**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION**

EXXON MOBIL CORPORATION,	§	
	§	
Plaintiff,	§	
	§	
VS.	§	CIVIL ACTION NOS. H-10-2386
	§	H-11-1814
	§	
UNITED STATES OF AMERICA,	§	
	§	
Defendant.	§	

MEMORANDUM AND OPINION

The Second World War and the Korean Conflict ended over 65 years ago and took place thousands of miles away, but some effects of those wars are present and nearby. These consolidated cases address responsibility for the costs of cleaning up environmental damage from the production of materials the military needed during World War II and the Korean Conflict. These cases involve two of the country's largest and longest-running oil refineries and the chemical plants, or "Plancors," on and adjacent to them, one in Baytown, Texas, the other in Baton Rouge, Louisiana.

During World War II, the United States entered into contracts with Humble Oil and Standard Oil to produce high-octane aviation gas and other products needed for combat. Exxon Mobil Corporation is the successor entity for both Humble Oil and Standard Oil.[1] Under the contracts, the United States encouraged Exxon to produce as much as possible to meet the military needs. Exxon, like other oil companies that entered into similar contracts, retained ownership and day-to-day operational control over the work, including waste management. The Baytown and Baton Rouge refineries and plants disposed of hazardous waste in nearby bodies of water, including the Houston

[1] The opinion refers to these entities as "Exxon."

Ship Channel and the Mississippi River. Both feed into the Gulf of Mexico. Exxon has spent, and will continue to spend, millions in cleanup costs. Exxon sued under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended, 42 U.S.C. § 9601, *et seq.* ("CERCLA"), seeking reimbursement for the percentage of those costs attributable to the United States's wartime activities.

There are three phases to these cases, which are in turn related to ongoing litigation in the Court of Federal Claims. In 2015, this court ruled on the liability issues, finding that both Exxon and the United States were responsible for the cleanup costs. *Exxon Mobil Corp. v. United States*, 108 F. Supp. 3d 486 (S.D. Tex. 2015) ("*Exxon I*"). The next question is how much each is responsible for. This opinion addresses the cross-motions for partial summary judgment on the Phase II equitable-allocation issues—the method to determine what percentage of the cleanup costs each party must bear. Part III is a bench trial to resolve the factual disputes and conflicting inferences necessary to fix the relative shares and the amount of past costs and the share of future costs that each party must pay.

The United States and Exxon each filed lengthy briefs, a large record, and supplemental briefing on additional issues. The court heard oral extensive argument on the cross-motions. Based on the pleadings; the motions, responses, replies, and supplemental briefing; the record; the arguments of counsel; and the applicable law, the cross-motions for partial summary judgment, (Docket Entries No. 200, 202), are granted in part and denied in part.

The issues on which summary judgment is denied will be addressed at the bench trial set to begin on **February 19, 2019**. Those issues are:

- the allocation of responsibility for cleanup costs at the units on which the parties did not move for summary judgment;
- the allocation of responsibility for the costs at the Facilities Operations

Areas;

- the amount by which to offset Exxon's equitable share of liability based on the North American Coverage Case settlement proceeds;
- the challenges to Exxon's claimed costs that are not supported by both an invoice and proof of payment;
- whether Exxon may recover prejudgment interest, "run rate" costs, and consultant costs;
- the percentages of wartime production related to "commercial" products;
- the adjustments for Exxon's post-wartime waste-management improvements;
- the application of the equitable-allocation methodology set out in this opinion to determine what amount each party must pay; and
- the remaining issues that the pretrial work may identify.

The reasons for these rulings are explained below.

I. Background

The court's June 4, 2015 Memorandum and Opinion set out the relevant background in detail. Only a summary is provided here.

A. Procedural Background

Exxon seeks reimbursement for the costs it paid and will pay for environmental cleanup work required under the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.* ("RCRA") at an oil refinery and chemical plants, one in Baytown, Texas and one Baton Rouge, Louisiana. The United States did not operate either refinery; Exxon and the United States operated the chemical plants. The refinery and chemical plants at each site are a single CERCLA "facility." *Exxon I*, 108 F. Supp. 3d at 519.

Part of the environmental contamination at the facilities was caused by production of high-

octane aviation gas and other war products needed during World War II and the Korean Conflict. Between 1941 and 1955, the United States was extensively involved at both facilities. During this period, the refineries and the plants that supplied them raw materials operated at maximum production capacity to help the war efforts. The swift and large increase in production capabilities also increased hazardous wastes. The remediation work undertaken years later is regulated by CERCLA, which was, of course, passed decades after World War II and the Korean Conflict ended.

Exxon alleges that through December 2014, it has incurred approximately $77 million in past response costs attributable to the wartime-related contamination, and that it will incur significant additional future response costs. Exxon's claims for the cleanup costs at the Baytown facility are governed by § 113(f), 42 U.S.C. § 9613(f), and the claims for the costs at the Baton Rouge facility are governed by § 107(a), 42 U.S.C. § 9707(a).

In 2009, Exxon filed two contract actions against the United States in the United States Court of Federal Claims, seeking recovery for avgas-related environmental cleanup costs based on a reimbursement clause in the World War II avgas supply contracts between Exxon and the United States.[2] The clauses required the United States to reimburse Exxon for costs incurred "by reason of" the avgas production. *Exxon Mobil Corp. v. United States*, 124 Fed. Cl. 478 (2015). The contract case in the Court of Federal Claims is stayed, pending resolution of the issues here.

In these consolidated cases, the parties conducted extensive discovery on the liability and

[2] In a separate case in the Court of Federal Claims, Shell Oil Company and other oil companies sought reimbursement for WWII avgas-production cleanup costs based on a pertinently identical reimbursement clause in contracts with the United States. The Federal Circuit held that the United States was liable for reimbursement costs, *Shell Oil Co v. United States*, 751 F.3d 1282 (Fed. Cir. 2014), and on remand, the Court of Federal Claims held that the United States was liable for 100 percent of the oil companies' claimed costs, *Shell Oil Co. v. United States*, 130 Fed. Cl. 8 (2017) (*Shell IV*). On July 18, 2018, the Federal Circuit affirmed. *Shell Oil Co. v. United States*, – F.3d –, 2018 WL 3446960 (Fed. Cir. July 18, 2018) (*Shell V*).

allocation issues. In 2015, the court ruled on the parties' cross-motions for partial summary judgment on whether both, or only one, party was liable for the costs. *See Exxon I*, 108 F. Supp. 3d 486. The court held:

- the statute of limitations applicable to Exxon's claims is § 113(g)(2), 42 U.S.C. § 9613(g)(2), *id.* at 507–08;
- section 113(f)(3)(B)'s contribution provision is Exxon's exclusive remedy to seek cleanup costs incurred in response to administrative settlements with the State of Texas, *id.*;
- Exxon's agreed orders with the State of Texas are "administrative settlements" under § 113(f), *id.* at 510–11;
- the refinery and chemical plant at each site are a single "facility" under CERCLA, *id.* at 519;
- Exxon and the United States were CERCLA owners and operators of the chemical plants at both facilities, *id.* at 532;
- the United States was not a CERCLA owner and operator of either refinery, *id.*; and
- Exxon was entitled to a declaratory judgment that "the United States is liable for its equitable share of past and future cleanup costs incurred at the Baytown and Baton Rouge sites," *id.* at 537.

These determinations meant that both Exxon and the United States bear some share of the liability for the cleanup costs at the Baytown and Baton Rouge facilities. This stage of the litigation, Phase II, addresses the equitable allocation of those costs—the method and factors used to determine how much each party's share should be.

Exxon moved for partial summary judgment on four issues and the United States moved for partial summary judgment on five issues.[3] The issues, which overlap, are:

[3] Citations are to the record in the lead case, *Exxon Mobil Corp. v. United States*, No. 4:10-cv-2386 (S.D. Tex. filed Mar. 29, 2010). On June 8, 2018, the United States filed corrected versions of its briefs.

(Docket Entry No. 223). The opinion refers to the corrected versions. Because there are many briefs, a key is helpful. Instead of a docket entry citation, the briefs are referred to by abbreviations of their titles, as follows:

(1) Docket Entry No. 200, Exxon's motion for partial summary judgment, is "(Exxon MSJ)";

(2) Docket Entry No. 202 (corrected by No. 223), the United States's motion for partial summary judgment, is "(Gov't MSJ)";

(3) Docket Entry No. 209, Exxon's response in opposition to the United States's motion for partial summary judgment, is "(Exxon Response)";

(4) Docket Entry No. 212 (corrected by No. 223), the United States's response to Exxon's motion for partial summary judgment, is "(Gov't Response)";

(5) Docket Entry No. 219, Exxon's reply in support of its motion for partial summary judgment, is "(Exxon Reply)";

(6) Docket Entry No. 220 (corrected by No. 223), the United States's reply in support of its motion for partial summary judgment, is "(Gov't Reply)";

(7) Docket Entry No. 200, Ex. 4, Exxon's proposed findings of undisputed facts in support of its motion for summary judgment, is "(Exxon Facts)";

(8) Docket Entry No. 202, Ex. 2 (corrected by No. 223), the United States's proposed findings of undisputed facts in support of its motion for summary judgment, is "(Gov't Facts)";

(9) Docket Entry No. 209, Ex. 1, Exxon's response to the United States's statement of facts, is "(Exxon Response to Gov't Facts)";

(10) Docket Entry No. 209, Ex. 2, Exxon's supplemental statement of facts, is "(Exxon Supp. Facts)";

(11) Docket Entry No. 212, Ex. 2 (corrected by No. 223), the United States's response to Exxon's statement of facts, is "(Gov't Response to Exxon Facts)";

(12) Docket Entry No. 212, Ex. 1 (corrected by No. 223), the United States's supplemental statement of facts, is "(Gov't Supp. Facts)";

(13) Docket Entry No. 219, Ex. 1, Exxon's response to the government's supplemental statements of facts, is "(Exxon Response to Gov't Supp. Facts)";

(14) Docket Entry No. 220, Ex. 2, the United States's response to Exxon's supplemental statement of facts, is "(Gov't Response to Exxon Supp. Facts)";

- whether Exxon's cleanup costs at two of the Baytown units were "necessary costs of response" eligible for CERCLA recovery;

- whether Exxon's response actions at five Baytown units and three Baton Rouge units were "remedial" actions, which would be barred by the statute of limitations in 42 U.S.C. § 9613(g), or "removal" actions, which would not be barred;

- whether Exxon "substantially complied" with the National Contingency Plan for three of the Baytown units and two of the Baton Rouge units;

- whether to deduct the insurance-settlement proceeds Exxon received in a different case;

- whether Exxon accurately accounted for its costs with sufficient documentation;

- whether the United States should receive a zero or *de minimis* share at three Baytown units and two Baton Rouge units;

- what equitable-allocation methodology the court should use—the "time-on-the-risk" analysis the United States proposes, or the "production-based" analysis that Exxon proposes; and

- whether to enter a declaratory judgment establishing an equitable-allocation formula for Exxon's future costs to investigate and remediate water bodies and sediments near the Baytown and Baton Rouge facilities.

Each issue is addressed in detail below, against the facts shown in the summary judgment record and the legal standards that apply.

B. Factual Background

1. The Baytown Facility Cleanup Units

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(15) Docket Entry No. 220, Ex. 1, the United States's second supplemental statement of facts, is "(Gov't 2d Supp. Facts)"; and

(16) Docket Entry No. 225, Exxon's response to the United States's second supplemental statement of facts, is (Exxon Response to Gov't 2d Supp. Facts)."

Citations to paragraphs in the parties' proposed statements of facts refer to the documents listed in those paragraphs.

At the Baytown facility, nine cleanup units are at issue: Separator 3M, Separator 10, the Upper and Lower Outfall Canals, the Velasco Street Ditch, the South Landfarm, two Facilities Operations Areas ("FOA"), and the Tank Farm 3000 groundwater plume area. (Gov't MSJ, Ex. 27; Appendix A).

Separator 3M was an earthen, unlined impoundment that stored refinery wastes. The wastes stored and disposed of at Separator 3M included sludge generated by Separator 10, which operated from the wartime period through 1982, and sludge generated by Separator 12, which replaced Separator 10, between 1982 and 1984. (Gov't Facts ¶ 4; Exxon Response to Gov't Facts ¶ 4). The amount of sludge Separator 10 generated was reduced starting in 1951, as part of Exxon's postwar Effluent Improvement Program. This program included constructing "Effluent Filtration Units" to treat the sludge and to recycle the oil in that sludge. When Separator 3M was operational, Exxon removed sludge from it "about every two years," taking the sludge either to the South Landfarm or to a licensed "Class I off-site disposal facility." (*Id.*). Exxon closed part of Separator 3M in January 1985 to construct a new "wastewater treatment aeration basin." (Gov't Facts ¶ 6). The northern half of Separator 3M was "clean closed" in 1984, and the southern half was "clean closed" in 1986. (*Id.* ¶ 7). "Clean closure" signifies "that all hazardous wastes have been removed from a given RCRA regulated unit and any releases at or from the unit have been remediated so that further regulatory control under RCRA Subtitle C is not necessary to protect human health and the environment." EPA MEMORANDUM RE: RISK-BASED CLEAN CLOSURE (Mar. 16, 1998).[4] The State of Texas required the

[4] "As part of meeting the closure performance standard . . . for clean closure, facility owners/operators must remove a[ll] wastes from the closing unit and remove or decontaminate all waste residues, contaminated containment system components[,] contaminated soils (including ground water and any other environmental media contaminated by releases from the closing unit), and structures and equipment contained with hazardous waste and leachate." *Id.*

closures, certifying the closure of the northern half in 1998 and the closure of the southern half in 2006.

Separator 10 was a concrete-walled, clay-bottomed oil-water separator. After Separator 10 was "modernized" in 1950, approximately 300 barrels of oil a day were skimmed from the surface, and five tons of sediment a day were dredged from the bottom. (Gov't Facts ¶ 10). From 1929 to 1950, the sludge from Separator 10 was sent to Separator 3M. After Separator 10 stopped operating, Exxon sent this hazardous waste to the South Landfarm.

Closing Separator 3M and Separator 10 generally consisted of excavating contaminated materials in each separator and the soil beneath it. (Gov't Facts ¶¶ 12–13). The parties point to conflicting evidence showing the reasons for closing these separators. The United States contends that Exxon closed the separators to avoid upgrading them to comply with the then newly enacted EPA regulations. Exxon disputes that characterization, arguing that the separators were closed to address the threat that hazardous substances would be released into the underlying groundwater.

The Upper and Lower Outfall Canals are two unlined earthen ditches that carried wastewater from the Baytown refinery to the Houston Ship Channel. In the 1940s and 1950s, the Upper and Lower Outfall Canals carried over 90 percent of the wastewater generated at the Baytown facility. In September 1991, Exxon submitted a RCRA permit application seeking a "delay of closure" for both Canals to allow them to continue to receive non-hazardous wastewater and stormwater from the Baytown refinery. Between March and June 1994, 23,822 tons of sludge were excavated from the Upper Outfall Canal. (Gov't Facts ¶¶ 17–18). The parties dispute the toxicity levels of the sludge and the dates when it was removed from the Lower Outfall Canal.

The Velasco Street Ditch was an earthen ditch that carried stormwater and wastewater along

the northern part of the Baytown refinery. Exxon took several interim cleanup steps in the early to mid-1990s, some required by the State of Texas. (Exxon Response to Gov't Facts ¶ 23). In 1991, Exxon excavated 20,000 tons of sludge from the Velasco Street Ditch to comply with federal EPA requirements. (Gov't Facts ¶ 25). In 1993, Exxon asked the State of Texas to agree to a "delay of closure" approach so that it could continue using the Velasco Street Ditch to receive non-hazardous wastewater and stormwater. In 2008, Exxon "clean closed" the Velasco Street Ditch rather than upgrade it to meet RCRA's standards for hazardous waste-management units. (Gov't Facts ¶ 23). No groundwater monitoring was required or has been conducted since November 2008.

The South Landfarm was an unlined landfill in the southern part of the Baytown refinery. Exxon used this landfill to dispose of refinery wastes. Exxon excavated sludge and soil from the closure of Separators 3M and 10 and stored them at the South Landfarm. (Gov't Facts ¶ 29). In 1985, Exxon submitted a closure plan for the South Landfarm to the State of Texas. A revised closure plan was submitted in 1988. Exxon closed the South Landfarm under RCRA's interim status regulations, with the State of Texas overseeing the closure.

From 1988 to 1990, the South Landfarm had a "rest period" to allow the waste materials to degrade and dry out. The closure process included a historical assessment and evaluation of alternative options; constructing a levee around the unit to prevent flooding that risked carrying contaminated materials to adjacent areas; biodegradation of some of the waste; installing a clay cap on the unit; covering the cap with top soil and grass; installing a "final cover"; submitting a closure report to the State of Texas; and, after Texas accepted Exxon's certification, conducting ongoing groundwater monitoring. (Exxon Response to Gov't Facts ¶ 33). In 1991, Texas certified the closure of the South Landfarm.

For several of the Baytown units—Separator 3M, Separator 10, the Upper and Lower Outfall Canals, the Velasco Street Ditch, and the South Landfarm—the United States cites the testimony of Alborz Wozniak, the United States's cleanup expert, that "there is no evidence" that Exxon closed the units because they posed an imminent risk to human health or the environment. Exxon vigorously disputes this characterization of the evidence of risk. Exxon cites the conflicting testimony of Stephen Johnson, its cleanup and National Contingency Plan expert. Johnson testified that Exxon had determined that these units contained elevated levels of hazardous wastes and substances and that the State of Texas had determined that the public and the environment were at risk from exposure to those substances. (*See, e.g.*, Gov't Facts ¶ 31; Exxon Response to Gov't Facts ¶ 31).

The Tank Farm 3000 area is in the same location as the former Baytown Ordnance Works and other Ordnance Works structures. In the early 1990s, Exxon discovered two groundwater plumes in the Tank Farm 3000 area. The State of Texas directed Exxon to "locate any ongoing source of hydrocarbon release in the area of Tank Farm 3000 and to abate the release," and Exxon investigated the nature, extent, and source of those plumes. (Exxon Response to Gov't Facts ¶ 161). The parties dispute the source of the groundwater contamination at the Tank Farm 3000 area.

In March 1995, Exxon and the State of Texas entered into an agreed order. The order required Exxon to conduct a RCRA Facility Investigation for 22 solid-waste-management units. To do so, Exxon applied for two Facilities Operations Areas ("FOAs") at the Baytown site. An FOA is an area that addresses "multiple sources of [Contaminants of Concern] within an operational chemical or petroleum manufacturing plant which is required to perform corrective action on property regulated under [the Texas statute relating to municipal hazardous waste] pursuant to a

hazardous waste permit or commission corrective action order." 30 TEX. ADMIN. CODE. § 350.131.

Exxon began the five-step process of applying for an FOA for the Baytown refinery in September 2003. The process included assessments, monitoring, corrective-action programs, a formal application, and extensive correspondence and meetings with the State of Texas. In September 2016, the State approved the FOA application by amending Exxon's RCRA permit to establish the "Baytown Refinery FOA." As a result, Exxon asked the State to terminate the March 1995 agreed order, which it did. The cleanup requirements in that order were incorporated into the FOA provisions. Exxon also began the five-step FOA application process for the Baytown chemical plant in September 2003. The application process for the chemical plant FOA is incomplete and has not yet been approved.

