

July 24, 2023

Ms. Sara Goodwin
Code: EV22.SG
6506 Hampton Blvd.
Norfolk, VA 23508-1212

RE: Comments of Ohio Nuclear-Free Network on Columbia-class Submarine
Homeporting Draft Environmental Assessment for Kings Bay Trident Submarine Base

Dear Ms. Goodwin:

Herewith are the comments of the Ohio Nuclear-Free Network (ONFN) on the “Columbia-class Homeporting Environmental Assessment for Kings Bay Trident Submarine Base” in the Cumberland Sound near St. Marys, Georgia. The Ohio Nuclear-Free Network is a nonprofit advocacy organization headquartered in Toledo, Ohio with membership statewide that educates the public to significant issues involving experimental and commercial nuclear power, and nuclear weapons production and deployment. Because of the planetary implications of the continuation of nuclear war preparations for additional decades embodied in the Homeporting project, ONFN opposes and deplors the Environmental Assessment as lacking critical facts which are in effect being concealed from public knowledge.

**The Navy has missed the boat by not addressing nuclear weapons
proliferation concerns in the EA**

In the “Other Considerations Required by NEPA” section of the Homeporting Draft Environmental Assessment (Draft EA), at pp. 5-1 to 5-2, there appears a list of laws and regulations that pertain to the proposed project. Significantly absent from that list are references to pertinent treaties and laws that govern the production, deployment and use of nuclear weapons. Notably, the Draft EA literally does not mention “proliferation,” “nonproliferation” or “treaty” anywhere within its 114 pages.

What the Draft EA does say, however, is this:

The purpose of the Proposed Action is to ensure the uninterrupted continuation of the Navy’s Sea-Based Strategic Deterrence mission at NSB Kings Bay by introducing a technologically advanced SSBN into the Atlantic Fleet.¹

NSB Kings Bay is the homeport for the Ohio Class SSGNs [nuclear-powered guided missile submarines], SSBNs [nuclear-powered ballistic missile submarines], and the Trident II missile weapons system, and is the only Atlantic Fleet facility capable of supporting the weapons system. The Ohio Class submarines homeported at NSB Kings Bay are expected to successively reach the end of their service lives between fiscal year

¹ “Draft Environmental Assessment For Homeporting of the Columbia Class Submarine At Naval Submarine Base Kings Bay, Georgia” (Draft EA), p. ES-2.

(FY) 2028 and 2042, and thus would need to be replaced to ensure uninterrupted operations of Atlantic Fleet SSBNs and Trident II missile weapons systems.²

The refitting and expansion of Kings Bay for next-generation nuclear weapons-armed submarines signals to the international community the continued U.S. government promotion of nuclear weapons and nuclear for warmaking for decades to come. The project sends a message internationally that continuously-improved nuclear weapons and weapons delivery systems are lawful and acceptable.

This planned continuation and technological advancement of nuclear warfighting capability is happening against the backdrop of The Russo-Ukrainian war and related to it, a re-ignited arms race involving the United States, Russian Federation, and China. Some in the US defense establishment are promoting the perception that a nuclear war can be fought and won, and are doing so in a voice that is influential, respected, well-funded, and treated with deference. The U.S. defense sector leadership is messaging its workforce so that this huge constituency conveys a view of nuclear weapons policies that intensifies the new nuclear arms race. Beyond the saber-rattling between the United States and Russia, and doubtless in part because of it, China is accelerating its development of strategic nuclear warheads to amass 700 by 2027 and 1,000 by 2030.³

The 23-chapter Guide to Nuclear Deterrence in the Age of Great Power Competition,⁴ published recently by the Louisiana Tech Research Institute, a support body for the US Air Force Global Strike Command, was written by nuclear arms complex experts and exemplifies the renewed American thermonuclear hubris. These experts postulate that “US strategic nuclear forces might be expected to perform the following functions... endurance throughout the various phases of a protracted (and presumably limited) nuclear war... or establish escalation dominance and nuclear-strategic superiority over any prospective opponent.”⁵ Nuclear war, according to them, is very thinkable.

