



ST. CLAIR COUNTY HEALTH DEPARTMENT

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3415 28th Street Port Huron MI 48060

January 8, 2025

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MEMORANDUM FOR: Advisory Board of Health and Liz King, Health Officer,
St. Clair County Health Department

FROM: Dr. Remington Nevin, Medical Director, St. Clair County Health Department

SUBJECT: Local Regulation of Eligible Facilities Subject to *Public Act 233 of 2023*

As described in my November 25, 2024 memorandum to the St. Clair County Board of Commissioners, I have determined that the construction and operation of certain industrial solar plants and data centers, located in whole or in part within St. Clair County, and comprising energy facilities eligible for certification by the Michigan Public Service Commission (“the commission”) under *Public Act 233 of 2023* (“eligible facilities”), constitute a potential public health risk to the residents of St. Clair county, and that these facilities are therefore subject to local public health oversight and action. This memorandum is intended to provide medical public health guidance, including brief authority and rationale, for the local regulation of such eligible facilities by the St. Clair County Health Department, including under its authority to “[a]dopt regulations to properly safeguard the public health and to prevent the spread of ... sources of contamination,” *MCL 333.2435(d)*. It is anticipated that the Health Officer, with the recommendation of the Advisory Board of Health, will consider this guidance in determining whether and how to adopt appropriate local regulations in this regard, per *MCL 333.2441–2442*.

I am recommending to the Health Officer that the St. Clair County Health Department adopt regulations that provide substantially as follows:

Recommendation (1): Define “eligible facilities” subject to local public health regulation as those eligible for certification under *Public Act 233 of 2023*, including solar energy facilities with a nameplate capacity of 50 megawatts or more, and energy storage facilities with a nameplate capacity of 50 megawatts or more and an energy discharge capability of 200 megawatt hours or more, such as may be collocated with a data center or separately sited.

Authority: *Public Act 233 of 2023* requires that eligible facilities do “not present an unreasonable threat to public health,” *Sec. 226(7)(g)*. The Public Health Code empowers local health departments to “[a]dopt regulations to properly safeguard the public health and to prevent the spread of ... sources of contamination,” *MCL 333.2435 (d)*, and to “adopt regulations necessary or appropriate to implement or carry out the duties or functions vested by law in the local health department,” *MCL 333.2441*.

Rationale: “Legally, governments use their police powers to protect public health... through zoning.” *Hirschhorn (2024)*. By pre-emption of the local zoning process in the siting of eligible facilities through the process of certification, *Public Act 233 of 2023* eliminates the ability of local elected governments to independently protect the public from potential public health risks associated with the siting of these facilities. As described in my November 25, 2024 memorandum, and as will be articulated in further detail below, the provisions of *Public Act 233 of 2023*, including those in *Sec. 226(8)*, are insufficient to protect the public’s health from these potential risks, necessitating local public health regulation.

Recommendation (2): Require that any electric provider or independent power producer proposing to construct or operate an eligible facility, to be located in whole or in part within St. Clair County, and notwithstanding any potential prior approval of the eligible facility by a local governing body, first make a successful application for a certificate from the commission per the provisions of *Public Act 233 of 2023, Sec. 222–225*, prior to independent review of the application by the St. Clair County Health Department and Advisory Board of Health; such review taking into account specific concerns identified by local residents and local elected governments, including at public meetings and proceedings and through public comments solicited per the provisions of *Public Act 233 of 2023, Secs. 223(1) and 226(2)–(3)*; and such review independently concluding, notwithstanding any other provisions of law or regulation, including *Public Act 233 of 2023, Sec. 226(8)*, that no unreasonable threat to public health is posed by the construction or operation of the eligible facility, prior to local authorization.

Authority: As described in my November 25, 2024 memorandum, and notwithstanding any other preemption provision in *Public Act 233 of 2023*, including the language in *Sec. 231(3)*, it is reasonable to conclude that it was the specific intent of the legislature, in adopting *Public Act 233 of 2023*, to permit local health departments to separately regulate eligible facilities under their existing statutory authorities. Analogous with the Attorney General’s opinion, *Michigan Attorney General Opinion No. 7205, September 14, 2007*, and notwithstanding any other provisions of law or regulation, including *Public Act 233 of 2023, Sec. 226(8)*, it would be within the public health authority of a local health department to issue a regulation specifying additional and more stringent requirements be met, beyond certification under *Public Act 233 of 2023*, prior to authorizing the construction or operation of an eligible facility within its jurisdiction. This interpretation is consistent with a key provision of the Public Health Code, namely that it “shall be liberally construed for the protection of the health, safety, and welfare of the people of this state,” *MCL 333.1111(2)*, and that local health regulations, “shall be at least as stringent as the standard established by state law applicable to the same or similar subject matter,” *MCL 333.2441*.

