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From: klineisfine@aol.com
Sent: Tuesday, March 8, 2022 6:08 AM
To: rfi-cnc
Subject: [EXTERNAL] Comments Civil Nuclear Credit Program

RE: Docket # DOE-HQ-2022-0006 - Notice of Intent (NOI) & Request for Information (RFI) Re: Establishment of A Civil Nuclear Credit (CNC) Program, FRN 8570 (2/15/22)

Comments on III. Proposed Approach

(2) Confidentiality - I object to the extreme amount of confidentiality provided to applicants. While I understand keeping financial and certain other application information proprietary, if the DOE truly wants transparency, there is no reason that the names of applicants should be withheld from the public even if they are not awarded CNCs.

(7) & (10) Consultation With Heads of Other Agencies & Audits - Consultation with other federal agencies and annual, or more frequent, audits are necessary. To that end, the Federal Energy Regulatory Commission (FERC) has the jurisdiction and experience in performing financial analyses for ratemaking/auction bidding proceedings, grid and generation impacts, current and future electricity demand, emissions, established relationships with regional transmission organizations (RTOs) and independent system operators (ISOs) etc. and is, therefore, one of, if not the most valuable federal resources. Utilizing FERC avoids any potential conflicts of interest that private accounting firms may have with the commercial nuclear industry.

THREE GENERAL COMMENTS WITH REFERENCES

1) Nuclear Power is Already the Most Heavily Subsidized U.S. Industry

Extreme, conscientious care must be taken by the DOE in allocating huge amounts of taxpayer money to a controversial CNC program because commercial, civilian "Nuclear power is (already) arguably the most heavily subsidized industry in the United States" having received hundreds of billions of dollars over the past 60+ years...Without federal support and taxpayer backing, there would be no U.S. nuclear power industry...Once public subsidies are taken into consideration, the actual cost of electricity produced by nuclear power plants is much more expensive per kWh than the industry claims." <https://hubpages.com/politics/The-Hidden-Costs-of-Nuclear-Energy>

"There are so many different types of subsidies (enjoyed by nuclear power providers)...(that) amount to a figure...in the hundreds of billions (of dollars)." <https://hubpages.com/politics/The-Hidden-Costs-of-Nuclear-Energy>

"Since its inception the (nuclear) industry has benefited from government programs shifting key risks from investors and owners onto taxpayers and the surrounding population." <https://www.iisd.org/gsi/commentary/gambling-nuclear-power-how-public-money-fuels-industry>

2) DOE Must NOT Incentivize, Reward, and Unjustly Enrich Undeserving Reactor Owners/Operators

The DOE must scrupulously avoid incentivizing and rewarding detrimental decisions and policymaking, poor management, inaction, and negligence on the part of states and nuclear reactor owner/operators. Ohio is a case in point. The FBI has characterized Ohio HB 6 as "the largest corruption scandal in the state's history." In case you are unfamiliar with this disgrace, it stemmed from a \$1.3 billion bailout of the the Perry and Davis-Besse reactors which resulted in federal corruption, bribery, fraud and racketeering charges against FirstEnergy (now Energy Harbor, a private corporation); the Speaker of the Ohio House, Larry Householder, and other individuals; a front company called Generation Now; lawsuits filed by the Ohio Attorney General; and several ongoing criminal and civil suits. There have been a number of guilty pleas, and charges are likely to be filed against others, most notably the former Chair of both the Ohio Public Utilities Commission and the Ohio Power Siting Board, Sam Randazzo, who has since resigned these posts.

The Cincinnati Enquirer has provided a chronology of the HB 6 scandal through May 2021 <https://www.cincinnati.com/in-depth/news/politics/2021/06/03/ohio-corruption-house-bill-6-bribery-timeline-larry-householder/5248218001/>

And the Enquirer as well as the Cleveland Plain Dealer www.cleveland.com and other Ohio and national publications have printed excellent articles on the HB 6 "criminal enterprise" subsequent to May 2021.

Energy Harbor's (EH) lack of accountability and transparency have been particularly disturbing. Despite requests from AG Dave Yost, Governor Mike DeWine, and members of the General Assembly, EH and FirstEnergy Solutions refused to testify publicly especially regarding the nuclear plants' profitability and justification for a \$1.3 billion bailout.

