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THE SENATE  
STATE OF MICHIGAN

APPROPRIATIONS SUBCOMMITTEES:  
AGRICULTURE, MVC  
ENVIRONMENTAL QUALITY, MVC  
K-12, SCHOOL AID &  
EDUCATION, MVC  
NATURAL RESOURCES, MVC

EDUCATION COMMITTEE, MVC  
ENERGY & TECHNOLOGY  
COMMITTEE, MVC

**A Michigan Perspective**  
**By Michigan Senator Hoon-Yung Hopgood**

Good afternoon. As the Michigan State Senator for the 8<sup>th</sup> District in Wayne County, bordering the Detroit River, I represent 260,000 residents in the "Great Lakes State". I am proud to share that Michigan boasts more than 3,000 (3,126) miles of Great Lakes shoreline -- more fresh water coastline than any other state -- with 40 of its 83 counties touching a Great Lake! The Great Lakes define Michigan literally and figuratively. Quite simply, the Great Lakes ARE Michigan.

According to the 2011 *Jobs, Economy and Great Lakes* report, more than 1.5 million Great Lakes-related jobs generated \$62 billion in wages in the region in 2009. A 2009 *Michigan's Great Lakes Jobs* report found that 23 percent of all Michigan's payroll depends on the Lakes.

Therefore, it's no surprise that adverse impacts to the Great Lakes adversely impact Michigan. Our industries, from manufacturing to agriculture, to tourism and recreation, to boating and fishing, are critically dependent on our waters. Threats to our Lakes, including contamination, invasive species and water withdrawals, endanger not only Michigan's environment, but also its livelihood.

Ontario Power Generation's permanent nuclear waste burial facility, proposed off the shores of Lake Huron, is no different. Despite all the computer modeling and studies, no one has, can or will guarantee that contamination from this unproven and untested method will not occur. As such, they cannot guarantee that our drinking water will remain safe and Michigan's economy and its vast industries will not be harmed.

These and other concerns are reflected in the letters attached to my written testimony from:

- the Michigan United Conservation Clubs
- the Michigan Boating Industries Association
- the Michigan Charter Boat Association
- the Michigan Steelhead & Salmon Fishermen's Association
- the Michigan Environmental Council
- the Michigan Clean Water Action

Unfortunately these organizations, like most Michigan residents, were not made aware of this proposal and the July 5 deadline to request participation.

Note, the Panel's own Guiding Principles state that "Public participation is a critical objective of the overall review process." Further, "Meaningful involvement in the environmental assessment can only take place **when all parties have a clear understanding of the proposed project as**

**early as possible** (in the review process).” Finally, the guidelines clarify that “The *Canadian Environmental Assessment Act* **does not exclude the public outside of Canada...**”

In an attempt to detail its Michigan outreach, OPG notes brief 20-minute presentations with a few organizations and a handful of closed-door, private meetings with select politicians and bureaucrats, some, four years ago. This is hardly public outreach. Still, of those who were briefed:

- the State Senator has cosponsored my resolution raising concerns about this project,
- the Congressman has sent a letter to the U.S. Department of State requesting their involvement,
- the County Commission has also approved a resolution raising concerns about the DGR, and
- two of the three environmental organizations have submitted letters of concern and the third is reportedly taking action through the International Joint Commission.

In addition, my resolution (**SR 58**) was fully vetted with Governor Snyder’s staff and the Michigan Department of Environmental Quality prior to the votes in the Senate Energy and Technology Committee and the full Michigan Senate, and neither opposed this legislation.

Regardless, no general public outreach has occurred in Michigan. There has been no public participation process. OPG did not host one public event in Michigan. Our citizens were never notified and their input was never sought. But, it’s not just about Michigan. All citizens living in Great Lakes states have a **right** to know about this proposal and should have been consulted. How can people possibly raise concerns about something they don’t know about? Shamefully, this highly controversial proposal with potentially grave impacts is largely unheard of.

Bringing greater public awareness to this issue remains one of my primary goals. Those efforts began with SR 58. Since then I have communicated through media and social networking sites, creating videos and sending numerous correspondences. Last month I hosted a standing-room-only town hall with my colleague Rep. Roberts to educate and inform our citizens. Of course, peoples’ reactions are virtually the same: passionate opposition. They are shocked that anyone would even consider such a threat to our Great Lakes, and that they had not heard about this before. While I continue to do all I can, I am still reaching too few Michigan citizens.