The Bulletin of the Atomic Scientists points out as that the Guide:

... [C]enters around a new reality—the aggressive development of nuclear arms by Russia and China that is intensifying a new Cold War. Nuclear arms treaties—an important tool for limiting arms races—are brushed aside as functionally pointless since, according to the guide, Russia will cheat and China won’t come to the bargaining table. In one passage, the guide claims “it is unlikely that these countries would be foolish enough to engage in a strategic arms race with the United States, and, if they do, they will lose.” Yet much of the remainder of the document analyzes all the ways in which China and Russia are advancing their capabilities beyond US capabilities. These threatening developments are then used to justify the rapid and expensive modernization of the US nuclear weapon complex, while many historic nuclear arms agreements wither

² Draft EA at p. 1-1.

³ <https://www.armscontrol.org/act/2021-12/news/pentagon-sees-faster-chinese-nuclear-expansion>

⁴ <https://atloa.org/wp-content/uploads/2020/12/Guide-to-Nuclear-Deterrence-in-the-Age-of-Great-Power-Competition-Lowther.pdf>

⁵ *Id.* at 386.

away, including the Anti-Ballistic Missile Treaty, Intermediate-range Nuclear Forces Treaty, and the Iran nuclear deal.⁶

At least two international treaties and a federal law statute call into question the expansion and homeporting of Columbia Class submarines at Kings Bay.

The Nuclear Nonproliferation Treaty (NPT), which entered into force in 1970 and was extended indefinitely in 1995, is the centerpiece of international nuclear nonproliferation law. The treaty currently has 191 states-parties. It is complemented by International Atomic Energy Agency (IAEA) safeguards, national export control laws, coordinated export control policies under the Nuclear Suppliers Group, U.N. Security Council resolutions, and ad hoc initiatives. The NPT prohibits non-nuclear weapon states (NNWS) parties from acquiring nuclear weapons; prohibits the five nuclear weapon states (NWS - China, France, U.S., Russia and Britain) from transferring nuclear weapons to NNWS or assisting such states with the manufacture or other acquisition of nuclear weapons. The NWS agree to “pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament.”⁷

This mandate was redoubled by the 1996 Advisory Opinion of the International Court of Justice, which enjoined the 182 NPT signatories that NPT’s Article VI requirement to negotiate nuclear disarmament in good faith “goes beyond that of a mere obligation of conduct; the obligation involved here is an obligation to achieve a precise result, nuclear disarmament in all its aspects by adopting a particular course of conduct, namely, the pursuit of negotiations on the matter in good faith.”⁸

Under international law, it is prohibited to every signatory to engage in conduct that would serve to defeat the object and purpose of a treaty. Art. 18, 1969 Vienna Convention on the Law of Treaties (VCLT).⁹ Nevertheless, the U.S. has engaged in zero negotiations or other moves toward full nuclear disarmament.

There is no question as to the binding nature of the NPT as U.S. federal law. As a treaty to which the U.S. is a formal party and signatory, the NPT is a component of the body of U.S.

⁶ <https://thebulletin.org/2022/02/us-defense-to-its-workforce-nuclear-war-can-be-won/>

⁷ NPT, Article VI, <https://www.un.org/disarmament/wmd/nuclear/npt/text/>

⁸ <https://www.law.umich.edu/facultyhome/drwcasebook/Documents/Documents/Advisory%20Opinion,%201996%20I.C.J.%20226.pdf> at p. 32.

⁹ The United States is a signatory to the VCLT albeit not a State Party, but considers, through its practice in relation to other treaties, such as the 1998 Rome Statute of the International Criminal Court, this rule to be customary.

federal law by the Supremacy Clause, found at Article VI, Clause 2 of the U.S. Constitution.¹⁰

This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

After the U.S. became an NPT signatory, Congress passed the “Nuclear Non-Proliferation Act of 1978, in which Congress “strongly encouraged nations which have not ratified” the NPT to “do so at the earliest possible date.”¹¹

Another international agreement with major ramifications for the legality of the Kings Bay homeporting project is the Treaty on the Prohibition of Nuclear Weapons (TPNW). At least 92 countries have signed it, and 68 countries have ratified the TPNW, also known as the nuclear “ban treaty.” It entered into force 90 days following the 50th signing country’s ratification on January 22, 2021.

