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UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

GREENACTION FOR HEALTH AND ENVIRONMENTAL JUSTICE, a non-profit corporation,

Plaintiff,

v.

UNITED STATES DEPARTMENT OF THE NAVY, a military department and agency of the United States; UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, a United States government agency,

Defendants.

Civil No. 3:24-cv-03899 (VC)

PLAINTIFF'S NOTICE OF MOTION, MOTION, AND MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF PLAINTIFF'S MOTION FOR SUMMARY JUDGEMENT

Judge: Honorable Vince Chhabria
Date: December 4, 2025
Time: 10:00 A.M.
Court: 4, 17th Floor

NOTICE OF MOTION

PLEASE TAKE NOTICE that at 10:00 A.M. on December 4, 2025, or as soon thereafter as the matter may be heard in the Honorable Judge Vince Chhabria's courtroom at the United States District Court for the Northern District of California, Courtroom 4 on the 17th floor of 450 Golden Gate Avenue, San Francisco, California, Plaintiff Greenaction for Health and Environmental Justice will move this Court, pursuant to Federal Rule of Civil Procedure 56 and Civil Local Rules 7-2, 7-4, and 56, for summary judgment on Claims for Relief Two and Four of its Second Amended Complaint. This motion is based on the accompanying Memorandum of Points and Authorities, Plaintiff's Request for Judicial Notice, the Declarations of Mishwa Lee, Leaotis Martin, and Bradley Angel, the pleadings, records and files in this action, and other such documentary and oral evidence as may be presented at the hearing.

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II. INTRODUCTION AND SUMMARY

Plaintiff Greenaction for Health and Environmental Justice ("Greenaction") represents residents of San Francisco's Bayview Hunters Point ("Bayview") neighborhood, the community most affected by the contamination and cleanup of the former Hunters Point Naval Shipyard ("HPNS" or "Shipyard") Superfund site. Greenaction seeks a more protective cleanup.

The Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA") requires five-year reviews when contamination remains as part of the long-term remedy. Here, the Navy chose to leave contamination onsite, necessitating five-year reviews. Beginning in 2003, the Navy issued five CERCLA five-year reviews. This action relates to the Navy's *Final Fifth Five Year Review* ("*Fifth FYR*"), issued in July 2024, approximately a year late. It violated CERCLA by failing to meet its ongoing obligation to assure the protectiveness of the remedy. The Navy's cleanup contractor committed fraud, required retesting. The Navy has not completed soil retesting in *any* parcel. Thus, the *Fifth FYR* lacked sufficient reliable data upon which to make protectiveness determinations. Instead, it *predicted* protectiveness in future. The Navy also failed to demonstrate that the lifetime cancer risk falls within CERCLA's risk range using remedial goals selected in 2006. Further, the Navy has failed to update its remedial goals to consider the most recent toxicity data. Due to these failures, the *Fifth FYR* is not supported by scientifically sound data or reasoned analysis based thereon and is arbitrary and capricious. Greenaction seeks this Court's order requiring that the Navy comply with the law.

III. STATEMENT OF THE ISSUES TO BE DECIDED (L.R. 7-4(A)(3))

A. Is Defendant Navy liable for violating 42 U.S.C. § 9659(a)(1) by issuing its *Fifth FYR* late and stating that its *Sixth Five Year Review* ("*Sixth FYR"*) will be a year late?

B. Is Defendant Navy liable for violating 42 U.S.C. § 9659(a)(1) by not basing its *Fifth FYR* protectiveness decisions based on reliable data and reasoned explanations?

C. Should the Court order the Navy to cure the deficiencies in the *Fifth Five Year Review* in the *Sixth Five Year Review* and issue it by July 8, 2028, the statutory deadline?

IV. STANDARD OF REVIEW

Federal Rule 56(a) states that summary judgment is appropriate when the evidence shows "there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." If evidence is "so one-sided that one party must prevail as a matter of law," summary judgment is appropriate. *Anderson v. Liberty Lobby*, *Inc.,* 477 U.S. 242, 251–52 (1986). Plaintiffs need not establish that all facts are undisputed, only that no material facts are at issue. *Id*. at 247–48. Once the moving party submits valid evidence supporting its motion, the nonmoving party must produce evidence sufficient for a rational trier of fact to render a verdict in its favor. *Id*. at 253–54. Where the moving party has demonstrated there is no material issue of fact for trial, the "adverse party may not rest upon the mere allegations or denials of the adverse party's pleadings, but . . . must set forth specific facts showing that there is a genuine issue for trial." Fed. R. Civ. P. 56(e). It cannot rest on mere allegations or denials. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp*., 475 U.S. 574, 586 (1986).

V. FACTUAL BACKGROUND

EPA listed HPNS on the National Priorities List ("NPL") in 1989. National Priorities List for Uncontrolled Hazardous Waste Sites, 54 Fed. Reg. 48,184 (Nov. 21, 1989).

The Navy initiated remedial actions at HNPS on July 8, 1998. AR_0000026.

The Navy's radiological cleanup contractor, Tetra Tech EC, Inc. ("Tetra Tech"), committed fraud under the Navy's supervision. In 2018, the Navy agreed Tetra Tech's data was unreliable and retesting was required. As the *Fourth FYR* put it, "a significant portion of the radiological survey and remediation work completed to date was not reliable because of manipulation and/or falsification of data by one of its radiological contractors." AR_0020197. The *Fifth FYR* states that the Navy is taking corrective actions, "however, this work is ongoing." AR_0000019. Accordingly, a complete and accurate characterization of the extent of contamination remains unknown more than twenty-five years after the Navy initiated its CERCLA response actions. There is no current, scientifically defensible data, nor a reasoned explanation based thereon, demonstrating the remedy is or will be protective.

