

May 28, 2013

Ms. Gail Snyder
15535 W. Thornwood Lane
Home Glen, IL 60491

Dear Ms Snyder,

I very much appreciated your time and the engaged conversation during the meeting on March 25 at the Beach Haven Event Center in South Haven Michigan. As promised, I am responding to your letter dated March 25, 2013, which expressed concerns regarding the safe operation of Palisades. A record of these and other questions from local citizens, as well as my responses, is documented in the Nuclear Regulatory Commission's (NRC) Agencywide Documents Access and Management System No. ML13142A424. The discussion with you and the other participants was very helpful to me as I continue to consider public concerns about nuclear safety.

As I read your comments on Nuclear Power Plant Emergency Planning, I observed that your concerns had three focus areas: Emergency Planning for large number of residents; Emergency Planning for vacationers; and the Emergency Planning Zone. In the enclosure, I have provided specific responses to the items you provided to me.

The NRC maintains safety as our top priority to ensure the protection of our citizens and the environment. I and all my colleagues at the agency are firmly dedicated to ensuring the safe operation of nuclear power plants and to protecting public health and safety.

Thank you for sharing your views and insights. If you have any additional questions, don't hesitate to contact me at 301-415-8430.

Sincerely,

/RA/

William D. Magwood, IV

Enclosure:
Responses to Concerns

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The correspondence addresses policy issues previously resolved by the Commission, transmits factual information, or restates Commission policy.

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**Response to Concerns Raised in Letter Sent to the NRC by
Ms. Gail Snyder**

- 1. Can you have someone from the NRC provide us with the most current population data for the Palisade plant used to calculate the increased population during the summer months for emergency planning purposes? Please include where that number is obtained or how it is estimated by the NRC or the operator of Palisades.**

Population data is important and is required to provide an accurate assessment for emergency planning. The use of population data combined with evacuation routes, including times to complete potential evacuations, is called the evacuation time estimate (ETE) analysis. ETE analysis is required to be completed by the licensee, in this case, Entergy for Palisades Nuclear Plant, per 10 CFR Part 50, Appendix E, section IV.4. The ETE is used by off-site responding organizations to assist in protective action planning. ETEs are provided for various scenarios including good weather, rain or snow conditions, school days, summer season, holiday weekends, various times of the day, and special events unique to the area which could impact traffic. To access the Palisades document, please go to the NRC's ADAMS site at <http://adams.nrc.gov/wba/> and use this accession number to locate the updated Palisades ETE: ADAMS ML13023A035 or use <http://pbadupws.nrc.gov/docs/ML1302/ML13023A035.pdf>.

The updated ETE (listed above and dated December 18, 2012) is currently being reviewed by the NRC under the inspection process to verify that they were developed using the latest guidance in NUREG/CR-7002 (<http://www.nrc.gov/reading-rm/doc-collections/nuregs/contract/cr7002/>). The Federal Emergency Management Agency (FEMA) will be informed when the NRC completes these inspections, which are being documented as part of the quarterly Resident Inspector reports at the applicable licensees. The emergency planning (EP) regulations require that licensees update their ETE upon receipt of the decennial (10-year) census, or if the ETE changes by 25 percent or 10 minutes. This ensures that they are kept up to date.

Some excerpts from the updated (08/2012) Palisades ETE:

ETE Table 3-1. Palisades Emergency Planning Zone (EPZ) Permanent Resident Population

Protective Action Areas (PAA)	2000 Population	2010 Population
1	1,889	1,548
2	1,980	2,205
3	2,382	2,221
4	11,429	10,356
6	15,916	14,675
TOTAL	33,596	31,005

EPZ Population Growth: -7.71 percent (actually a decline)
 Transient (non-resident) Population Information

Transient Population	Previous ETE	Current ETE
	Listings of transient facilities (parks, hotels, motels, recreational) were provided by emergency planning officials from Van Buren, Allegan, and Berrien Counties. Additional information was obtained from telephone phone books and Internet searches. Transients: 15,102	Transient estimates based upon information provided about transient attractions in EPZ, supplemented by observations of the facilities during the road survey and from aerial photography. Transients = 18,965

These numbers include populations that are at or inside the 10 mile radius EPZ. The updated ETE is being reviewed by the NRC, and State and local emergency response authorities. We have observed that the local population has decreased and the number of vacationers have increased during the last few years. You may wish to contact the State and county emergency management agencies in Van Buren, and Berrien Counties, in Michigan with your questions on their review of the ETE.

The following information is provided to address your general concerns regarding emergency preparedness.

Emergency Planning/Emergency Preparedness

The Nuclear Regulatory Commission (NRC) licensing requirements for nuclear power plants requires licensees to develop and maintain an effective and comprehensive Emergency Plan (EP) (<http://www.nrc.gov/reading-rm/doc-collections/cfr/part050/part050-appa.html>). The EP is in place for use in the highly unlikely event of failures of plant equipment important to preventing release of radioactive material to off-site areas possibly in excess of Environmental Protection Agency (EPA) guidelines. The EP supports the NRC's regulations which are designed to provide defense in depth. There are several barriers to radiation release and many redundant diverse systems in place to prevent the release of radiation. However, the NRC requires detailed planning if these barriers fail.