REFERENCES - HB 6, FIRST ENERGY, ENERGY HARBOR

"Gov. Mike DeWine wants Energy Harbor, FirstEnergy to prove nuclear plants need \$1.3 B public bailout"

<https://www.cleveland.com/open/2020/10/gov-mike-dewine-wants-energy-harbor-firstenergy-to-prove-nuclear-plants-need-a-13b-public-bailout.html>

"Energy Harbor, FirstEnergy officials should testify before Ohio lawmakers about nuclear plants' profitability, AG Yost says"

<https://www.cleveland.com/open/2020/09/energy-harbor-firstenergy-officials-should-testify-before-ohio-lawmakers-about-nuclear-plants-profitability-ag-dave-yost-says.html>

"Amid debate over repealing HB 6, Energy Harbor still won't say whether its nuclear plants are profitable"

<https://www.cleveland.com/open/2020/09/amid-debate-over-repealing-house-bill-6-energy-harbor-still-wont-say-whether-its-nuclear-plants-are-profitable.html>

"How (un)profitable are Ohio's two nuclear power plants, FirstEnergy Solutions says it can't tell the public"

<https://www.cleveland.com/open/2019/06/how-unprofitable-are-ohios-two-nuclear-plants-firstenergy-solutions-says-it-cant-tell-the-public.html>

"Are Ohio's two nuclear power plants profitable? Depends who you ask"

<https://www.cleveland.com/open/2019/06/are-ohios-two-nuclear-power-plants-profitable-depends-who-you-ask.html>

The Nuclear Regulatory Commission (NRC) has allowed years of waived, deferred, exempted reactor inspections, maintenance, repairs and upgrades at Perry and Davis-Besse (and other reactors).

REFERENCES - NRC WAIVERS, DEFERRALS, EXEMPTIONS ARE COMMON

Some NRC documents related to Perry and Davis-Besse deferrals, waivers, exemptions etc.; others can be provided upon request

<https://content.sierraclub.org/grassrootsnetwork/sites/content.sierraclub.org/activistnetwork/files/teams/documents/FirstEnergy%20Bankrupt%2C%20Not%20Maintaining%20Nuclear-Sierra.pdf>

"Nuclear industry pushing for fewer inspections at plants"

<https://www.nbcnews.com/politics/politics-news/nuclear-industry-pushing-fewer-inspections-plants-n983671>

"Aging Nukes - A four part Associated Press investigative series by Jeff Donn"

<https://www.ap.org/press-releases/2012/aging-nukes-a-four-part-investigative-series-by-jeff-donn>

"NRC waives enforcement of fire rules at nuclear plants"

<https://www.propublica.org/article/nrc-waives-enforcement-of-fire-rules-at-nuclear-plants>

Nuclear Safety Deferred

https://www.nrdc.org/sites/default/files/nuc_12031201b.pdf

Instead of tackling these neglected repairs at its newly acquired reactors, EH bought back \$800,000.00 worth of stock in May 2020 shortly after emerging from bankruptcy in February 2020, a fact that the NRC had initially allowed them to conceal along with other EH requests for secrecy. Energy Harbor has been the antithesis of transparency and accountability..

DOE must insure and require that any CNC awardees prioritize inspections, maintenance, repairs, upgrades etc. that have been deferred, waived, or even exempted by the NRC.

REFERENCES - EH \$800,000.00 STOCK BUY BACK

"With Ohio bailout law secured, FirstEnergy Solutions successor moves to increase share buybacks by \$300 million"

<https://www.cleveland.com/open/2020/05/with-ohio-bailout-law-secured-firstenergy-solutions-successor-moves-to-increase-share-buybacks-by-300-million.html>

"In disgusting turn, shareholders reap the profits from ratepayer payout intended to keep Ohio's nuclear plants afloat"

<https://www.cleveland.com/opinion/2020/05/in-disgusting-turn-shareholders-reap-the-profits-from-ratepayer-payouts-intended-to-keep-ohios-nuclear-plants-afloat.html>

NRC allowed stock buyback to be withheld from the public

5/4/20 EH request to NRC for stock buyback confidentiality which the NRC granted on 5/26/20

<https://www.nrc.gov/docs/ML2012/ML20125A346.pdf>

<https://www.nrc.gov/docs/ML20128J238.pdf>

<https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20164A230>

Unfortunately, the HB 6 scandal is not a one off. This type of corruption to prop up nuclear and prevent competition has been ongoing in Ohio (and elsewhere) for decades. The only difference with HB 6 is that entities got caught.