Exxon spent approximately $8 million on the Baytown refinery and chemical plant FOA applications. Exxon has incurred, and will continue to incur, costs in connection with those applications. The FOAs cover both wartime-related and non-wartime-related solid-waste-management units, more units than those Exxon claims have a federal nexus in this litigation.

The parties dispute Exxon's reasons for applying for the FOAs and dispute the extent of the cleanup operations at the FOAs. The Baytown refinery FOA process, when completed, will provide a final, site-wide cleanup remedy for the refinery. (Exxon Facts ¶ 699). Exxon points to expert testimony that the Baytown chemical plant FOA, which is awaiting approval from the State of Texas, will provide a similar final, site-wide cleanup remedy for the plant. (*Id.* ¶ 700).

2. The Baton Rouge Cleanup Units

Three cleanup units are at issue at the Baton Rouge facility: the Shallow Fill Zone, the Old Silt Pond, and the Rice Paddy Landfarm. Each of the units involved extensive oversight by the State

of Louisiana. There is no site-wide, permanent cleanup remedy in place at the Baton Rouge facility.

The Shallow Fill Zone is a large area on the western boundary of the Baton Rouge refinery where wastes were deposited. Exxon began monitoring groundwater contamination at the Shallow Fill Zone in 1980 under its RCRA permit. In 1986, the State of Louisiana expressed concern that there were actual or potential releases of hazardous substances in the Shallow Fill Zone and required Exxon to do a subsurface investigation to determine if those concerns were warranted. Exxon met with Louisiana Department of Environmental Quality officials and investigated whether the waste in the Shallow Fill Zone was "leaching from the solidified material" and discharging into the Mississippi River. (Exxon Response to Gov't Facts ¶ 46).

Exxon's hydrogeologic investigation showed contaminated groundwater and high concentrations of hazardous substances. After Exxon submitted its report in February 1987, Louisiana ordered Exxon to investigate, to monitor the groundwater, to remove free-phase hydrocarbons from the Shallow Fill Zone, and to submit a corrective-action plan to remove or treat the groundwater contamination. In 1987, Exxon installed groundwater recovery wells on the western boundary of the Shallow Fill Zone along the Mississippi River, to recover "light non-aqueous phase liquid hydrocarbons." (Gov't Facts ¶ 48). Between 1987 and 2015, Exxon removed approximately 26,000 gallons of those liquid hydrocarbons. In 2008, Louisiana "closed out" the two 1987 orders, but it required Exxon to continue to monitor and remove hydrocarbons from the groundwater under a corrective-action and monitoring plan, under the State's supervision and oversight.

The Old Silt Pond was a hazardous waste-disposal unit containing solid and liquid wastes. This earthen impoundment in the Shallow Fill Zone became operational in 1945 and continued

operating until it reached capacity in the late 1950s. In the 1970s, 5 of the 20 acres of the Shallow Fill Zone began operations that continued until the late 1980s. In June 1988, Exxon submitted a closure plan to the State of Louisiana that required interim response activities. The Old Silt Pond was closed under RCRA interim status regulations. When Exxon began to implement the closure plan it had submitted, it encountered difficulties that led to a modified plan proposing "ex-situ solidification" of the sludge and materials and "re-deposition of the solidified materials" into the Old Silt Pond, followed by a RCRA cap. (Exxon Response to Gov't Facts ¶ 54). A "RCRA cap" is a "layer of clay, or other impermeable material installed over the top of a closed landfill to prevent entry of rainwater and minimize leachate." (RCRA GLOSSARY OF TERMS). Louisiana approved the modified plan. After Exxon installed the cap, it submitted a closure report, which Louisiana approved, with the requirement that Exxon conduct post-closure groundwater monitoring.

The Rice Paddy Landfarm was an earthen land-treatment unit for silt contaminated with wastewater and sludge. In 1988, Exxon submitted a closure plan to the State of Louisiana. The plan considered two alternatives—natural biodegradation or closure as a landfill. The first, biodegradation, did not reduce the oil content below one percent by 1990, and Exxon installed a RCRA cap. Louisiana required Exxon to conduct post-closure groundwater monitoring. In 1994, Louisiana issued a closure certification for the Rice Paddy Landfarm.

As this summary shows, many—but not all—of the facts are undisputed. The disputes focus on some factual aspects, what legal standards apply, and whether applying them gives rise to competing inferences and approaches that preclude summary judgment.

II. The Legal Standards

A. Summary Judgment

"Summary judgment is required when 'the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.'" *Trent v. Wade*, 776 F.3d 368, 376 (5th Cir. 2015) (quoting FED. R. CIV. P. 56(a)). "A genuine dispute of material fact exists when the 'evidence is such that a reasonable jury could return a verdict for the nonmoving party.'" *Nola Spice Designs, LLC v. Haydel Enters., Inc.*,783 F.3d 527, 536 (5th Cir. 2015) (quoting *Anderson v. Liberty Lobby*, 477 U.S. 242, 248 (1986)). "The moving party 'bears the initial responsibility of informing the district court of the basis for its motion, and identifying those portions of [the record] which it believes demonstrate the absence of a genuine issue of material fact.'" *Id.* (quoting *EEOC v. LHC Grp., Inc.*, 773 F.3d 688, 694 (5th Cir. 2014)); *see also Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986).

If the burden of proof at trial lies with the nonmoving party, the movant may satisfy its initial burden by showing an absence of evidence to support the nonmoving party's case. *Fret v. Melton Truck Lines, Inc.*, No. 17-50031, 2017 U.S. App. LEXIS 16912, at *5–6 (5th Cir. Sept. 1, 2017) (quoting *Lindsey v. Sears Roebuck & Co.*, 16 F.3d 616, 618 (5th Cir. 1994)). While the party moving for summary judgment must demonstrate the absence of a genuine issue of material fact, it does not need to negate the elements of the nonmovant's case. *Coastal Agric. Supply, Inc. v. JP Morgan Chase Bank, N.A.*, 759 F.3d 498, 505 (5th Cir. 2014) (citing *Boudreaux v. Swift Transp. Co.*, 402 F.3d 536, 540 (5th Cir. 2005)). A fact is material if "its resolution could affect the outcome of the actions." *Aly v. City of Lake Jackson*, 605 F. App'x 260, 262 (5th Cir. 2015) (citing *Burrell v. Dr. Pepper/Seven UP Bottling Grp., Inc.*, 482 F.3d 408, 411 (5th Cir. 2007)). "If the moving

party fails to meet [its] initial burden, the motion [for summary judgment] must be denied, regardless of the nonmovant's response." *Pioneer Expl., LLC v. Steadfast Ins. Co.*, 767 F.3d 503 (5th Cir. 2014).

"When the moving party has met its Rule 56(c) burden, the nonmoving party cannot survive a summary judgment motion by resting on the mere allegations of its pleadings." *Bailey v. E. Baton Rouge Par. Prison*, 663 F. App'x 328, 331 (5th Cir. 2016) (quoting *Duffie v. United States*, 600 F.3d 362, 371 (5th Cir. 2010)). The nonmovant must identify specific evidence in the record and articulate how that evidence supports that party's claim. *Willis v. Cleco Corp.*, 749 F.3d 314, 317 (5th Cir. 2014). "This burden will not be satisfied by 'some metaphysical doubt as to the material facts, by conclusory allegations, by unsubstantiated assertions, or by only a scintilla of evidence.'" *Jurach v. Safety Vision, LLC*, 642 F. App'x 313, 317 (5th Cir. 2016) (quoting *Boudreaux*, 402 F.3d 536, 540 (5th Cir. 2005)). In deciding a summary judgment motion, the court draws all reasonable inferences in the light most favorable to the nonmoving party. *Darden v. City of Fort Worth*, 866 F.3d 698, 702 (5th Cir. 2017).

B. CERCLA

Congress enacted CERCLA in 1980 "in response to the serious environmental and health risks posed by industrial pollution." *Burlington N. & Santa Fe Ry. Co. v. United States*, 556 U.S. 599, 602 (2009); *see also CTS Corp. v. Waldburger*, 134 S. Ct. 2175, 2180 (2014); *United States v. Bestfoods*, 524 U.S. 51, 55 (1998). "The Act was designed to promote the timely cleanup of hazardous waste sites and to ensure that the costs of such cleanup efforts were borne by those responsible for the contamination." *Burlington N.*, 556 U.S. at 602 (quotations omitted). As

amended by the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), Pub. L. No. 99-499, 100 Stat. 1613, CERCLA provides several alternative means for cleaning up contaminated property. Sections 104 and 106 provide for federal abatement and enforcement actions to compel cleanup of contaminated sites. 42 U.S.C. §§ 9604, 9606(a). Section 107(a)(4) states that "covered persons"—also known as "potentially responsible parties" or "PRPs"—may be liable for costs the federal or state government incur in responding to the contamination and for response costs incurred by "any other person." 42 U.S.C. § 9607(a)(4)(A)–(B). Section 107(a)(4) is part of the original statute enacted in 1980. Two contribution provisions, §§ 113(f)(1) and 113(f)(3)(B), were added as part of SARA.

Section 107(a) identifies four categories of PRPs who may be liable for costs to clean up hazardous substances. 42 U.S.C. § 9607(a). The categories are: (1) owners and operators of facilities at which hazardous substances are located; (2) past owners and operators of these facilities when the disposal of hazardous substances occurred; (3) persons who arranged to dispose of or treat hazardous substances; and (4) transporters of certain hazardous substances. 42 U.S.C. § 9607(a)(1)–(4). Unless a statutory defense or exclusion applies, covered persons are liable for "all costs of removal or remedial action incurred by the United States government or a State . . . not inconsistent with the national contingency plan," and "any other necessary costs of response incurred by any other person consistent with the national contingency plan," 42 U.S.C. § 9607(a). The statute defines "person," "facility," "disposal," "release," and "environment." CERCLA also provides a narrow set of defenses to liability that may arise under § 107(a), none of which applies here.

Section 113, added in 1986 as part of SARA, contains a subsection entitled "Contribution." This subsection states:

> Any person may seek contribution from any other person who is liable or potentially liable under [§ 107(a)], during or following any civil action under [§§ 106 or 107(a)]. . . . In resolving contribution claims, the court may allocate response costs among liable parties using such equitable factors as the court determines are appropriate. Nothing in this subsection shall diminish the right of any person to bring an action for contribution in the absence of a civil action under [§§ 106 or 107].

42 U.S.C. § 9613(f)(1).

Under § 113, a PRP that "has resolved its liability to the United States or a State in an administrative or judicially approved settlement" is immune from contribution claims made by other PRPs "regarding matters addressed in the settlement." *Id*. § 9613(f)(2). A settling PRP may seek contribution under § 113(f)(3) from other, nonsettling PRPs. *Id*. § 9613(f)(3)(B). Section 107(a) allows a plaintiff to recover 100 percent of its response costs from all liable parties, including those who have settled their CERCLA liability with the government. *Id.* §§ 9613(g)(2), 9607(a). Section 113's right to contribution is more restricted than the § 107 contribution right. Section 107 has a six-year statute of limitations; § 113 has a three-year statute of limitations in certain scenarios. Under § 107, plaintiffs may recover only costs in excess of their equitable share but may not recover from previously settling parties. *Id.* § 9613(f)(1), (f)(2), (g)(3). Federal and state governments may sue PRPs for response costs and may themselves be liable as PRPs for response costs others incur. *See* 42 U.S.C. § 9607(a)(4)(A), (B).

This statutory framework provides the basis for analyzing the issues presented in the cross-motions for partial summary judgment.

III. Whether the Facilities Operations Area Costs Were Necessary Costs of Response

CERCLA authorizes recovery for "necessary costs of response incurred . . . consistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(B). The United States challenges whether Exxon's costs for the two FOA applications at the Baytown facility were necessary.[5]

Between 2003 and 2014, Exxon spent over $8 million on the FOA applications for the Baytown refinery and chemical plant. (Gov't Facts ¶ 43). An FOA applicant "can propose to modify" otherwise-applicable state regulations, "to the extent necessary to establish an interim response action that will be protective of human health and the environment within . . . the FOA." *Id.* § 350.132(a). An FOA may "remain in effect for the duration of active industrial operations," but when the FOA ends, the plant "shall fully comply" with the State's regulations. *Id.* § 350.133(a), (c). An FOA allows a company to defer cleanup actions. (Gov't Facts ¶ 37 ("According to Exxon's consultants, the advantage of using a FOA is to 'defer final remedy to end of operations'")).

The State of Texas approved the application for the Baytown refinery FOA in 2016. The Baytown chemical plant FOA application is still pending. (Exxon Facts ¶¶ 699, 700). The refinery FOA allows Exxon to postpone cleaning up certain contamination. The United States cites a 2003 Exxon report stating that the facility investigation activities had been deferred indefinitely "pending Exxon's submission of the FOA application." (Gov't Facts ¶ 42). Exxon spent $8,056,656 on the FOA applications, but it did not break down that amount to identify which costs were incurred in

[5] The United States's motion for partial summary judgment also challenged the cleanup costs Exxon claimed for the Lower Outfall Canal. (Gov't MSJ at 8). The United States did not address these costs in its reply brief. At oral argument, the United States conceded that the costs related to the Lower Outfall Canal were necessary costs of response. Because the United States concedes that these costs were necessary costs of response, Exxon's motion for summary judgment on this issue is granted.

connection with which FOA application. (*Id.* ¶ 43). The United States points to expert testimony, and Exxon does not dispute, that the FOAs include "more cleanup units than those Exxon claims have a federal nexus" to this litigation. (*Id.* ¶ 44).

The United States argues that Exxon's FOA costs are not costs "to conduct a cleanup," but rather "to *postpone* one." (Gov't MSJ at 9). The United States points to the testimony of Peter Gagnon, Exxon's consultant who oversaw much of the environmental cleanup work at the Baytown facility, that the final cleanup work that has been delayed under the FOA will be completed "[h]ypothetically, when the refinery no longer operates." (Gov't Facts ¶ 37).

The United States points out that Exxon has admitted that its applications for the two Baytown FOAs were voluntary, in the sense that they were not required by the State of Texas. The United States argues that the "FOA investigations were only 'required' to demonstrate *eligibility* for the FOA program," (Gov't Reply at 2), and cites cases denying recovery for costs related to preliminary investigations in sites where the plaintiffs did not intend to cleanup the property. *See Young v. United States*, 394 F.3d 858, 864–65 (10th Cir. 2005) ("Plaintiffs' alleged response costs were not 'necessary' to the containment or cleanup of hazardous releases because the costs were not tied in *any* manner to the actual cleanup of hazardous releases. Absolutely no nexus exists between the costs Plaintiffs expended and an actual effort to cleanup the environmental contamination. To the contrary, Plaintiffs maintain their property continues to be contaminated. Plaintiffs also repeatedly testified they do not intend to spend any money to cleanup the contamination on their property."); *Calmat Co. v. San Gabriel Valley Gun Club*, 809 F. Supp. 2d 1218, 1221–25 (C.D. Cal. 2011) (dismissing the case as unripe because the plaintiff "ha[d] just done some investigation and

testing, primarily for the purposes of [the] litigation").

Finally, the United States argues that, because the $8 million figure cannot be broken down by the unit covered by each application, and because the FOAs cover more cleanup units than Exxon claims in this litigation, there is "no way to determine which costs are attributable to units for which the United States is not liable." (Gov't MSJ at 46).

Exxon responds that the costs for the two Baytown FOAs were necessary response costs. First, Exxon applied for the Baytown FOAs to "conduct State-required future response actions in a much more cost-effective manner," making them "voluntary" in a way that is not disqualifying under CERCLA. (Exxon Response at 44). Second, Exxon cites the testimony of its project manager, Leon Paredes, that "[o]ne of the primary reasons that Exxon enrolled the Baytown Facility in the FOA program was because the company determined that conducting these environmental investigations, monitoring and cleanup activities at this facility under the FOA program would enable the company to conduct these activities in a much more cost-effective manner." (Exxon Response to Gov't Facts ¶ 37). Exxon explains that the FOA process allowed for "a more streamlined and cost-effective permanent remedy" because, with an FOA, many solid-waste-management units can be addressed "holistically" at once, rather than one-by-one. (Exxon Facts ¶ 694). Exxon's environmental consultant conducted a comparative cost analysis and estimated that Exxon would achieve "millions of dollars" in future cleanup cost savings under the FOA program. (Exxon Response to Gov't Facts ¶ 37).

Exxon vigorously disputes the United States's factual assertion that the cleanup activities for the solid-waste-management units at issue have been deferred indefinitely. "During the period

of 2004 to 2014 for which Exxon has claimed response costs related to [RCRA Facility Investigation] activities, four wartime [solid-waste-management units] ([units] 59, 60, 62 and 69) were the subject of a significant portion of the [RCRA Facility Investigation] activities, including, for example, groundwater monitoring well installation; soil, groundwater and other environmental media sampling and analysis work; the preparation and submittal of investigatory reports . . . ." (Exxon Response to Gov't Facts ¶¶ 42, 43). Under the FOA, "Exxon will continue to conduct periodic groundwater monitoring around the Site" and "over the next few years Exxon also will be required to conduct a cleanup action in Mitchell Bay to address contamination resulting from . . . former wartime waste units." (*See* Exxon Facts ¶ 697; Exxon Response to Gov't Facts ¶ 43).

In short, the United States argues that the FOA costs are not necessary response costs because Exxon was not acting under state compulsion and because Exxon used the FOAs to delay, rather than to implement, cleaning up the hazardous wastes. Exxon argues that the FOAs were to respond to the State-required response actions in a more cost-effective and efficient way to implement that cleanup. Because Exxon was not avoiding required cleanup work, but trying to do it better, the FOA costs were "necessary" as an effective way to conduct state-required cleanup of the contamination.

Exxon's argument is supported by the record and the legal standards. Exxon has submitted and pointed to undisputed record evidence showing that it used the FOAs to accomplish the State-required cleanup work, less expensively and more efficiently than would otherwise be the case. *See United States v. W.R. Grace & Co.*, 429 F.3d 1224, 1233 n.14 (9th Cir. 2005) ("We have previously rejected an 'ulterior motive' analysis in a challenge to whether CERCLA response costs incurred

by a private landowner were necessary. 'The issue is not why the landowner decided to undertake the cleanup, but whether it was necessary. To hold otherwise would result in a disincentive for cleanup.'" (quoting *Carson Harbor Vill., Ltd. v. Unocal Corp.*, 270 F.3d 863, 871–72 (9th Cir. 2001) (en banc))).

Exxon did a thorough comparative cost analysis that showed that implementing refinery and plant FOAs would result in "millions of dollars" in future cleanup cost savings. (Exxon Facts ¶ 697; Exxon Response to Gov't Facts ¶ 37). The structure of the FOA program allows cleanup operators to prioritize the riskier areas to work on first, and to implement a schedule and plan that reduce overall cleanup costs and increase efficiency. The record shows that the FOAs would allow Exxon to work on a number of solid-waste-management units in a comprehensive way, rather than piecemeal, producing a better, more effective, and less costly result. (Exxon Facts ¶¶ 693, 694; Exxon Response to Gov't Facts ¶ 37).

