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Chief, Rules and Directives Branch
Division of Administrative Services
Office of Administration
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U.S. Nuclear Regulatory Commission
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Public Comments re: Environmental Impact Statement re: Proposed 20 Year Extension of the Operating License for the Palisades Nuclear Power Plant [Docket No. 50-255; License No. DPR-20; Palisades' owner is Consumers Energy/CMS; Palisades' operator is Nuclear Management Company, LLC]

Comments on "Applicant's Environmental Report – Operating License Renewal Stage, Palisades Nuclear Plant, Nuclear Management Company, March 2005" submitted by:

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Our Public Comments:

Beyond Design Basis Aspects/Crisis of Embrittlement.

The embrittlement of the Palisades reactor pressure vessel and the unresolved Pressurized Thermal Shock ("PTS") with ever increasing likelihood of the failure of the reactor pressure vessel ("RPV") warrant special environmental considerations. This type of accident is "Beyond Maximum Credible Accident" scenarios, a beyond design basis -- and yet all too possible -- accident for the reactor. Any EIS which is conducted must incorporate the outcome of such a catastrophic accident. A 1982 NRC report (Calculation of Reactor Accident Consequences or CRAC- 2) predicted that a meltdown and large-scale radiation release from the Palisades reactor would cause 1,000 fatalities and 7,000 injuries in just the first year, 10,000 cancer deaths over time, $52.6 billion in property damage (based on 1980 census, expressed in 1980 dollars, thus significantly underestimating current and future impacts due to population growth and inflation). The Palisades nuclear power station has been identified as prone to early embrittlement of the reactor pressure vessel, which is a vital safety component. The longer Palisades operates, the more embrittled its RPV becomes, with decreasing safety margins in the event of the initiation of emergency operation procedures, such as activation of the emergency core cooling system. Moreover, there are rumored problems with the safety culture at the plant which might inhibit candor in staff communications about embrittlement-related problems in operations and procedures. Therefore, given the public health and safety effects of a prospective additional twenty years of operation, and given the present and prospective embrittlement trend of the RPV, it is imperative to protect the interests of the public by denying such a 20 year license extension.

Excessive radioactive and toxic chemical contamination in local drinking water due to emissions from Palisades nuclear power plant as part of its daily, "routine" operations. The radioactive and toxic chemical emissions from the Palisades nuclear power plant into the waters of Lake Michigan contaminate the recently-installed drinking water supply intake for the

City of South Haven, built just offshore from Van Buren State Park and just downstream from the Palisades reactor, due to the direction of the flow of Lake Michigan's waters and the very close proximity of the Palisades reactor to the South Haven drinking water supply intake. U.S. National Oceanographic and Atmospheric Administration models confirm the direction of water flow in Lake Michigan toward the intake.

The Palisades reactor has no place to store its overflowing irradiated nuclear fuel inventory within NRC regulations.

Electricity is but the fleeting byproduct of the Palisades nuclear reactor. The actual product is forever deadly radioactive waste. This cannot be excluded from the EIS because if there is no license extension there will not be an additional 20 years of high level nuclear waste generated by Palisades. The indoor irradiated fuel storage pool reached capacity in 1993, thus necessitating the utilization of a shoddy technology of outdoor dry cask storage pads at Palisades. Both the older pad nearer Lake Michigan and the newer pad further inland, are in violation of NRC earthquake regulations. 10 CFR § 72.212(b)(2)(i)(B) requires that: Cask storage pads and areas have been designed to adequately support the static and dynamic loads of the stored casks, considering potential amplification of earthquakes through soil-structure interaction, and soil liquefaction potential or other soil instability due to vibratory ground motion. . . .
According to expert, Dr. Ross Landsman, former U.S. Nuclear Regulatory Commission Region III dry cask storage inspector, the older pad violates the liquefaction portion of this regulation, and the newer pad violates the amplification portion of the regulation. Neither the older nor newer dry cask storage pads at the Palisades plant are in compliance with this cited regulation. Nuclear Waste and Dry Cask storage cannot be omitted from EIS considerations because they are a inevitable, adverse outcome of continued operation of Palisades for an additional 20 years on top of the original 40 year license.