Despite 2019 HB 6 testimony and various polls showing that Ohioans consistently opposed nuclear bailouts calling them "corporate welfare" and "glorified slush funds" and supported clean, renewable energy, instead of encouraging and promoting investment in renewables such as wind power for which Ohio is ideally suited, solar energy, and energy efficiency, none of which require radiation monitors, emergency and evacuation planning, supplies of potassium iodide, radioactive waste disposal, radioactive contamination, worker and public health and safety issues etc., the Ohio Public Utilities Commission, the Ohio Power Siting Board, Ohio governors, and the Ohio legislature have systematically decimated Ohio's renewable energy and efficiency standards created by SB 221 in 2008.

For example, Ohio was 13th in the U.S. for wind power until a 2014 Ohio law written by FirstEnergy created the most restrictive wind turbine setbacks in the country and impeded renewables and efficiency.

<https://www.cleveland.com/open/2015/01/ohio-renewable-energy-policies.html>

<https://energynews.us/2015/01/22/midwest/drops-in-ohio-clean-energy-investment-could-hurt-jobs-growth/>

HB 483 Wind turbine setbacks 2014

<https://www.wind-watch.org/news/2014/07/13/hb-483-puts-putnam-wind-farm-in-jeopardy/>

HB 6 completely eliminated the RE and EE standards which, to date, have not been even partially restored.

To add insult to injury, Ohio has recently passed laws like SB 52 allowing counties to kill solar and wind projects (largely on the basis of aesthetics), even those approved by the Ohio Power Siting Board, yet counties and municipalities are statutorily forbidden from exercising home rule to veto natural gas or nuclear projects.

HB 201 preventing local governments from limiting natural gas became law Sept. 2021

<https://www.billsponsor.com/bills/147620/ohio-house-bill-201-session-134>

Aug. 2015 Secretary of State Husted rules local governments/counties can't ban fracking

<https://www.governing.com/archive/ohio-counties-cant-vote-to-ban-fracking-husted-rules.html>

Despite these legislative obstacles and restrictions both solar and wind power in Ohio have tremendous competitive potential for success if given half a chance.

<https://energynews.us/2021/03/30/solar-energy-chasing-nuclear-capacity-in-ohio-but-lawmakers-could-slow-its-gains/>

<https://windexchange.energy.gov/states/oh>

REFERENCES - OHIOANS OPPOSE NUCLEAR BAILOUTS AND SUPPORT RENEWABLE ENERGY

"Conservative Ohio voters want most of Ohio's electricity to come from renewable sources"

<https://www.cleveland.com/business/2019/02/conservative-ohio-voters-want-most-of-ohios-electricity-to-come-from-renewable-sources.html>

"Conservatives criticize FirstEnergy nuclear bailout bill as 'corporate welfare'"

<https://energynews.us/2019/05/06/midwest/conservatives-criticize-firstenergy-nuclear-bailout-bill-as-corporate-welfare/>

EMC Research August 2020 Polling on HB 6

<https://static1.squarespace.com/static/568c2a10c647ad1e5182756c/t/5f3ff12bc06aa76ba05900bd/1598026029663/HB6+Repeal+Polling+Memo.pdf>

<https://static1.squarespace.com/static/568c2a10c647ad1e5182756c/t/5f3ff259cf516a64b6131a95/1598026330138/HB6+Repeal+Polling+Presentation+deck++%281%29.pdf>

API October 2017 poll "Voters near FirstEnergy HQ and Davis-Besse and Perry nuclear plants reject bailouts"