Undisputed record evidence showing Exxon's work preceding and implementing the FOAs shows that, as a matter of law, the FOA costs were necessary response costs under CERCLA. The court grants Exxon's motion for partial summary judgment on this issue to this extent, and denies the United States's cross-motion. But there are genuine factual disputes material to determining the specific amounts of cleanup costs attributable to wartime-related production at the covered solid-waste-management units, as opposed to other units and other, non-wartime, work. There are also genuine factual disputes material to determining what percentage of the covered FOA costs is attributable to the United States. As the United States correctly points out, because Exxon has not broken down its costs between the different units, or even between the two FOA applications, the

court is not presently able to determine the relative percentages or dollar amounts that the United States and Exxon must pay. These issues will be addressed based on an expanded record at the bench trial.

IV. Whether Exxon's Actions Were "Removal" or "Remedial"

Under CERCLA, the statute of limitations is determined by whether Exxon's responses were a "removal" action, for which the limitations period is "3 years after completion of the removal action," or "remedial" actions, for which the limitations period is "6 years after initiation of physical on-site construction of the remedial action." 42 U.S.C. § 9613(g)(2)(A)–(B). Exxon argues that its response actions at both facilities are a single removal action, making its claims timely. The United States argues that the cleanup activities were multiple remedial actions, barring Exxon's claims under the 6-year statute of limitations.

A. The Standard for Determining Whether an Action Is Remedial or Removal

Ordinarily, the EPA designates a cleanup activity as a "removal" or "remedial" action before the cleanup process starts. Here, the determination is retrospective, which complicates classifying Exxon's response actions as "removal" or remedial."

CERCLA defines "remedial" response actions as:

> those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment.

42 U.S.C. § 9601(24).

A "removal" action is defined as:

> the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release.

Id. § 9601(23).

Whether to classify a cleanup activity as "remedial" or "removal" is a question of law. *Geraghty & Miller, Inc. v. Conoco Inc.*, 234 F.3d 917, 925 (5th Cir. 2000), *abrogated on other grounds by Vine Street LLC v. Borg Warner Corp*., 776 F.3d 312 (5th Cir. 2015). "[T]he CERCLA definitions are expansive enough that certain activities may well be covered by both." *Id.* "This is a question of law with some complexity." *Id.* Elements of the definitions can overlap, and semantics can obscure the nature of the cleanup work performed. *Id*. (citing *Pub. Serv. Co. v. Gates Rubber Co.*, 175 F.3d 1177, 1182 (10th Cir. 1999)). At least one court has held that "[t]hese overlapping definitions are to be construed liberally in favor of recovery . . . ." *Cal. Dep't of Toxic Subst. Control v. J&S Chrome Plating Co.*, 2015 WL 12645742, at *3 (C.D. Cal. July 30, 2015) (collecting authority).

The inquiry is "highly fact specific," but courts have established some guiding principles. *Geraghty & Miller*, 234 F.3d at 925. "[R]emoval actions generally are immediate or interim responses, and remedial actions generally are permanent responses." *Id.* "Congress intended that the term 'removal action' be given a broad interpretation." *Id*. (citing *Kelley v. E.I. DuPont De Nemours & Co*., 17 F.3d 836, 843 (6th Cir. 1994)).

The parties cite conflicting standards from the case law, EPA regulations and guidance, and examples from CERCLA and the National Contingency Plan in support of their competing characterizations of Exxon's response activities as removal or remedial actions. The parties agree that no single element is dispositive. Both rely on a February 2000 EPA Memorandum written to guide project managers in the process of choosing between remedial and removal actions.[6] (Exxon MSJ, Ex. 15; Gov't MSJ, Ex. 112; MEMORANDUM RE: USE OF NON-TIME-CRITICAL REMOVAL AUTHORITY IN SUPERFUND RESPONSE ACTIONS (Feb. 14, 2000) ["Removal Memorandum"]). The parties also rely on 40 C.F.R. § 300.415(b)(2), which sets out eight factors the EPA uses to decide whether a removal action is appropriate.[7] Although the court considers all of these factors, those

[6] The Ninth Circuit deferred to the classification of response actions in the 2000 EPA Memorandum because, although the Memorandum does not have "the heft of regulations" it nonetheless "carr[ied] weight," given "[t]he need for agency expertise is particularly acute when we are faced with a complex regulatory regime, such as CERCLA. In this situation, we recognize that the 'well-reasoned views of an expert administrator rest on a body of experience and informed judgment to which courts and litigants may properly resort for guidance.'" *W.R. Grace*, 429 F.3d at 1243 (citation omitted). This court agrees that the 2000 EPA Memorandum provides helpful guidance in distinguishing between remedial and removal actions. It is unnecessary to specify the precise degree of deference that is appropriate in this case in particular or to cases in general.

[7] 40 C.F.R. § 300.415(b)(2) lists the following factors that "shall be considered" in determining the appropriateness of a removal action:

> (i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
>
> (ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
>
> (iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;
>
> (iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;
>
> (v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

most relevant to this case are: "[a]ctual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants"; "[a]ctual or potential contamination of drinking water supplies or sensitive ecosystems"; "[h]igh levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate"; and "[o]ther situations or factors that may pose threats to public health or welfare of the United States or the environment." 40 C.F.R. § 300.415(b)(2).

1. The United States's Contentions

The United States cites the February 2000 EPA Memorandum explaining that "remedial authority generally would be used to address complex site problems that will likely require a costly, complicated response." (Removal Memorandum at 5). The United States proposes two factors to distinguish between remedial and removal actions: (1) the presence of an "imminent threat" to human health or the environment; and (2) the permanence, or lack thereof, of the response action's effectiveness. *See New York v. Next Millennium Realty, LLC*, 732 F.3d 117, 125 (2d Cir. 2013). The United States also recommends considering cost as a distinguishing factor. Generally, the more expensive the action, the more likely it is to be a remedial, not a removal, action. *See Colorado v. Sunoco, Inc.*, 337 F.3d 1233, 1240 (10th Cir. 2003); *Pub. Serv. Co.*, 175 F.3d at 1182.

a. The Presence of an Imminent Threat

(vi) Threat of fire or explosion;

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release; and

(viii) Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

The parties dispute using the presence of an "imminent threat" as a factor in identifying a response as a remedial action rather than a removal action. The Fifth Circuit has explained that removal actions are "generally immediate or interim responses." *Geraghty & Miller, Inc.*, 234 F.3d at 925. The United States relies on cases from other circuits supporting the "imminent threat" factor. *See Next Millenium Realty*, 732 F.3d at 124–25 ("Removal actions are clean-up or removal measures taken to respond to immediate threats to public health and safety."); *Morrison Enterprises, LLC v. Dravo Corp*., 638 F.3d 594, 608 (8th Cir. 2011) ("[W]e have described removal actions as those taken to counter imminent and substantial threats to public health and welfare."); *Frey v. EPA*, 403 F.3d 828, 835 (7th Cir. 2005) ("Removal refers to a short-term action taken to halt risks posed by hazardous wastes immediately."); *Sunoco*, 337 F.3d at 1240 ("A removal action . . . is geared to address an immediate release or threat of release."). The United States argues that removal actions are limited to measures responding to acute, imminent threats that require immediate, or incomplete, responses.

Exxon primarily relies on EPA guidance to argue that removal actions are not limited to response measures required to respond to an acute, imminent threat or measures that are incomplete because the need for immediate work is so pressing. Exxon cites the EPA's list of factors for determining whether a removal action is appropriate, 40 C.F.R. § 300.415(b)(2), and points out that none of those factors requires an "imminent threat." (Exxon Response at 8).

Exxon also points to the February 2000 EPA Memorandum and an August 1993 EPA Memorandum providing guidance for "non-time critical" removal actions. (Removal Memorandum; 1993 MEMORANDUM RE: TRANSMITTAL OF GUIDANCE ON CONDUCTING NON-TIME-CRITICAL

REMOVAL ACTIONS UNDER CERCLA (Aug. 6, 1993)). The 1993 Memorandum states that the "EPA has categorized removal actions in three ways: emergency, time-critical, and non-time critical, based on the type of situation, the urgency and threat of the release or potential release, and the subsequent time frame in which the action must be initiated." (*Id.* at 3). The focus here is on the existence of, and the difference between, a "non-time critical" removal response action and a remedial response action.

b. Permanence

The United States proposes using the permanence of a response as a way to distinguish a removal from a remedial action. (Gov't MSJ at 14). The Fifth Circuit has explained that, as a general principle, "removal actions generally are immediate or interim responses, and remedial actions generally are permanent responses." *Geraghty & Miller, Inc.*, 234 F.3d at 925. Other circuits agree. *W.R. Grace & Co.*, 429 F.3d at 1228 ("Remedial actions . . . are often described as permanent remedies to threats for which an urgent response is not warranted"); *Frey*, 403 F.3d at 835 ("Remedial actions involve permanent solutions."); *Morrison Enters., LLC*, 638 F.3d at 608 ("[R]emedial actions are longer term, more permanent responses."); *Next Millennium Realty, LLC*, 732 F.3d at 125 ("Remedial actions are generally actions designed to permanently remediate hazardous waste.").

Exxon argues that "the dispositive question is whether an action was supposed to provide a comprehensive, site-wide solution to site contamination." (Exxon Response at 7). Exxon argues that a permanent solution can be remedial, but only if that solution is site- or facility-wide. (*Id.*). The 2000 EPA Memorandum stating that, although remedial actions are permanent solutions,

"removals can also achieve permanent solutions," complicates the issue. (Removal Memorandum at 4 n.3). The United States acknowledges that a removal "may in some cases provide a permanent solution to environmental contamination." (Gov't MSJ at 15 n.11).

The 2000 EPA Memorandum explains that, "at sites where the other factors suggest that remedial authority should be used" to achieve permanent solutions, "it may still be appropriate to use removal authority to conduct interim or partial response actions to achieve immediate risk reduction." (Removal Memorandum at 4 n.3). This qualifier is recognized in Ninth and Tenth Circuit opinions. *See W.R. Grace & Co.*, 429 F.3d at 1228 ("Remedial actions . . . are often described as permanent remedies to threats for which an urgent response is not warranted"); *Public Serv. Co.*, 175 F.3d at 1182 ("[A] remedial action seeks to effect a permanent remedy to the release of hazardous substances when there is no immediate threat to the public health.").

c. Cost

The final factor the United States proposes to use is cost. The Fifth Circuit did not include this factor in *Geraghty & Miller*, but some courts have considered it. *See, e.g.*, *Public Serv. Co.*, 175 F.3d at 1182 ("Generally, a removal action costs less."). Although CERCLA requires that "fund-financed removal actions . . . be terminated after $2 million has been obligated or 12 months have elapsed," 40 C.F.R. § 300.415(b)(5), "[t]hese limits (which can be waived) apply only to fund-financed actions, and serve as a fiscal check; they are not found in the statutory definition of removal and do not control which actions can be taken as removals." (Removal Memorandum at 4 n.4). Exxon agrees that cost may be a factor, but points out that the 2000 EPA Memorandum counsels against using it.

2. Exxon's Contentions

Exxon proposes using four criteria in deciding whether an action is a "non-time-critical" removal action or a remedial action. (Exxon MSJ at 22). Exxon's proposed factors are "time-sensitivity"; the complexity of the problem and the action; the comprehensiveness of the proposed action; and the likely cost of the action. *Id*. These four factors come from the 2000 EPA Memorandum on the use of non-time-critical removal authority in Superfund response actions. (Removal Memorandum at 3). Exxon compares the actions it took with the definitions of "remedial" and "removal" actions in CERCLA and the examples in the National Contingency Plan. (Exxon MSJ at 21–27).

The United States does not dispute that the CERCLA definitions and the National Contingency Plan examples are relevant to classifying the response actions as remedial or removal.

a. Time Sensitivity

The 2000 EPA Memorandum defines "time sensitivity" as "the need to take relatively prompt action." (Removal Memorandum at 3 n.2). Exxon argues that "time sensitive" must be different from "imminent threat" for there to be any meaningful difference between "time-critical" and "non-time critical" removal actions. (Exxon Response at 9).

CERCLA's statutory language does not distinguish between time-critical and non-time-critical response actions. The 2000 EPA Memorandum explains that the threshold question in deciding whether an action is a non-time-critical removal action or a remedial action "is whether a CERCLA decisionmaker is faced with a threat to human health or the environment that, though not

time critical, is nonetheless sufficiently serious that the added time needed to comply with remedial requirements . . . would be unacceptable." (Removal Memorandum at 5 n.6).

b. The Complexity of the Problem and Action

Remedial actions are appropriate for more complex, costly, site-wide problems, while removal actions are generally targeted at less complicated, more contained problems that cost less to address. (Removal Memorandum at 3–4). The 2000 EPA Memorandum indicates that complexity is secondary to "time-sensitivity." (*Id.* at 4). The Memorandum explains that a removal action may be appropriate to address a costly and complex problem that is also time-sensitive.

c. The Comprehensiveness of the Solution

Exxon urges the use of the "comprehensiveness" of the proposed solution as a factor. (Exxon MSJ at 23). The EPA considers "permanence per se" to be "misleading" because permanent solutions may result from removal actions as well as remedial actions. (Removal Memorandum at 3–4 n.3). The 2000 EPA Memorandum distinguishes between permanent response actions that achieve "immediate risk reduction," from other permanent response actions designed for less acute risks. (*Id.*). If the purpose is to achieve immediate reduction of an acute risk, the action is more appropriately classified as a removal action. (*Id.*). If an action is "comprehensive" or "site-wide," it is appropriately classified as a remedial action.

3. The Court's Conclusion

CERCLA defines a removal action as "the cleanup or removal of released hazardous substances from the environment, such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the

taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release." 42 U.S.C. § 9601(23). CERCLA defines a remedial action as "those actions consistent with permanent remedy taken instead of or in addition to removal actions in the event of a release or threatened release of a hazardous substance into the environment, to prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare or the environment." 42 U.S.C. § 9601(24).

The court also considers the factors set out in 40 C.F.R. § 300.415(b)(2). The following factors have particular relevance to this record: "[a]ctual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants"; "[a]ctual or potential contamination of drinking water supplies or sensitive ecosystems"; "[h]igh levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate"; and "[o]ther situations or factors that may pose threats to public health or welfare of the United States or the environment." 40 C.F.R. § 300.415(b)(2).

The court also considers the National Contingency Plan examples of actions that "as a general rule" are removal actions. Those examples include: "[c]apping of contaminated soils or sludges—where needed to reduce migration of hazardous substances or pollutants or contaminants into soil, ground or surface water, or air"; "[e]xcavation, consolidation, or removal of highly contaminated soils from drainage or other areas—where such actions will reduce the spread of, or direct contact with, the contamination"; and "[c]ontainment, treatment, disposal, or incineration of hazardous materials—where needed to reduce the likelihood of human, animal, or food chain

exposure." 40 C.F.R. § 300.415(e).

In addition to the CERCLA definitions and the National Contingency Plan examples, the court considers the "permanence" of a response action, but with the qualifier that the more "comprehensive" a cleanup action, the more likely it is to be considered a remedial action. This qualifier is supported by the 2000 EPA Memorandum and the case law:

> [T]he Removal Memo describes courts' reliance on the "permanence" of the response as "sometimes misleading": "As a practical matter, removal actions are often permanent solutions such as can be the case in a typical soil or drum removal." . . . *cf. Geraghty & Miller*, 234 F.3d at 927 ("Even if the replacements for these wells are integral to the long-term remediation of the site, that does not mean that their initial placement cannot be categorized as removal."). This observation seems logical, as we do not want to tie the EPA's hands or compel it to adopt short-term remedies for fear that any more permanent solutions automatically will be dubbed "remedial actions." Nor would it make economic or practical sense to impose a requirement that removal actions must be only temporary in nature. The Removal Memo instead uses the term "comprehensiveness" to distinguish between the use of removal authority to conduct interim or partial response actions that are focused on immediate risk reduction as compared with final or "comprehensive" response at the site.
>
> . . .
>
> These informal interpretations combined with the descriptions in the National Contingency Plan provide a persuasive interpretation that *removal actions encompass interim, partial time-sensitive responses taken to counter serious threats to public health*. As the EPA explained in the Second Amended Memo, "CERCLA was designed and enacted to prevent illness and death resulting from exposure to hazardous substances, not wait for its occurrence to prove a threat."

W.R. Grace & Co., 429 F.3d at 1244–45 (emphasis added).

The court also considers the "time sensitivity" of the action, not limited to "imminent risk." These conclusions align with the different types of removal actions, including "emergency," "time-critical," and "non-time critical." If the court were to consider "imminent risk" as a factor requiring

classification as a removal action, the category of "non-time critical" removal actions would be unnecessary. Instead, the court adopts the factors set out in the 2000 EPA Memorandum, including: time-sensitivity, defined as "the need to take relatively prompt action"[8]; "the complexity of both the problems to be addressed and the action to be taken"; "the comprehensiveness of the proposed action"; and "the likely cost of the action." (Removal Memorandum at 3). Although the court considers the cost of the response action as a distinguishing factor—the parties and the 2000 EPA Memorandum both recommend it—that factor carries relatively less weight because the United States and the 2000 EPA Memorandum acknowledge that both removal and remedial actions can be costly.

B. The Number of Response Actions

The parties dispute the number of response actions at each facility. Exxon argues that its response activities are a single, continuous removal action at each facility. (Exxon MSJ at 30–32). The United States argues that Exxon's response activities at each facility were different remedial actions. (Gov't MSJ at 11–13). The parties devote much argument to comparing their competing characterizations of the facts here to the facts described in other cases, but the parties agree that the threshold issue, whether there can be multiple response actions at a facility, is one of statutory

[8] The 2000 EPA Memorandum states that "[t]ime sensitivity refers to the need to take relatively prompt action. In contrast, the length of time necessary to complete an action, sometimes referred to as "duration" of the action, captures only how long the response action will take to build or implement. While some courts have looked to that factor in distinguishing between removal and remedial actions, this characteristic usually is not helpful; removal actions are most often of short duration, but they certainly can be long-running responses, too, thereby undercutting the probative value of duration, relative to the [other] factors . . . in deciding whether an action is removal rather than remedial in nature." (Removal Memorandum at 3 n.2).

interpretation. *See Sunoco*, 337 F.3d at 1241. Courts have split on the issue, offering three different approaches.

The United States relies on several cases holding that there may be several remedial and removal actions at a single facility. (Gov't MSJ at 13; Docket Entry No. 228). Some courts conclude that CERCLA's definitions of remedial and removal actions conform with the National Contingency Plan's definition of "operable unit," allowing for multiple response actions at a facility that has multiple "operable units." *United States v. Manzo*, 182 F. Supp. 2d 385, 402–03 (D.N.J. 2001); *see also Bernstein v. Bankert*, 733 F.3d 190, 215 (7th Cir. 2013) (the work done under separate administrative orders was work that amounted to distinct removal actions); *Raytheon Constructors, Inc. v. ASARCO, Inc.*, 2000 WL 1635482, at *13–21 (D. Colo. 2000) (multiple removal actions); *United States v. Ambroid Co.*, 34 F. Supp. 2d 86 (D. Mass. 1999) (multiple removal actions). Other courts have concluded that the statutory language allows for response actions to be "conducted in divisible parts" based on "'operable units' or distinct phases, of a cleanup project." *Valbruna Slater Steel Corp. v. Joslyn Mfg. Co*., 2013 WL 1182985, at *11–12 (N.D. Ind. 2013) (collecting cases).