Rationale: The pre-certification application provides for an initial public assessment of the potential public health risks of the eligible facility, including a “description of the anticipated effects... on the environment, natural resources, and solid waste disposal capacity,” *Sec. 224(1)(b)*; the “expected direct impacts... on the environment... and how the applicant intends to address and mitigate these impacts,” *Sec. 225(1)(f)*; a “decommissioning plan... that ensures the return of all participating properties to a useful condition similar to that which existed before construction,” *Sec. 225 (1)(r)*; and other “[i]nformation on the effects of the proposed [eligible] facility on public health,” *Sec. 225(1)(g)*.

An independent review of this information by the St. Clair County Health Department, with the advisement of the Advisory Board of Health, and taking into account specific concerns identified by local residents and local elected governments, including from public meetings, proceedings, and comments solicited per the provisions of *Public Act 233 of 2023, Secs. 223(1) and 226(2)–(3)*, is necessary to ensure that the proposed eligible facilities do not present an unreasonable threat to public health during construction and operation.

Recommendation (3): Define residents of St. Clair County in proximity to proposed or existing construction or operation of eligible facilities as constituting a “particularly vulnerable population group” per MCL 333.2433(1), requiring by statute that the local health department “diligently endeavor” to prevent and control “health problems” among them.

Authority: The term “particularly vulnerable population group” is not defined in the Public Health Code nor the Michigan Administrative Code, requiring that guidance on the formal definition of this term be a matter of medical specialty judgement by the local medical director, acting in his regulatory role “to provide direction [to the local governing entity] in the formulation of medical public health policy and program operation,” and in “advising the administrative health officer on matters related to medical specialty judgments,” *Michigan Administrative Code R 325.13001(d)*.

Rationale: A finding by a local health department that a population group is “particularly vulnerable” triggers a requirement that the local health department “shall continually and diligently endeavor to... promote the public health,” among this group, including through the “prevention and control of **health problems** [emphasis added]” (as opposed to the mere “prevention and control of **diseases** [emphasis added]” in other populations), *MCL 333.2433(1)*. Unlike “disease”, a “health problem” is a broad and inclusive term that can encompass any condition or state that may adversely impact the health of a particularly vulnerable population group, including psychological and environmental factors, as well as self-reported conditions and symptoms.

By one definition, “[v]ulnerability... takes into account the likelihood of exposure, as well as the potential health impact of the exposure,” *Chae et al. 2001*. That the predominantly rural residents of St. Clair County, who are more likely to be exposed to the health impacts of eligible facilities than urban or suburban residents, constitute a “particularly vulnerable population group” is evident at face value from the lack of advocacy for this population by the broader Michigan public health community, and among Michigan state regulators, in the context of *Public Act 233 of 2023*.

For example, in the context of the siting of industrial activities, the vulnerability of certain populations motivates within the public health community the concept of environmental justice, which per the State of Michigan Department of Environment, Great Lakes, and Energy (EGLE) “is the equitable treatment and meaningful involvement of all people, regardless of race, color, national origin, ability, or income and is critical to the development and application of laws, regulations, and policies that affect the environment.” Per EGLE, “equitable treatment” means that “**no group of people bears a disproportionate share of the negative consequences resulting from governmental, industrial, or commercial operations and policies** [emphasis added],” while “meaningful involvement” means that “people have an opportunity to participate in decisions that affect their environment and/or health,” “decision makers seek out and facilitate the involvement of those potentially affected,” “people’s concerns are considered in decision-making processes,” and “people can influence state agency decisions,” *EGLE (2025)*. The recently established Michigan Interagency Environmental Justice Response Team has the “goal of assuring that **all Michigan residents benefit from the same protections from environmental hazards** [emphasis added],” *Whitmer (2019)*.