Additionally, in 1993, Consumers Power (now Consumers Energy) assured a federal district judge that if it encountered problems with loaded dry casks at Palisades, it would simply reverse the loading procedure and return the high-level radioactive waste to the storage pools. But the fourth cask loaded at Palisades, in June 1994, was shortly thereafter admitted by Consumers Power to be defective, having faulty welds. However, eleven years on, Consumers has yet to unload the defective cask, because it cannot. Don't Waste Michigan, which actively opposed the loading of the dry casks in the first case in 1993, holds that Consumers perpetrated a fraud upon the court and the public, with the complicit support of the NRC, and that Consumers has critically undermined its credibility as to any pledges about the safety of dry cask storage. The significance of this problem with cask #4 is considerable. For example, the configuration of the 18 to 19 dry casks currently stored on the older pad nearer Lake Michigan is such that the casks furthest back cannot be moved or unloaded until all other casks in front of them have been moved out of the way first. This configuration increases the risks, making it very difficult to address emergencies involving certain casks in the configuration in a timely manner.

Another issue that demands attention by NRC in its environmental impact statement is the

disconcerting proximity (just several hundred feet away, according to maps appearing in the Environmental Report) of the Van Buren State Park campground to the newer, more inland dry cask storage pad for high-level radioactive wastes at Palisades. What are the radiation dose rates that families camping at the State Park would suffer from those nearby dry casks? What are the security and safety implications of having high-level radioactive waste stored so close to a campground?

In its Environmental Impact Statement, NRC should also consider another environmental impact concerning high-level radioactive waste ignored by NMC/Consumers in its Environmental Report: the proposed shipment by barge of 125 or more rail-cask sized containers of irradiated nuclear fuel from Palisades to the Port of Muskegon as part of the Yucca Mountain, Nevada nuclear waste dump proposal. The U.S. Department of Energy describes and documents this proposal on page J-83 of its Final Environmental Impact Statement for Yucca Mountain, in table J-27 ("Barge shipments and ports"). 125 barge shipments may very well be an underestimate, for DOE assumes only 10 year license extensions, whereas NMC/Consumers is requesting a 20 year extension from NRC. Specifically, what if a barge shipment goes down in the Lake, whether due to accident or attack? What about the potential for a nuclear chain reaction inside the cask involving the still fissile U-235, Pu-239, and other fissile radio nuclides present in the waste? What about radioactive contamination of 20% of the world's surface fresh water, the drinking water supply for 35 million people downstream?

Property Rights

Property rights of home owners on the shoreline and inland from Palisades have been compromised by the "de facto" permanent high level waste site created. This amounts to implementation of eminent domain without any compensation to property owners. The constant threat of a nuclear accident or act of sabotage has violated property owners' rights.
Additionally, any waste generated at Palisades after 2010 would be excess to the capacity of the proposed national dump at Yucca Mountain, Nevada according to U.S. Department of Energy projections in its Yucca Mountain Final Environmental Impact Statement (Feb. 14, 2002), as revealed in Tables A-7 and A-8 on pages A-15 and A-16 of Appendix A. In fact, the waste generated at Palisades from 1971 to 2010 may also be excess to Yucca, in that the proposed but highly troubled and long delayed dump may never open. The State of Nevada maintains that NRC's "Nuclear Waste Confidence Decision" is erroneous, in that it biases NRC to favor approval of the Yucca Mountain dump license lest it, NRC, be proven wrong in its assurance to the public that a high-level radioactive waste geologic repository will open in the U.S. by 2025. Because so much uncertainty surrounds the Yucca Mountain dump proposal, as well as other high-level radioactive waste dump proposals (such as the Private Fuel Storage, LLC dump targeted at the Skull Valley Goshute Indian Reservation in Utah), it is our collective contention that waste generated at Palisades during the 20 year license extension could very well be stored at Palisades indefinitely, a scenario inadequately addressed by the applicant and NRC. Because the casks cannot be transported, because the casks cannot be unloaded, what has been created is a "de facto" permanent high level waste site.
Given that a severe radiation release from Palisades due to accident or attack would significantly

damage the economic base of western Michigan, not only within the 50 mile zone around thereactor, but even beyond it, due to crops and products that would have to be destroyed, as well as the lingering stigma attached to western Michigan agricultural products after such a release, a comprehensive Severe Accident Mitigation Analysis must be performed, publicized and circulated for public review and comment as a precondition to considering whether or not to grant a license extension. The Severe Accident Mitigation Alternatives Analysis presented in the Consumers/NMC "Environmental Report" is woefully inadequate, ignoring as it does the full implications and significance of such risks as RPV embrittlement, PTS, and the consequent potential of RPV rupture and catastrophic radiation release.