Exxon argues that there may be only one removal action at a facility, even if multiple remedial actions are allowed. (Exxon MSJ at 30–32). In *Kelley*, the Sixth Circuit broadly construed removal actions, so that a plaintiff need not bring suit for each response stage of a response activity. *Kelley*, 17 F.3d at 843. Some district courts have adopted *Kelley*'s broad interpretation of removal actions. *See, e.g., Cal. Dep't of Toxic Substances Control v. Alco Pac., Inc*., 308 F. Supp. 2d 1124, 1131 (C.D. Cal. 2004). Other courts explain that this broad construction, allowing for only one

removal action at a facility is limited to removal actions and does not apply to remedial actions. *United States v. Boston & Me. Corp.*, 2016 WL 5339573, at *13 (D. Mass. 2016) (the nature of removal actions is that they will include multiple stages, but only one action).

The Tenth Circuit holds that there is one remedial action and one removal action per facility. *Sunoco*, 337 F.3d at 1241 ("In our view, [the statutory] language indicates there will be but one 'removal action' per site or facility, as well as a single 'remedial action' per site or facility."); *see also W.R. Grace & Co.*, 429 F.3d at 1237 ("We refrain from slicing and dicing the EPA's single, comprehensive removal action into a myriad of fractured parts."). The Second Circuit has held that there can only be one remedial action per facility, but the Circuit has expressed "no view as to whether there may be one removal action under CERCLA." *N.Y. State Elec. & Gas Corp. v. FirstEnergy Corp.*, 766 F.3d 212, 235–36 (2d Cir. 2014).

The Tenth Circuit's reasoning, which appears most consistent with the other courts that have considered the issue, that there can be only one removal action and only one remedial action per facility, is persuasive. *Sunoco*, 337 F.3d at 1241 (Congress would have used "a" instead of "the" if it intended to allow multiple removal actions); *see also Kelley*, 17 F.3d at 843 (the language of the statute indicates that Congress intended only one removal action per site); *FirstEnergy*, 766 F.3d at 236 (collecting cases). The Sixth Circuit reached the same result, explaining that CERCLA's "essential purposes"—cleaning up hazardous waste at the expense of those who created it—are best served by a liberal statutory construction, which would not "require suit on each arguable independent removal activity." *Kelley*, 17 F.3d at 843. Allowing only one removal action and one remedial action per facility recognizes the complexity of cleanup measures that may be required,

whether remedial or removal, avoids entangling courts and agencies in the task of figuring out when an activity is a single response, a series of separate but interrelated actions, or multiple actions; and avoids the burdens that piecemeal litigation seeking reimbursement for separate but interrelated activities would place on litigants and courts. The approach of recognizing only one removal action and one remedial action per facility is applied to the facts the record presents.

C. Applying the Factors to the Baytown and Baton Rouge Facilities.

The Phase I opinion held "that the refineries and [chemical plants] at each of the two sites are a single 'facility' for CERCLA liability purposes." *Exxon I*, 108 F. Supp. 3d at 519. Under the statute, agency interpretations, and case law, there is one remedial and one removal response action at each facility. *Sunoco*, 337 F.3d at 1241 ("[T]here will be but one 'removal action' per site or facility, as well as a single 'remedial action' per site or facility."). The issue is whether Exxon's response actions at each facility are appropriately classified as remedial or removal.

Applying the factors of permanence, time-sensitivity, the complexity of the problem and of the action, the comprehensiveness of the action, and the cost of the action, as well as the CERCLA definitions and the National Contingency Plan examples, the court holds that the cleanup actions at the Baytown and Baton Rouge facilities are appropriately characterized as a series of removal activities that constitutes a single removal action at each facility. A removal action is not complete until "final monitoring or evaluation is done, a [Record of Decision] is issued, or some determination is reached that no further action is necessary." *Boston & Me.*, 2016 WL 5339573, at *15. Because the removal actions at both facilities are not yet complete, the statute of limitations does not bar Exxon's claims.

1. The Baytown Facility

a. Permanence

The United States argues that many of the cleanup activities at the Baytown facility resulted in permanent remedies. (Gov't Response to Exxon Facts ¶¶ 545, 560, 576, 596, 611, 612, 629). It is undisputed, however, that Exxon is still working on cleaning the environmental contamination and is incurring cleanup costs as they arise. Exxon has not achieved a permanent remedy on a facility-wide basis.

This factor weighs in favor of classifying the response activities at the Baytown facility as a single removal action.

b. Time-Sensitivity

The United States argues that because Exxon waited years to respond to the hazardous waste threats, the cleanup actions it finally took were not time-sensitive. (Gov't Response to Exxon Facts ¶¶ 535, 576, 589). The guiding metric is "the need to take relatively prompt action." (Removal Memorandum at 3); *see also Boston & Me. Corp.*, 2016 WL 5339573, at *12 ("This distinction does not lead to the conclusion . . . that, where the government fails to act quickly, the action is not a removal action. Instead, CERCLA explicitly contemplates that a removal action could occur after some delay. . . . Thus, a removal action could occur well after hazardous substances are first discovered.").

The record shows that Exxon took actions based on the State of Texas's requirements and in response to threats that hazardous substances would be released into public waterways and soils. For example, Exxon closed Separator 3M and Separator 10, which contained significant

concentrations of benzene and toluene, "to control, minimize, or eliminate, to the extent necessary to protect human health and the environment, any post-closure escape of hazardous waste . . . ." (Exxon Facts ¶ 541). Although these and other cleanup measures were in response to serious threats to public health and the environment, the threats were not recently discovered, urgent, or immediate. This factor weighs in favor of classifying the response activities at the Baytown facility as a remedial action.

c. The Complexity of the Problem and Action and the Comprehensiveness of the Action

At the facility-wide level, Exxon investigated and did soil-excavation work to respond to threats of hazardous-substance releases on an interim basis. (Exxon Facts ¶ 540). Some response actions at the Baytown facility were expressly referred to as "interim corrective actions." (*Id.* ¶ 626). Exxon's activities were piecemeal, aimed at parts of the facility; they were not a comprehensive, facility-wide solution. (*Id.* ¶¶ 699–700); *see Boston & Me. Corp.*, 2016 WL 5339573, at *13 (collecting authority and stating that "[a] removal action includes all related activities—*i.e.*, physical removal as well as evaluation and monitoring" and that "a removal action may be conducted in several stages and may involve several different types of activities ").

These factors weigh in favor of classifying Exxon's activities at the Baytown facility as a removal action.

d. Conclusion as to the Baytown Facility

Exxon's response actions at the Baytown facility were a single continuous removal action. Aside from the facts about the Baytown refinery FOA—which the parties agree offers a comprehensive, facility-wide solution—the record indicates that no permanent solution at the

Baytown facility has been reached. No Record of Decision has issued. Monitoring at many of the units is ongoing. The activities were not a comprehensive or site-wide remedy. *See Boston & Me.*, 2016 WL 5339572, at *15 ("The overwhelming majority of cases addressing the issue find a removal action to be complete when final monitoring or evaluation is done, a [Record of Decision] is issued, or some determination is reached that no further action is necessary."); *J&S Chrome Plating Co.*, 2015 WL 12645742, at *3 ("[A]n action cannot be considered remedial until permanent remedy has been selected, usually in the form of a remedial action plan. . . . There is no evidence to suggest that the permanent remedy was selected prior to March 2008, when Plaintiff issued the draft [Remedial Action Plan]. Accordingly, as a matter of law, none of the Plaintiff's on-site activities prior to March 2008 can be considered remedial.").

Additionally, there is ample record evidence that Exxon's cleanup activities at Separators 3M and 10, the South Landfarm, the Upper and Lower Outfall Canals, the Velasco Street Ditch, and the Tank Farm 3000 area were in response to serious threats that hazardous-substances releases posed to public health and the environment. (Exxon Facts ¶¶ 534–535, 545, 555–557, 563, 571–573, 642, 644).

Exxon's activities closely align with CERCLA's definition of a removal action and with the examples of removal actions in the National Contingency Plan, including capping contaminated soils or sludges where needed to reduce the migration of contaminants into soil, groundwater, or surface water; excavating; consolidating or removing highly contaminated soils; and containing, treating, disposing of, or incinerating hazardous materials where needed to reduce the likelihood of human, animal, or food-chain exposure. *See* 1985 NCP § 300.65(c)(6); 1990 NCP § 415(e)(6). At

Separators 3M and 10, the Upper and Lower Outfall Canals, and the Velasco Street Ditch, for example, Exxon removed hazardous soil to reduce the spread of environmental contamination. (Exxon Facts ¶¶ 539, 540, 574, 580; Exxon MSJ, Table 3).

Even though Exxon's response activities at the Baytown facility included discrete measures performed over many years, those activities were interim, piecemeal measures to address serious threats to human health and the environment. They are appropriately characterized as parts of a single removal action.

2. The Baton Rouge Facility

The parties again dispute whether Exxon was reacting to threats of hazardous material release at each Baton Rouge unit. (Gov't Response to Exxon Facts ¶¶ 716, 734, 753, 774). Undisputed record evidence shows that Exxon's activities at the Baton Rouge units were interim actions responding to what the State of Louisiana determined to be serious threats to public health and to the environment that required prompt response. (Exxon Facts ¶¶ 716, 721, 734–736, 753–754). Exxon's response activities at the Baton Rouge facility, including at the Shallow Fill Zone, the Old Silt Pond, and the Rice Paddy Landfarm, align with CERCLA's definition of a removal action and the National Contingency Plan examples. No Record of Decision has been issued, monitoring continues, and the activities were not conducted in a comprehensive, facility-wide manner. (*Id.* ¶ 719; Exxon MSJ, Table 4). Applying the factors of permanence, time-sensitivity, comprehensiveness, complexity, and cost, the activities at the Baton Rouge facility are appropriately characterized as a single removal action.

At each of the Baytown and Baton Rouge facilities, Exxon's activities are a removal action

under CERCLA.

V. Consistency with the National Contingency Plan

A private party may recover costs that are "necessary costs of response incurred" and that are "consistent with the national contingency plan." 42 U.S.C. § 9607(a)(4)(B). The National Contingency Plan is a set of EPA regulations "designed to make the party seeking response costs choose a cost-effective course of action to protect public health and the environment." *Wash. State Dep't of Transp. v. Wash. Nat'l Gas Co.*, 59 F.3d 793, 802 (9th Cir. 1995). It is Exxon's burden to establish that its costs were consistent with the Plan. *Young v. United States*, 394 F.3d 858, 863 (10th Cir. 2005).

Three versions of the National Contingency Plan have applied to Exxon's cleanup actions. Exxon's Tables 6 and 7 set out the units and the Plan version that applied to the cleanup work at each unit. (Exxon MSJ, Tables 6, 7). Experts for both Exxon and the United States analyzed each cleanup action in relation to the applicable Plan.

The United States argues that Exxon did not substantially comply with the National Contingency Plan requirements. Exxon responds that the extensive involvement by the States of Louisiana and Texas brought Exxon's cleanup work into National Contingency Plan compliance.

The Second and Seventh Circuits have held that extensive state involvement is dispositive evidence of a response action's compliance with the Plan. *See Niagara Mohawk Power Corp. v. Chevron U.S.A., Inc.*, 596 F.3d 112, 137 (2d Cir. 2010) ("One way of establishing compliance with the national plan is to conduct a response under the monitoring, and with the ultimate approval, of the state's environmental agency."); *NutraSweet Co. v. X-L Eng'g Co.*, 227 F.3d 776, 791 (7th Cir.

2000) ("The Illinois EPA approved NutraSweet's clean-up plan, and the agency monitored the progress of the remediation. NutraSweet remediated its property until the Illinois EPA advised it that it could stop because NutraSweet's efforts had succeeded to the maximum extent possible. In light of this evidence, we are satisfied that NutraSweet met this requirement for a CERCLA recovery.").

The United States relies on cases holding that if a state's involvement is minimal, that is not dispositive of compliance. *See VME Americas, Inc. v. Hein-Werner Corp.*, 946 F. Supp. 683, 692 (E.D. Wis. 1996) ("Here, nothing approaches the 'active involvement' of the state agencies involved in *General Electric* and *American Color*."); *Pub. Serv. Co.*, 175 F.3d at 1184. But the state involvement here went well beyond mere approval of Exxon's plans. The undisputed record evidence shows that Texas and Louisiana were extensively involved in Exxon's cleanup response activities at the two facilities, establishing compliance with the National Contingency Plan, as a matter of law. (Exxon Facts ¶¶ 559, 560, 566; Exxon Response to Gov't Facts ¶¶ 25, 27). On this issue, Exxon's motion for partial summary judgment is granted and the United States's motion is denied.

The specific reasons for this conclusion at each facility and cleanup unit are set out below.

A. The Baytown Facility

1. The South Landfarm Unit

The United States argues that Exxon's closure of the South Landfarm did not comply with the 1985 Plan's public-participation requirements for remedial actions. Exxon responds that the 1985 requirements do not apply to the closure of the South Landfarm because its was part of a

removal action, not a remedial action, and because Exxon did most of the closure work before the 1985 Plan requirements were adopted. (Exxon Response at 24). Exxon is correct. Its activities at the South Landfarm were part of a removal action, so Exxon need not establish public participation.

Even if the South Landfarm closure and related activities were part of a remedial action, Exxon nonetheless substantially complied with the public-participation requirement because of the extensive involvement in the cleanup by the State of Texas. "State participation in the cleanup may fulfill the public participation requirement." *First Edwards, LP v. Union Pac. R.R. Co.*, 2009 WL 10693830, at *9 (S.D. Tex. Mar. 16, 2009) (citing *Bedford Affiliates v. Sills*, 156 F.3d 416, 428 (2d Cir. 1998) ("Where a state agency responsible for overseeing remediation of hazardous wastes gives comprehensive input, and the private parties involved act pursuant to those instructions, the state participation may fulfill the public participation requirement.")). "[C]ourts have refused to find substantial state involvement and thus substantial compliance with the NCP when the state agency merely approves a cleanup plan that has been submitted to it." *Id.* at *9. Stephen Johnson, Exxon's cleanup expert, testified that "[t]he State of Texas provided detailed oversight during the course of Exxon's response actions for the South Landfarm, and reviewed, commented on and ultimately approved these actions." (Exxon Facts ¶ 566).

The undisputed record evidence, consisting of contemporaneous documents, shows that the State of Texas amended Exxon's closure plan for the South Landfarm. (*Id.* ¶¶ 566–567). It is undisputed that the State's involvement in the South Landfarm extended beyond mere approval. Because Exxon has submitted evidence of extensive oversight and involvement, and because the United States does not dispute the extent of Texas's involvement at the South Landfarm, Exxon's

motion for partial summary judgment is granted on the issue of compliance with the National Contingency Plan.

2. The Upper Outfall Canal and the Velasco Street Ditch Units

The United States argues that Exxon did not provide for public participation in the cleanup of the Velasco Street Ditch and did not give the public an adequate opportunity to comment before selecting the cleanup measures for the Upper and Lower Outfall Canals. The United States argues that Texas's involvement at the Velasco Street Ditch and Canals was not comprehensive and does not satisfy the public-participation requirement.

Johnson, Exxon's cleanup expert, testified that the State of Texas required these cleanups and "reviewed, commented on, and ultimately approved of all work done by Exxon." (Exxon Facts ¶ 585). The undisputed record evidence includes documents exchanged between Exxon and the Texas Natural Resources Conservation Commission, which directed modifications to Exxon's cleanup plans. (*Id.*). The undisputed evidence of Texas's active involvement in Exxon's cleanup activities at these units show that its involvement extended well beyond mere approval. The State's input and oversight at these units meets the public-participation requirement and establishes substantial compliance with the National Contingency Plan.

The United States also argues that Exxon did not do a feasibility study or a remedial investigation at the Velasco Street Ditch unit. (Gov't MSJ at 25). These requirements apply to remedial, but not to removal, actions. Because Exxon's cleanup activities at this unit were part of a removal action, Exxon did not need to satisfy those requirements.

B. The Baton Rouge Facility

Exxon's activities at the Shadow Fill Zone and Rice Paddy Landfarm are evaluated against the 1985 National Contingency Plan.

1. The Shallow Fill Zone

The United States argues that Exxon did not comply with the 1985 National Contingency Plan requirements for the Shallow Fill Zone to evaluate possible alternatives before submitting its proposal to the State of Louisiana, conduct public participation, and to consider options. (Gov't MSJ at 25–26). But Exxon has submitted and identified undisputed record evidence that the State of Louisiana was extensively involved in the Shallow Fill Zone cleanup work. (Exxon Facts ¶ 713, 714, 717, 718). Louisiana issued Exxon a corrective-action order for the Shallow Fill Zone, reviewed Exxon's preliminary assessment report, and required Exxon to perform most of the cleanup activities at that unit. (Exxon Facts ¶¶ 725–731). The undisputed evidence of Louisiana's extensive and comprehensive involvement satisfies the public-participation requirement and, as a matter of law, shows substantial compliance with the 1985 National Contingency Plan.

2. The Rice Paddy Landfarm

The United States argues that Exxon did not comply with the 1985 National Contingency Plan requirements because it did not evaluate alternatives before selecting natural biodegradation as the closure method for the Rice Paddy Landfarm. (Gov't MSJ at 26). Because Exxon's activities at the Rice Paddy Landfarm were part of a removal action rather than a remedial action, the 1985 National Contingency Plan did not require Exxon to evaluate alternatives.

Even if Exxon's activities at Rice Paddy Landfarm were part of a remedial response action, the record evidence shows that Exxon evaluated alternatives. Michael Pisani, an engineer who

helped Exxon in its meetings and discussions with the Louisiana Department of Environmental Quality, testified that Exxon "considered and evaluated different cleanup alternatives" before selecting natural biodegradation for the Rice Paddy Landfarm. (Exxon Facts ¶ 760; Ex. 12 at 22). Exxon closed the Rice Paddy Landfarm under the order and supervision of the Louisiana Department of Environmental Quality. The undisputed record evidence shows that Exxon complied with Louisiana's orders and monitoring in the cleanup activities at the Rice Paddy Landfarm. The undisputed evidence shows that the State's involvement at the Landfarm extended well beyond mere approval and shows Exxon's substantial compliance with the National Contingency Plan, as a matter of law.

VI. The Insurance-Settlement Proceeds Exxon Received

In the 1990s, Exxon sued its insurers to recover its environmental-cleanup costs at hundreds of thousands of sites across the United States. In the North American Coverage Case, Exxon argued that its insurance policies covered environmental-cleanup costs at the Baytown and Baton Rouge facilities. Exxon eventually settled that case for $269 million. (Gov't Facts ¶¶ 63–64).