VI. LEGAL BACKGROUND

In 1980, Congress enacted CERCLA to address the nation's most contaminated sites and protect the public from their potential danger. Its primary mandate is that parties responsible for cleanup "select a remedial action that is protective of human health and the environment." 42 U.S.C. § 9621. In 1986, Congress amended CERCLA through the Superfund Amendments and Reauthorization Act ("SARA"). Among other things, SARA clarified that federal facilities must adhere to the same cleanup requirements as private entities. It also established that no federal agency "may adopt or utilize" any "guidelines, rules, regulations, or criteria" inconsistent with those adopted by the EPA Administrator. 42 U.S.C. § 9620(a)(2).

The SARA amendments also require five-year reviews at sites where contamination remains to "assure that human health and the environment are being protected by the remedial action being implemented." 42 U.S.C. § 9621(c). Regulations in the National Contingency Plan

("NCP") provide a blueprint for CERCLA cleanups. For example, 40 C.F.R. § 300.430(d)(1) requires site characterization; § 300.430(d)(2) requires gathering data to assess if contamination threatens human health; and § 300.430(e)(2) sets the range for lifetime cancer risk to between one in a million (10^{-6} in scientific notation) and one in ten thousand (10^{-4}).

Citizen suits are authorized under 42 U.S.C. § 9659(a)(1) for "violation of any standard, regulation, condition, requirement, or order which has become effective pursuant to this chapter (including any provision of an agreement under section 9620 of this title, relating to Federal facilities)." 42 U.S.C. § 9659(a)(2) authorizes citizens suits for failure "to perform any act or duty under this chapter, including an act or duty under section 9620 of this title (relating to Federal facilities), which is not discretionary with the President[1] or such other officer."

42 U.S.C. § 9613(j)(2) sets forth the standard of review for CERCLA challenges:

> In considering objections raised in any judicial action under this chapter, the court shall uphold the President's decision in selecting the response action unless the objecting party can demonstrate, on the administrative record, that the decision was arbitrary and capricious or otherwise not in accordance with law.

VII. ARGUMENT

A. Greenaction Has Demonstrated It Has Standing

To meet the Constitution's Article III's standing requirement, plaintiffs must show, "(1) they suffered or will suffer an 'injury in fact' that is concrete, particularized, and actual or imminent;" (2) the injury is fairly traceable to the defendant's challenged action; and "(3) the injury is likely,

[1] This authority was delegated to the EPA Administrator by Exec. Order No. 12580, 52 Fed. Reg. 2923 (Jan. 23, 1987), amended by Exec. Order No. 13016, 61 Fed. Reg. 45,871, (Aug. 30, 1996).

not merely speculative, and will be redressed by a favorable decision." *Biodiversity Legal Found. v. Badgley*, 309 F.3d 1166, 1171 (9th Cir. 2002).

Greenaction must meet three additional conditions to sue on behalf of its members: "(1) members must otherwise have standing to sue on their own behalf; (2) the interests at stake must be germane to the organization's purposes; and (3) neither the claim asserted, nor the relief requested must require the participation of individual members in the lawsuit." *Id*.

Greenaction has established all facts necessary to prove each of these elements. *See* Declarations of Mishwa Lee, Leaotis Martin, and Bradley Angel in Support of Plaintiffs' Motion for Summary Judgment. Each plaintiff would have standing to sue in their own right. Ms. Lee, a cancer survivor, suffers from "fear, worry, anxiety, and other emotional and psychological harm" that her health may be compromised by potentially contaminated Shipyard dust. She worries that contamination may be mobilized by natural disasters and extreme weather events, causing her further harm. (Lee Decl. ¶¶ 8, 9, 10, 13.) A favorable outcome in this case would redress her concerns: "Only a proper, competent, and complete cleanup can abate these harms." (*Id*. ¶ 13.)

Similarly, Mr. Martin's declaration cites injuries he has suffered. For example, he attributes the premature deaths of his mother and twin brother at least partially to Shipyard contamination they were exposed to unknowingly, and fears for his health from his long history of exposures. (Martin Decl. ¶¶ 4, 5.) He also cites harm from smoke from a 2000 fire in Parcel E's landfill, which exacerbated his respiratory problems. He fears that future fires and natural disasters may mobilize contaminants and cause further harm. (*Id*. ¶¶ 11, 12, 13.)

These injuries are fairly traceable to Defendants' conduct. Ms. Lee, for example, cites the Navy's "botched cleanup," (Lee Decl. ¶ 8), causing her continuing harm and anxiety which will continue, "as long as there is unremedied contamination at the Shipyard." (Lee Decl. ¶ 13.) Mr.

Martin agrees: "The Navy's botched cleanup has caused me, my family, and my community direct and actual harm. There is a widespread belief in the community, which I share, that the Shipyard's toxic and radioactive contamination is a major contributor to the illnesses suffered by members of my community." (Martin Decl. ¶ 8.)

The Navy contaminated the Shipyard and insufficiently supervised its cleanup contractor, requiring that Tetra Tech's fraudulent testing be redone. This has extended—by a decade—the risk to those who live nearest the Shipyard. They face continuing potential exposure to radioactive contamination if mobilized by natural disasters, extreme weather events, and fires. The longer contamination remains un-remediated, the more the risk remains to the health of the Shipyard's neighbors. An "increased risk of harm can itself be injury in fact sufficient for standing." *Ecological Rts. Found. v. Pac. Lumber Co*., 230 F.3d 1141 (9th Cir. 2000).

Furthermore, as the Declaration of Greenaction's founder and Executive Director states, this action is germane to Greenaction's central purpose, to "protect human health and to promote environmental, social, economic, racial, and climate justice." (Angel Decl. ¶ 3.) Finally, individual relief for Greenaction's members is not necessary; Greenaction seeks injunctive relief beneficial to its members and non-member alike. This action does not seek individual damages; it seeks remedies in the public interest. Accordingly, Plaintiff has established standing.