The United Nations General Assembly, in its Resolution A/71/258 (2016), had called on U.N. member states to negotiate a legally binding prohibition on nuclear weapons. Negotiations were held in 2017 and at the end of the conference, 122 countries voted to approve the treaty. TPNW’s Article 1, Sect. 1(a) says that adherents may never “develop, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices.”¹² This includes a prohibition on hosting nuclear weapons that are owned or controlled by another State.¹³ They may not use or threaten to use nuclear weapons or other nuclear explosive devices.¹⁴ The TPNW is permanent in nature and is legally binding upon those states that join it.¹⁵

NEPA requires the Navy to conduct a nuclear weapons proliferation assessment to examine the contribution of next-generation submarine usage and basing. The Navy must identify and analyze under NEPA the particular impacts that the Kings Bay project will have on the capabilities of the U.S. nuclear weapons program in the ongoing 21st century nuclear arms race. While a “better” Environmental Assessment probably won’t halt the arms race, it can usefully realize NEPA’s twin aims, (1) to foster informed decision making by “ensur[ing] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts,” and (2) to promote informed public participation by requiring full disclosure of and opportunities for the public to participate in

¹⁰ Article VI, Clause 2: “This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and *all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land*; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.”

¹¹ 22 U.S.C. § 3201 *et seq.*

¹² https://www.icanw.org/tpnw_full_text

¹³ *Id.* at Sect. 1(g).

¹⁴ *Id.* at Sect. 1(d).

¹⁵ https://www.icanw.org/the_treaty

governmental decisions affecting environmental quality. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349-50 (1989).

Proliferation and security issues have been encompassed in NEPA impact assessments and statements since the inception of NEPA. See *Scientists' Institute for Public Information, Inc. v. Atomic Energy Commission*, 481 F.2d 1079 (D.C. Cir. 1973), where the Court of Appeals required the AEC to prepare a programmatic environmental impact statement (PEIS) on the AEC's Liquid Metal Fast Breeder Reactor (LMFBR) Program. Nonproliferation and terrorism were addressed in the subsequent LMFBR EIS.

At the preliminary injunction hearing in a 1974 case, *West Michigan Environmental Action Council v. AEC*, Dkt. No. G-58-73 (W.D. Mich. 1974) the Atomic Energy Commission settled the litigation by offering to prepare a generic Programmatic EIS on plutonium recycle, which later came to be known as the "Generic Environmental Statement on Mixed Oxide Fuel" (GESMO), No. RM-50-1, a document subsequently initiated by NRC as the successor to AEC for these matters).

In 2009, the U.S. Department of Energy (DOE) was required to address nonproliferation issues in its preparation of the "Draft Global Nuclear Energy Partnership Programmatic Environmental Impact Statement" (GNEP PEIS, DOE/EIS-0396). It attempted to do so by relying on a separate "Nonproliferation Impact Assessment: Companion to the Global Nuclear Energy Partnership Programmatic Environmental Impact Statement," prepared by the Office of Nonproliferation and International Security of the National Nuclear Security Administration (NNSA). Along with several other NEPA matters, this artificial separation was challenged by environmentalists. Subsequent to those critical comments, DOE ceased all work on the GNEP PEIS.

NEPA's environmental impact identification and disclosure procedures have been followed and applied to programs involving storage of nuclear missiles,¹⁶ the testing of nuclear weapons,¹⁷ the destruction of excess nuclear weapons pursuant to a treaty,¹⁸ and transporting chemical weapons.¹⁹ The U.S. Air Force has compiled environmental impact statements as part of its compliance with the Strategic Arms Reduction Treaty II commitments to dismantle missile launching facilities.²⁰ The Air Force's Global Strike Command recently assessed under NEPA whether updating of the United States' 400 nuclear missile launch silos meets the requirements

¹⁶ See, e.g., *Concerned About Trident v. Rumsfeld*, 555 F.2d 817 (D.C. Cir. 1976); *Weinberger v. Cath. Action of Hawai'i*, 454 U.S. 139 (1981).

¹⁷ See *Comm. for Nuclear Resp., Inc. v. Seaborg*, 463 F.2d 783 (D.C. Cir. 1971).

¹⁸ See, e.g., U.S. Dep't of the Army, "Environmental Assessment for the Proposed Elimination of Intermediate-Range and Shorter-Range Missiles Pursuant to the INF Treaty" (1988); Corps of Engineers, Dep't of the Army, "Pershing Missiles, Elimination, Pueblo, Co., et al.: Finding of No Significant Impact," 53 *Fed. Reg.* 6189 (March 1, 1988).

¹⁹ See *Greenpeace USA v. Stone*, 748 F. Supp. 749, 758-61 (D. Haw. 1990) (NEPA did not apply to a presidential agreement with West Germany to transport nerve gas to a Pacific atoll for destruction but suggesting the impact statement may be needed for actions taken abroad that affect this country or where there is a total lack of environmental assessment).