In May of this year, after learning about the DGR, I introduced SR 58. The resolution was passed unanimously and was cosponsored by 26 other Senators. Collectively the sponsors represent more than 7 million Michigan residents.

As you should already be aware, SR 58 raises six specific concerns that were formally brought to the Canadian Prime Minister’s, the Ontario Premier’s, the Canadian Nuclear Safety Commission’s and the Panel’s attention. They were detailed in the June 14, (2013) assessment that the Joint Review Panel requested of Mr. Neal Burnham of the U.S. Transboundary Affairs Division. The resolution also included specific recommendations and requests regarding these concerns; to date, there has been no response.

Mr. Burnham’s assessment suggested a number of actions, including confirming that the approach currently being proposed for the DGR is consistent with Michigan’s regulations. On this point, Mr. Glenn Sutton erroneously commented during his testimony that Michigan law

would allow the disposal of nuclear waste at sites adjacent to nuclear facilities. A closer look at Michigan statute demonstrates that is not correct.

First, the Michigan Low-Level Radioactive Waste Authority Act (PA 204 of 1987) establishes nine **minimum** siting criteria, including locations within ten miles of the Great Lakes and other connecting large bodies of water. Ultimately the law charged the Authority with establishing the **final** siting criteria. The Authority developed 31 comprehensive siting criteria used to identify three possible locations for a disposal site. These criteria eliminated 97% of Michigan from consideration, including all locations adjacent to a nuclear facility. Such sites were determined to be unacceptable for low-level radioactive waste disposal. Regardless, Michigan's Radioactive Waste Act (PA 113 of 1978) explicitly prohibits the underground storage or disposal of radioactive waste. OPG's DGR would NEVER be permitted under current Michigan law.

Mr. Burnham also recommended that the Panel confirm that OPG and the Canadian Nuclear Safety Commission have or will fulfill the requirements set out in the Joint Convention on the Safety of Spent Fuel, the Canada-U.S. Great Lakes Water Quality Agreement, and any other relevant international agreements. This was one of the specific concerns and requests detailed in SR 58. However, it is not known if these verifications have been made, nor have they been shared with me.

Mr. Burnham also notes that "The (Canada-U.S. Great Lakes) Water Quality Agreement requires that Canada and the U.S. notify each other of planned activities that could lead to a pollution incident or that could have a significant cumulative impact on the waters in the Great lakes, such as the storage of nuclear waste or radioactive materials." It seems that Canada has not provided any official notice regarding OPG's underground nuclear waste facility on Lake Huron, an apparent violation of this Agreement.

Additionally, Mr. Burnham suggests that the panel consider the adequacy of existing scientific data to support the appropriateness of the geological formation in response to the resolution's concerns about the unprecedented and unproven nature of the proposed use of the water-soluble limestone formation. As you know, the methodologies used in OPG's studies have been called into question by professionals.

The Michigan Department of Environmental Quality provided "limited comments" on the Environmental Impact Study, never expressly stating support for the project itself. However, the comments repeatedly note shortfalls in OPG's studies. In particular it cites a failure to explicitly answer the two questions posed as part of the geological study's report objectives. It also notes that some figures do not accurately reproduce the pressure distribution and that figures for dissolved solid concentrations are high for some formations. Finally, the MDEQ says that some of the studies may be "incomplete or inaccurate". This is not an impressive review for an entity seeking to be a pioneer with underground nuclear waste disposal.

Furthermore, the Panel's own consultant, Dr. Peter Duinker, solicited to evaluate OPG's approach and method in its environmental assessment gave a very damning report. Dr. Duinker concluded that OPG's analysis was not credible, not defensible, unclear, not reliable and inappropriate. What confidence can the people have in OPG and the entire environmental assessment process with this highly critical evaluation?

It seems integrity and quality regarding the Joint Review Panel's EIS process continue to be called into question. The Panel's own guidelines identify specific factors that must be considered, including:

- need for the project,
- alternatives to the project, and
- alternative means of carrying out the project that are technically and economically feasible.

By considering only one site – a site that poses a serious and direct threat to our Great Lakes – OPG clearly fails to address these factors. It is a glaring and unacceptable omission that a site away from the Great Lakes was never even contemplated; an omission you should not tolerate. Other locations off the Bruce Site must be considered. Even Michigan's laws pertaining to low-level radioactive waste explicitly require consideration of three alternatives, and Canada's regulations for municipal landfills demand more.