B. The Court Should Grant the Motion as to the Second Claim Because the Navy Failed to Issue its Fifth FYR By the Lawful Deadline and Will Issue its Sixth FYR Late

The Navy has failed to perform a non-discretionary act required by CERCLA and the NCP by failing to issue its *Fifth FYR* in a timely manner. There is no genuine dispute as to any material facts or chronology, demonstrating Plaintiffs' entitlement to relief.

If a remedy leaves contamination onsite, CERCLA requires that a review be conducted "no less often than each 5 years **after the initiation of such remedial action**" to assure protectiveness. 42 U.S.C. § 9621(c). (Emphasis added.) 40 C.F.R. § 300.430(f)(4)(ii) reiterates that the trigger date for five-year reviews is, "initiation of the selected remedial action."

There are no exceptions to this obligation in the law or regulations.

Remedial actions were initiated at HNPS on July 8, 1998. Claim Two Stipulation No. 1. Accordingly, the *First FYR* for HNPS was due no later than July 8, 2003. Subsequent reviews were due five years thereafter on July 8, in 2003, 2008, 2013, 2018, and 2023.

Beginning in 2003, the Navy published five sequential five-year reviews. AR_0000073. However, as Chart 1 illustrates, every five-year review has been late.

Chart 1. SUMMARY OF FIVE-YEAR REVIEW DUE DATES AND ISSUANCE DATES

Activity	Due Date	Issuance Date	Interval	Reference
Initiation of Remedial Action	July 8, 1998			AR_0000026
First FYR	July 8, 2003	December 10, 2003	5 months	Stip. No. 1, 16
Second FYR	July 8, 2008	November 11, 2008	4 months	Stip. No. 21
Third FYR	July 8, 2013	November 8, 2013	4 months	Stip. No. 25
Fourth FYR	July 8, 2018	July 31, 2019	12 months	Stip. No, 29
1st Soil Addendum		August 8, 2019	13 months	Stip. No. 31
Building Addendum		October 10, 2019	15 months	Stip. No. 32
2nd Soil Addendum		June 18, 2020	23 months	Stip. No. 33
Fifth FYR	July 8, 2023	July 30, 2024	12 months	Stip. No. 37
Sixth FYR	July 8, 2028	July 31, 2029[2]	12 months	AR_0000785

The *Fifth FYR* was issued approximately a year late. It described its "triggering action date" as "7/31/2019 ([the] signature date of Fourth Five-Year Review)," and declared the "due date" for the *Fifth FYR* was July 31, 2024 (Stip. No. 38). However, the Navy improperly set the trigger

[2] Projected by the Navy in its Fifth FYR.

date not to initiation of remedial work, but to the prior review's signature date.

EPA's comments to the *Draft Fifth FYR* pointed out the Navy's due date was incorrect: "the trigger action date is the Remedial Action Start date, not the signature date of the *Fourth FYR*." Stip. Nos. 42 and 44. However, the Navy failed to make a correction, stating the *Sixth FYR* would be issued by July 31, 2029, a year beyond its due date. AR_0000785.

The Navy relied on a 2011 policy statement, *Navy/Marine Corps Policy for Conducting CERCLA Five-Year Reviews,* in tying the trigger date to the prior signature date. It states:

> In accordance with CERCLA, the Five-Year Review and report for a site shall be completed and signed by the DON within five years of the trigger date for that site. Subsequent Five-Year Review reports **shall be signed by the DON no later than five-years after the signature date** of the previous Five-Year Review report. Thus, the signature date on each Five-Year Review becomes the 'trigger' for the next Five-Year Review. (Emphasis added.)

AR_0206408. However, the Navy's policy is inconsistent with the statute. Extending the deadline by tying the trigger date to prior late signature dates grants the Navy an unlawful delay, which the *Fifth FYR* implemented:

> The May 2011 Navy/Marine Corps Policy for Conducting CERCLA Five-Year Reviews establishes subsequent signature dates for Five-Year Reviews as no more than five years **from the date of the last signature** (Section 5.2a, Navy 2011), therefore the signature date of the Sixth Five-Year Review will be July 31, 2029 (or 5 years from the signature date of this Five-Year Review).

AR_0000785. (Emphasis added.)

The Navy does not have the legal authority to modify the clear requirements of CERCLA and the NCP. Indeed, no federal agency has that power.

Administrative law distinguishes between "legislative rules," as defined by 5 U.S.C. § 553(b), which must undergo notice-and-comment requirements and have the force of law, and "interpretative rules, general statements of policy, or rules of agency organization, procedure, or

practice," as described in 5 U.S.C. § 553(b)(A). These do not require notice and comment; they are meant to "advise the public of the agency's construction of the statutes and rules which it administers." *Perez v. Mortg. Bankers Ass'n*, 575 U.S. 92, 96–97 (2015). Agencies cannot change legislative rules using interpretive policy statements that conflict with the meaning of a legislative rule. *League of Cal. Cities v. Fed. Commc'ns Comm'n*, 118 F.4th 995, 1012 (9th Cir. 2024).[3] They certainly cannot alter deadlines set by Congress.

As a result of the Navy's unlawful policy, it has unlawfully institutionalized ongoing and continuing delays to issuance of its HPNS five-year reviews. Though the Navy's delays of the *First*, *Second*, and *Third FYRs* were only a few months in duration, the *Fourth FYR*, including its addenda, extended the delay to almost two years and the *Fifth FYR* was a year late. By these actions, the Navy has improperly granted itself a de facto extension—forever into the future—to its *FYR* deadlines, in violation of CERCLA and the NCP.

Greenaction respectfully requests the Court require the Navy to comply with the law and issue its *Sixth FYR* in its entirety on or before July 8, 2028.

C. The Court Should Grant the Motion as to the Fourth Claim Because the Navy Failed to Assure the Protectiveness of the Remedy in its *Fifth FYR*

CERCLA remedial actions must attain a cleanup "that is protective of human health and the environment." 42 U.S.C. § 9621(b)(1)(G). The NCP requires that remedies "maintain protection over time," and promote treatment. 40 C.F.R. §300.430(a)(1)(i).