Intensifying Sand Erosion and Avalanche Risk Compromise Integrity of Dry Storage Pads and Casks

The more casks loaded on the storage pads at Palisades, the more risk of erosion to the sand supporting the pads, given the large weight of the casks themselves (VSC-24 casks weigh 132 tons each), weather related erosion of the sand dunes, as well as the erosion that will occur due to more severe weather impacts from the global climate crisis and climate de-stabilization. Arresting erosion at both pads is important to safety and radiation containment over the long haul, given the proximity of the waters of Lake Michigan. The State of Michigan and the U.S. Army Corps of Engineers have designated the sand dunes upon which the older pad is located -- so close to the waters of Lake Michigan -- as a high-risk erosion zone. The Lake Michigan dunes are subject to "blow-outs" where entire dunes are blown out during wind storms and lighting strikes. See Nori, P. Sholtz, and M. Bretz (Department of Physics, The University of Michigan), "Sound-Producing Sand Avalanches," Scientific American Vol. 277, No. 3 (September 1997). At Warren Dunes, some 35 miles south of Palisades, sand blowouts have been estimated to travel as much as one-quarter mile per day, exposing 5,000-year-old trees that have long since turned to charcoal. "Some chilling facts about Dunes history," See: //www.nwitimes.com/articles/2005/07/25/news/region/0256d4c429632
The Palisades dunes could, in a wind storm or lightning strike, shift, blow and cover the dry cask storage area. This would in turn block the ventilation vents on the dry casks, causing the irradiated fuel within to overheat beyond technical specifications. As weather patterns intensify (as anticipated, due to global warming) this potential for erosion will increase. Additionally, the dunes and shoreline are geologically prone to sand avalanches. A sand avalanche coupled with a seismic event could compromise the integrity of one or more casks at Palisades. In fact, an earthquake at the older pad nearer the lake could cause casks to fall into the waters of Lake Michigan. Not only could radioactive contamination of Lake Michigan result, but, given the Uranium-235, Plutonium-239, and other still-fissile radio nuclides present in the irradiated nuclear fuel, the infiltrating water could cause a nuclear chain reaction in the submerged cask itself, further endangering Palisades workers, emergency responders, the public, and the Lake Michigan ecosystem, source of drinking water – and so much more – to 35 million people downstream throughout the Great Lakes Basin. NMC documents the potential for sand dune blow-outs at Palisades in its Environmental Report, such as on Page B-6, where sand dune blow-outs are described as comprising part of the overall Palisades nuclear power plant site. NMC/Consumers also acknowledges sand dune blow-outs on Page 2-19 of its Environmental

Report: “Sand Dune Blow-out Communities (see Table 2.3-2, Community 10) occur where wind action has resulted in dune destabilization.” On Table 2.3-2, the Environmental Report acknowledges that 4% of the Palisades site comprises “Sand Dune Blow-Out Community.” Of the remaining 13% of the Palisades site comprised of Beach Grass Stabilized Dune Community, Beach Grass Stabilized Flats, and Open Sand, one must wonder not if but when future sand dune blow-outs will occur.

Non-Radiological Persistent Toxic Burdens to Area Water Sources.