CERCLA's "general policy against double recovery," including from settlements, is an equitable factor entitled to significant weight. *Litgo N.J. Inc. v. Comm'r N.J. Dep't of Envtl. Prot.*, 725 F.3d 369, 391 (3d Cir. 2013). Allowing a CERCLA claimant "to recoup more than the response costs he paid out of pocket flies in the face of CERCLA's mandate to apportion those costs equitably among liable parties." *Friedland v. TIC-The Indus. Co.*, 566 F.3d 1203, 1207 (10th Cir. 2009). Courts have discretion as to how to treat insurance-settlement offsets. *See NCR Corp.*, 768 F.3d at 708 ("*Friedland* affirms that any level of double recovery is inequitable in CERCLA contribution

actions, and that ignoring insurance settlements when it would lead to double recovery is inconsistent with the statute's purpose. It does not otherwise establish a bright-line rule for how a court should treat insurance settlements.").

The United States argues that Exxon has already recovered some of the cleanup costs it incurred at the Baytown and Baton Rouge facilities based on the earlier settlement in the Coverage Case, and that allowing Exxon to recover those costs again in these consolidated cases would be an inequitable double recovery. The United States cites two decisions offsetting insurance proceeds from CERCLA contribution claims. *Friedland*, 566 F.3d at 1205–11 (crediting $20 million in proceeds against a CERCLA contribution claim); *FirstEnergy Corp.*, 766 F.3d at 237–38 (affirming the district court's reduction of a CERCLA recovery by $20 million in insurance proceeds).

The issue is the percentage or amount of the North American Coverage Case settlement attributable to the Baytown and Baton Rouge facilities. The United States arrived at the number it seeks as a setoff amount by calculating the amount of settlement proceeds related to the cleanup activities at the Baytown and Baton Rouge facilities, based on the following method:

> In Exxon's internal "Allocation Base," the Baytown refinery and chemical plant made up 17.08 percent of the total costs in the two business segments and the Baton Rouge refinery and chemical plant made up 22.18 percent. SOF ¶ 69. Applying these percentages to the $50.7 million of insurance proceeds allocated to the U.S. Refining and U.S. Chemicals business segments, Exxon has recovered $8.65 million that relate to Baytown, and approximately $11.24 million that relate to Baton Rouge. SOF ¶¶ 67–70.

(Gov't MSJ at 29).

Based on this approach, the United States argues that Exxon's recovery of the amounts attributable to the cleanup costs covered by the settlement should be deducted before the total

cleanup costs are equitably allocated between the parties. *See Vine Street LLC v. Keeling*, 460 F. Supp. 2d 728, 764–66 (E.D. Tex. 2006), *rev'd and vacated on other grounds*, 776 F.3d 312 (5th Cir. 2015).

Exxon contends that the Coverage Case settlement was for *all* of its sites, so it is improper to treat any of the insurance proceeds as prior payments for costs attributable to the cleanup work at issue here. First, Exxon cites the collateral-source rule, which in this context means that insurance offsets do not kick in unless the total amount of insurance recovery, plus the amount recovered in the CERCLA action, exceeds 100 percent of the response costs. Exxon argues that because the recovered settlement proceeds plus the costs claimed here do not exceed 100 percent of the response costs, there is no double recovery. *See NCR Corp. v. George A. Whiting Paper Co.*, 768 F.3d 682, 708 (7th Cir. 2014) (the district court did not abuse its discretion by leaving the insurance proceeds with the PRP).

Second, Exxon argues that the United States's calculations are not reliable because: (1) they are based on an inaccurate assumption that the cleanup costs recovered in the Coverage Case settlement are the same as the costs sought in this case; (2) based on Exxon's data, 50 percent of the costs claimed in this case were not claimed in the Coverage Case litigation; and (3) the United States's calculations do not deduct from the Coverage Case settlement the litigation costs that Exxon incurred in the Coverage Case. Exxon calculates the Coverage Case settlement proceeds attributable to the Baytown facility at $2.9 million and those attributable to the Baton Rouge facility at $3.3 million.

One problem with determining the offset amount is that the Coverage Case settlement did

not break down the settlement amounts attributable to cleanup costs at different facilities or sites. Instead, the settlement broke the amounts down only by "business segments." Exxon recovered insurance proceeds attributable to cleanup costs at sites besides the Baytown and Baton Rouge facilities, costs that Exxon does not claim in this case. The United States does not dispute this. (Gov't MSJ at 29 n.20).

Exxon contends that "[m]ost of the [Coverage Case]-claimed costs are not CERCLA-claimed costs because the [Coverage Case] included substantial cleanup and other types of costs incurred . . . with respect to non-wartime waste units or areas of contamination at both sites." (Exxon Response at 28, n.30). Exxon also points out that the Coverage Case litigation was for cleanup costs incurred before 1998, and most of the cleanup costs Exxon claims in this litigation were incurred after 1998. Exxon's Table 16 contains more detailed information about the differences between the costs claimed in the Coverage Case litigation and the costs Exxon claims here.

Two issues must be resolved: first, whether to apply an offset for the Coverage Case settlement proceeds; and second, if an offset applies, the amount. The statute and case law are clear that an insurance-settlement offset is appropriate before equitable allocation to prevent double recovery. *See Litgo*, 725 F.3d at 391. But the summary judgment record is clear that there are genuine factual disputes material to determining the proper offset amount for the Coverage Case settlement. The United States points to facts supporting offset amounts of $8.65 million for Baytown and $11.24 million for Baton Rouge. Exxon points to different facts supporting lower amounts, in a table setting out the costs claimed in the Coverage Case litigation and the costs claimed here. (Exxon Response, Table 16). Exxon's calculations support much lower offset

amounts, $2.9 million for Baytown and $3.3 million for Baton Rouge.

On the issue of using an insurance-settlement offset to prevent double recovery, the court grants partial summary judgment for the United States on the propriety of a settlement offset, but denies the motion for partial summary judgment on the amount. This issue must be addressed at the bench trial.

VII. Whether Exxon Adequately Accounted for Its Costs

Exxon argues that it has incurred over $77 million in response costs at the Baytown and Baton Rouge facilities. Exxon's accounting expert, Paul Ficca, testified that Exxon accurately accounted for these costs. (Gov't Facts ¶ 71). The United States's accounting expert, E.J. Janik, reviewed Exxon's claim and concluded that there is insufficient documentation for $23 million of the $77 million Exxon claims. For $6.7 million of that $23 million, Janik concludes that they are disallowed as a matter of law because Exxon has not produced both an invoice and proof of payment or the equivalent. (Gov't Facts ¶¶ 73–74).

The United States moved for partial summary judgment on three cost-documentation issues. First, the United States asks for a determination that "Exxon's evidentiary burden for proving its costs under the National Contingency Plan requires it to produce invoices and proof of payment, or equivalent documentation, to support each individual cost that it seeks." (Gov't MSJ at 31). Second, the United States seeks a determination that the accounting records, litigation database, and cost summaries Exxon relies on are insufficient, as a matter of law, to support the claimed amounts. Third, the United States seeks to "deduct the $6.7 million in costs for which Exxon has no invoice and no proof of payment and has offered no competent evidence to prove those costs." (*Id.*). The

United States also asks the court to "order Exxon and the United States and their respective experts to work together to seek agreement on what amount of the remaining $70 million in costs is accurately accounted for and what amount remains in dispute." (*Id.*).

At oral argument, the United States provided a detailed and helpful spreadsheet setting out Exxon's claimed costs and the type of documents supporting them. That spreadsheet is part of the summary judgment record.

A. Whether the National Contingency Plan Requires Both Invoices and Proof of Payment to Support Each Cost Item Exxon Seeks

The National Contingency Plan requires CERCLA plaintiffs to provide an "accurate accounting" of response costs. 40 C.F.R. § 300.160(a)(1). "In general, documentation shall be sufficient to provide the source and circumstances of the release, the identity of responsible parties, the response action taken, accurate accounting of federal, state, or private party costs incurred for response actions, and impacts and potential impacts to the public health and welfare and the environment." *Id.* As a private party, Exxon must demonstrate "substantial compliance" with the National Contingency Plan. *Id.* § 300.700(c)(3)(i) ("A private party response action will be considered 'consistent with the NCP' if the action, when evaluated as a whole, is in substantial compliance with the applicable requirements . . . and results in a CERCLA-quality cleanup.").

The key case analyzing and collecting authority on the Plan's cost-documentation requirement is *United States v. W.R. Grace & Co.–Conn.*, 280 F. Supp. 2d 1149, 1179–81 (D. Mont. 2003). The provision "does not establish prescriptive standards for the content of cost documents." *Id.* Nor does it "impose any additional documentation requirements . . . beyond what is sufficient to persuade the court that the costs have been proven by a preponderance of the evidence." *Id.*

Because the Plan does not provide guidance on the meaning of "accurate accounting," courts "have applied civil evidentiary standards to assess the adequacy of cost documentation supporting a CERCLA cost recovery claim, rather than imposing any additional burden." *Id.* at 1180.

The cases reviewed in *W.R. Grace* did not require "any particular document or type of document in their analysis of response cost documentation," but did require documents "'adequate' or 'sufficient' to support the cost claim." *Id.* at 1181. A CERCLA plaintiff has "a range of options for proving up the amount of costs" incurred. *Id.* The "nature of the documentation presented to support the cost claim will vary depending on the amount of response costs at issue, the type of documentation the plaintiff's accounting system maintains, and the extent and complexity of the documentation." *Id.*

Courts have found the following documents sufficient: "detailed cost summaries"; "extensive documentation of costs in the form of time sheets and payroll documents"; "declarations from EPA Staff, attorneys, accountants, and supervisors attesting to the work they performed and time spent"; and "affidavits of government employees responsible for maintaining cost data supported by 'summaries of cost data,'" and "time sheets sufficient to document payroll costs." *Id.* (collecting authority).

The United States argues that Exxon has not presented the documents needed to prove its costs by a preponderance of the evidence. Most of Exxon's claimed costs are for third-party contractors, so, according to the United States, "the most straightforward way for Exxon to prove its costs is to produce both a vendor invoice and proof of payment for each cost." (Gov't MSJ at 33). The United States's accounting expert, Janik, testified that accountants will "generally seek

support for a cost item by looking for an invoice . . . and then for proof of payment relating to that invoice." (Gov't Facts ¶ 75).

Exxon hired many contractors to work on different cleanup projects at the Baytown and Baton Rouge facilities, incurring costs that it claims in this case and other costs it does not claim. The United States argues that without an invoice for a particular contractor cost, there is no way to determine whether that contractor's work was for a response action for which the United States has some CERCLA responsibility. *See City of Wichita*, 306 F. Supp. 2d at 1095 ("The problem arises in determining how much of that work amounts to response costs."). The United States cites cases in which CERCLA plaintiffs offered "all the invoices" at trial. *See Nashua Corp. v. Norton Corp.*, 116 F. Supp. 2d 330, 354–55 (N.D.N.Y. 2000) (the plaintiff "offered all the invoices at trial," the defendant challenged certain invoices, and the court ruled on which costs should be included and which should be excluded); *Boeing Co. v. Cascade Corp.*, 920 F. Supp. 1121, 1134–35 (D. Or. 1996) ("At trial, Boeing presented voluminous documentation of each and every invoice . . . .").

The United States argues that both invoices and proofs of payment are necessary for each claimed cost because the proofs show whether Exxon actually paid the invoices. The United States cites the testimony of one of Exxon's experts stating, in a different case, that proof of payment is a "critical part of the process" because it provides evidence about "the purchaser's side of the transaction." (Gov't Facts ¶ 82).

The United States contends that Exxon's approach does not "look at every single one of thousands and thousands of transactions in isolation," but instead asks the court to consider "the documentation in its totality, and that if Exxon has accurate documentation for *some* of its costs,

then it is entitled to a presumption that the rest of its costs are also accurately accounted for. (Gov't Facts ¶¶ 85–86). The United States seeks a ruling that Exxon must produce both the invoices and the proof of payment for each cost item it claims.

The United States asks for more than the case law requires. A CERCLA plaintiff need not produce "any particular document or type of document," and "the documentation presented to support the cost claim will vary depending on the amount of response costs at issue, the type of documentation the plaintiff's accounting system maintains, and the extent and complexity of the documentation." *W.R. Grace*, 280 F. Supp. 2d at 1181. Excluding any cost that is not supported by both an invoice and proof of payment is an overly strict reading of the National Contingency Plan's cost-documentation provision. That provision does not require documentation beyond what is sufficient to prove the costs by a preponderance of the evidence. Courts interpret that provision to allow a CERCLA plaintiff to produce detailed cost summaries, with affidavits or declarations attesting to the work performed or other documents supporting the costs. *Id.* at 1180. That is particularly important when, as here, the records are decades old and invoices and proofs of payment may be difficult to locate, retrieve, and produce.

A large percentage of Exxon's claimed costs are supported by both an invoice and proof of payment, although the parties disagree about the precise percentage. It is undisputed that all of Exxon's claimed costs have some supporting documents, even if only a cost report. In addition to invoices and proof of payment for some claimed costs, and cost reports for others, Exxon has also submitted accounting records, cleanup reports, plans, and agency correspondence. Although the court may find, after the bench trial, that some of Exxon's claimed costs are not sufficiently

supported by the documents produced, Exxon is not required to produce an invoice and proof of payment to adequately document each cost it claims. *W.R. Grace*, 280 F. Supp. 2d at 1181 ("[T]he documentation presented to support the cost claim will vary depending on the amount of response costs at issue, the type of documentation the plaintiff's accounting system maintains, and the extent and complexity of the documentation."). The United States's motion for partial summary judgment that both invoices and proof of payment are required for each claimed cost is denied.

At oral argument, the United States conceded that the costs the parties agreed were supported by both an invoice and proof of payment were adequately documented. The court grants Exxon's cross-motion for partial summary judgment that Exxon has adequately documented those costs. Exxon also moved for partial summary judgment that "all of its claimed costs" are accurately accounted for. The United States moved for partial summary judgment denying $6.7 million in costs for claims that it argues are not supported by an invoice or proof of payment. Summary judgment is denied on both of these motions. Instead, for the costs that are not supported by both an invoice and proof of payment, the court will determine at the bench trial which of those costs are adequately documented.

B. Whether Exxon's Documentation Is Reliable and Admissible

Exxon's accounting expert, Paul Ficca, testified that Exxon adequately accounted for all $77 million in past costs. Ficca testified that Exxon's accounting-system records and the North American Coverage Case database are sufficiently accurate and reliable that Exxon can rely on them to prove the costs for which Exxon is missing some or most of the supporting documents. The United States responds that: (1) the Evaluated Receipt Settlement Program records are an inadequate

substitute for invoices from third-party vendors; (2) the accounting-system records are not a sufficiently reliable substitute for the actual invoices; (3) the North American Coverage Case litigation database is not admissible because it was created for litigation; and (4) Ficca's cost summaries are inadmissible because they are based on inadmissible underlying documents.

1. The Evaluated Receipt Settlement Program Records

Exxon included a chart with a breakdown of its costs and how they are documented. (Exxon MSJ, Figure 3). The different categories are "invoice, payment, and cost report"; "invoice and cost report"; payment and cost report; and cost report. According to Exxon, the costs with invoices, payments, and cost reports account for 80 percent of Exxon's claim. (Exxon MSJ, Figure 3).

The United States's accounting expert, E.J. Janik, disputes these figures. He determined that the percentages of Exxon's claimed costs supported by an invoice, proof of payment, and an accounting record are 63 percent of the claimed costs for the Baytown facility and 77 percent of the claimed costs for the Baton Rouge facility. (Gov't Response to Exxon Facts ¶¶ 829, 833). Janik also concluded that approximately $23 million of Exxon's claimed costs are not supported by an invoice. (*Id.*).

One reason for the disparity between the parties' numbers is a disagreement about whether the Evaluated Receipt Settlement program records are an "invoice." $8.6 million of Exxon's costs are supported by these program records. The United States's spreadsheet provided at oral argument includes examples of screenshots of these program records. Ficca, Exxon's accounting expert, testified that the screenshots from the Evaluated Receipt Settlement program do not describe all of the goods and services the vendor provided. (Gov't Response to Exxon Facts ¶ 802). Ficca also

testified that, before Exxon employees approved any payment to a vendor from the Evaluated Receipt Settlement program, they would review information besides the screenshots, including purchase orders that contained more detailed information about the costs that were listed in the Evaluated Receipt Settlement program. (*Id.*).

Exxon points out that Evaluated Receipt Settlement program "is a procedure for paying a supplier for materials without receiving a paper invoice." (Exxon Facts ¶ 802). Exxon argues that the program records effectively replaced paper invoices and effectively operated as invoices for Exxon's day-to-day business. Exxon's accounting expert testified that instead of a contractor generating an external invoice, the Evaluated Receipt Settlement program was used to create "[a]n internal invoice . . . for the amount shown on the Purchase Order when the Good Receipt . . . is posted." (*Id.* ¶ 804).

The costs supported by the Evaluated Receipt Settlement program records are sufficiently reliable to be considered supported by an invoice. One of the United States's witnesses, A.J. Gravel, testified that "if no paper invoice exist[s,] an [ERS record] would serve as an invoice" because those records "[have] much of the information that you would see in an invoice. It's got the [general ledger] code, the vendor code which gives you the vendor name, the company code, it has the invoice number, invoice clearing number, the amount, the discount base." (Exxon Facts ¶ 806). The undisputed record evidence about the information in the Evaluated Receipt Settlement program records shows that these records function as an electronic equivalent of an invoice. Exxon's costs supported by those records are sufficiently documented to be considered supported by an invoice, as a matter of law.

2. Exxon's Internal Accounting System Records

Ficca testified that because Exxon has produced documents that validate many of the claimed cost items shown in Exxon's accounting records, the accounting records are sufficiently reliable and complete to prove the remaining costs for which Exxon lacks documents like an invoice, a canceled check, or both. The United States argues that Ficca's testimony is not supported by the record. According to the United States, for many of the claimed costs, the accounting system "is missing basic information, such as the invoice number, invoice date, or vendor name." (Gov't MSJ at 38). The United States points to several costs that Ficca cited that turned out to be inaccurate. One item was for roughly $200,000, for which there was no invoice or proof of payment. There were two other instances of "duplicative" or overlapping costs. The three erroneous costs totaled approximately $575,000. Because of these discrepancies, the United States argues that all of Exxon's accounting-system records are suspect and cannot be used to prove Exxon's costs. During discovery, Ficca removed those costs from Exxon's claims "out of an abundance of caution." He also removed all costs for which there was no invoice, invoice number, and vendor name, totaling an additional $310,000. (Gov't Facts ¶¶ 96–97).

Exxon points out that it had four different accounting systems between 1985 and the present, creating some variation in the information available. Exxon points to: (1) Ficca's comparison of all available proof-of-payment and invoice records, which match about 90 percent of the accounting-record entries to the accounting records; (2) annual audits by PricewaterhouseCoopers, concluding that Exxon's accounting systems conformed to generally accepted accounting principles; (3) annual evaluations by Exxon management, concluding that it had effective internal controls over its

financial reporting; (4) regulation of Exxon's financial reporting by the SEC and the FTC; (5) the periodic risk assessments describing Exxon's accounting practices; and (6) Ficca's and Johnson's conclusions that "Exxon had robust internal policies in place." (Exxon MSJ at 34–35; Exxon Response to Gov't Facts ¶ 88).