<https://www.pressreleasepoint.com/voters-near-firstenergy-hq-davis-besse-and-perry-nuclear-plants-reject-bailouts>

REFERENCES - KILLING RENEWABLES AND ENERGY EFFICIENCY IN OHIO

History from 2008 renewable standards to restrictive wind turbine setbacks in 2014 to SB 52 stymying wind and solar projects

"'Volatile place.' New (solar and wind) laws thwart Ohio renewables"

<https://www.eenews.net/articles/volatile-place-new-laws-thwart-ohio-renewables/>

"Governor Mike Dewine signs (SB 52) giving (county) commissioners 'kill switch' on wind, solar projects" 7/13/21

<https://www.wtol.com/article/news/politics/state-politics/ohio-gov-mike-dewine-signs-bill-wind-solar-projects/512-643ddb27-ce1e-410d-9a52-8774b768f2a9>

Legal Summary/Analysis of SB 52

<https://www.jdsupra.com/legalnews/ohio-legislature-adopts-new-wind-and-2878693/>

"Kingwood solar operation opposed by Greene County Commission" 10/21/21

<https://www.daytondailynews.com/local/giant-kingwood-solar-operation-opposed-by-greene-county-commission/HXYWTBZHSBC57BAUDY73J5VN3A/>

12/13/21 - "Local resident opposition to painter creek solar project"

<https://www.dailyadvocate.com/2021/12/13/local-residents-oppose-painter-creek-solar-project-at-darke-co-parks-commissioners-meeting-apex-open-house/>

2/14/22 - "Park district terminates solar project easements"

<https://www.dailyadvocate.com/2022/02/14/parks-district-terminates-easement-agreements-with-apex/>

"Wind turbine developer asks state regulators to reconsider ruling that could doom the project"

<https://www.cleveland.com/open/2020/06/lake-erie-wind-turbine-developer-asks-state-regulators-to-reconsider-ruling-that-could-doom-the-project.html>

And after finally eliminating the Ohio Power Siting Board's "poison pill" disallowing night time operation of Lake Erie's proposed Ice Breaker wind project for eight months of the year, the General Assembly effectively killed the project altogether, although the Department of Energy has, fortunately, extended its grant for a year. Ice Breaker costs millions in comparison to the billions that "advanced" reactors in HB 434 could cost Ohioans.

"Ohio axes 'poison pill' for Lake Erie project" 9/20/20

<https://governorswindenergycoalition.org/ohio-axes-poison-pill-for-lake-erie-project/>

"Icebreaker wind project proposed for Lake Erie needs to find more financing soon" 10/19/21

<https://www.cleveland.com/news/2021/10/icebreaker-wind-project-proposed-for-lake-erie-needs-to-find-more-financing-soon.html>

"Republicans in Ohio House reject support for proposed Lake Erie Ice Breaker Wind Project" 12/11/21

<https://www.cleveland.com/news/2021/12/republicans-in-the-ohio-house-of-representatives-reject-chance-to-support->

[proposed-icebreaker-wind-project-for-lake-erie.html](https://www.cleveland.com/news/2022/01/icebreaker-federal-grant-extended-giving-advocates-for-cleveland-offshore-wind-project-more-time-to-arrange-financing.html)

"Federal grant extended for off-shore wind project" 1/18/22

<https://www.cleveland.com/news/2022/01/icebreaker-federal-grant-extended-giving-advocates-for-cleveland-offshore-wind-project-more-time-to-arrange-financing.html>

3) DOE Must Stop the Carbon/Emissions-Free Falsehoods

I know that the DOE's mission is to promote nuclear power at any cost which is quite obvious given that the agency's materials on civilian nuclear credits are completely biased and fail to mention any of the numerous drawbacks to nuclear power or to cite any viable energy alternatives. If we have learned anything from the war in Ukraine, it is that the so-called "peaceful atom" can be weaponized with potentially catastrophic results.

That said, PLEASE stop insulting our intelligence by referring to nuclear power as carbon and/or emissions-free which are blatant falsehoods.