²⁰ <https://apps.dtic.mil/sti/pdfs/ADA414685.pdf>

of the Nuclear Posture Review (NPR), the Nuclear Non-Proliferation Treaty (NPT), the New Strategic Arms Reduction Treaty (START), and the Comprehensive Test Ban Treaty.²¹

In its 1995 “Record of Decision: Tritium Supply and Recycling Programmatic Environmental Impact Statement,” the U.S. Department of Energy, in producing a Programmatic Environmental Impact Statement for the Strategic Arms Reduction Treaty II Protocol, determined that “it was necessary to reevaluate the Reconfiguration Program to insure that alternatives which reflected requirements of a greatly downsized nuclear weapons stockpile would be assessed in the PEIS.”²²

In its 1999 “Consolidated Record of Decision for Tritium Supply and Recycling,” DOE discussed at length the nonproliferation policy implications of using civil commercial light water reactors to produce tritium used in creating nuclear weapons triggers.²³

In its “Final Site-Wide Environmental Impact Statement for the Y-12 National Security Complex,”²⁴ DOE analyzed the implications that various production activities at the agency’s Y-12 nuclear weapons facility might have on United States compliance with the Nuclear Non-Proliferation Treaty.

Thus the continuation, with expensive improvements, upgrades and expansions of the U.S. nuclear weapons program is quite controversial. Besides posing the distinct threat of actual use of nuclear weapons, the U.S. program is illegal, violative of international norms, and each step taken to “improve” such stunning destructive capacity renews legal, moral, ethical and survival questions. The recurring U.S. signals that maintaining and improving its nuclear arsenal and ability to start catastrophic nuclear war are deeply consequential.

Impacts of the nuclear fuel and weapons supply chain for the Nuclear Navy have not been addressed

The scope of the Draft EA is also far too narrow from another angle. The nuclear fuel supply chain, from uranium mining and extraction to purification of uranium and processing it into nuclear fuel for the Navy fleet and thermonuclear weapons causes environmental impacts with direct effects on human beings, and with those impacts, a need for cumulative impacts analysis.

Recent scientific developments suggest that the human cost of enriching or processing uranium for weapons and submarine fuel, in terms of lives lost, long-term environmental damage, and public health impairment, is something America can no longer afford.

²¹ “Draft Environmental Impact Statement for the Ground Based Strategic Deterrent Deployment and Minuteman III Decommissioning and Disposal,” <https://drive.google.com/file/d/1aKCcvEq92PdKShP5qWzIxrwwNN9P7zo7/view>, at pp.1-5 to 1-7.

²² 63 Fed. Reg. 63878 (December 12, 1995).

²³ 64 Fed. Reg. 26369, 26373-26374 (May 14, 1999).

²⁴ <https://www.energy.gov/sites/prod/files/EIS-0387-FEIS-Summary-2011.pdf>, pp. S-14 through S-16.

1. *Erwin, Tennessee: Nuclear Fuel Services, a sacrifice zone*

Nuclear Fuel Services is the dominant presence in Erwin, Tennessee, a town of 5000 adjoining the site of NFS, a 66-year-old nuclear fuel fabrication plant under DOE contract. NFS has manufactured high-enriched Uranium (HEU) fuel for the Nuclear Navy and also has down-blended nuclear weapons material for nuclear fuel. NFS admits there are traces of plutonium and other radionuclides routinely released from the plant into the adjoining Nolichucky River.²⁵ Michael Ketterer, Ph.D., professor emeritus at Northern Arizona University, has scientifically traced plutonium from NFS for a distance of 95 miles down the Nolichucky.²⁶ As in the Ohio study described below, Dr. Ketterer for years has been testing attic dust samples, most recently of an Erwin residence located roughly a mile from the NFS plant, which yielded evidence of enriched uranium pollution from NFS.²⁷

Additionally, New Jersey-based epidemiologist Joseph Mangano undertook a recent analysis of public health and mortality data for Unicoi County, Tennessee, where NFS is located. He determined that until the late 1990s, Unicoi County's all-cause death rate was about equal to the nation's. The Unicoi County rate has risen since, and is now 44% above the U.S. rate.²⁸ The premature mortality rate since the 1990s has risen to 61% above the U.S. rate. Since the early 1990s, Unicoi County's cancer death rate is now 39% above the U.S. rate. Mangano suggests that this trend was "unexpected" and that "No change in demographics, health behaviors, or access to medical care that could account for this trend is obvious, so further investigation is merited. . . . One potential cause is the continued operation of NFS and the greater accumulation of radioactivity in local air, water, and food."