[3] Greenaction recognizes that it urges the Court to rely on parts of the *Navy FYR Policy* as to the Fourth Claim yet reject other parts as to the Second Claim. However, parts of the policy relevant to the Fourth Claim properly apply CERCLA and the NCP, while those relevant to the Second Claim contradict the express language of CERCLA and the NCP and are thus improper.

Where remedies leave contaminants onsite, five-year reviews are required to assure continuing protectiveness: "the President shall review such remedial action no less often than each 5 years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented." If a five-year review concludes action is necessary to assure protectiveness, "the President shall take or require such action." 42 U.S.C. § 9621(c). The NCP specifies five-year reviews must continue as long as contamination requires land use restrictions to prevent human exposure:

> If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site **above levels that allow for unlimited use and unrestricted exposure**, the lead agency shall review such action no less than every five years after the initiation of the selected remedial action. (Emphasis added.)

40 C.F.R. § 300.430(f)(4)(ii).

Neither CERCLA nor the NCP define "protective of human health and the environment," or "protective." However, the NCP gives concrete meaning to "protectiveness" by requiring site characterization, quantitative remedial goals, and remedy selection that must satisfy either (1) applicable or relevant and appropriate requirements ("ARARs"), promulgated under federal or state environmental laws, or (2) risk assessments that identify protective exposure levels. 40 C.F.R. § 300.430(e)(2)(i). If ARARs are unavailable,[4] the NCP sets exposure levels limiting excess lifetime cancer risk to a range (the "CERCLA risk range") between one in ten thousand (10^{-4}) and 1 in a million (10^{-6}). 40 C.F.R. § 300.430(e)(2)(i)(A)(2).[5]

[4] The *Fifth FYR* refers to chemical-specific ARARs (*see*, for example, AR_0000155, AR_0000217, and AR_0000274), but not radiological ARARs, reflecting the latter's unavailability.

[5] EPA guidance states that 10^{-4} is not a red line for protectiveness: "A specific risk estimate around 10^{-4} may be considered acceptable based on site-specific circumstances," but risk may not exceed 3 x 10^{-4}. *Radiation Risk Assessment at CERCLA Sites: Q & A*, Questions 34 and 35 (June 2014, pdf. 30-31).

Both legislative and interpretative administrative rules must be supported by reasoned explanation: "Even if a regulation is a permissible interpretive rule, we may still strike the rule down under the APA's arbitrary-and-capricious standard, which 'requires that agency action be reasonable and reasonably explained.'" *FCC v. Prometheus Radio Project*, 592 U.S. 414, 423 (2021). Agencies must provide a "rational connection between the facts found and the choice made," to ensure they adopt rational and transparent policies. *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co*., 463 U.S. 29 (1983). This requirement applies to both rulemaking and policy statements. *Amalgamated Transit Union, Int'l v. U.S. Dep't of Labor,* 647 F. Supp. 3d 875 (D.D.C. 2022).

Federal agencies must comply with their published guidances and policy statements, including their "own internal operating procedures." *Backcountry Against Dumps v. F.A.A*., 77 F.4th 1260, 1267 (9th Cir. 2023). The "touchstone" of a review for arbitrary and capricious action is "reasoned decision making," that states "a satisfactory explanation for its action including a rational connection between the facts found and the choice made." *Id*.

The Ninth Circuit has held that CERCLA is to be construed liberally:

> Because "'CERCLA is essentially a remedial statute designed by Congress to protect and preserve public health and the environment [, courts] are ... obligated to construe its provisions liberally to avoid frustration of the beneficial legislative purposes....'" *Wilshire Westwood Assocs*. *v. Atlantic Richfield Co*., 881 F.2d 801, 804 (9th Cir. 1989) (quoting *Dedham Water Co*. *v. Cumberland Farms Dairy, Inc*., 805 F.2d 1074, 1081 (1st Cir. 1986)); see also *3550 Stevens Creek Assocs. v. Barclays Bank*, 915 F.2d 1355, 1363 (9th Cir. 1990) ("We agree that [CERCLA] is to be given a broad interpretation to accomplish its remedial goals."), cert. denied, 500 U.S. 917, 111 S.Ct. 2014, 114 L.Ed.2d 101 (1991).

Hanford Downwinders Coal. v. Dowdle, 71 F.3d 1469, 1481 (9th Cir. 1995).

In violation of CERCLA and the NCP, the Navy's *Fifth FYR* erroneously represented that the HPNS remedy is protective of human health and/or will be in the future. This conclusion is

unsupportable where the Navy has failed to: (1) use complete, parcel-specific sampling data as the basis for its protectiveness determinations; (2) demonstrate that lifetime cancer risk remains within the CERCLA risk range under the remedial goals adopted in 2006; (3) demonstrate that lifetime cancer risk remains within the CERCLA risk range under updated remedial goals using the most recent toxicity data published by EPA in 2023; (4) demonstrate that cumulative cancer risk for all contaminants, including chemical and radiological contaminants, falls within the risk range; (5) justify the use of institutional controls ("ICs"); and (6) adequately consider the impacts of climate change on the future protectiveness of the remedies.

1. The Navy Has No Complete, Parcel-Specific Protectiveness Data for Any Parcel.

The *Navy FYR Policy* links protectiveness to data: "Evaluation of the remedy and the determination of protectiveness **should be based on and sufficiently supported by data** and observations." AR_0206408. (Emphasis added.) The *Navy FYR Policy* incorporates EPA's *Comprehensive Five-Year Review Guidance* ("*EPA FYR Guidance*") into the Navy policy as reference (a).[6] EPA's guidance also states: "the determination of protectiveness should be **based on and sufficiently supported by data** and observations." AR_0206842. (Emphasis added.)