While nuclear generated electricity is lower in carbon emissions than fossil fuels, the NRC has known for decades that reactors emit the greenhouse gas methane and that the long-lived, highly volatile, biologically-damaging "Radionuclide C-14 is and will be formed in all nuclear reactors due to the absorption of neutrons by carbon, nitrogen or oxygen." *C-14 Production in Nuclear Reactors* (1977) prepared for the NRC by Wallace Davis, Jr. of the Oakridge National Laboratory, p.2 <https://www.nrc.gov/docs/ML0934/ML093421400.pdf>

"Carbon-14 is present in virtually all parts of the nuclear reactor primary system and has a high production rate. It is released to the environment through gaseous and liquid discharges and though the disposal of solid radioactive waste." *Life cycle and management of C-14 from nuclear power generation* (2006) Man-Sung Yim, Francis Caron (2005) Abstract

<https://www.sciencedirect.com/science/article/abs/pii/S0149197005000454>

"The characteristics of C-14 that distinguish it from many other radionuclides produced by nuclear power operation, are the long half-life of 5,730 years (amount of time it takes for a radioactive isotope to lose half of its radioactivity) and the ease of assimilation into living matter...An excess of C-14 (above background levels) in environmental samples...may be found in the close vicinities of nuclear power plants due to the release of gaseous waste containing C-14."

C-14 Production by Nuclear Power Reactors - Generation and Characteristics of Gaseous, Liquid, Solid Waste (2007) Asa Magnusson, Introduction p. 1

[https://www.kth.se/polopoly_fs/1.469654.1550154389!/C-](https://www.kth.se/polopoly_fs/1.469654.1550154389!/C-14%20Produced%20by%20Nuclear%20Power%20Reactors%20%E2%80%93%20Generation%20and%20Characterization%20of%20Gaseous.pdf)

[14%20Produced%20by%20Nuclear%20Power%20Reactors%20%E2%80%93%20Generation%20and%20Characterization%20of%20Gaseous.pdf](https://www.kth.se/polopoly_fs/1.469654.1550154389!/C-14%20Produced%20by%20Nuclear%20Power%20Reactors%20%E2%80%93%20Generation%20and%20Characterization%20of%20Gaseous.pdf)

Not only do operating nuclear power plants produce C-14, the nuclear life cycle produces copious carbon and greenhouse gases from mining and milling uranium to fuel production, plant construction, dismantling, waste storage and disposal.

As Dave Kimble, founder of Resilience and the Post Carbon Institute says, "Proponents of nuclear power always say that one of (its) big benefits is that it produces no Carbon dioxide (CO2). This is completely untrue, as a moment's consideration will demonstrate that fossil fuels...are essential to every stage of the nuclear cycle, and CO2 is given off whenever these are used."

<https://www.resilience.org/stories/2006-05-11/does-nuclear-power-produce-no-co2/>

Dr. Benjamin Sovacool, Ph.D, an internationally recognized American energy researcher and policy consultant formerly at the University of Vermont Law School and currently at the University of Sussex, has demonstrated that the nuclear life cycle emits more greenhouse gases per kWh than all renewables. Carbon emissions are twice those of solar photovoltaic and six times more than wind or energy efficiency.

Valuing the greenhouse gas emissions from nuclear power: A critical survey

https://www.nirs.org/wp-content/uploads/climate/background/sovacool_nuclear_ghg.pdf

Nuclear Nonsense: Why Nuclear power is no Answer to Climate Change and the World's Post-Kyoto Energy Challenge Benjamin Sovacool and Christopher Cooper

https://scholarship.law.wm.edu/cgi/viewcontent.cgi?referer=https://r.search.aol.com/_ylt=AwrE19xGWdFc9.wAxQFpCWVH:_ylu=X3oDMTBzdWd2cWI5BGNvbG8DYmYxBHBvcwMxMAR2dGikAwRzZWMDc3I-/RV=2/RE=1557252550/RO=10/RU=http%3a%2f%2fscholarship.law.wm.edu%2fcgi%2fviewcontent.cgi%3farticle%3d1040%26context%3dwmelpr/RK=0/RS=3uQZ1jlr1PniWO4RURAX0cmSbU-&httpsredir=1&article=1040&context=wmelpr

In addition to accidents, nuclear plants routinely leak and release into air, soil, and water radioactive carcinogens, teratogens, and mutagens many of which are chemically indistinguishable from non-radioactive, life-sustaining elements.