The impact of 20 additional years of pollution by toxics disclosed but not adequately controlled under requirements of the National Pollutant Discharge Elimination System (NPDES) will directly affect water quality of nearby sources, including Lake Michigan. In 2000, for example, Palisades was found to be in “continuing noncompliance” for its apparent multiple misuses of Betz Clam-Trol in Lake Michigan for the dispersion of mussels and clams affecting the reactor’s water intakes. See http://www.epa.gov/region5/water/weca/reports/mi4qtr01.txt NPDES violations also contradict the spirit, intention and explicit recommendation of the International Joint Commission (IJC). In its “Ninth Biennial Report on Great Lakes Water Quality,” the Commission’s Recommendation #16 (at p. 42) urges that "[g]overnments monitor toxic chemicals used in large quantities at nuclear power plants, identify radioactive forms of the toxic chemicals and analyze their impact on the Great Lakes ecosystem." Consumers Energy and Nuclear Management Company admit, in Section 3.1.3.3 “Biofouling Control” on Page 3-7 of their Environmental Report that NMC uses biocides such as chlorination, bromination, and amine formulations. The IJC also called for virtual elimination of toxic discharges into the Great Lakes, and identified radio nuclides as persistent toxins that also needed to be virtually eliminated from the Great Lakes. The IJC commissioned two reports, the first on the radionuclide inventory in the Great Lakes, and the second on the bio-accumulation of radio nuclides in Great Lakes biota. The third report in the series, on radioactivity’s impact on human health, was never completed. This study on radiation’s impact on human health in the Great Lakes Basin should be completed prior to granting Palisades an additional 20 years of operations, especially in light of the National Academy of Science Biological Effect of Ionizing Radiation Panel’s recent report (BEIR VII), which found that no amount of radiation is too small to not have an adverse impact on human health. Baseline health studies are necessary before NRC grants Palisades a license extension, especially considering that the National Cancer Institute’s report on cancer near nuclear reactors, published in 1990, is now 15 years old. It does not account for cancers occurring over the past 15 years, and is in addition methodologically flawed. Independent base line health studies must be performed before NRC grants Palisades a 20 year license extension.

Increased Degradation of Fuel Rods Excessively Utilized

To mitigate the prospect of increased embrittlement of the reactor pressure vessel (RPV), the Palisades operator uses previously-irradiated fuel to create a buffer next to the RPV wall. The second-use of irradiated fuel assemblies in the reactor core tends to weaken and damage the cladding on the fuel rods, making future waste handling, storage, transport, and ultimate disposal – whether onsite at Palisades, in transport, or at future storage/dump sites – problematic. It poses

an elevated risk for the safety of Palisades workers and the general public. Moreover, the U.S. Department of Energy ("DOE") depends on the integrity of the fuel cladding as a means of preventing or minimizing the risk of unanticipated fissioning in storage and transportation casks or other units, as well as a means of delaying radiation releases from waste burial into the groundwater at the proposed Yucca Mountain (Nevada) dumpsite.

Environmental Justice / Nuclear Racism

Palisades nuclear generating station is the source of environmental justice violations. Located within a predominantly African-American and low-income township, Palisades provides woefully inadequate tax revenues to the host community, considering the large adverse impacts and risks the reactor inflicts. Palisades' African-American employees have traditionally been stuck in the dirtiest and most dangerous jobs at the reactor, with little to no prospects for promotion. Some of Palisades' African American employees have also experienced death threats at the work place, including nooses hung in their lockers or in public places to symbolize lynching, an apparent attempt to silence their public statements for workplace justice.

Palisades' license extension application also has inadequately addressed the adverse impacts that 20 additional years of operations and waste generation would have on the traditional land uses, spiritual, cultural, and religious practices, and treaty rights of various federally-recognized tribes in the vicinity of the plant and beyond, as well as effects upon non-federally recognized tribes governed by international law. Only three tribes were contacted by the NRC by August 8th, 2005, and invited to participate in the license extension proceedings, which effectively excluded a number of tribes within the 50-mile zone around the reactor, as well as additional tribes beyond the 50 mile zone which have historic and traditional ties to the Palisades site and sites along the electric transmission line connected to Palisades. Despite the Michigan State Historic Preservation Office's concern pertaining to possible unreported archaeological properties present on, or with the vicinity of, the Palisades site (see Page C-2, Cultural Resources Correspondence of the Environmental Report), NMC and Consumers persist in opposing a survey of the project area as unnecessary. But, if unreported Native American archaeological sites are present at or near the Palisades nuclear power plant (which is very possible, given the very close proximity of a large creek in Van Buren State Park just to the north of the power plant, as well as the very close proximity of Brandywine Creek just to the south of the power plant in Palisades Park – rivers and creeks being common sites for encampments and villages amongst the indigenous peoples of Michigan since time immemorial), then 20 additional years of nuclear operations, radioactive waste generation, and daily radiation emissions would have a significant and severe adverse impact on Native American cultural and religious values at those sites, values which strive to protect sacred areas from such degradation. The fact that NRC contacted only the Nottawaseppi Huron Potawatomi, the Little Traverse Bay Band of Odawa Indians, and the Match-E-Be-Nash-She-Wish Band of Potawatomi, but did not contact the Pokagon Potawatomi (just 30 miles or so from the Palisades site), the Little River Band of Odawa Indians, the Grand River Band of Ottawa Indians, the Saginaw Chippewa Tribe, and the Grand Traverse Band of Ottawa and Chippewa Indians, means that this Environmental Scoping proceeding should be suspended until all stakeholder Native American tribes and bands are contacted and alerted to the