It is difficult to reconcile these commitments with the complete absence of meaningful involvement and equitable treatment of predominantly rural residents likely to be disproportionately affected by siting decisions arising from *Public Act 233 of 2023*. Unlike the advocacy directed for the benefit of predominantly urban residents affected by comparable industrial activities, neither EGLE nor the Michigan Department of Health and Human Services (MDHHS), nor the broader Michigan public health community, have demonstrated meaningful concern for the public health risks associated with the siting of eligible facilities in predominantly rural areas. As noted in a rare environmental justice case study in St. Clair County, “Environmental justice movements are typically associated with **left-leaning politics** [emphasis added]. But in St. Clair [County], we frequently encountered pushback against liberalism and environmentalism... Despite this, St. Clair [County] residents clearly expressed a shared desire for clean air, clean water, and a healthy environment... **everybody deserves access to a healthy environment and decision-making power regardless of race, income, or political affiliation** [emphasis added],” *Beilinson et al. (2024)*.

Recommendation (4): Find that notwithstanding any other provisions of law or regulation, including *Public Act 233 of 2023, Sec. 226(8)*, that an unreasonable threat to public health is posed by construction or operation of an eligible facility which substantially obscures the natural soundscape or which results in an increase in ambient broadband noise levels of 10 db(A) or a detectable tonal sound at any point on an adjacent nonparticipating property.

Authority: *Public Act 233 of 2023* requires that eligible facilities do “not present an unreasonable threat to public health,” *Sec. 226(7)(g)*. “A local health department shall continually and diligently endeavor to... promote the public health through... prevention and control of environmental health hazards... [and] prevention and control of health problems of particularly vulnerable population groups,” *MCL 333.2433(1)*. Local health departments may “[a]dopt regulations to properly safeguard the public health,” *MCL 333.2435 (d)*, and to “adopt regulations necessary or appropriate to implement or carry out the duties or functions vested by law in the local health department,” *MCL 333.2441*. Local health regulations “shall be at least as stringent as the standard established by state law applicable to the same or similar subject matter,” *MCL 333.2441*.

Rationale: Eligible facilities include various forms of equipment, including inverters, transformers, and fans, which are likely to pose a substantial risk of generating noise constituting an unreasonable threat to the public’s health, including to the health of particularly vulnerable population groups. *Public Act 233 of 2023* declares arbitrarily that such noise “does not present an unreasonable threat to public health,” *Sec. 226(7)(g)*, if it “does not generate a **maximum sound in excess of 55 average hourly decibels** [(dB)] as modeled at the nearest outer wall of the nearest dwelling located on an adjacent nonparticipating property [emphasis added],” *Sec. 226(8)(a)(iv) and Sec. 226(8)(c)(iv)*. From the public health perspective, the inadequacy of these limits is obvious at face value based on the recent rejection of this level, in favor of a significantly lower level, by both a local elected government and the electric provider or independent power producer proposing to construct or operate an eligible facility within St. Clair County, *Portside Solar, LLC v. Fort Gratiot Township, No. 24-000048-AA, St. Clair County Circuit Court, November 19, 2024, Consent Judgement, para. 10(c)*.

Although occasionally interrupted by noise (e.g., from transient agricultural activities), the predominant soundscape feature of many rural areas is one of quiet natural sounds. In contrast to urban or suburban residents who may elect to tolerate higher levels of noise, rural residents, including its particularly vulnerable population groups, will frequently self-select for the rural soundscape, both due to intolerance of the harmful effects of urban and suburban levels of noise and for the promotional effects of the rural soundscape on health, the loss of which would be likewise harmful to health (e.g., a family that chooses to relocate to a rural area for the benefit of their autistic child, or for general quality of life).

“As emphasized in the soundscape approach, noise-related annoyance can occur at any level once it impedes calm, relaxation or sleep. Reduced annoyance from noise is related to higher levels of self-reported health, and positive experiences with pleasant, quiet or lively (high-quality) sound environments allow people to engage in need satisfaction. High-quality sound environments can also have positive health effects on psychological well-being and on health-related quality of life. Nature sounds in particular are associated with improved health outcomes, positive affect, and decreased stress and annoyance.... In addition, access to quiet greenscapes is associated with reduced long-term annoyance and stress-related psychosocial symptoms. There is limited evidence of physiological recovery from stress as well (as measured through heart rate of skin conductance levels) in the presence of natural sounds, even when controlling for sound level,” *Trudeau et al. (2023)*.