Finally, one of the looming issues is the **scope** of the DGR. It is proposed to include low- and intermediate-level nuclear waste. However, OPG has repeatedly referenced plans to include decommissioned wastes – a move that would double the facility. This constitutes a major expansion of the project that deserves to be addressed in this current process, not later.

OPG already addressed this matter in the '05 Hosting Agreement with Kincardine and adjacent communities by including specific provisions to allow for decommissioned waste (Section 5.1) and related payments for their support of including this waste (Section 5.2) at the DGR. So, if OPG claims it is not prepared to do so now, then the entire project should be put on hold until it is. Again, OPG is proposing to build a facility that is unprecedented and unproven anywhere in the world. It's full potential scope must be evaluated before it is permitted to do so.

The possibility of high-level nuclear waste is a concern as well. Despite claims that this facility will not accept such waste, there is nothing to ensure that will not occur in the future. While the Hosting Agreement does not specifically include high-level waste, nothing binds OPG to only low- and intermediate-level nuclear waste and nothing prevents an amendment to allow for high-level waste. What should happen if the agreement is terminated? What would prevent OPG from expanding the DGR for this purpose in the future? Not very much.

The people of Michigan have extensive concerns about this project and the process that has effectively excluded us from protecting the resource that is our life and livelihood. If you have been told otherwise, you have been misled. On their behalf, I implore you to recommend its denial. More questions are being raised than can be answered. There is simply far too much in jeopardy to move forward on a project that clearly deserves greater scrutiny and broader public input. Thank you.

# Michigan United Conservation Clubs



517-371-1041 2101 Wood Street, PO Box 30235, Lansing, MI 48909 FAX: 517-371-1505

*Conserving, Enhancing and Protecting Michigan's Natural Resources and Outdoors Heritage since 1937.*

September 27, 2013

The Honorable Hoon-Yung Hopgood  
Michigan State Senate  
515 Farnum Building  
Lansing, MI 48933

RE: Concerns over proposed OPG Nuclear Waste Repository along Lake Huron

Dear Senator Hopgood,

The Michigan United Conservation Clubs (MUCC) is a non-profit member-based organization with over 250 affiliated clubs and 42,000 members throughout the state of Michigan. For over 75 years, MUCC has united citizens to conserve, protect and enhance Michigan's natural resources and preserve our outdoor heritage through education, communication and advocacy.

We write to you today with grave concerns over the proposed construction and operation of a long-term underground burial facility for low and intermediate nuclear waste in Kincardine, Ontario, Canada. From what we understand, this facility will be constructed a mere half mile from the shore of Lake Huron and will store radioactive waste material that could remain toxic for over 100,000 years.

As you know, Lake Huron is a very important part of the Great Lakes ecosystem from which both Michigan and Ontario benefit. The Great Lakes fishery alone is worth over \$7 billion in economic benefit to the surrounding states and provinces, and our citizens rely on clean, healthy Great Lakes for drinking water and world-class recreational opportunities including fishing, swimming, boating, and other water-based tourism activities. Fish habitat in Lake Huron also supports world-class opportunities for lake trout, salmon and walleye fishing. These opportunities, plus the health of Great Lakes citizens and visitors, would all be at risk from dangerous releases from the proposed facility.

In the end, there are too many economic, ecological, and health concerns that are raised by the proposed construction of this nuclear waste facility so close to Lake Huron. The choice seems clear: we cannot afford such an incredible risk so close to such an incredible resource.

Yours in Conservation,

Erin McDonough  
Executive Director



**Michigan®  
Boating  
Industries  
Association**

September 26, 2013

Senator Hoon-Yung Hopgood  
Michigan Senate  
25953 Labana Woods Dr.  
Taylor, MI 48180

Dear Senator Hopgood,

The Michigan Boating Industries Association, representing more than 300 marine businesses in Michigan, resoundingly supports your SR 58 and the efforts to stop the Ontario Power Generation (OPG) from constructing an underground long-term burial facility for Ontario's low and intermediate nuclear waste at the Bruce Nuclear Generating Station.

Knowing what we know about the geological repository in Maxey Flats, Kentucky, this action would be extremely irresponsible and an incredibly dangerous threat to the Great Lakes, as well as to the people and industries which depend on them.