opportunity to not only comment on the Environmental Scoping, but to intervene against the Palisades 20 year license extension. Given the sovereignty of these tribes and bands, and the treaty rights that exist between them and the United States federal government, the NRC has a government-to-government responsibility to consult with these tribes and bands on such significant federal actions as granting the Palisades reactor an additional 20 years of operations. An archaeological survey must be conducted before NRC grants a 20 year license extension to assure that Native American archaeological sites are not negatively impacted by future Palisades reactor operations. Such impacts as harm to lake sturgeon – sacred to some Great Lakes tribes – must also be evaluated. It is interesting and telling that NMC's Environmental Report assigns no "importance" to lake sturgeon (in Table 2.3-1, Page 2-47), despite its State of Michigan Threatened Status, and its sacred status in the cultures and traditions of various Great Lakes Native American Tribes, not to mention its importance to the natural history of Lake Michigan as an ancient indigenous species in the ecosystem. This is an indication that NMC/Consumers is not acknowledging or addressing environmental justice impacts of 20 more years of operations at Palisades on Native Americans.

Also, Palisades' license extension application inadequately addresses the disproportionate adverse socio-economic impacts of a catastrophic radiation release, such as due to reactor core embrittlement leading to core rupture, to the low-income Latin American agricultural workforce of the Palisades area. Synergistic effects of such chronic and catastrophic radiation releases combined with the toxic chemical exposures these low income Latin-American agricultural workers already suffer on their jobs have not been evaluated. Finally, there is an unacceptable lack of Spanish language emergency evacuation instructions and notifications to serve the Spanish speaking Latino population within 50 miles of the Palisades reactor, especially migrant agricultural workers.

A potential flaw in the NMC/Consumers Environmental Report is its exclusion of census block groups with greater than 50 percent of their area outside the 50- and 20- mile radii from Palisades. Not including these groups in calculating total population, minority or low-income estimates effectively excludes significant minority and low-income populations in Grand Rapids and Battle Creek, particularly African American and Latin American communities living in these major urban centers.

In addition, it is odd that NMC/Consumers writes in the Environmental Report (page 2-32) that "Berrien and Van Buren Counties host moderate numbers of migrant workers," when 3,677 and 6,733 temporary farm laborers (many of them Latino) were employed in Berrien and Van Buren Counties, respectively, according to the U.S. Department of Agriculture in 2004. These numbers represent populations as large as the county seats and even the biggest towns in these counties. It is also not clear in the Environmental Report whether those numbers include the families which very often accompany the migrant farm laborers, which would boost the Latino population even higher.

It is ironic that NMC/Consumers acknowledges on Page 2-36 of the Environmental Report that "Only one block group with a low-income population is located in Van Buren County. This

block group is located in the western portion of Covert Township, which is a largely rural area." Why is it that the largely African-American population of Covert Township is still low-income after 38 years of Palisades nuclear power plant's presence in the township? Wasn't the presence of the reactor supposed to help its home town to thrive economically? What are the environmental justice implications of such an ironic history?

The fact that "The amount of future property tax payments for Palisades...are dependent on future market value of the plant" seems ripe for manipulation and abuse – such as artificially lowering the market value of the plant in order to lower future property tax payments -- by the politically and economically powerful Palisades nuclear power plant on its host township, county, and region, yet another environmental justice violation.

Chronic Emergency Unpreparedness Within the EPZ (Emergency Planning Zone). Emergency responders in the 50 mile zone around the Palisades nuclear reactor are inadequately trained and inadequately equipped to respond to a major radioactivity release during an accident or attack at the plant. Even with its modern fire trucks, Covert, Michigan does not have the staffing, equipment, training nor preparedness for a major radiological emergency. Covert's best, good as it is, is still no match for a Chernobyl-scale fire. The remainder of the emergency planning and even 50 mile zone is mostly occupied by rural, volunteer fire departments, which have even less equipment and training with which to work. Radiation monitors and radiation-protective gear are in short supply or unheard of. Isolation wards for radioactively contaminated victims (so they don't harm the doctors and nurses and other patients) are very rare, nearly non-existent at most hospitals within 50 miles. A 1982 NRC report (Calculation of Reactor Accident Consequences or CRAC- 2) predicted that a meltdown and large-scale radiation release from the Palisades reactor would cause 1,000 fatalities and 7,000 injuries in just the first year, 10,000 cancer deaths over time, $52.6 billion in property damage (based on 1980 census, indexed to 1980 dollars, and thus a significant underestimate of impacts given population growth and inflation over the past 25 years). Clearly the community is ill equipped for this risk of catastrophic radiation release which grows more likely the longer the Palisades reactor operates.