Under the soundscape approach, any substantial obscurement by an eligible facility of the natural soundscape, or any generation of substantial ambient noise by an eligible facility, would be consistent with the eligible facility constituting an unreasonable threat to the public’s health, including to the health of particularly vulnerable population groups. Contrary to the provisions of *Public Act 233 of 2023*, best practices in public health consider any increase in ambient broadband noise level of over 10 dB as unreasonable. For example, the Commonwealth of Massachusetts noise regulation, *Code of Massachusetts Regulations, Title 310, Sec. 7.10*, and its interpretive noise level policy require that no broadband source result in noise greater than 10 dB above ambient levels, and places additional strict limits on the production of pure tones, *Commonwealth of Massachusetts (1990)* (e.g., the 60 Hz tonal sound and associated harmonics likely to be created by certain electrical equipment, including inverters).

Given the particular sensitivity of human health to such tonal noise, *Bahtiarian (2019)*, and the likelihood of such noise being persistent during the operation of eligible facilities, any detectable tonal noise must also be considered an unreasonable threat to public health.

Recommendation (5): Find that notwithstanding any other provisions of law or regulation, including *Public Act 233 of 2023, Sec. 226(8)*, that an unreasonable threat to public health is posed by construction or operation of an eligible facility in the absence of appropriate screening, including through vegetation, berms, and setbacks, intended to eliminate the adverse visual impact of the eligible facility on adjacent nonparticipating properties.

Authority: *Public Act 233 of 2023* requires that eligible facilities do “not present an unreasonable threat to public health,” *Sec. 226(7)(g)*. “A local health department shall continually and diligently endeavor to... promote the public health through... prevention and control of health problems of particularly vulnerable population groups,” MCL 333.2433(1).

Local health departments may “[a]dopt regulations to properly safeguard the public health,” *MCL 333.2435 (d)*, and to “adopt regulations necessary or appropriate to implement or carry out the duties or functions vested by law in the local health department,” *MCL 333.2441*. Local health regulations “shall be at least as stringent as the standard established by state law applicable to the same or similar subject matter,” *MCL 333.2441*.

Rationale: As evidenced at recent public meetings, eligible facilities are generally viewed as deeply unpopular additions to the rural, agricultural areas of St. Clair County. This unpopularity is further reinforced by a sense of betrayal at *Public Act 233 of 2023*, which contrary to principles of environmental justice otherwise advocated by state officials for the benefit of predominantly urban residents, eliminates the control of local elected bodies, predominantly in rural areas, over siting decisions of what are typically large, unsightly, and imposing eligible facilities. By dramatically changing the landscape of predominantly rural, agricultural areas in a manner beyond the control of resident populations, eligible facilities constitute a form of “visual pollution”, commonly defined as a “set of elements that can offend human vision... and have psychological and economic effects on a community,” *Nawaz and Wakil (2022)*. Owing in part to the visual pollution they cause, certain eligible facilities are generally viewed as posing a significant risk of lowering the value of adjacent nonparticipating properties, consistent with credible published estimates, *Elmallah et al. (2023)*. Such adverse economic effects may also plausibly adversely affect the health of affected residents through various mechanisms, *Coffee et al., 2013*.

These effects may be mitigated somewhat by appropriate screening, including through vegetation, berms, and setbacks intended to eliminate the adverse visual, and consequent psychological and economic impacts of the eligible facility on adjacent nonparticipating properties. As with noise limits, the provisions of *Public Act 233 of 2023* in this regard are generally viewed by residents of St. Clair County as inadequate, and from a public health perspective, this inadequacy is obvious at face value based on the recent rejection of these by both a local elected government and the electric provider or independent power producer proposing to construct or operate an eligible facility within St. Clair County, in favor of more stringent screening provisions, including a requirement for landscape screening “including installation of a vegetative mix of native species including, without limitation, deciduous trees,” *Portside Solar, LLC v. Fort Gratiot Township, No. 24-000048-AA, St. Clair County Circuit Court, November 19, 2024, Consent Judgement, para. 10(a)*.

As with tonal noise, and given its adverse psychological and economic effects, any adverse visual impacts from such facilities must also be considered an unreasonable threat to public health.

Recommendation (6): Find that notwithstanding any other provisions of law or regulation, including *Public Act 233 of 2023, Sec. 225(1)(r)*, that an unreasonable threat to public health is posed by construction or operation of an eligible facility in the absence of a decommissioning plan that provides for a separate financial assurance of at least \$100,000 per megawatt of nameplate capacity in escrow to the St. Clair County Health Department, and subject to annual increases for inflation, to provide for control of potential sources of contamination.