Exxon is a large, regulated, publicly traded company. The accounting systems are reliable records of regularly conducted activity, supported by the indicia of accuracy and trustiness shown by the comparisons Ficca performed, the audits, the internal control reviews, the regulatory supervision, and other safeguards. *See W.R. Grace*, 280 F. Supp. 2d at 1181 ("[The cases] merely required that the documentation be 'adequate' or 'sufficient' to support the cost claim. The plaintiff in a CERCLA cost recovery action has a range of options for proving up the amount of costs it has incurred."). In an abundance of caution, for each of the cost items Exxon claimed that the United States argued was duplicative or inaccurate, Exxon removed those costs from its claims and does not seek reimbursement for them. *See Sacramento Mun. Util. Dist. v. United States*, 109 Fed. Cl. 660, 684 (2013), *vacated on other grounds*, 566 F. App'x 985 (Fed. Cir. 2014) ("The $8067 error in this case was removed from SMUD's damages claim and does not undermine the reliability of SMUD's accounting system."). The accounting records are admissible and sufficient to prove the claimed costs, unless a specific cost is shown to be duplicative or inaccurate.

3. The Records from the North American Coverage Case Litigation Database

In the 1990s, Exxon developed a damages database for the North American Coverage Case litigation. Exxon seeks to prove some of its otherwise undocumented costs based on the records in that database. The United States argues that (1) Exxon has not authenticated the Coverage Case

database; (2) Exxon has not identified a hearsay exception for the database, which is not a record of regularly conducted activity; and (3) Ficca's lack of personal knowledge about the development of the Coverage Case database precludes him from establishing the predicate for its admission as competent summary judgment evidence.

Exxon responds that "the vast majority of the costs supported by the [Coverage Case] records are also supported by an actual invoice and/or proof of payment as well." (Exxon Response at 35). According to Exxon, the Coverage Case records support $20.7 million of the claimed cleanup costs at the Baton Rouge facility and $2.6 million at the Baytown facility. Of the Baton Rouge amounts, $16.2 million is supported by both an invoice and proof of payment, and $2.4 million is supported by either an invoice or proof of payment. Of the Baytown amounts, $1.5 million is supported by both an invoice and proof of payment, and $750,000 is supported by either an invoice or proof of payment.

Exxon also cites Federal Rule of Evidence 803(16), the hearsay exception for statements made in ancient documents. FED. R. EVID. 803(16) (statements in documents are "not excluded by the rule against hearsay" if the document "was prepared before January 1, 1998, and whose authenticity is established"). The Coverage Case database was developed in the 1990s, under conditions and circumstances that do not create suspicion about its authenticity. Exxon also cites Rule 807(a)(3), which provides that evidence is admissible if "it is more probative on the point for which it is offered than any other evidence that the proponent can obtain through reasonable efforts." FED. R. EVID. 807(a)(3). Finally, Exxon points out that the United States itself relied on the Coverage Case database, and that its own experts admitted the database entries are accurate. The

United States's argument for an insurance offset for the Coverage Case settlement proceeds relies heavily on the database.

Exxon has the better argument, amply supported by the undisputed record evidence. Although the Coverage Case database was prepared for litigation, most of the claimed costs reflected in the database are also substantiated by both separate invoices and pay records. Because the United States relies on the Coverage Case database to support its own argument about the offset for the insurance settlement proceeds in these consolidated cases and concedes the database's accuracy for that purpose, the database is sufficiently reliable to be admissible and support Exxon's claims. The United States's motion for partial summary judgment on this issue is denied.

4. Ficca's Cost Summaries

The United States seeks partial summary judgment that Ficca's cost summaries are not admissible because they are based on inadmissible underlying documents. The cost summaries must satisfy Federal Rule of Evidence 1006, which provides that a party may use a "summary, chart, or calculation to prove the content of voluminous writings . . . ." FED. R. EVID. 1006. The United States argues that the cost summaries contain substantial information from the Coverage Case database and other inadmissible sources, including hearsay statements by Exxon officers or employees. The United States argues that the cost summaries also do not comply with Rule 1006's requirement that Exxon make "originals, or duplicates available for examination" by both parties. Specifically, it points to Exxon's decision to turn over "only invoices and invoice detail for . . . line items greater than $5K." (Gov't Facts ¶ 106).

Ficca's cost summaries are made up of the tables attached to his reports. Exxon responds

that these tables are precisely the type of summary Rule 1006 contemplates. The cost items in the spreadsheets show thousands of pages of invoices, proof-of-payment records, and accounting records. Exxon produced these to the United States, and they are available for inspection in and by the court. According to Exxon, Ficca clearly noted any instance in which he also relied on a fact witness. Those fact witnesses were made available for deposition and will be available to testify in court. The documents Ficca reviewed were produced to the United States. In some instances, the underlying invoices could not be located, but the contractor work and the covered costs were verified by other documents that Exxon produced to the United States. (Exxon Response to Gov't Facts ¶ 106).

Ficca's cost summaries are admissible. The underlying documents are voluminous. For any of the underlying documents that the United States contends Exxon has not yet produced, Exxon must make those documents available to the United States at least 30 days before the bench trial is scheduled to begin. While there may be factual disputes about whether particular underlying documents are admissible, such as some of the claimed costs not supported by invoices or pay records, the cost summaries are not inadmissible.

C. The Requested Order to Work to Agree on the Amount in Dispute

This one is easy. The court orders the parties to work together to seek agreement on the amount of claimed costs that are accurately accounted for and on the amount that remains in dispute.

VIII. Prejudgment Interest, Run-Rate, and Consultant-Investigation Costs

Exxon moved for partial summary judgment that it is entitled to prejudgment interest, to its costs based on the run rate, and to consultant-investigation costs. At this stage, an award of

prejudgment interest is premature because the court has not equitably allocated the costs among the parties. Exxon's claimed costs for the run rate are estimates of its costs between 2015 and 2019. (Exxon MSJ, Table 8). Because those are estimated costs and because the documents supporting them and showing the cleanup units to which they are attributable are limited, the court will consider whether these costs are recoverable as necessary costs of response at the bench trial.

The United States objects to the $250,000 Exxon claims for "consultant investigation costs," on the ground that Exxon has not produced invoices, proof of payment, or other documents for these costs. Because the current record does not provide a secure basis to resolve these objections, the court will consider these costs at the bench trial.

IX. Whether to Allocate the United States a Zero Share of Some of Exxon's Costs

A party seeking summary judgment on CERCLA allocation has the usual burden of proof as to proposed factual findings. *See Exxon I*, 108 F. Supp. 3d at 504; *Acushnet Co.*, 191 F.3d at 79. But because allocation involves the court's discretion, neither party bears the usual burden of proof with regard to the allocation itself. *Acushnet Co.*, 191 F.3d at 78 (a "defendant in a contribution proceeding seeking to limit his liability has a 'less demanding burden of proof'").

The United States argues that it has little responsibility for the cleanup costs Exxon claims. The United States wants to be allocated a zero or *de minimis* share for the costs to cleanup several of the units. *See Haliburton Energy Servs., Inc. v. NL Indus.*, 648 F. Supp. 2d 840, 871 (S.D. Tex. 2009) ("When a PRP contributes only minimally to the contamination at issue, it may be appropriate to allocate zero response costs to that party."). The United States's motion for partial summary judgment that it is not required to pay any or little of the costs is denied. For the reasons set out

below for each cleanup unit, determining the United States's equitable share of responsibility for Exxon's claimed cleanup costs at these units requires weighing conflicting evidence and expert testimony and reconciling or resolving the inconsistent inferences the parties draw.

A. The Lower Outfall Canal Costs

The United States makes two arguments for why it should be allocated a zero share of the cleanup costs for the Lower Outfall Canal. It argues that it is not responsible because Exxon's consultant reported that "the hazardous constituents in the Lower Outfall Canal sludge were well below regulatory levels," and because "Exxon reported to Texas that the sludge 'did not have to be removed' but that Exxon did so voluntarily." (Gov't MSJ at 45, citing Gov't Facts ¶ 45). At oral argument, however, the United States conceded that the cleanup costs for the Lower Outfall Canal were recoverable as necessary response costs. *See Atl. Research Corp.*, 459 F.3d at 836–37; *Consol. Edison Co.*, 423 F.3d at 100. Because the costs were necessary and the sludge at the Lower Outfall Canal qualified as hazardous waste under the RCRA, the United States's motion for partial summary judgment allocating a zero share of the cleanup costs to the United States is denied.

B. The FOA Costs

The United States argues that it should be allocated a zero share of the Facility Operation Area costs because the FOAs cover more cleanup units than those Exxon claims in this litigation, and because Exxon's inability to break down the cleanup costs by the specific unit leaves no way to distinguish between cleanup costs for units used for wartime production and costs unrelated to wartime activities.

These arguments are unpersuasive. Exxon acknowledged that the FOAs cover cleanup costs

for non-wartime wastes and for units that are not claimed in this litigation. Exxon argues that its allocation model accounts for and deducts the percentage of the cleanup costs for non-wartime wastes and units within the FOAs. Because there are genuine factual disputes material to determining the percentage and amount of the FOA costs attributable to the wartime-related production cleanup costs, and because the United States will be liable for at least a share of the FOA costs, the United States's motion for partial summary judgment that it must pay none or a *de minimis* share of the cleanup costs is denied. The allocation and amount of these FOA costs must be addressed at the bench trial.

C. The Old Silt Pond and the Rice Paddy Landfarm

The Old Silt Pond and the Rice Paddy Landfarm units at the Baton Rouge facility are geographically distinct from other units at that facility. Exxon has claimed $9,977,687 in cleanup costs for the Old Silt Pond, $4,622,578 for the Rice Paddy Landfarm, and an additional $3,302,781 at both units. The United States argues that Exxon has not produced evidence that it is liable for any of the cleanup costs at these units.

The United States cites the testimony of Exxon's expert historian, A.J. Gravel, and Exxon documents stating that it first began using the Old Silt Pond in 1945. The United States's aerial-photography expert, Mary Sitton, testified that she did not see evidence of waste disposal at the Old Silt Pond in three photographs taken before and during World War II, from September 1, 1939 to August 14, 1945. (Gov't MSJ at 47–48). As to the Rice Paddy Landfarm, Sitton testified that she saw no evidence of waste disposal in photographs taken during World War II. Exxon's aerial-photography expert, Wayne Grip, testified that he could not tell whether inundated areas within the

Rice Paddy Landfarm contained oil, and that the earliest date on which he could see light-toned materials was September 1947, after the end of World War II.

After World War II and during the Korean Conflict, four of the six Baton Rouge chemical plants, or Plancors, remained in operation. Two Plancors discharged waste into the Monte Sano Bayou, far north of the Old Silt Pond and the Rice Paddy Landfarm. The other two Plancors "used the refinery's waste processing system, [but] there is no evidence of the volume of wastes sent from those plancors to the refinery." (Gov't MSJ at 49). According to the United States, although the two Plancors "*may* have contributed some small amount of waste to the Old Silt Pond and Rice Paddy Landfarm during the short time they were in operation after World War II (approximately 2 years and 5 years respectively), their contribution to the contamination is surely *de minimis* compared to the refinery's contribution over the several decades it used those areas for waste disposal." (*Id.*).

The United States also argues that in 1976, Exxon built a 15-acre impoundment on top of the Rice Paddy Landfarm to dispose of waste at that unit. The impoundment operated until November 1988. The United States argues that Exxon's costs to address the Rice Paddy Landfarm contamination were therefore primarily incurred to address hazardous wastes added in the 1970s and 1980s. Exxon responds by pointing to evidence that wartime wastes were disposed of at the Old Silt Pond and the Rice Paddy Landfarm before those units began operating, and that World War II operations and subsequent Plancor and Korean Conflict operations contributed significant waste and contamination to those areas. (Exxon Response at 47–48).

As to the Old Silt Pond, Exxon argues that, although the unit was physically separate from

the other Baton Rouge units, hazardous materials drained through the adjacent Callaghan's Bayou and regularly overflowed into the Old Silt Pond. Exxon cites a Baton Rouge refinery memorandum estimating that, during World War II, the spring floods discharged 80,000 cubic yards of oily silt and sludge into Callaghan's Bayou every year. Exxon also cites the expert testimony of Grip, Gravel, and Johnson, that Callaghan's Bayou was dredged and the hazardous materials were disposed of in the Old Silt Pond. (Exxon Facts ¶¶ 512, 515; Exxon Response to Gov't Facts ¶¶ 114, 115, 127). Finally, Exxon cites evidence of a separate "earthen drainage ditch" running through the middle of the Old Silt Pond used to handle wastes during World War II. (Exxon Facts ¶ 513).

As to the Rice Paddy Landfarm, Exxon cites a 1980s EPA investigation report concluding that "prior to the installation of the landfarm, the area beneath the unit was used as a landfill . . . since the early days of the refinery" and "the land filled wastes included sludges and miscellaneous wastes." (Exxon Response at 49). Exxon also argues that wartime-production wastes within the area were the "driver" that caused Exxon to undertake significant cleanups at both the Old Silt Farm and the Rice Paddy Landfarm units. Exxon cites testimony from its environmental consultant who conducted and oversaw the cleanups. The consultant testified that the State of Louisiana considered both the Old Silt Farm and the Race Paddy Landfarm to be closely "interrelated with" the nearby Shallow Fill Zone wastes. (Exxon Facts ¶¶ 733, 753; Exxon Response to Gov't Facts ¶¶ 118, 126). Exxon argues that it would have incurred a less-costly cleanup action had there not been hazardous wartime contaminants far below the ground surface.

Determining the United States's involvement at these two units is fact-intensive. The record reveals that the facts are both disputed and unclear. The parties offer conflicting facts and inferences

from those facts. The United States nonetheless seeks partial summary judgment that it was responsible for a zero or a *de minimis* share of the contamination and the cleanup costs at these units. The United States points to evidence and expert testimony indicating that its involvement in the war material production and related hazardous waste generation was minimal. Exxon points to conflicting facts and expert testimony that the United States was significantly involved in the wartime material production and waste generation at the units. These genuine factual disputes are material to determining the United States's equitable share and preclude the partial summary judgment ruling the parties seek.

D. The Tank Farm 3000 Area

The Tank Farm 3000 area is an area of groundwater contamination at the former Baytown Ordnance Works, which is geographically distinct from the other cleanup units at the Baytown facility. Exxon claims $5,481,340 in cleanup costs for the Tank Farm 3000 Area.

The United States argues that the cleanup costs for this area were spent to address "groundwater plumes" discovered in the early 1990s. Exxon's engineers conducted a study and reported to the Texas Water Commission that, based on the chemical composition of the plumes, the contamination was likely from units built after the Ordnance Works stopped operating in 1945. The study concluded that the contamination was likely due to a "Linear Paraffins Unit" in operation between 1964 and 2009, a "Paraxylene Extraction Unit" in operation between 1952 and 1980, and a "Naphtha Rerun Unit," part of the original Ordnance Works that is still in use today. (Gov't Facts ¶¶ 152–157, 165).

According to the United States, Exxon's only evidence supporting its claim that the cleanup

costs are related to wartime production is a 1998 letter from Exxon to the Texas Natural Resource Conservation Commission stating that "the main source of the . . . plume is believed to be historic." (*Id.* ¶ 166). Exxon responds with two points. First, the 1990s investigation "was only intended to identify first where the current contamination was and the extent of the contamination"; it was not intended to be a "forensic investigation of the historical sources of the contamination" or to identify the responsible parties. (Exxon Response to Gov't Facts ¶¶ 161). Second, Exxon points to the testimony of its contaminant-contribution expert, Peter Gagnon, that "there was a direct correlation between the nature of the groundwater contaminants and the types of products, by-products, feed stocks or wastes associated with the [Ordnance Works] operations, including toluene, naphtha, xylene, kerosene, paraffins, and reformate." (*Id.*; Exxon Facts ¶ 504). Exxon contends that undisputed evidence shows that wartime production at the Ordnance Works was "a primary source" of the Tank Farm 3000 area groundwater contamination. (Exxon Facts ¶¶ 503, 504; Exxon Response to Gov't Facts ¶ 161).

The record is not as clear as either the United States or Exxon describes. Instead, the record evidence shows genuine factual disputes material to determining the United States's equitable share of the cleanup costs at this unit. The United States cites evidence that wartime production was not a major cause of the pollution; Exxon cites conflicting expert testimony citing other facts and rebutting that characterization. Because of the conflicting evidence, a ruling that the United States caused none or a *de minimis* amount of the contamination at this site is premature. The cross-motions for summary judgment on this issue are denied.

X. The Equitable-Allocation Methodology

This court's earlier opinion on the Phase I issues set out guidance for the equitable-allocation methodology to be used in Phase II. The court stated:

> After liability is established, a court allocates fault "using such equitable factors as the court determines are appropriate." 42 U.S.C. § 9613(f)(1). "This language gives district courts discretion to decide what factors ought to be considered, as well as the duty to allocate costs according to those factors." *Boeing Co. v. Cascade Corp.*, 207 F.3d 1177, 1187 (9th Cir. 2000). Section 113 does not require the court to consider any particular list of factors. Rather, courts often "use what are called the 'Gore factors,' named after a failed attempt to amend CERCLA." *Id.* These factors include:
>
> > (i) the ability of the parties to demonstrate that their contribution to a discharge, release or disposal of a hazardous waste can be distinguished; (ii) the amount of the hazardous waste involved; (iii) the degree of toxicity of the hazardous waste involved; (iv) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste; (v) the degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such hazardous waste; and (vi) the degree of cooperation by the parties with the Federal, State or local officials to prevent any harm to the public health or the environment.
>
> *Carson Harbor Vill., Ltd. v. Unocal Grp.*, 270 F.3d 863, 893–94 (9th Cir. 2001) (citation and quotation omitted). In addition, courts also consider the "Torres Factors," including (1) "[t]he extent to which cleanup costs are attributable to wastes for which a party is responsible"; (2) "[t]he party's level of culpability"; (3) "[t] he degree to which the party benefitted from disposal of the waste"; and (4) "[t]he party's ability to pay its share of the cost." *Lockheed Martin Corp. v. United States*, 35 F. Supp. 3d 92, 123 (D.D.C. 2014).
>
> "Given the broad discretion granted in CERCLA § 113(f)(1), courts also look beyond the Gore and Torres factors when equitably allocating response costs." *Id.* (citing *Am. Int'l Specialty Lines Ins. Co. v. United States (AISLIC II)*, 2013 WL 135405, at *9 (C.D. Cal. Jan. 9, 2013)). "[C]ourts have also considered the following factors under CERCLA § 113(f)(1)":
>
> > 1. The "knowledge and/or acquiescence of the parties in the contaminating activities." *Weyerhaeuser Co. v. Koppers Co.*, 771 F. Supp. 1420, 1426 (D. Md. 1991).

2. The value of the contamination-causing activities to furthering the government's national defense efforts. *Cadillac Fairview/Cal., Inc. v. Dow Chem. Co.*, 299 F.3d 1019, 1026 (9th Cir. 2002); *Shell Oil*, 294 F.3d at 1060.