Threats of Terrorist Attack and Sabotage at Palisades Nuclear Power Plant.
Located on the shoreline of Lake Michigan, the source of tourism, drinking water, fish, recreation, and other economic value to tens of millions of people downstream, Palisades represents a target for potentially catastrophic terrorist attack or sabotage intended to release large amounts of radioactivity into the Great Lakes basin. Palisades represents a radioactive bull's eye on the shore of 20% of the planet's surface fresh water, the Great Lakes. The operating reactor (containing many billions of curies of radioactivity) and high-level waste storage pool (containing tens to hundreds of millions of curies) are vulnerable to such attack, as are the outdoor dry storage casks, so highly visible, stored in the open air, in plain sight.

Economic Impact Statement

As part of any NRC Environmental Impact Statement, there is need for an Economic Impact Statement. This must include loss of "Opportunity Costs" such as tourism, fishing, recreation,

housing, other real estate, drinking water, etc. from ongoing "routine" radiation releases into the waters, air and soil of the Lake Michigan ecosystem, as well as the potential lost "opportunity costs"associated with a major radiation release due to an accident or attack at the Palisades reactor.

Baseline Public Health Study Regarding Rates of Cancer and other Diseases.

There is a current need for a baseline public health study to establish cancer and other disease rates prior to consideration of the proposal for a 20 year license extension. The NRC has relied on the National Cancer Institute (NCI) Study of 1990 to address cancer rates near nuclear power plants. However, the only data considered by the NCI was the county that reactor is located in, not other downwind and downstream counties. Thus, that study is methodologically flawed. It is also 15 years old, and thus does not include data on occurrences of cancer over the past 15 years, rendering it outdated. In addition to studying cancer, other diseases associated with radiation exposure must also be studied.

Aging of Component Parts

The aging of component parts must be taken into consideration and evaluated for potential safety-significant failures over the course of a 20 year license extension. Examples of such age-related failures at Palisades just in the recent past include: failure of the Control Rod Drive Mechanism (see PNO-III-04-010 August 11, 2004); Relief Requests for Reactor Vessel Head Penetration problems (NMS Request 10/4/04); Manual Reactor Trip / Main Condenser Vacuum (See Event # 41319); Emergency Declared on Primary Coolant System Integrity (See Event # 41681). Age-related failure of safety-significant systems could initiate the sequence of events that leads to PTS that ruptures Palisades' dangerously embrittled reactor vessel, causing catastrophic radiation releases into the Great Lakes basin. Frighteningly, NMC repeats countless times in its Environmental Report (as an excuse for not having to do any additional environmental impact analysis on various issues) that "NMC does not plan to undertake major refurbishment for Palisades license renewal." (As discussed in Section 3.2, and elsewhere throughout the Environmental Report)

Potential of Renewable Energy, Energy Efficiency, and Energy Conservation to Displace Palisades Nuclear Power Plant's Electricity Generation

In Section 7.0, "Alternatives to the Proposed Action," renewable energy sources such as wind power and solar power, as well as alternatives to Palisades such as energy efficiency and conservation, are given remarkably short shrift by NMC/Consumers. In fact, polluting electricity sources such as fossil fuels are given by NMC/Consumers as the only realistic alternatives to a 20 year license extension at Palisades. This is self-serving, in that Consumers owns and operates fossil fuel fired facilities. In fact, in 2002 nearly three-quarters of Consumers electricity generation came from fossil fuel facilities. Such reports as "Repowering the Midwest" by the Union of Concerned Scientists and Environmental Law and Policy Center; a recent analysis by Amory Lovins at the Rocky Mountain Institute published in the organization's summer 2005