Strontium-90 and cesium-137 replace calcium and potassium respectively in the body and induce bone and muscle cancer. Iodine-131 causes thyroid cancer which is why thyroid-protecting potassium iodide tablets are available for those living near nuclear reactors. Cobalt-60 is a liver, kidney, and bone carcinogen. Tritium which is radioactive hydrogen has leaked from miles of buried, inaccessible, deteriorating pipes at virtually every U.S. reactor and cannot be removed from irradiated water. Inhaled as a gas, tritium causes lung cancer. Ingested, it causes gastrointestinal cancer. Tritium is also a teratogen and reproductive carcinogen.

REFERENCES RADIOACTIVE RELEASES, EFFLUENTS, LEAKS ETC.

Uncontrolled Releases from Nuclear Power Plants, Leak First, Fix Later, 2010, Paul Gunter

http://static1.1.sqspcdn.com/static/f/356082/6590573/1271634765367/LeakFirst_FixLater_BeyondNuclear_April182010_FINAL.pdf?token=F96fd5U4GyeB83u9xa6wOJrP5YA%3D

"Regulatory Roulette: The NRC's Inconsistent Oversight of Radioactive Release from Nuclear Power Plants" 2010 David Lochbaum

<https://www.ucsusa.org/sites/default/files/2019-10/nuclear-power-radioactive-releases.pdf>

"Routine releases of Radioactive Materials from US nuclear plants" 2014, David Lochbaum

<https://cdn.allthingsnuclear.org/wp-content/uploads/2014/10/20140818-Routine-Releases-Rev-1.pdf>

"Critique of the Analysis of Safety and Environmental Risks Posed by Spent Fuel Pool Leaks" David Lochbaum

<http://www.nirs.org/wp-content/uploads/radwaste/exhibitb2013-12-13lochbaumfinaldeclarationrepoolleaks.pdf>

"Radioactive Groundwater Contamination Found at all U.S. Nuclear Power Stations Pipe Failures Endanger Nuclear Power Station Cooling Systems", 2016

<https://miningawareness.wordpress.com/2016/02/14/radioactive-groundwater-contamination-at-all-us-nuclear-power-stations-pipe-failures-endanger-nuclear-power-station-cooling-systems-environment/>

"Nuclear Plants Leak Radiation, Regulator Faces Scrutiny"

<https://www.usnews.com/news/articles/2016-03-15/nuclear-plants-leak-radiation-and-regulator-faces-scrutiny>

"Tritium Leaks Found at Many Nuke Sites"

<https://www.ap.org/press-releases/2012/part-ii-ap-impact-tritium-leaks-found-at-many-uke-sites>

"Radioactive Tritium Leaks Found at 48 US Nuke Sites"

http://www.nbcnews.com/id/43475479/ns/us_news-environment/t/radioactive-tritium-leaks-found-us-uke-sites/#.XOOzmZI_PDB

"75% of Nuclear Plants Leaking Toxic Tritium Into Drinking Water Supply"

<https://www.youtube.com/watch?v=YTGmBDyiSmk>

<https://www.cbsnews.com/news/radioactive-leaks-found-at-75-of-us-uke-sites/>

"No Quick Fix For Leaking Nuclear Reactors"

<https://www.cbsnews.com/news/govt-no-quick-fix-for-leaky-nuclear-reactors/>

"NRC Salem Nuclear Spent Fuel Pool Leakage to Onsite Groundwater"

<https://www.nrc.gov/docs/ML0405/ML040580454.pdf>

"Indian Point 2 Spent Fuel Pools Cracked - Uncontrolled Leaks of Radioactive Liquid Have Reached the Hudson River"

<http://alexanderhiggins.com/indian-point-2-nuclear-spent-fuel-pools-cracked-leaks-of-radioactive-liquids-have-reached-the-hudson-river/>

Leaks at San Onofre

<https://www.csmonitor.com/1995/0410/10041.html>

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