2. *The PORTS facility at Piketon, Ohio: the heart of a contaminated region*

Then there is the PORTS facility at Piketon, Ohio, a DOE industrial complex where historically uranium was enriched for civilian and military usage. Processes at PORTS have included downblending of decommissioned weapons material. Presently, depleted uranium is purified for use as nuclear weapons components and another plant uses centrifuge technology to enrich uranium for next-generation Small Modular Reactors (SMRs). Recent chemical sampling of soil and air suggests that there is widespread regional radionuclide contamination, and epidemiological analysis reveals disturbing incidences of cancer among local residents that cannot be explained away.

In May 2019, Zahn's Corner Middle School, a public school located within four miles from PORTS, was permanently closed and slated for demolition after local officials reported enriched uranium and transuranic radionuclides were detected in dust inside the school. These

²⁵ <https://www.nrc.gov/materials/fuel-cycle-fac/fuel-fab/nfs-faqs.html#3d>

²⁶ "Declaration of Michael Ketter, Ph.D.," ADAMS No. ML22319A251, p. 3, <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML22319A251>

²⁷ https://www.erwinrecord.net/news/local/nuclear-regulatory-commission-hears-from-concerned-citizens-during-nfs-performance-presentation/article_29fe9ef0-f64e-11ed-9d66-e31d2668d3ea.html

²⁸ <https://radiation.org/wp-content/uploads/2023/06/Nuclear-Fuel-Services-w-ltrhead.pdf>

significant radioactive contaminants were scientifically identified by the chemist, Michael Ketterer, Ph.D.²⁹

Dr. Ketterer has since documented that residences have been irradiated by airborne radionuclides from PORTS, including a private house in Lucasville, Ohio, 10 miles from the PORTS site.³⁰ At Lucasville, Dr. Ketterer found unusual levels of U-235 and U-234 in dust samples from the home's attic, at concentrations elevated to a factor of 3.4 compared with natural levels.

The Zahn's Middle School revelations, together with Dr. Ketterer's ongoing investigative forensic work, caused DOE to fund a larger sampling campaign, the Human Health Risk Assessment, across an area within a six-mile radius of PORTS. The study was overseen by the Pike County General Health District and Scioto Valley-Piketon Area Council of Governments. Following two years of gathering samples, the consultants Solutient and Auxier announced in their report³¹ the presence of radioactive contamination in the form of Americium, multiple isotopes of Uranium, Neptunium, Technetium and Plutonium at, or exceeding, the screening level on hundreds of sampled sites within the six-mile radius. The most frequently noted radionuclides appear to be Technetium-99 (Te-99) and Plutonium-238 (Pu-238).³² Both of these are irrefutably tied to the arduous history of Uranium enrichment and downblending at PORTS.

Also, independent epidemiologist Joseph Mangano has analyzed public health and mortality data for Pike County, where PORTS is located, and for six Ohio counties adjoining Pike County. In August 2022, Mr. Mangano determined that Pike County's cancer incidence from 2010-2019 was 15% higher than the U.S. rate, and the highest rate of all 88 Ohio counties.³³ Mr. Mangano also found that in the 1950s when PORTS opened, county cancer mortality was 12% below the U.S. He also determined that *by 1993, Pike County surpassed the U.S. cancer rate and that the largest gap (+32.8%) occurred in 2019-2020*. Mr. Mangano verified that in 2009-2020, the cancer death rate in the county exceeded the U.S. by about 50% for all age groups, except for persons over age 75 (0.5% below the U.S. average); that county all-cause mortality was <5% above the U.S. in the 1980s and early 1990s. *By 2019-2020, however, the county rate was 42.3% greater. Finally, among persons 0-74, all-cause mortality in Pike County soared to 85.0% above the U.S. in 2017-2020, nearly twice that of the nation.*³⁴

In his second, 2023, analysis, Mr. Mangano evaluated the public health and mortality data of six Ohio counties downwind of PORTS. He compared those Ohio counties, which adjoin Pike and are downwind of PORTS, with six Ohio counties further from the plant ("control" counties). All 13 counties had similar population densities, racial/ethnic composition; and rates of poverty, education, unemployment, and health insurance. PORTS is located in the generally-impooverished Appalachian region within Ohio.