The Navy has yet to complete soil retesting in a *single* parcel. It thus lacks sufficient reliable data on which to base long-term protectiveness determinations for any parcel. The Navy conceded this in its last *two* five-year reviews. The *Fourth FYR* acknowledged:

> A long-term protectiveness evaluation of the radiological RGs [remedial goals] **has not yet been completed** for this fourth Five-Year Review, and it is **currently not known** if the RAOs [remedial action objectives] for radionuclides have been achieved in Parcels B-1, B-2, C, D-1, D-2, G, E, UC-1, UC-2, and UC-3.

[6] Greenaction acknowledges EPA guidances are not mandatory. However, EPA is the most expert of any federal agency regarding implementation of environmental statutes. Its guidances present EPA's view of best practices and are entitled to the deference the Court deems appropriate.

AR_0020197. (Emphasis added.) The *Fourth FYR* kicked the protectiveness evaluation down the road, stating: "It is anticipated that the radiological rework will be completed prior to the next Five-Year Review [i.e., the *Fifth FYR*]." *Id*. It also claimed it could not determine whether the fraud affected long-term protectiveness, saying it was "To Be Determined." *Id*.

Without explaining why retesting was not completed by the "next five-year review," the *Fifth FYR* again cited uncertainty due to the fraud. But this time, it did not predict when it would have parcel-specific data. Rather, as to Parcels B-1, B-2, C, D-1, D-2, UC-1, UC-2, UC-3, and G, the Navy stated it was "in the process of implementing corrective actions." AR_0000019.

The *Fifth FYR*, unlike the *Fourth*, conceded that lack of data *would* "affect future protectiveness." *Id*. Referring to Parcel UC-1, the *Fifth FYR* says, "In order to determine whether the remedy can be considered protective in the long term, the radiological retesting work will be completed." AR_0000023. Similar statements appear as to Parcels B-1, B-2, C, D-1, D-2, G, UC-2, and UC-3. *See*, AR_0000022 to AR_0000025.

Accordingly, the Navy has failed to assure the long-term protectiveness of the HPNS radiological remedies based on reliable parcel-specific data, in contradiction to the *Navy FYR Policy* and violating CERCLA and the NCP. Because the Navy has deferred long-term protectiveness for the last *two* five-year reviews and cannot indicate when full retesting data will be available, the *Fifth FYR* fails "to assure that human health and the environment are being protected by the remedial action being implemented." 42 U.S.C. § 9621(c).

2. The Navy Has Not Demonstrated Cancer Risk Meets the CERCLA Risk Range.

Protectiveness requires the lifetime cancer risk be within the CERCLA risk range. 40 C.F.R. § 300.430(e)(2). The *Navy FYR Policy* again references the *EPA FYR Guidance* in addressing when five-year reviews do not demonstrate protectiveness. The Navy policy states:

> For remedies in-place that are operating as intended, the DON [Department of Navy] will not reopen remedy selection decisions contained in RODs or DDs [decision documents] **unless the protectiveness of the in-place remedy is in question**. DON should follow the guidance of Section 4 of Reference (a) [i.e., the *EPA FYR Guidance*], which provides detailed instructions regarding how to evaluate **whether a remedy is protective** of human health and the environment.

AR_0206411. (Emphasis added.)

The *Fifth FYR*'s protectiveness determinations relied primarily on the *Fourth FYR*. However, the *Fourth FYR* deferred protectiveness to addenda issued after the *Fourth* FYR: "After finalization of the Five-Year Review, the Navy will issue a draft addendum evaluating the long-term protectiveness of the RGs [remedial goals] for soil. . .." AR_0020197.

The Navy then issued *two* soil addenda, one in 2019 and another in 2020. The first,[7] purported to evaluate the radiological risk for soil the *Fourth FYR* failed to address. However, instead of using EPA's Preliminary Remediation Goals ("PRG") calculator, the Navy used a method called RESRAD," which is not approved by EPA. RESRAD reported the thorium-232 remedial goal translated to a lifetime cancer risk of 2.7 cancers per 10,000 (2.7×10^{-4}), nearly three times the low end of the risk range. (AR_0068279.) Despite the exceedance, the addendum claimed, "For soil radiation remedial goals, the RESRAD evaluation performed by the Navy

[7] *Addendum to the Five-Year Review, Evaluation of Radiological Remedial Goals for Soil, Hunters Point Naval Shipyard, San Francisco, Cal*. (August 8, 2019).

indicates that all radiological remedial goals for soil meet current protectiveness standards and **fall within the NCP risk management range**." *Id*. (Emphasis added).

By letter of November 15, 2019, EPA disagreed: "[**A]t this time, EPA cannot verify that the soil radiological remediation goals are protective of human health for long-term protectiveness** . . .." RFJN, item 1, pdf 2, emphasis in original. Among the reasons EPA cited were "the draft addendum does not provide sufficient justification for exceeding the 1 x 10^{-4} cancer risk," and it did not evaluate combined cumulative radioactive and chemical risk. *Id*.

In June 2020, the Navy issued a second soil addendum.[8] AR_0068277. This time, the Navy included EPA's PRG calculator in addition to RESRAD. The PRG calculator found the thorium-232 risk was nearly twice the lower end of the risk range, 1.7 per 10,000 (1.7 x 10^{-4}). AR_0068280. Despite the exceedance, the Navy claimed the 2020 addendum "verified that the soil radiation remediation goals are expected to be protective for all future land users." *Id.*

Again, EPA disagreed: "**The FYR Addendum does not complete the long-term protectiveness evaluation of the soil radiological remediation goals**. Instead, the FYR Addendum describes Navy plans to further evaluate cancer risk after the radiological retesting data are available." EPA continued: "we expect the Navy to **provide a clear justification for any cancer risks above 1 x 10^{-4}**." RFJN, item 2, pdf. 3, (Emphasis added).