The impact of radioactive water could be devastating to Michigan and all states surrounding the Great Lakes. The Great Lakes are the largest group of freshwater lakes on the planet. They provide drinking water to 40 million people, and are essential to Michigan's fishing, boating, recreation, tourism, agriculture and other industries that are dependent on pristine waters. According to the eight-state Great Lakes Commission, the Great Lakes support 1.5 million jobs that generate \$62 billion in wages annually in the region.

The MBIA strongly opposes the OPG plan and respectfully asks the Joint Review Panel to search for a better alternative. There is too much at stake including the lives and livelihood of millions of people residing in the Great Lakes Region. The lack of consideration regarding the impacts, and the late notice and limited opportunity for input from boating, fishing and consumer groups is of grave concern to the MBIA.

Sincerely,

Nicki Polan  
Executive Director

**Michigan Boating Industries Association**

32398 Five Mile Road, Livonia, MI 48154

P: 734.261.0123; F: 734.261.0880; E: [boatmichigan@mbia.org](mailto:boatmichigan@mbia.org); W: [mbia.org](http://mbia.org)



## Michigan Steelhead & Salmon Fishermen's Association

*Protecting, promoting and enhancing sport fishing in the Great Lakes and connecting waterways.*

**Dennis H. Eade**

Executive Director

2355 Timberlee Dr

Holland, MI 49424

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deneade@charter.net

The Honorable Hoon-Yung Hopgood  
Michigan State Senate  
515 Farnum Building  
Lansing, MI 48933

Dear Senator Hopgood,

The Michigan Steelhead & Salmon Fishermen's Association is the largest sport fishing organization in the Great Lakes Basin. We represent thousands of sport fishers and environmentalists throughout the basin. We strongly oppose Ontario Power Generation's dangerous scheme to locate an underground nuclear waste repository less than a mile inland from the shore of Lake Huron and the drinking water of 40 million people.

OPG has chosen a site for storing potentially 200,000 cubic meters of radioactive waste in a geological formation made of limestone, the first of its kind. Putting 20% of the world's fresh water at risk of contamination is just wrong and cavalier at best. We encourage the use of sound scientific principles and analyses in determining the best geologic formation for the safe long-term storage of this radioactive waste before making any further approvals of this proposed site.

We urge the Michigan Senate and all responsible governmental and private entities to oppose this action by Ontario Power Generation and pursue all means available to convince the Prime Minister of Canada, the Premier of Ontario, the President of the Canadian Nuclear Safety Commission, the Chairman of the United States Nuclear Regulatory Commission, the President of the United States Senate, the Speaker of the United States House of Representatives, and the members of the Michigan congressional delegation to join in opposition to this proposed action.

M.S.S.F.A. agrees with a non-profit organization of concerned Canadians who said, "The protection of the Great Lakes from buried radioactive nuclear waste is responsible stewardship and is of national and international importance. To protect our precious natural resource and the welfare, health and safety of the millions of people today and the innumerable generations who will follow, radioactive nuclear waste should not be buried anywhere in the Great Lakes Basin."

Sincerely,

*Dennis H. Eade*

September 28, 2013

Capt. Terry R. Walsh, President  
Michigan Charter Boat Association  
222 Grim Road  
Bentley, Michigan 48613

The Honorable Senator Hopgood  
State Capitol  
Lansing, Michigan

Suggesting to another country, especially our Canadian neighbors, why they should or should not do something, is a delicate matter. However, when their potential action could have grave consequences for one of the world's freshwater lakes and all who depend on it for a quality source of water, we must set forth our concerns.

The potential long-term consequences of a nuclear waste site so close to Lake Huron, should anything go wrong, are unfathomable. Both our country and theirs share the same waters, and a decision of such magnitude should not be made without the input of America's top nuclear waste scientists as well.

Be it therefore resolved the Michigan Charter Boat Association joins with you in fully endorsing Resolution SR 58, which addresses our grave concerns of Canada's proposed nuclear waste site so close to one of the world's largest freshwater lakes.