²⁹ <https://www.ans.org/news/article-4481/report-links-u235-found-in-ohio-home-to-portsmouth/>

³⁰ <https://www.scribd.com/document/604959982/Ketterer-Lawson-18Oct2022-002>

³¹ <https://drive.google.com/file/d/1rGW5SoanpDzcokutQFKHk-nuNPG74e-9/view>

³² https://drive.google.com/file/d/1zGDeRfkIbvUYh_MfwvedjRMDNMAkWumZ/view, Slides 11-18, 32.

³³ <https://radiation.org/rphp-report-finds-soaring-death-rate-near-ohio-uranium-plant/>

³⁴ *Id.*

Mr. Mangano found that in the late 1990s, cancer incidence in both multi-county areas was 0.4% below the U.S. rate, but that by 2015-2019, the study counties rate exceeded the U.S. by 17.5%, versus 8.8% in control counties.³⁵ In the 1970s, infant death rates were slightly above the U.S. in both areas (+4.4% and +1.6%). However, by 1999-2020, the excesses were +31.9% (study) and +9.9% (control). In the early 1970s, all-cause mortality rates in both areas were slightly above the U.S. But by 2017-2021, mortality in the study counties far exceeded the rate in the U.S. and control counties.³⁶ Mangano opined that:

The large and growing gaps between study and control areas indicate that socio-economic factors – which have likely undergone similar changes over time - cannot account for most of the high rates near PORTS. Nevertheless, with 13,138 “excess” premature deaths (under age 75) in the seven study counties since 1974, a thorough evaluation of contamination from PORTS and the plant’s current decommissioning process are in order.³⁷

NEPA requires examination of cumulative effects

A NEPA document must examine “alternatives to the proposed action,” and the action’s direct, indirect and cumulative effects.³⁸ 42 U.S.C. § 4332(C)(iii); 40 C.F.R. §§ 1502.16, 1508.7, 1508.8.³⁹ The Council on Environmental Quality mandates that environmental impact assessments and statements include “impacts, which may be cumulative” within their scope. 40 CFR § 1508.25(c).

An EA, like an EIS, must take a “hard look” at the environmental consequences of the proposed action, *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976), including its direct, indirect, and cumulative effects, see *EarthReports, Inc. v. FERC*, 828 F.3d 949, 953 (D.C. Cir. 2016); 40 C.F.R. §§ 1508.9, 1508.25(c). NEPA requires “an agency to evaluate ‘cumulative impacts’ along with the direct and indirect impacts of a proposed action.” *TOMAC, Taxpayers of Michigan Against Casinos v. Norton*, 433 F.3d 852, 864 (D.C. Cir. 2006) (citing *Grand Canyon Tr. v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2002)). A cumulative impact is “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7. “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” *Id.* § 1508.7.

³⁵ All citations in this paragraph are from Joseph Mangano’s report, <https://radiation.org/wp-content/uploads/2023/06/Portsmouth-2nd-report-final.pdf>

³⁶ See table at p. 1 of Mangano’s 2023 report, revealing stunning variations.

³⁷ *Id.*

³⁸ “Effects” and “impacts” are synonymous as they are used in NEPA’s implementing regulations. 40 C.F.R. § 1508.8.

³⁹ “Direct” environmental effects “are caused by the [agency’s] action and occur at the same time and place.” 40 C.F.R. § 1508.8. “Indirect” environmental effects “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.” *Id.* “Cumulative” environmental effects account for “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” *Id.* § 1508.7.

A NEPA cumulative impact analysis must include discussion of “other actions—past, present, and proposed, and reasonably foreseeable—that have had or are expected to have impacts in the same area,” “the impacts or expected impacts from these other actions,” and “the overall impact that can be expected if the individual impacts are allowed to accumulate.” *Grand Canyon Tr.*, 290 F.3d at 345.

Conclusion

Congress has mandated that “the development, use, and control of atomic energy shall be directed so as to *promote world peace*, improve the general welfare, increase the standard of living, and strengthen free competition in private enterprise.” 42 U.S.C. § 2011(b). (Emphasis added). The Navy has abdicated the requirement of responsibly investigating and creating a comprehensive NEPA inquiry into a project that almost certainly will threaten global annihilation, and which also could precipitously worsen the general welfare, cause a decline in the standard of living, and eviscerate the system of private enterprise.

July 24, 2023

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