The *Fifth FYR* said the 2020 soil addendum, "concluded that the current RGs are protective for all future land users." AR_0000035. It failed to explain exceeding the risk range despite backhandedly conceding that it did. Instead, it predicted *future* protectiveness:

> While estimated risks for soils or buildings contaminated at the remedial goal **may indeed exceed 1 in 10,000**, the Navy **will demonstrate** that the final risk from exposures

[8] *Addendum to the Five-Year Review, Evaluation of Radiological Remedial Goals for Soil, Hunters Point Naval Shipyard, San Francisco, CA.,* (June 18, 2020).

> upon property release, including the risk from chemicals and other radionuclides, **will achieve** the CERCLA risk range. (Emphasis added.)

AR_0001158.

How the Navy will meet the CERCLA risk range in the future is left unexplained.

The *Fifth FYR* included an additional set of toxicity data that was not from the *Fourth FYR*; a 2020 EPA PRG modification for "peak PRGs," which computes PRGs accounting for ingrowth and decay of radiological progeny over time. The *Fifth FYR* explained, "The soil RGs were used as exposure point concentrations, and the cumulative cancer risk was calculated as the sum of risks from all ROCs [radionuclides of concern]." It concluded as to multiple parcels, "Based on the findings of this evaluation, the soil RGs are within this range and continue to be protective for future residential exposures." AR_0000092, AR_0000157, AR_0000219.

However, like the *Fourth FYR* addenda, the Navy's peak PRG calculation exceeded the CERCLA risk range, reporting it was 2.7 in 10,000 (2.7×10^{-4}), nearly three times the low end of the risk range. AR_0000570. Also like the addenda, the Navy failed to offer a reasoned explanation for exceeding the risk range.

Furthermore, as a comment to the *Draft Fifth FYR* pointed out, the Navy underestimated the risk by applying an incorrect remedial goal for radium-226. The commenter noted the draft review reported the remedial goal for radium-226 was 1 picocurie per gram of soil ("pCi/g"), when the correct remedial goal is 1 pCi/g *above background*:

> The Navy has continuously failed to correctly apply this rule, and the draft review is no exception. The correct RG should be 1.861 pCi/g, as described in the most recent retesting work plan, the "Removal Site Evaluation Work Plan, Parcels D-2, UC-1, UC-2, and UC-3," released in 2023. A footnote for Ra-226 in the work plan states that "Remediation goal is 1 pCi/g above background per agreement with USEPA…Ra-226 background for definitive data is 0.861 pCi/g based on the off-site BTV [background threshold value] determined in the Final Background Soil Study Report."

AR_0001158. The comment summarized the error's impact: "When background is included for radium's RG, the total risk goes, using the Navy's calculational assumptions, up to 3.48 x 10^{-4}, well above the acceptable risk range."[9] *Id.*

Significantly, the Navy's response to this comment did not dispute these calculations. *Id.*

Furthermore, the Navy failed to offer a reasoned justification for exceeding the risk range. Rather, citing 40 CFR § 300.340(e), the Navy stated:

> In cases involving multiple contaminants or pathways where attainment of chemical [radiological]-specific ARARs will result in cumulative risk in excess of 10^{-4}, [factors related to technical limitations such as detection/quantification limits for contaminants; factors related to uncertainty; and other pertinent information] may be considered when determining the cleanup level to be attained. These factors, along with inter-agency agreements, were considered in the development of the current radiological remedial goals, therefore 1.861 pCi/g RG is not applicable. (Brackets in original.)

AR_0001158). However, the Navy failed to address basic facts, such as which specific factors it considered, or what "other pertinent information" or inter-agency agreements it considered. Nor did it explain how any of these factors justified exceeding the risk range.

3. The Navy Has Not Revised Its Remedial Goals Using the Most Recent Toxicity Data

Site-specific CERCLA remedial goals are established in a Record of Decision (ROD). Remedial goals, however, are not set in stone. Five-year reviews are explicitly intended to determine if the remedy remains protective; if they are not and action is appropriate, the President, "shall take or require such action." 42 U.S.C. § 9621(c).

The *Navy FYR Policy* echoes the statute. If the remedy is not protective, "then the Five-Year Review Report **will make recommendations concerning the steps necessary to achieve protectiveness.**" AR_0206409. (Emphasis added.)

[9] As noted in fn. 5, EPA guidance has established since 2014 that risk at or above 3 excess cancers per 10,000 (3 x 10^{-4}) is *not* protective.

EPA's *FYR Guidance* also specifies that if risk is not within the acceptable risk range, a "newly revised (protective) standard should be adopted." AR_0206877. (Parenthesis in original.) It also cites circumstances where the remedy should *not* be considered protective, including when "[t]he remedy cannot meet a new cleanup level and **the previous cleanup level is outside the risk range**." (Emphasis added.) AR_0206883. It also declares:

> If the estimated risk has increased, then you should determine whether the new estimated risk is acceptable. In most cases, you should base this determination on whether the risk is within or below the generally acceptable risk range of 10^{-4} to 10^{-6} for carcinogenic risk . . .. If the estimated risk is not protective, you should determine what actions need to be taken to achieve an acceptable level of risk.

AR_0206877.

Furthermore, both the Navy policy and EPA guidance anticipate that risk may need to be recalculated to account for the impact of new toxicity data. The *Navy FYR Policy*, for example, states: "Risk should be recalculated for known site contaminants whose toxicity criteria have changed significantly if the changes are likely to call into question the protectiveness of the remedy or the RAOs." AR_0206412.

The D.C. Circuit has explained that adoption of more stringent standards may require added remedial actions. In *State of Ohio v. EPA*, 997 F.2d. 1520 (D.C. Cir. 1993), consolidated petitions filed by multiple states and private parties challenged the NCP regulations. They argued, "because all remedies must be 'protective' as of implementation, the review will never provide an opportunity for new remedial action." *Id*. at 1535. The Court rejected this view:

> EPA responds convincingly that new action will occur when the review reveals that the remedy is no longer protective—for example, where a remedial technology has failed, or where a **newly promulgated standard indicates that the old standard is no longer protective**. Thus, EPA's construction does not render the five-year review provisions a nullity.