newsletter (see www.rmi.org); cutting edge research and development conducted by the Midwest Renewable Energy Association; deployment by Mackinaw Power of modern, large capacity wind turbines on the northern tip of Michigan's lower peninsula, and plans to deploy more wind turbines on the Lake Michigan shoreline of west Michigan; long-established Lake Michigan shoreline wind power operation by the Traverse City, Michigan municipal power company; advances in solar electricity by Solar Ovonics in Troy, Michigan (which manufactures solar electricity generating roofing shingles, which could be installed unobtrusively over huge surface areas atop families' homes); advances in solar power technology documented by Steve Strong at Solar Design Associates; and a recent report commissioned by the U.S. Public Interest Research Group ("Redirecting America's Energy: The Economic and Consumer Benefits of Clean Energy Policies," Feb. 2005) all clearly show that renewables, efficiency and conservation not only are ready to go, reliable, safe, clean and affordable options for electricity generation and savings, but also the source for tremendous job growth and cost savings. Whereas NMC/Consumers may have a business agenda to ignore and downplay the potential for such promising alternatives to polluting sources of electricity such as fossil fuels and nuclear power, the NRC should fully examine such alternatives in its environmental impact statement.

Climate Change Impacts on Palisades reactor operations during license extension

A number of times in its Environmental Report, NMC/Consumers mentions, and affirms the now globally accepted fact that the collective activity of the human race is in the process of altering the climate of the planet (Climate Change). But the Nuclear Energy Institute, of which NMC/Consumers are members, actively suggests that nuclear power may be a strategy to lower the impact of electrical energy generation on this process. But it is also widely understood that mitigation can only change processes in the future, beyond the coming decade or two (and that is optimistic). The effects of past air emissions will govern the changes in weather patterns now documented, and those in the 20 year license extension period. The outlook globally is increasing severity in weather, particularly storms, both in number and intensity and for the Great Lakes basin, such impacts as increased frequency and severity of tornadoes, rain and lightning storms, temperature extremes in summer and winter, etc.

NMC/Consumers fails to analyze the multiple impacts these accelerating changes will have on reactor operations, as well as the ways that it will change the type and magnitude of impact that the reactors have on their external surroundings.

Analysis of Climate Change must include an analysis of increased potential for Station Blackout by virtue of projected increased numbers and intensity of tornados and other severe weather. Other factors of Climate Change impact are discussed below with respect to inadequacy of NMC/Consumers Environmental Report.

These factors may be seen as too complex to project and accurately analyze twenty years in the future, however they are really no more complicated than the complex interactions of NMC/Consumers' financial position, work force capabilities and human factors, cumulative and synergistic events in aging systems and multiple failure pathways that should be factored in the

analysis of whether component aging will be successfully managed to meet an ever moving target called “current license basis.”

Global warming could also alter the water levels and water temperatures in Lake Michigan over the course of the 20 year license extension, impacting Palisades nuclear reactor operations. Similarly, large-scale water diversion from Lake Michigan or inland groundwater that feeds into the Great Lakes – proposed by southwestern states, for example, to address their drinking water and other needs in current drought conditions (perhaps also attributable to global warming) and water bottling companies – could also impact water levels in Lake Michigan over the next 20 yrs.

Endangered Species

NMC/Consumers Environmental Report identifies numerous federal and State of Michigan endangered, threatened, candidate or species of special concern – such as eastern box turtle, lake sturgeon, lake herring, creek chubsucker, Pitcher’s thistle, prairie warbler, prairie vole, eastern massasauga rattlesnake, spotted turtle, Indiana bat, globe-fruited seedbox, scirpus-like rush, bald rush, Carey’s smartweed, and sedge that either already live at or near the Palisades reactor, or very likely could in the future. 20 more years of reactor operations threatens these already threatened, endangered, or candidate species, including daily “routine” radiation releases and/or potential large-scale radiation releases harmful impact on the threatened, endangered, or candidate genetics of these species. In addition, the dunes upon which Palisades is built and operates are recognized as Critical Dune Areas under Michigan’s Natural Resources and Environmental Protection Act, and are recognized by Covert Township as an Environmentally Sensitive Area, and thus should be protected against 20 more years of daily “routine” and potential large-scale accidental radioactive contamination. Likewise, the Mesic southern forest on the south end of the Palisades site is recognized as a prime example of this ecosystem type by the Michigan National Features Inventory, and should be protected against ongoing radioactive contamination for another two decades past 2011.

