciably contribute to the PM2.5 emissions from the cooling towers. On page 7-13 DEIS Fermi 3, there is a brief discussion of the industrial pollutants that are acknowledged to be in the waters of Lake Erie. However, the rest of the document assumes that these pollutants do not exist and does not address their potential environmental impact as cooling tower drift.

There is a need for Independent Radiation Monitoring and Independent Chemical Monitoring of the City of Monroe Water Intake. This need holds true for other near buy Water Intake Systems as well. As a result of a Turbine Missile Accident on Christmas day 1993 over 2 million gallons of water became radioactively contaminated and were eventually dumped into Lake Erie. Just over a year ago on December 1, 2010 the Fermi 2 experienced a major leak of 100,000 gallons where 100 of those gallons of contaminated and radioactive water did make it into the Monroe wastewater treatment system.

Thank you for your review

Michael J. Keegan

P.O. Box 331

Monroe, MI 48161

www.chicagotribune.com/news/chi-ap-mi-nuclearplant-radi,0,710777.story

chicagotribune.com

Radioactive water floods areas of Mich. nuke plant

Associated Press

1:54 PM CST, December 3, 2010

DTE Energy says radioactive water flooded some areas of its Fermi 2 nuclear power plant in southeastern Michigan.

Officials say the water contaminated some workers' clothing and entered the plant's sewer system.

The Monroe Evening News says it happened on Wednesday when a drain valve stuck open on a system that filters water condensed from radioactive steam. That caused a holding tank to overflow.

Some of the water also entered the plant sewage system through a bathroom floor drain.

Officials with DTE and the federal Nuclear Regulatory Commission aren't sure of the total amount of water involved in the overflow.

NRC spokeswoman Viktoria Mitlyng says neither the safety of the plant, the workers nor the public was compromised.

Article published at MonroeNews.com on Dec 11, 2010

Clean-up of Fermi contaminants continues

DTE Energy said it expects to take “several more weeks” to fully clean and decontaminate areas of its Fermi 2 nuclear plant flooded by radioactive water more than a week ago.

An estimated 100,000 gallons escaped from a condenser water overflow tank after a drain valve stuck open and the tank filled and then poured water into the plant turbine and radwaste areas on Dec. 1.

Workers reported that water was seeping through ceilings and walls in the aftermath of the problem and one to two inches of water had accumulated on some floors.

At least six workers had their shoes and pants contaminated by the slightly radioactive water and some of the water entered a bathroom floor drain resulting in about 100 gallons entering the plant's sewage system. A portion of sewage water from the plant was sent to the Monroe wastewater treatment plant.

But both utility and federal Nuclear Regulatory Commission officials said the overflow did not affect the safety of the plant, its workers or the public. Readings at the Fermi sewage system were .0007 of a millirem, a tiny fraction of the normal exposure to radiation most people receive from naturally occurring sources.

The utility since has cleaned and flushed its sewage system and continues to clean remaining areas of the plant where the water traveled, said Guy Cerullo, a DTE spokesman. He said areas of the plant where there is regular and heavy worker traffic already have been mopped up and clean-up of water and contamination in other less frequented areas is continuing.

“Our radiation protection department knows where the remaining areas are that were affected,” Mr. Cerullo said. He said clean-up of those areas will continue for several more weeks, but should not impact the operation of the plant.

The stuck drain valve was replaced and the plant was restarted Dec. 3 after being idled for more

than a month for maintenance and refueling. But plant power levels have been fluctuating in recent days as crews continue to do maintenance on other equipment, including a digital control system for a reactor feedwater pump and a motor on a condenser pump.

The reactor was expected to be operating at about 75 percent of power by this morning.

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Article published December 4, 2010

Radioactive water overflows Fermi 2

DTE Energy says there's no danger

By TOM HENRY

BLADE STAFF WRITER

NEWPORT, Mich. — Hours before DTE Energy's Fermi 2 nuclear plant resumed operation Friday morning, about 100,000 gallons of radioactive cooling water overflowed a holding tank and stood about an inch high in portions of the plant's turbine building and its radioactive waste building, according to the U.S. Nuclear Regulatory Commission.

The mishap, discovered Wednesday afternoon, contaminated shoes and outer clothing of about a half-dozen workers.

"Low-level contamination was limited to some of the workers' shoes and outer clothing during the event. The inspectors are reviewing the licensee's follow-up surveys," an NRC online report said.

Up to 100 gallons flowed through a bathroom drain into a Monroe County sewer line, causing some of the sewage near the plant to have trace amounts of radiation, DTE Energy spokesman Guy Cerullo said.

"We've determined a very small amount reached the Monroe County sewage system," he said.

Sewage plants process millions of gallons of water each day.