Id. (emphasis added).

Knowledge about radiation risk is not stuck in 2006, when the Navy adopted remedial goals. EPA has lowered the levels of acceptable exposure over the decades. For example, EPA used to consider a radiation dose under 15 millirems per year to be protective of human health. But in 2014, EPA issued a guidance lowering the acceptable dose to 12 millirems because "more recent scientific information" demonstrated 12 millirems, not 15, translated to acceptable risk. EPA, *Radiation Risk Assessment at CERCLA Sites: Q & A,* Question 35, (June 2014, pdf. 31).

Similarly, EPA has published generic preliminary remediation goals (PRGs) to be used in early stages of risk assessment, before site-specific data are available. EPA has lowered the generic soil PRGS over time, most recently in 2023. RFJN item 3. This update decreased values for soil in areas intended for residential use by more than an order of magnitude; for some HPNS radionuclides of concern, like strontium-90 and thorium-232, the generic soil PRGs were strengthened by more than *two* orders of magnitude.

In the past, the Navy *has* updated its HPNS risk calculations to account for updates to the PRG calculator. For example, Parcel B's ROD was followed by two Explanations of Significant Differences ("ESDs"), the second of which modified cleanup standards for chemical contamination prompted by EPA's update of its chemical PRGs: "This ESD updates the soil cleanup levels presented in Table 8 of the Parcel B ROD to incorporate the EPA's current 1999 PRGs . . .." AR_0269444. The Navy has not explained why it updated its chemical PRGS but has failed to update its radiological PRGs.

The Navy has also acknowledged it has relied on the EPA generic soil PRGs in the past. Responding to EPA's comments to the 2020 soil addendum, the Navy said that its cancer risk calculations "**are based on mostly default values."** AR_0068549. (Emphasis added.)

Despite the Navy's revision of the chemical PRGs in the Second Parcel B ESD and the *Fourth FYR* addenda's use of EPA soil defaults, the *Fifth FYR* never mentions EPA's 2023 soil defaults. The only reference to them came from Greenaction's comments to the *Draft Fifth FYR*, in which Greenaction wrote, "EPA's default Preliminary Remediation Goals have been updated, most recently in 2023." AR_0001002. The comments included the following chart comparing the Navy's 2006 radiological remedial goals with the 2023 soil defaults. As it shows, the updated soil values are much lower than the 2006 remedial goals:

SOIL RELEASE CRITERIA COMPARISON – Residential (in pCi/g)

Radionuclide	**HPNS (2006)**	**EPA 2/20/23**
Americium-241	1.36	.4800
Cesium-137	0.113	.0401
Cobalt-60	0.0361	.0285
Europium-152	0.13	.0384
Europium-154	0.23	.0467
Plutonium-239	2.59	.4450
Radium-226	1.0	.00192
Strontium-90	0.331	.00477
Thorium-232	1.69	.00170
Tritium	2.28	no value listed
Uranium 235+D	0.195	no value listed

Id.

Greenaction's comments also asked the Navy to explain the impact of the new defaults:

> The Navy needs to explain to the general public, using non-technical, commonly understood language, how the 2006 remedial goals could still be protective considering that the 2023 defaults are orders of magnitude lower than the remedial goals. The Navy must update the PRGS, "showing the arithmetic" to the public to justify the PRGs that result from proper application of the PRG calculators.

Id.

The Navy did not respond to Greenaction's comments.

The Navy's risk calculations already exceed the 2006 remedial goals. Applying the 2023 generic soil PRGs will exceed the risk even more.

4. The Navy Has Not Shown Cumulative Risk Meets CERCLA's Cancer Risk Range

Though this action relates to radiological remediation, the HPNS cleanup also includes chemical contamination. The Navy's risk calculations have never considered total cumulative risk from chemical and radiological contamination combined. In some cases, the Navy acknowledges it cannot make a protectiveness determination as to chemical contaminants. (*See*, for example, the *Fifth FYR*'s description of Parcel B-2[10].) Thus, it cannot claim that total chemical and radiological cumulative risk is within the CERCLA risk range.

The Navy failed to address either cumulative radiological risk or total radiological and chemical risk in its *Fourth FYR*. Rather, it deferred cumulative risk analysis until "after collection of data" and "[fo]llowing each future site investigation." The 2019 and 2020 soil addenda to the *Fourth FYR* also failed to address cumulative risk for all radionuclides or for radiological and chemical contaminants combined. AR_0068549.

Though the *Fifth FYR* claims to have assessed cumulative radiological risk by calculating peak PRGS, it exceeds the risk range. Rather than addressing cumulative chemical and radiological risk, the *Fifth FYR* referred to its response to comments to the 2020 soil addendum to the *Fourth FYR*, predicting it "will achieve the CERCLA risk range" for combined chemical and radiological risk "upon property transfer." AR_0001158.

[10] "A protectiveness determination cannot be made because there is uncertainty related to the concentrations of mercury discharging to the Bay from Parcel B-2, IR-26 groundwater." AR_0000023.

As noted, EPA criticized the addenda for the Navy's failure to address total cumulative risk. AR_0068549. However, the Navy cited no reasoned explanation for deferring cumulative risk analysis, nor did it estimate when parcel-specific data would be available. The Navy's failure to address total cumulative risk in its *Fifth FYR* prohibits the Navy from demonstrating that the HPNS remedies are and will be within the CERCLA risk range, violating CERCLA and the NCP.

5. The Navy Has Not Adequately Justified Caps and Institutional Controls.

The Navy wrongly assumes there will be both hard and soft controls on future exposures. The hard controls are caps—what the Navy terms "durable covers"—asphalt and buildings atop areas of residual contamination that were completed in September 2011. AR_0000077.