Authority: *Public Act 233 of 2023* requires that eligible facilities do “not present an unreasonable threat to public health,” *Sec. 226(7)(g)*. Local health departments may “[a]dopt regulations to properly safeguard the public health and to prevent the spread of ... sources of contamination,” *MCL 333.2435 (d)*, and to “adopt regulations necessary or appropriate to implement or carry out the duties or functions vested by law in the local health department,” *MCL 333.2441*.

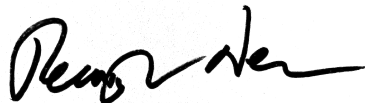
Rationale: Eligible facilities, including those to be located on predominantly zoned agricultural land and in close proximity to sensitive environmental areas, may contain a variety of potential sources of contamination, which may be released into the environment particularly in the event of fire, natural disaster, or prolonged weathering, such as may occur through failure of the electric provider or independent power producer to provide adequate maintenance of the eligible facility, or through their premature abandonment or depowering of the facility due to various economic reasons including insolvency, such as may occur through changes in the economics of their operation, including through the loss of required federal or state subsidies. The risk of eligible facilities being supplanted by more economically sustainable and reliable forms of power generation (particularly in St. Clair County, by natural gas generation) creates a non-trivial possibility of industry-wide economic strain associated with a mass abandonment or depowering of eligible facilities at some point in the foreseeable future.

To protect against these risks, best practices provide for financial assurance to be provided in the form of inflation-adjusted funds which may be accessed by a regulator or other government entity for the purposes of returning a site to its original state at the end of a project’s economic life. The most secure form of financial assurance against such eventualities is escrow, which provides an enhanced level of assurance over parent company guarantees, surety bonds, and irrevocable letters of credit which are authorized to serve this purpose under *Public Act 233 of 2023, Sec. 225(1)(r)*, but which may fail to provide for reliable payment in the event of an industry-wide economic strain causing multiple insolvencies or insurance or banking losses.

Public Act 233 of 2023 likewise fails to provide for credible estimates of decommissioning costs necessary to inform the provision of such financial assurance. For example, estimates of the true decommissioning costs of comparable eligible facilities are orders of magnitude greater than the \$674,377.40 cost quoted by the electric provider or independent power producer proposing to construct or operate an eligible facility within St. Clair County, *Portside Solar, LLC v. Fort Gratiot Township, No. 24-000048-AA, St. Clair County Circuit Court, November 19, 2024, Consent Judgement, Exhibit C, para. 3*. At a nameplate capacity of 100 megawatts, and spanning 700 to 900 acres, this corresponds to a quoted decommissioning cost of only approximately \$6,738 per megawatt and between only \$749 and \$963 an acre. In contrast, the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) estimates a decommissioning cost for a comparable eligible facility of \$368,000 per megawatt, *NREL (2021a)*, for a total decommissioning cost of \$36.8 million for the 100 megawatt nameplate facility – over 54 times the cost cited. The proposed \$100,000 per megawatt financial assurance is approximately one quarter of this amount, and corresponds favorably to those required in other jurisdictions and by other regulators. For example, the U.S. Bureau of Land Management requires financial assurance of at least \$10,000 per acre, which for an eligible facility spanning 700 to 900 acres, would correspond to a comparable \$7 to \$9 million, *NREL (2021b)*. Absent such financial assurance necessary to fund a minimum level of site-level decontamination and other decommissioning activities in the event of premature abandonment or depowering, the construction or operation of such facilities must be considered to pose an unreasonable threat to public health.

These recommendations are non-exclusive, constitute my professional medical opinion, and are based upon my education, training, and experience, and my review of the pertinent facts and circumstances.

As noted in my November 25, 2024 memorandum to the St. Clair County Board of Commissioners, the Public Health Code does not anticipate that a precise scientific or medical rationale be articulated by local health departments in order to legally justify the adoption of health regulations, which are instead anticipated to be adopted on the basis of favorable expert opinion and public comment and the consent of the local governing entity. Likewise, neither it is the local health department's responsibility to prove, with a precise scientific or medical rationale, that eligible facilities pose an unreasonable threat to the public health's to legally justify such action. The medical public health guidance in this memorandum nonetheless provides brief authority and rationale to demonstrate the appropriateness of local health department regulation of these facilities, particularly given the inadequacy of the public health provisions of *Public Act 233 of 2023*.



Remington Nevin, MD, MPH, DrPH
Medical Director, St. Clair County Health Department

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