The EP includes the licensee and off-site response organizations of the State and local governments. In accordance with Appendix A of 44 CFR 353, the NRC and the Federal Emergency Management Agency (FEMA) share responsibility for oversight of the EP (http://www.fema.gov/pdf/about/divisions/thd/fema_mou_appendix_a_part353.pdf). The NRC conducts inspections of the licensee's plan including on-site personnel performance during drills and exercises, maintenance of the plan and equipment required to support the plan. Those inspection reports are available for review by the public (examples for the Palisades plant are: http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/listofrpts_body.html#pali).

State and local plans are developed and maintained by the respective government agencies and submitted to FEMA annually for review. In addition, the licensee, and State and local off-site response organizations (ORO) are evaluated by NRC and FEMA respectively as they participate in exercises involving activation of facilities and personnel every two years. The results of the ORO evaluations are documented in the FEMA After Action Reports, which are also available for review by the public (<http://www.nrc.gov/about-nrc/emerg-preparedness/related-information/fema-after-action-reports.html>).

The EP is in place and maintained, and is in addition to the protective features designed into licensed nuclear power plants that prevent release of dangerous levels of radioactive material to the environment during normal and accident conditions. The EP as implemented and maintained ensures the ORO's, NRC, and the licensee have a common understanding of EP activation and protective measures for members of the public within the Emergency Planning Zones. For State specific information, please contact the State of Michigan Department of Environmental Quality with your questions on radiological emergency preparedness.

The NRC's regulations are designed to mitigate accident consequences and minimize radiation exposure to the public through protective actions. When a radiological emergency occurs, nuclear power plant personnel evaluate plant conditions and make protective action recommendations to the state and local government agencies on how to protect the population. Based on the recommendation and independent assessment of other local factors, the state or local government agencies are responsible for making decisions on the actions necessary to protect the public and for relaying these decisions to the public. Evacuation, sheltering or other emergency actions would be communicated to public in accordance with federal, state and local rules and requirements.

Factors that affect protective action decisions include plant conditions, competing events, weather (including prevailing winds), evacuation times (including population and related variables, and road conditions), shelter factors, how quickly an incident develops, how short-lived a release of radiation may be, and other conditions.

NRC Fact Sheet Emergency Preparedness for Nuclear Power Plants:
<http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-emerg-plan-prep-nuc-power.html>

Emergency Planning Zone

The Emergency Planning Zone (EPZ), like many other features of the site and facility are determined using site specific and historical information for weather, geography, and other factors. The EPZ is part of the original licensing for the plant, but oversight by NRC inspectors verifies continued effectiveness of the licensee's emergency plan. FEMA conducts evaluation of off-site response organizations including annual review of State and local EPZ Radiological Emergency Preparedness Plans, and bi-annual evaluation of ORO performance under exercise conditions. Please note that the NRC does not evacuate to a 50 mile radius of the plant, but rather is based on sector evacuations out to a 10 mile radius depending on the severity of the radiological accident. In addition, the ETE assesses some additional percentage of the population that is assumed to voluntarily evacuate based on the event, although not in the

evacuation area (called the Shadow Region). The Shadow Region covers the region from the EPZ out to 15 miles radially from the plant. The population assessment provided in your letter appears to be based on entire county populations, which is greater than the EPZ required by regulation.

Before a plant is licensed to operate, the NRC must have “reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.” The NRC’s decision of reasonable assurance is based on licensees complying with NRC regulations and guidance. In addition, licensees and area response organizations must demonstrate they can effectively implement emergency plans and procedures during periodic evaluated exercises. As part of the Reactor Oversight Process, the NRC reviews licensees’ emergency planning procedures and training. These reviews include regular drills and exercises that assist licensees in identifying areas for improvement, such as in the interface of security operations and emergency preparedness. Each plant owner is required to exercise its emergency plan with the NRC, FEMA, and offsite authorities at least once every two years to ensure state and local officials remain proficient in implementing their emergency plans. Licensees also self-test their emergency plans regularly by conducting drills. Each plant’s performance in drills and exercises can be accessed through the NRC Web site at this address: <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>.

FEMA takes the lead in initially reviewing and assessing the offsite planning and response and in assisting State and local governments, while the NRC reviews and assesses the onsite planning and response. FEMA findings and determinations as to the adequacy and capability of implementing offsite plans are communicated to the NRC. The NRC reviews the FEMA findings and determinations as well as the onsite findings. The NRC then makes a determination on the overall state of emergency preparedness. These overall findings and determinations are used by the NRC to make radiological health and safety decisions before the issuing licenses and in the continuing oversight of operating reactors. The NRC has the authority to take action, including shutting down any reactor deemed not to provide reasonable assurance of the protection of public health and safety.

Detailed information about emergency preparedness is contained in NRC regulations, specifically Appendix E to Part 50 of *Title 10 in the Code of Federal Regulations* and in NUREG-0654 (FEMA-REP-1), a joint publication of the NRC and FEMA published in November 1980, entitled “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.” These documents, along with additional information on the NRC’s Emergency Preparedness and Response programs, are available on the NRC Web site at: <http://www.nrc.gov/about-nrc/emerg-preparedness.html>.

Finally, the NRC is evaluating the 10 mile EPZ as part of its Fukushima lessons learned. Please use this link to obtain the latest information: <http://www.nrc.gov/reactors/operating/ops-experience/japan-info.html>. The staff is reviewing a petition for rulemaking (PRM-50-104) which proposed expanding the EPZs. The petition can be found at NRC ADAMS accession number ML12048B004 or at <http://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber='ML12048B004'>. Additional information related to this petition can be found on the <http://www.regulations.gov/> website using docket ID NRC-2012-0046.