Though the sewage-laden plume was well below NRC levels for releases and so small that DTE needed laboratory tools to confirm its existence, NRC spokesman Viktoria Mitlyng said nuclear plants — as a matter of federal policy — must strive to contain all radioactive particles to its site.

DTE, through labwork, detected a release of .0007 millirem a few yards offsite. The concentration dropped to nondetectable levels long before reaching populated areas, Mr. Cerullo said.

“As it goes toward town, it gets diluted,” Ms. Mitlyng said.

Both Mr. Cerullo and Ms. Mitlyng said there was no danger to plant employees or the public. They also said there was no problem with safety systems.

The average American who lives at sea level is exposed to 300 millirems of radiation a year; in higher-altitude cities, such as Denver, the average is about 400 millirems a year. NASA astronauts get as many as 25,000 millirems a year, according to the Massachusetts Institute of Technology.

The overflow filled a ventilation line, spilling into portions of the plant’s turbine building and radwaste building.

The problem was attributed to a valve that got stuck open when it should have closed.

The valves in question are in a part of the plant where silt and particles are washed off a large condenser system. The tank that overflowed is only supposed to be holding runoff water from the cleaning operation, Ms. Mitlyng said. “It’s not even a reportable event,” she said.

Fermi 2 is in northern Monroe County, about 30 miles north of Toledo and along the western Lake Erie shoreline.

It had been down for refueling and maintenance since Oct. 24. Nuclear plants are refueled every 18 to 24 months.

The reactor is ascending in power and should synchronize to the regional electrical grid sometime this weekend. Nuclear reactors are typically operating at 20 or 25 percent capacity when that happens.

DTE predicted the plant would be operating at full capacity within a few days but would not be more specific.

Contact Tom Henry at:
thenry@theblade.com
or 419-724-6079.

Information from: The Monroe Evening News, <http://www.monroenews.com>

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http://sz0009.ev.mail.comcast.net/service/home/~/Fermi%20%20Overflow%20PNO%2012-3-10%20posted%2012-7-10.pdf?auth=co&loc=en_US&id=330229&part=2

December 3, 2010

PRELIMINARY NOTIFICATION

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE – PNO-III-10-017

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety or public interest significance. Some of the information may not yet be fully verified or evaluated by the Region III staff.

Facility

Fermi Power Plant, Unit 2

Detroit Edison Company

Newport, MI

Docket: 50-341

Licensee Emergency Classification

Notification of Unusual Event

Alert

Site Area Emergency

General Emergency

X Not Applicable

Subject: Condensate Overflows Into Turbine Building

On December 1, 2010, a drain valve for the condensate filtering system opened unexpectedly allowing water from the condensate system to fill and overflow a tank designed to hold a limited amount of water when the filtering system is being cleaned. Approximately 100,000 gallons of slightly contaminated water went from the tank through piping into portions of the Turbine and Radwaste buildings. The condensate system supplies water to be used in the reactor. The condensate filtering system cleans this water. Fermi Unit 2 was shutdown for a refueling outage when this event occurred. The reactor remains in a safe condition.

A small amount of slightly contaminated water (the licensee approximated this to be 100 gallons) entered Fermi 2's sewage system through a bathroom floor drain in the plant. The sewage system contains holding tanks on the Fermi site before going to the municipal sewage system. The site ensured all sewage flow offsite was stopped to limit the release to the municipal sewage system. After subsequent testing, the licensee detected a small amount of radioactivity in the septic tank onsite, which was well below regulatory limits. (It is important to have regulatory limits on sewage treatment, because the sewage is processed and returned as a water source in the public domain). The plant is performing further evaluation of the onsite sewage system to determine how much radioactivity may have left the site. Based on the amount of radioactivity found in sewage onsite, the radioactivity in the offsite sewage system would be a very small fraction of regulatory limits, and would not pose a threat to public health. Fermi personnel are continuing to clean the Radwaste and Turbine buildings, and access is not restricted to any plant equipment.

The NRC reviewed the radiological and equipment safety aspects of the situation. Inspectors determined that no safety related equipment was damaged or impacted. There was no health or safety impact to plant workers. Low-level contamination was limited to some of the workers'

shoes and outer clothing during the event. An NRC radiation safety inspector, who was already onsite for routine inspections, has been assisting resident inspectors in evaluating the radiological aspects of the situation. The inspectors are reviewing the licensee's follow-up surveys.

This preliminary notification is issued for information only and the NRC will follow up with on-site inspection of the radiological and equipment aspects of this issue.

Region III received initial notification of this occurrence through discussions with the resident inspectors on December 1, 2010. The information presented herein has been discussed with the licensee, and is current as of 12:00 p.m. CST on December 3, 2010.

ADAMS Accession Number: ML103370575

CONTACTS: John Giessner Billy Dickson

630-829-9619 630-829-9827

John.Giessner@nrc.gov Billy.Dickson@nrc.gov