3. The existence of an indemnification agreement demonstrating "the parties' intent to allocate liability among themselves." *Halliburton Energy Servs., Inc. v. NL Indus.*, 648 F. Supp. 2d 840, 863 (S.D. Tex. 2009); *see also Beazer E., Inc. v. Mead Corp.*, 412 F.3d 429, 447 (3d Cir .2005).

4. "The financial benefit that a party may gain from remediation of a site." *Litgo New Jersey, Inc. v. Martin*, 2011 WL 65933, at *9 (D. N.J. Jan. 7, 2011); *see also City of Wichita*, 306 F. Supp. 2d at 1101.

5. The potential for windfall "double recoveries" by a plaintiff. *See, e.g.*, *Litgo N.J. Inc. v. Comm'r N.J. Dep't of Envtl. Prot.*, 725 F.3d 369, 391 (3d Cir. 2013); *Friedland v. TIC–The Indus. Co.*, 566 F.3d 1203, 1207 (10th Cir. 2009).

6. The potential that a plaintiff might "make a profit on the contamination" at the expense of another PRP. *See Vine St., LLC v. Keeling ex rel. Estate of Keeling*, 460 F. Supp. 2d 728, 765 (E.D. Tex. 2006).

7. CERCLA's intent that "'responsible parties, rather than taxpayers, bear the costs'" of cleanup. *Yankee Gas*, 852 F. Supp. 2d at 256 (quoting *Marsh v. Rosenbloom*, 499 F.3d 165, 182 (2d Cir. 2007) (emphasis added)).

Lockeed Martin, 35 F. Supp. 3d at 123–24.

Exxon I, 108 F. Supp. 3d at 534–35.

The parties agree about the general steps the allocation method should follow. Those steps are:

(1) first, assigning shares of waste to the various years of plant operation, particularly for the years in which there was United States involvement during the wartime

periods and when it owned and operated the Plancors;

(2) determining the portion of costs that are associated with the periods of United States involvement and are attributable to production of war materials; and

(3) equitably dividing the portion of wartime-related costs that are subject to allocation, based on the parties' respective degrees of involvement with the wartime production activities and other equitable factors.

The parties proposed different approaches for allocating the damages. Exxon wants a "production-based" approach; the United States wants a "time-on-the-risk" approach. The parties' allocation experts, Richard White and Matthew Low, have submitted expansive reports and rebuttal reports. (*See* Gov't MSJ, Ex. 24 (Low Expert Report), Ex. 22 (Low Supp. Report), Ex. 23 (Low Rebuttal Report); Exxon Facts, Ex. 1-B (White 2012 Report), Ex. 1-C (White 2017 Report), Ex. 1-D (White Rebuttal Report)). At this stage, the court will analyze these competing approaches and explain which approach and equitable factors it will consider at the bench trial. *See Envtl. Transp. Sys. Inc. v. ENSCO, Inc.*, 969 F.2d 503, 509 (7th Cir. 1992) ("A court may consider several factors, a few factors, or only one determining factor . . . depending on the totality of the circumstances presented to the court."). The court's approach uses elements from both competing proposals, in an effort to increase the accuracy and reliability of the result.

A. Exxon's "Production-Based" Model

Exxon argues that the equitable allocation "should be based on a 'production-based' approach, rather than a time-based approach," because production-based methods "more realistically represent the actual plant conditions." (Exxon MSJ at 53); *see New York State Elec. & Gas Corp. v. FirstEnergy Corp.*, 808 F. Supp. 2d 417, 530–31 (N.D.N.Y. 2011) (applying production-based approach in CERCLA case). Exxon also argues that a production-based approach best reflects the

United States's involvement in the war material production and resulting waste generation, in control over the plant operations that supplied the raw materials the refineries processed. (Exxon MSJ at 54); *see Lockheed*, 35 F. Supp. 3d at 149 (equitable allocation accounted for the extent of the government control over plant operations, which did "not present the pervasive levels of control exhibited in *FMC* and the other World War II cases").

Exxon identifies additional factors making a production-based approach more accurate, precise, and fair than a time-based approach. These factors include:

> (1) the "knowledge and acquiescence" of the United States in the contaminating activities;
>
> (2) United States policies that prevented the installation of necessary pollution-control equipment during World War II and that resulted in continued pollution after the War;
>
> (3) "the value of the contamination-causing activities in furthering the government's national defense efforts"; and
>
> (4) "the parties' intent to allocate liability among themselves." *Exxon I*, 108 F. Supp. 3d at 535

Exxon also argues that the allocation approach should be based on "fundamental tenets," including:

> (1) accounting for "site-specific" conditions;
>
> (2) using a "production-based" approach;
>
> (3) accounting for significant post-war plant-level process-control and waste-handling improvements;
>
> (4) accounting for the United States's "overwhelming" degree of involvement in the wartime operations at the facilities; and
>
> (5) recognizing the parties' intent stated in the avgas-production contracts to allocate

liability between themselves.

On the last point, Exxon cites a case involving similar avgas contracts before Court of Federal Claims that held that under the contracts, the United States was responsible for 100 percent of the cleanup costs. *Shell Oil Co. v. United States*, 130 Fed. Cl. 8 (2017), *affirmed*, *Shell Oil Co. v. United States*, – F.3d –, 2018 WL 3446960 (Fed. Cir. July 18, 2018).

1. Richard White's Proposed Allocation

Richard White is Exxon's CERCLA allocation expert. His analysis took the following steps:

- First, he determined the amount of waste generated at each refinery and chemical plant during the years of operation by using the "production-based" factor of the crude-oil "throughput" capacity as a "surrogate" for the amount of waste generated each year.
- Second, he determined the parties' relative responsibility in generating that waste for each year. This second "inter-allocation" step used several factors, including that the United States:
  - (1) mandated maximum production of avgas and war products;
  - (2) required the refineries to enter into the avgas contracts and comply with all their directives;
  - (3) controlled all significant plant activities, including the use of crude oil and other raw materials;
  - (4) "effectively" controlled waste-generating operations at the chemical plants and refineries; and
  - (5) denied approval of most waste-handling improvements, despite its knowledge that the wartime operations generated increased wastes that overwhelmed the waste-handling systems.
- Third, he attributed to the United States a 40 percent degree of involvement for the refinery operations; a 60 percent degree of involvement for the government-owned Plancors and Baytown Ordnance Works operations; and a 100 percent degree of responsibility to the United States for each year in which Exxon supplied avgas under its wartime contract obligations—the 1942–1945 wartime period.

(Exxon MSJ at 55–57).

Exxon contends that these determinations incorporate other equitable factors, including the United States's knowledge and acquiescence; the benefits to the country from the wartime-production activities; the Court of Federal Claims ruling in the stayed contract case that the United States was fully responsible for cleanup costs incurred under these contracts, *Exxon Mobil v. United States*, 101 Fed. Cl. 576, 577 (2011); and the United States's policies that delayed Exxon's construction of post-war pollution-cleaning equipment.

2. Exxon's "Fundamental Tenets"

Exxon next proposes that the equitable allocation incorporate several "fundamental tenets," including site-specific conditions, a production-based approach, credit for post-war waste-handling improvements, and acknowledgment of the United States's control of avgas production during World War II.

a. The Site-Specific Conditions

Exxon argues that, consistent with the Phase I opinion's conclusion that the Baytown and refinery and chemical plants are each a single "facility," and that the Baton Rouge refinery and chemical plants are a single "facility," the model reflects the integrated nature of the privately owned refineries and the government-owned chemical plants. *See Exxon I*, 108 F. Supp. 3d at 519. Exxon argues that this integration was a "critical" factor in enabling the United States to control the overall Baytown and Baton Rouge facility operations during wartime. The government-owned chemical plants were integrated with the refinery operations "in order to maximize avgas and war products production." (Exxon MSJ at 58). Exxon cites documents and expert testimony supporting its

conclusion that the government-owned chemical plants supplied the privately owned refineries with the raw materials to make avgas on an accelerated production schedule. (Exxon Facts ¶¶ 232, 305–307). Exxon also cites evidence and testimony that the United States intentionally put its chemical plants near the refineries to take advantage of the refineries' infrastructure and waste-processing systems. (Exxon Facts ¶¶ 234–235, 245, 252, 268, 276–277, 285–287, 294, 308–312, 319, 370). Exxon's argument is that the allocation must account for the United States's significant involvement in generating and providing the raw materials to the refineries, which allowed the refineries to exponentially increase their avgas production during the wartime periods.

b. The "Production-Based" Approach

Exxon argues that this approach "most accurately reflects the actual operating conditions of the respective plants during their periods of operation." (Exxon MSJ at 60). Exxon cites expert testimony that the "crude processing rate of a refinery" is the most precise and accurate surrogate for measuring the amount of hazardous waste generated. (Exxon Facts ¶¶ 100, 348–52). Exxon's expert on forensic waste issues, Gregory Kipp, testified that the rate and amount of waste generation was directly proportional to the rate and amount of avgas and other wartime material produced. (*Id.* ¶ 348). Exxon's other experts, David Lerman and Stephen Johnson, as well as the United States's technical expert, agreed that waste generation was proportional to production. (*Id.*).

Exxon describes this approach of using "crude oil throughput capacity" as a "typical" and accurate way to reflect the amount of waste generated on an annual basis. Exxon cites four CERCLA cases using historic production volumes as surrogates for waste generation to determine each party's cleanup-cost share.

c. Post-War Waste-Handling Improvements at the Facilities

Exxon argues that the allocation method should include credit for implementing new waste-improvement systems at the facilities after the war. These systems achieved dramatic reductions in "oil losses, generation of slop and slop oil, and discharge of oil and other contaminants in the wastewaters." (Exxon MSJ at 62 (citing Exxon Facts ¶¶ 351, 373–416, 440–453)). During the war, the United States required Exxon to maximize avgas production and denied Exxon's requests to construct a "master separator" to reduce hazardous materials. Exxon cites historical evidence and expert testimony about the post-war improvements, and the savings and environmental progress attributable to them.

The United States vigorously opposes the amount of credit Exxon should receive for its post-war pollution-reduction improvements. The parties have advised the court that this issue is the single most significant disagreement between them in the allocation analysis.

d. The United States's Control and Other Equitable Factors

Finally, Exxon points to historical evidence, the Phase I opinion, and other court opinions addressing evidence of extensive government control over the production of avgas. Exxon argues that this degree of control should be a substantial factor in the equitable allocation. The other equitable factors Exxon proposes are:

> (1) the knowledge and acquiescence of the United States in the contaminating activities;
>
> (2) delay in the implementation of waste-reduction measures caused by United States wartime policies;
>
> (3) the value of the wartime contamination-causing activities to the United States's national-defense efforts; and

(4) the parties' intent to allocate responsibility between them, evidenced by the contract provisions that the Court of Federal Claims found imposed liability on the United States.

Exxon cites the Court of Federal Claims opinion holding the United States responsible for 100 percent of cleanup costs based on a provision in avgas contracts pertinently identical to those at issue here. *See Shell IV*, 130 Fed. Cl. at 11.

B. The United States's "Time-on-the-Risk" Model

The United States points to several conclusions in the Phase I opinion that it argues support its approach. First, the "time-on-the-risk" approach accounts for the conclusion that each of the Baytown and Baton Rouge sites is a single "facility," but also considers each party's status as an "owner" or "operator" at various locations and units in each facility. *Exxon I*, 108 F. Supp. 3d at 519. According to the United States, this distinction is important because most of Exxon's past cleanup costs are confined to the refineries, and "the United States – were it not for the existence of the Government owned and operated plants outside the refinery – would not be liable" for the refinery-generated cleanup costs. (Gov't MSJ at 53). The United States argues that the equitable allocation should account for the following considerations:

- Both the United States and Exxon are liable under CERCLA as current or former owners and operators of chemical plants at both Baytown and Baton Rouge. *Exxon I*, 108 F. Supp. 3d at 491, 516, 530;
- The United States did not own or operate either refinery; only Exxon did. *Id.*;
- The United States should not be asked to contribute to costs associated with wastes generated after its involvement ended;
- The allocation should account for the fact that avgas production made up a small portion of each refinery's wartime production, and the United States should not be asked to contribute to the remediation of wastes associated with making commercial products, including during

wartime.

(Gov't MSJ at 53–54). The United States's approach allocates to itself two percent of the costs at the Baytown facility and one percent of the costs at the Baton Rouge facility. (*Id.* at 68).

The United States argues that Exxon's approach treats the refinery wastes as a whole and does not account for either costs at different units and the hazardous wastes each generated or for the parties' status as "operators" at the facilities. For example, the United States points to the South Landfarm unit at the Baytown facility. Exxon's approach credits it for waste reduction at this unit after the war "without accounting for the fact that the United States is connected to the unit only because Exxon deposited separator sludge there during the 1980s that amounts to approximately 2 percent of the total unit waste." (Gov't MSJ at 55 (citing Low 2012 Report at 18–19)). According to the United States, Exxon's approach ignores these facts and fails to account for circumstances supporting a lower allocation to the United States at this unit. The United States's expert, Matthew Low, compiled a "weighted average" of wastes for on a unit-by-unit basis, rather than on a facility-wide basis.

1. Step 1: Assigning Response Costs to Years

The United States disputes the extent Exxon would reduce its responsibility allocation for post-war waste-processing improvements. The dispute is "about whether the period of Federal involvement contributed a greater proportion to the wastes Exxon has cleaned up, and, if so, whether the available data permits the court to make a reasonable estimate about any differential more than 75 years later." (Gov't MSJ at 56). Exxon's production-based approach gives it a "multiplier" for Exxon's site-wide waste-reduction efforts. The United States argues that this approach works in

theory, but overestimates the benefits of the post-war waste-reduction efforts based on unreliable data. Instead, Low divided the waste generated at each facility by the total years of operation, holding the rate of waste generation constant over time. Unlike Exxon's approach, the United States's approach keeps waste generation at a constant because Low "found no reliable data from which to make waste reduction estimates." (Low Report at 12–14). According to the United States, Exxon's approach overly emphasizes "throughputs," which eventually increased over 300 percent at the Baytown facility *after* World War II ended.

2. Step 2: Costs Subject to Allocation During the "Federal" Period

Next, the court must decide which of the costs assigned to the "federal" period in Step 1 should be allocated in the "cost pool" for allocation between the parties. The United States argues that during World War II, the "majority" of the products the refineries made were for "ordinary commercial consumption." (Gov't MSJ at 59). The United States argues that the allocation approach should: (1) limit the "scope and impact" of its contractual obligation to indemnify Exxon for costs produced "by reason of" the production of avgas; (2) limit the share of the United States's responsibility for "war products" other than avgas; and (3) "account for the waste load that the Government-owned plants imposed on refinery systems." (*Id.*).

a. Contractual Indemnity

The United States's World War II contracts with Exxon provided that:

> Buyer shall pay in addition to the prices as established in Sections IV and V hereof, any new or additional taxes, fees, or *charges*, other than income, excess profits, or corporate franchise taxes, which Seller may be required by any municipal, state or federal law in the United States or any foreign country to collect or pay *by reason of* the production, manufacture, sale or delivery of the commodities delivered hereunder. . . . (emphasis added).

(Gov't Facts ¶ 171).

In *Shell Oil Co. v. United States* (*Shell II*), the Federal Circuit construed this "taxes clause" to require the United States to indemnify the contractor for additional "charges," including the costs of environmental remediation. 751 F.3d 1282 (Fed. Cir. 2014). The United States had to pay for 100 percent of the environmental costs generated "by reason of" avgas production at the refineries under the taxes clause.

The United States argues that its liability for wastes generated "by reason of" avgas production should be limited based on records showing that avgas made up only 14 percent of wartime production at Baytown and about 19 percent at Baton Rouge. (Low 2012 Report at 26, 37). The records, according to the United States, also establish that approximately 50 percent of wartime aviation gasoline was made up of "blending materials imported from other refineries and physically mixed with local stocks" and that those imports would have produced little or no waste at the Exxon properties. (Gov't MSJ at 60 (citing Ex. 21, Kittrell Expert Report at 5, 29–28)). To account for these figures, the United States asks the court to add to the cost pool 7 percent of costs for the Baytown contract and 9.5 percent for the Baton Rouge contract, and in Step 3 to allocate 100 percent of only those costs to the United States.

Exxon's approach, according to the United States, inflates these figures by using the contractual "price-escalation" clause, which provided that the "prices herein above set forth are based upon . . . a normal operation of said refinery in which substantial quantities of motor fuel and other products must necessarily be produced and sold in connection with the production of 100 octane aviation gasoline" and that, if "normal operations" were disrupted, the seller could either

reduce the amounts of avgas delivered, or raise the price. (Gov't Facts ¶ 172). The United States argues that Exxon's approach improperly assumes that refinery operations were *already* disrupted by the onset of the 100-octane avgas program.

b. "Other War Products"

Another issue within Step 2 is whether to assign costs to account for production of what the parties refer to as "other war products." These products are "commodities other than aviation gasoline that the United States purchased during World War II including, for example, Navy fuel oil and diesel for ships, military lubricants, and asphalt." (Gov't MSJ at 62).

The United States points to the Phase I ruling that it did not "operate" the refineries. As a result, its approach does not include costs associated with wastes from these non-avgas wartime products. The United States makes a "reasonable estimate" of these costs based on historical evidence that "critical war products" comprised 30 to 35 percent of the refinery production, then subtracting the avgas component and the component comprising the sales of all-purpose 80-octane gas.

c. Estimating "Government Plant" Waste Load Impacts

The final part of the United States's Step 2 analysis is to estimate the impact of the government-owned chemical plants on the refineries' total waste output. The United States is responsible for a portion of the refinery-related costs based on the interactions among the government-owned Plancors and the Baytown Ordnance Works, and the privately owned refineries. The chemical plants consist of the "Plancors" and the Baytown Ordnance Works. The parties agree that the Plancors and Ordnance Works imposed "waste loads" on the refineries and that the

associated costs must be included in the allocation pool. These waste loads are based on the crude oil that ran from the refineries to the Plancors and to the Baytown Ordnance Works. The waste loads also included waste streams from the government-owned Plancors that were returned to the refineries and processed in the refinery separators. The United States argues that these waste loads were "modest." Low estimated that they comprise seven percent of the waste generated at the Baytown facility and two percent of the waste generated at the Baton Rouge facility. (Low Supp. Report at 4–14).

3. Step 3: Equitable Allocation

The United States argues that several factors, consistent with the Phase I opinion, are important to equitable allocation. The United States's approach accounts for its status as non-operator at both refineries and as owner and co-operator of the government-owned chemical plants, and excuses it from paying for the wastes generated by "normal" refining operations. The next factor the United States proposes is accounting for its "limited" role in the refinery operations and for the fact that Exxon owned and operated the refineries for profit, even during wartime. The final factor, argued in the alternative, measures "the impact of the Government's interaction with the refinery during World War II, while still accounting for the idea that the refiners managed their own operations." (Gov't MSJ at 67).