Findings of BEIR VII Must Be Incorporated into EIS

The BEIR VII report has recently been published. The recent BEIR scientific conclusion that there is no "safe" level of radiation - no matter how low the exposure - requires reconsideration of the "legal" operation of Palisades at all. The Palisades acknowledges routine “lawful” radiation releases. The new scientific conclusion compels reconsideration of the feasibility of continuing to allow Palisades to operate at all, especially given the related issues ofdrinking water pollution via radiation.

Need For Independent / Verifiable Monitoring of Palisades

There is no independent verifiable monitoring of Palisades. The community of Covert and surrounding communities are dependent upon the operators of Palisades to provide notification of radiological releases. There is an implicit public relations and financial incentive for the

operators not to be forthcoming regarding radiological events and accidents. Therefore, these communities must be equipt with independent verifiable radiological monitoring to protect themselves.

Evacuation Issues - Reliance on Dated Census Data

Current Radiological Emergency Response Plan must be re-examined to incorporate population trends and development projecting 20 years forward. Highway systems including construction projects must be carefully planned. Transitory populations of migrant workers must be considered. Bi-lingual notifications and dissemination of information must be made not only available but as a condition of operation.

Civil Liberties and Plant Security Issues / Community Security

In the post September 11, 2001 era of heighten concern about national security, there exists a great potential for the violation of civil liberties of the citizenry of the surrounding area. What will be the ramifications and implications to the peoples of these environs when there are enhanced security measures taken regarding Palisades. For example: walking along the beach; recreational use of the Lake and adjacent parks; driving down the highway; public protest and rights of assembly. Civil Liberties must be considered in this EIS process.

Sabotage and Internal Dissent at Palisades Due to Nuclear Management Company Whistle Blower Mistreatment

There are current legal actions being taken by whistle blowers at Palisades. One such case has identified systematic abuse by Nuclear Management Company of a Health Physicist worker who had reported what he believed to be various violations of safety protocols to the U.S. Nuclear Regulatory Commission. Plaintiff discussed over the telephone certain concerns of his about safety and his fear of retaliation for bringing up safety concerns and by cooperating with the Nuclear Regulatory Commission with Andrea Kock and Ryan Alexander of the United States Nuclear Regulatory Commission. This resulted in the generation of United States Nuclear Regulatory Commission Allegation Number RIII-03-A-0051. This worker has been dismissed from employment. This culture of intimidation sets the stage for internal dissent. When workers fear that they will be dismissed for reporting safety concerns there is a serious problem with the "Safety Culture" at Palisades with potential grave consequences. These concerns must be addressed in the EIS process.

Need for Full Cost Accounting Principles regarding "No Action"of Re-license

Principles of Full Cost Accounting must be taken into consideration when examining the No Action option (denial of re-licensing). Twenty additional years of Palisades operation would have negative impacts on public health, with civil liberties curtailed, impacts on realty market, additional routine contamination of the water and air, etc. This, coupled with the Opportunity Costs incurred because of negative impact on tourism, recreation, fishing, camping and agriculture must be factored into the economic viability of operation. These, must be

considered in the EIS process.

Invasive Species Impact of: Zebra Mussels; Quagga Mussels; **Alewife & Other Fish Kills**

What has been the impact of Zebra Mussels and Quagga Mussels on the Palisades plant? How have these species been controlled at Palisades and how have the use of toxics such as Betz Clam-Trol impacted the water quality on which the public relies? What would be the consequences at Palisades if these toxics were not used? What has the been the history and mitigation attempts regarding fish kills at Palisades? What game fish have been impacted by the operation of the Palisades reactor? What has been the bio-accumulation and bio-concentration of persistent toxics both radiological and non-radiological contamination in recreational and commercial game fish? How has the operation of Palisades impacted Native American fishing rights in the Great Lakes?

Request for Sixty Day Extension on EIS Comment Period

There are a multitude of environmental concerns in addition to those raised above that we will like to address but lacking adequate time to digest and respond to voluminous NRC documents have been unable to do so. By letter dated August 19, 2005 to Andrew L. Bates, Acting Secretary, Office of the Secretary U.S. Nuclear Regulatory Commission Washington, D.C. 20555-0001. A request was made for 60 day extension. Again, we respectfully request that NRC grant an additional 60 days to the concerned citizens of Michigan, Indiana, and Illinois, and the organizations, which represent them, in which to file scoping comments on NRC's Environmental Review of the Palisades nuclear power plant 20-year license extension proposal. Thank you for your review of this document.