Respectfully,

Capt. Terry R. Walsh, President  
Michigan Charter Boat Association





September 27, 2013

Joint Review Panel Secretariat – DGR  
c/o Canadian Nuclear Safety Commission  
P.O. Box 1046, Station B  
280 Slater St., Ottawa, ON K1P 5S9

RE: DGR Joint Review Panel Public Hearing--Peter Duinker Environmental Assessment Report

Dear Joint Review Panel:

The Michigan Environmental Council urge you to deny Ontario Power Generation's request for a license because of OPG's failure to fully and meaningfully consider alternatives to siting the project at the Bruce site close to Lake Huron.

Ontario Power Generation's proposal to construct an underground, long-term burial facility for all of Ontario's low and intermediate level radioactive waste at the Bruce Nuclear Generating Station, is less than a mile inland from the shore of Lake Huron and about 440 yards below the lake level and is approximately 120 miles upstream from the main drinking water intakes for Southeast Michigan. The intermediate waste is long-lived and would provide a risk to the lakes for generations.

We encourage the use of sound scientific principles and analyses in determining whether this geologic formation is appropriate for the safe long-term storage of radioactive waste and that before making any further approvals of this proposed facility. Siting an underground nuclear waste repository in limestone, as proposed by Ontario Power Generation, is the first of its kind. The environmental impact statement for this proposed nuclear waste burial facility noted that the acceptability of an alternative site was unknown.

Analysis of alternative sites is a critical part of environmental assessment which was not thoroughly covered in Peter Duinker's Environmental Assessment Report and must be carefully considered by the Panel.

As part of an effort to protect water quality, Michigan's siting criteria for the disposal of low-level radioactive waste prohibits any site located within ten miles of Lake Michigan, Lake Superior, Lake Huron, Lake Erie, the Saint Mary's River, the Detroit River, the St. Clair River, or Lake St. Clair. It also excludes sites located within a 500-year floodplain, located over a sole source aquifer, or located where the hydrogeology beneath the site discharges groundwater to the land surface within 3,000 feet of the boundaries of the site. We encourage Canada to consider similar siting criteria.

A robust evaluation of alternative sites is not only required by law but also essential to reaching an informed decision. The unique elements of the project, such as its nearly unprecedented reliance on limestone to contain emissions from nuclear waste and, most notably, the site's proximity to Lake Huron, demand that OPG take seriously its obligation to consider alternative sites. Unfortunately, the process employed and supporting information provided by OPG to this point do not reflect sufficiently careful analysis of alternative sites.

The importance of preservation of the Great Lakes to the economies of both Canada and Michigan cannot be overstated. Our water resources not only provide drinking water to tens of millions of people, but are also critical to fishing, boating, recreation, tourism, and agriculture in both Canada and the Great Lakes states.

The Great Lakes should not be put at risk merely because locating the project at the Bruce site may be a path of low local community resistance. Without a substantial and good faith analysis of alternative siting options, OPG cannot meet its burden of thoroughly evaluating feasible alternatives.

Sincerely,

A handwritten signature in black ink, appearing to be 'J. Clift', written in a cursive style.

James Clift, Policy Director  
Michigan Environmental Council



# CLEAN WATER ACTION

MICHIGAN

September 30, 2013

To whom it may concern,

On behalf of Michigan Clean Water Action's 200,000 plus members I urge the Joint Review Panel for the Ontario Power Generation Deep Geologic Repository to oppose further development of this project and seek alternatives to long-term nuclear waste storage issues.

As stewards of the Great Lakes and the one fifth of the world's fresh water they embody it is our moral imperative to act responsibly and consider the ecological, public health, and economic ramifications when making decisions about nuclear waste.

The risk of potential disaster is too great. Nuclear waste cannot be cleaned up or removed from water. The Great Lakes are home to one of the most diverse ecological systems in North America. Radioactive water would have untold devastating impacts these plant and animal species.

More than 40 million people draw drinking water from the Great Lakes. The public health impact of this populace ingesting and being exposed to radiation must also be considered. Our state's largest population centers rely on good water quality for everyday needs like cooking, bathing, laundry, and irrigation.

Finally, the panel should consider the impact of millions of dollars from the tourism, fishing, recreation, and boating industry. Truly our greatest economic asset is our water. More must be done to protect and preserve this invaluable treasure for future generations.

The health of our Great Lakes is under constant threat from industrial pollution, surface runoff, sewage overflows, toxic discharge from power plants now is the time to act boldly and ensure our water quality remains among the highest in the world – not add another threat to this ever growing list.

For the Great Lakes,

Nic Clark

Michigan Director  
Clean Water Action