However, "durable" covers will not be durable; after property transfer, they will have to be destroyed to develop the site. The Navy has failed to delineate any protections that will be put in place to protect future construction workers and current and future residents from potential contamination when caps are removed for development.

The soft controls include "institutional controls," a prohibition (via future deed restrictions and covenants) on residents' raising edible plants except in fully contained boxes separated from contaminated soil below. On this basis, the Navy chose "to deselect produce for inclusion in the risk estimates based on stated restrictions on the use of homegrown produce using HPNS soils." AR_0068290.

The effect of this exclusion was to reduce lifetime cancer risk enough to satisfy CERCLA's risk range, at least according to the Navy.[11] However, EPA's *PRG User's Guide*

[11] As explained above, however, even with homegrown produce excluded, the cancer risk exceeds 10^{-4} and a properly calculated peak PRG calculation exceeds 3×10^{-4}, AR_0001158.

allows exclusion of an exposure pathway only if "a route of exposure . . . is considered to be unreasonable" at the site, "both currently and in the future." (pdf. 14.)

At HPNS, excluding homegrown produce is unreasonable because self-contained boxes are not actually required. Rather, the *Fifth FYR* claims they *will be required*: "future land use **will be required to comply** with any **environmental restrictions** recorded in the Quitclaim Deed and Covenant to Restrict Use of Property **developed during property transfer**." AR_0000030 (emphasis added). In other words, the Navy's cancer risk assessment depends on "restrictions on the use of homegrown produce," that do not exist. It also admits there is uncertainty whether this prohibition will ever exist:

> The specifics of who will conduct the monitoring and maintenance on a property following transfer will be negotiated during the property transfer process between the Navy, City of San Francisco, and regulatory agencies and **will largely depend on the types of institutional controls which will remain in place**.

AR_0001146. (Emphasis added.)

The *Fifth FYR* further states that "certain land restrictions **will be put into place** to restrict onsite residents from planting a garden on native soil beneath the engineered asphalt caps." AR_0001147. (Emphasis added.) However, enforcement of this prohibition —*if* it exists— is speculative and lacks mandatory mechanisms to assure long-term compliance.[12] It is unreasonable to modify risk calculations to include prohibitions that may not exist. It is also unreasonable to assume future residents will forever garden in raised boxes if that limitation *is* eventually enforced only by legal documents; it is unreasonable to assume raised beds will

[12] Although the Navy's Answer to Greenaction's Second Amended Complaint claims this prohibition "will be enforced" through deed restrictions, covenants, "and through annual institutional control inspections," (ECF 83, paragraph 46), the *Fifth FYR* only discusses *current* annual inspections (*see*, for example: AR_0000079; AR_0000083; AR_0000088), not future ones. It does state who will be responsible for future inspections or correcting deficiencies.

continue to be used in perpetuity without a robust inspection and repair program. Thus, the Navy has failed to provide a reasoned explanation for excluding homegrown produce in a future where that prohibition may not exist and which lacks a credible enforcement program. The Navy's arbitrary and capricious exclusion of homegrown produce underestimates the radiological risk and the combined cumulative risk.

6. The Navy's Did Not Adequately Consider Climate Change.

The *Fifth FYR* failed to adequately consider the impact of sea-level rise on protectiveness, underestimating its impact on the HPNS remedies. It projects a maximum sea-level rise of 3.2 feet by 2065. AR_0000334. However, as the California Department of Toxic Substances ("DTSC") comments to the *Fifth FYR* point out, DTSC and California's Ocean Protection Council both recommend planners look farther into the future, to the year 2100. AR_0000824. DTSC estimates that sea level rise in 2100 will be six (6) feet. AR_0000823.

However, the *Fifth FYR* took a significant step backward. The *Fourth FYR*'s estimate of sea level rise *did* consider a timeframe through 2100.[13] AR_0020194. However, as noted, the *Fifth FYR* only looks as far forward as 2065.[14] The Navy failed to explain why it *decreased* the timeframe between the two reviews, even as it promises to study sea level rise in 2100 in future: "The Navy plans to assess the impacts of SLR [sea level rise] in the year 2100 during site-specific studies." AR_0000335.

[13] The Navy's Answer admits rising sea levels may increase the risk that hazardous substances could migrate if groundwater levels rise a sufficient amount, (ECF No. 83, ¶ 97), and that it will, at an unspecified time, be "evaluating sea-level rise estimated through 2100, at a minimum," (ECF No. 83, ¶ 96). The *Fifth FYR* fails to offer a reasoned explanation for not evaluating the 2100 risk now.

[14] See, for example, AR_0000330, AR_0000331, AR_0000331, AR_0000332, and AR_0000334.

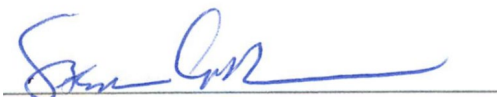
Rising sea and Bay water and a concomitant rise in groundwater increase the risk that contamination remaining on the Shipyard could be spread, potentially allowing it to contaminate adjacent properties. Indeed, the Navy's answer concedes this. (ECF No. 83 ¶ 97.)[15] The *Fifth FYR's* truncated assessment of the risk of remedy failure caused by sea-level rise underestimates the risk. The Navy's arbitrary and capricious failure to consider predictable future climate-related impacts on the HPNS remedies violates CERCLA and the NCP because it improperly suggests the remedy will be protective when the Navy has not demonstrated that is the case.

VIII. CONCLUSION

For the foregoing reasons, the Court should grant Greenaction's Motion for Summary Judgment and order the Navy to correct the deficiencies in the *Fifth FYR* in its *Sixth FYR* on or before July 8, 2028.

Dated: August 11, 2025

Respectfully Submitted,



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[15] "The Navy admits that rising sea levels may increase the risk that hazardous substances that remain at Hunters Point could migrate if groundwater levels rise a sufficient amount."