C. The Court's Conclusion

The court adopts the agreed general steps for the method:

(1) assigning shares of waste to the various years of plant operation;

(2) determining the portion of costs that are associated with the periods of the United States's involvement and are attributable to war products for which the United States

is responsible; and

(3) equitably dividing the portion of wartime-related costs that it determines to be subject to allocation, based on the parties' respective degree of involvement with the wartime activities and several other equitable factors.

The court adopts some elements of each parties' proposal in the allocation method it will apply.

1. Allocating Response Costs to Years

The first step in the process is to assign response costs to years. The court will divide the response costs into four time periods, on which the parties generally agree:

(1) 1928 to 1941, the pre-World War II period during which only Exxon was involved at the facilities;

(2) 1942 to 1945, the World War II period, which included wartime production of avgas and other war products;

(3) 1946 to 1955, during which Exxon and the United States were involved at both facilities; and

(4) 1956 to the present, during which only Exxon was involved at the facilities.

The parties' primary dispute at Step 1 is whether to apply a "production-based" or a "time-on-the-risk" approach. The court will apply a production-based approach using "throughputs"—the amounts of oil and rubber each facility produced—to approximate the amount of hazardous waste generated in a given period. This approach accounts for the record evidence, including the testimony of the United States's experts, showing a proportional relationship between crude-oil production volume and the amount of hazardous waste generated. (Exxon Facts ¶¶ 348–352). The facilities produced new, more, and more hazardous types of hazardous wastes during World War II than during the three other periods. (Exxon Facts ¶¶ 91, 179, 353–364, 427–428). The

production-based model accounts for the amount of crude oil produced and waste generated in each period.

In contrast, the United States's proposed "time-on-the-risk" approach operates on the assumption that each facility generated the same amount of waste each year. That approach does not adequately account for the waste generation levels that widely varied between the wartime and non-wartime periods. The United States acknowledges this shortcoming, but it argues that the available data is insufficient and too unreliable to support a production-based approach. As is true with much of the evidence in this case, the data is old and invites competing interpretations. But the lack of data certain to be reliable—a lack that Exxon disputes—is not enough to adopt a model that does not attempt to account for the actual facility conditions and the significantly different levels of crude-oil production and waste generation in different years.

The production-based approach is also supported by the CERCLA case law. *New York State Electric & Gas Corp. v. FirstEnergy Corp.*, 808 F. Supp. 2d 417, 446–52 (N.D.N.Y. 2011), *vacated on other grounds*, 766 F.3d 212 (2d Cir. 2014) (using historic gas production volumes as surrogate for waste); *Yankee Gas Servs. v. UGI Utils.*, 852 F. Supp. 2d 229, 252–54 ("The gas production ratios are tied more closely to operations than any of the other proposed allocation methods. As such, they have the virtue of corresponding, at least roughly, to the cause of pollution."); *Coeur d'Alene Tribe v. Asarco Inc.*, 280 F. Supp. 2d 1094, 1121 (D. Idaho 2003) (allocating responsibility based on a mine's production capabilities); *Horsehead Indus., Inc. v. St. Joe Minerals Corp.*, 1996 WL 33415778, at *8 (N.D. Okla. Apr. 2, 1996) (allocating cleanup costs based on annual smelter capacity).

The court will apply a production-based model, using the crude-oil throughput capacity at each facility as a surrogate for the amount of hazardous waste generated each year.

2. Cleanup Costs in the Periods of United States Involvement

At Step 2 of the equitable allocation, the court will determine what part of the cleanup costs incurred during the period of United States involvement are attributable to the wartime products for which the United States bears some CERCLA responsibility.

The parties dispute whether the costs related to production of non-avgas products, including "Navy fuel oil and diesel for ships, military lubricants, and asphalt," should be included in the cost pool. (Gov't MSJ at 62). The United States contends that Exxon's approach imposes liability for production of commercial products during the war, and places too much reliance on the term "byproducts."

Exxon argues that the United States underestimates the fact that the Baytown and Baton Rouge refineries "were entirely dedicated to wartime production for the [United States]; all of the crude oil was processed for the manufacture of avgas and there was 100 percent conversion of both refinery complexes to the production of war-related materials for the [United States]." (Exxon MSJ (citing Exxon Facts ¶¶ 99, 100, 109, 110)). Exxon cites a 1943 report setting out the percentages of product output at the Baytown refinery, showing that nearly all of the output during World War II consisted of war products, and a 1943 report for the Baton Rouge refinery showing that all of the production at that refinery during World War II consisted of war products. (Exxon Response Facts ¶ 8; Exxon Facts ¶ 110); *see also Shell I*, 86 Fed. Cl 470, 473 (2009) ("Indeed, the parties actually foresaw the close integration and connection between the production of avgas and the production

of other petroleum products.").

Exxon also argues that the United States defines the scope of "war products" too narrowly by not including petroleum products that were used by the United States for wartime needs, including 87- and 91-octane aviation gas used by the United States; avgas "intermediary" products; all-purpose gasoline, residential fuel oil, kerosene, lube oils, and asphalts; "motor gasoline, burning oil, vaporizing oil, gas oil, diesel fuel, lubricating oil and bunker fuel oil; raw materials used as "feedstock" for the Plancors and Baytown Ordnance Works; and "gas by-products" used as fuel to run the avgas production units. (Exxon Facts ¶¶ 94, 130–141, 305, 306; Exxon Response Facts ¶¶ 2, 3, 5, 8). Exxon argues that the United States required Exxon to produce these products at "a moment's notice," citing a United States telegram stating that "it is just as important that the ground forces have motor fuel as it is for the air services to have aviation gasoline." (Exxon Facts ¶¶ 130, 133).

The Federal Circuit recently considered a pertinently identical contract requiring the United States to pay for "charges . . . incurred by reason of the production, manufacture, sale[,] or delivery" of avgas. *See Shell V*, – F.3d –, 2018 WL 3446960, at *5 (Fed. Cir. July 18, 2018) (citing *Shell IV*, 130 Fed. Cl. at 25). The Court of Federal Claims allocated 100 percent of the wartime cleanup costs to the United States, applying a broad interpretation of the "by reason of" provision and concluding that "all of the acid waste disposed of at the McColl site was 'by reason of' the avgas contracts." *Shell IV*, 130 Fed. Cl. at 34–38 (capitalization omitted). The Federal Circuit affirmed the analysis that the production of waste from non-avgas products "began as sulfuric acid that was catalyzed with crude oil during the process to create avgas and became spent alkylation acid in need of waste

disposal." *Shell V*, 2018 WL 3446960 at *6. "Thus, even if the acid sludge was a secondary waste product, it is still directly related to the initial reaction used to create avgas under the Avgas Contracts." *Id.* In addition, the court explained, the contract "explicitly acknowledged that avgas production would necessarily result in the production of acid sludge produced from treatment of non-avgas products . . . and still provided that the Government would pay for 'any' charges relate to the production of avgas . . . ." *Id.* (quoting a statement in the contract that "substantial quantities of motor fuel and other products must necessarily be produced and sold in connection with production of [avgas]." (alterations in original)).

The court agrees with the Federal Circuit's analysis and concludes that the United States is responsible for its equitable share of cleanup costs related to wartime non-avgas products that were produced in conjunction with the avgas production. But the precise percentages of wartime production related to "commercial" products and those related to war products are disputed. The court will address those percentages and any remaining Step 2 issues at the bench trial.

3. Equitable Allocation of the Wartime-Related Costs

In Step 3, the court must divide the wartime-related costs based on equitable factors. It will consider the "Gore" factors, which include:

> (i) the ability of the parties to demonstrate that their contribution to a discharge, release or disposal of a hazardous waste can be distinguished; (ii) the amount of the hazardous waste involved; (iii) the degree of toxicity of the hazardous waste involved; (iv) the degree of involvement by the parties in the generation, transportation, treatment, storage, or disposal of the hazardous waste; (v) the degree of care exercised by the parties with respect to the hazardous waste concerned, taking into account the characteristics of such hazardous waste; and (vi) the degree of cooperation by the parties with the Federal, State or local officials to prevent any harm to the public health or the environment.

Unocal Grp., 270 F.3d at 893–94 (citation and quotation omitted).

It will also consider the "Torres" factors, "[t]he extent to which cleanup costs are attributable to wastes for which a party is responsible"; (2) "[t]he party's level of culpability"; (3) "[t] he degree to which the party benefitted from disposal of the waste"; and (4) "[t]he party's ability to pay its share of the cost." *Lockheed Martin Corp.*, 35 F. Supp. 3d at 123.

In addition to the Torres and Gore factors, the court will consider the following equitable factors.

a. The Knowledge and Acquiescence of the Parties in the Contamination-Causing Activities

The court will consider the knowledge and acquiescence of the United States in the contamination-causing activities. *Weyerhaeuser Co. v. Koppers Co.*, 771 F. Supp. 1420, 1426 (D. Md. 1991). The record evidence shows that the United States, through its orders and directives that Exxon maximize avgas production, knew that the production would generate substantial amounts of hazardous wastes. Gregory Kipp testified that "the [United States] recognized the consequences its directives had on waste generation and disposal. Indeed the [Petroleum Administration for War] recruited 'its executive and technical personnel . . . mainly from oil companies,' and so staffed the agency with personnel well-qualified to understand the current disposal capacity of the industry--and who also knew that increased production would necessarily create increased waste, and that new wartime production demands would create new and increasingly toxic forms of waste." (Exxon Facts ¶¶ 114–117, 357). Although the United States did not own or operate either refinery, it was aware of and acquiesced to the contamination-causing activities at the refineries.

b. The Value of the Activities to the National Defense Efforts

The court will consider the value of the contamination-causing activities to furthering the national defense efforts. *Cadillac Fairview/Cal., Inc. v. Dow Chem. Co.*, 299 F.3d 1019, 1026 (9th Cir. 2002); *Shell Oil*, 294 F.3d at 1060. Exxon's production of avgas was critical to the war efforts. *Exxon I*, 108 F. Supp. 3d at 594–502 (describing the production process and its importance to the United States); *Shell IV*, 130 Fed. Cl. at 12–15 (describing the "critical role assumed by the oil companies during World War II to increase production of military aviation gasoline and related acid waste disposal issues"); (Exxon Facts ¶¶ 93, 233). This factor weighs strongly in favor of a larger equitable share for the United States.

c. The Parties' Roles at the Refineries and Chemical Plants

The court will consider the parties' respective roles as operators at the refineries and chemical plants. Although the refinery and chemical plant at each of the two locations are a single CERCLA facility, the court held that the United States was not a CERCLA "operator" at the refineries because it did not operate exercise direct control over the production of avgas components or waste disposal at the refineries:

> Nothing in the record indicates that the contracting parties negotiated or specified how the oil companies would manage waste disposal at the refineries. The contracts are silent on this issue. . . . The evidence does not show that government officials or employees worked at the Baytown and Baton Rouge refineries. Instead, the record shows that Humble and Standard LA personnel ran the refineries' day-to-day operations. . . . The avgas contracts referred to the personnel operating the refineries as governed by the companies' existing labor contracts. No federal government employees operated any refinery equipment, supervised operations, or directed operations.
>
> . . .
>
> As in *Lockheed Martin Corp. v. United States*, 35 F. Supp. 3d 92 (D.D.C. 2014), "[a]lthough the government had a significant presence and role at the Sites, there is

> no evidence that the government used its influence to manage or control the day-to-day disposal of hazardous wastes there." *Id.* at 145
>
> . . .
>
> The evidence also shows that the government did not hire, fire, or otherwise manage the refineries' employees. No contract provision allowed the government to make personnel or labor-related decisions. Nothing in the record suggests the government had or played a role in these decisions.
>
> . . .
>
> [T]here is no evidence that the government designed, specified, or provided equipment to the refineries. Exxon's predecessors designed and constructed their own processes and equipment. . . . Both the Baytown and Baton Rouge refineries had an existing infrastructure that provided the capacity to make war products. Both refineries were valuable to the war effort "as is."
>
> . . .
>
> The court rules that the United States did not operate either the Baytown or Baton Rouge refineries during either World War II or the Korean War.

Exxon I, 108 F. Supp. 3d at 525–30.

In contrast, the court held that the United States was an operator of the Baytown and Baton Rouge chemical plants:

> The government's direction of certain aspects of the synthetic-rubber plant operations and the waste disposal activities make it liable as a prior operator under *Bestfoods*.
>
> In addition to playing a much larger role in directing plant operations than refinery operations, the United States also made specific decisions about waste disposal and environmental compliance at the plants. . . . The government acknowledged that during the War, it delayed improving the waste-processing facilities at the plants:
>
> > During this period, it was recognized that some raw and partially processed materials were lost into waste waters leaving the plants, and that some of these substances were causing a stream pollution problem. However, personnel could not be diverted from more

> pressing objectives to study the complex problems related to waste prevention or treatment—nor could construction materials be secured for such purposes.
>
> . . . In the same 1946 report, the government observed that "[m]any of these facilities were designed to meet only the minimum requirements because the more comprehensive programs in many instances could not be justified in the war emergency and the scarcity of critical materials."
>
> . . .
>
> The government's organization of, and direction over, the operations at the Ordnance Works and its disposal mechanisms also satisfy the *Bestfoods* operator standard.

Id. at 531–32.

The court will consider the parties' status as CERCLA operators at the refineries and the chemical plants.

d. The Parties' Intent to Allocate Liability

The court will consider the existence of the indemnification agreement demonstrating "the parties' intent to allocate liability among themselves." *Halliburton Energy Servs., Inc. v. NL Indus.*, 648 F. Supp. 2d 840, 863 (S.D. Tex. 2009); *see also Beazer E., Inc. v. Mead Corp.*, 412 F.3d 429, 447 (3d Cir .2005). Based on the reasoning in *Shell IV* allocating 100 percent of the response costs to the United States and the reasoning in *Shell V* affirming that allocation, the parties' allocation of liability in the avgas-production contracts weighs in favor of imposing a larger equitable share of the cleanup costs on the United States. *See Shell V*, 2018 WL 3446960, at *7 ("[W]e will not find that the Court of Federal Claims erred in its determination that all costs of waste remediation at the McColl site were attributable to the Avgas Contracts.").

e. Post-War Waste-Handling Improvements

During World War II, the United States limited and strictly regulated the use of wartime material in order to prioritize wartime oil production. Using wartime materials and resources for pollution control was considered "non-essential." (Exxon Facts ¶¶ 33–35, 158–163). A 1946 government report on the effect of the wartime priorities stated that "personnel could not be diverted from more pressing objectives to study the complex problems related to waste prevention or treatment—nor could construction materials be secured for such purposes." (*Id.* ¶ 326); *see also Cadillac/Fairview*, 299 F.3d at 1023 ("The government made a policy decision not to divert scarce resources from the war effort to stop the pollution."). Exxon produced avgas and other war products at full capacity, with government-directed little regard for hazardous waste production or the environment. On several occasions, Exxon sought approval from the Petroleum Administration for War and the War Production Board to construct waste-processing improvements. (*Id.* ¶¶ 172–180). Those requests were denied.

The World War II production overloaded Exxon's waste-processing systems. After the War, Exxon implemented substantial waste-management improvements. The process-control improvements included: a "Leak Detection & Repair Program" (¶¶ 174, 377–379); a "Segregated Sanitary Sewage System" in 1949 (¶¶ 382, 389); an "Effluent Filtration Unit" in 1951 (¶¶ 385–387); a "Spent Caustics Collection System" in 1951; and "Cooling Water Towers" in 1952 (¶¶ 377–389). The waste-handling improvements included: upgrading Separator 10 in 1950 (¶ 383); installing three new "preseparators" in 1951, 1954, and 1958 to process wily wastewater emulsions in the refinery sewer lines, (¶¶ 384, 394, 395); and installing a "Sour Water Stripper" in 1952 that treated hazardous waste, (¶ 393). These improvements contributed to significant hazardous-waste reduction in the

post-wartime period at both facilities. Exxon points to record evidence showing that at the Baytown facility, oil losses were reduced by 60 percent; corrosion leaks were reduced by 93 percent; separator sludge was reduced by 70 percent; oily wastewater was reduced by 95 percent; and the total amount of contamination in the wastewater was reduced by 99 percent. (Exxon MSJ, Table 13). The improvements at the Baton Rouge facility were similar: oil losses were reduced by 60 percent; separator sludge was reduced by 60 percent; oily wastewater was reduced by 75 percent; and the total amount of contamination in the wastewater was reduced by 99 percent. (*Id.* Table 14).

The United States's and Exxon's experts agree that the improvements were significant. (Exxon Facts ¶¶ 351, 373–416, 440–453). Exxon's allocation model allocates adjustments and a "multiplier" to account for the corresponding reduction in waste generation. (White 2012 Report at 59).

The United States vigorously contests Exxon's adjustment amounts and waste-reduction multipliers. It argues that Exxon's waste-reduction adjustments are unreliable because they "operate as a switch," by "turning off" waste production after World War II, and ignore decades of ongoing, and increasing, crude-oil production at the refineries in the years after World War II.

The United States also challenges the data underlying Exxon's waste-reduction factors. At the Baytown facility, the United States contends that: (1) the waste-reduction factors were calculated by impermissibly multiplying numbers that lack record support; (2) the 70 percent reduction in waste at Separator 10 should not result in a 70 percent reduction factor for the entire refinery; (3) a large part of the waste-reduction effects Exxon describes were from cleaning up toxic waste sources separate from the refinery's waste-disposal system; (4) some of the "pre-separators" were

designed to recapture oil rather than to reduce pollution; and (5) the 90 percent reduction factor Exxon proposes for the Baytown facility included a reduction for air emissions unrelated to the cleanup costs incurred in this case. (Gov't Response at 42–48). The United States challenges Exxon's Baton Rouge waste-reduction adjustments on similar grounds, including that it improperly attributed results from a single cleanup unit to the entire refinery, multiplied numbers lacking in record support, and incorporated wastes generated long after the United States's wartime involvement ended.

In short, the parties agree that Exxon made substantial post-war waste-reduction improvements, but disagree about the magnitude and impact of those improvements on the equitable allocation. There are genuine factual disputes material to determining the nature, extent, effects, and timing of the waste-reduction measures Exxon took. The parties propose conflicting inferences about the relative culpability as a result of these factual disputes. These disputes preclude summary judgment.

At the bench trial, the court will consider Exxon's post-World War II waste-processing improvements. Those improvements at the facilities were substantial and appear to support significant waste-reduction adjustments that in turn reduce Exxon's responsibility. But because the underlying numbers and data supporting those adjustments are disputed, the parties may support and contest those numbers, the data, and the particular adjustment amounts and multipliers at the bench trial. But based on the present record, it is clear that the United States has undervalued the benefits and allocation impact of Exxon's post-wartime waste-reduction measures.

XI. Declaratory Judgment for Future Costs

The United States moved for partial summary judgment that Exxon is not entitled to a declaratory judgment allocating future cleanup costs. (Gov't MSJ at 68). Exxon cross-moved for partial summary judgment that it is entitled to a declaratory judgment allocating future costs. (Exxon MSJ at 55 n.54) ("At such time as the Court determines the Government's equitable allocation for past costs, a declaratory judgment as to the Government's specific and allocable share of future response costs is also ripe and appropriate."). The Phase I opinion stated that "[d]uring Phase II, the court may issue a declaratory judgment equitably assigning the parties' shares of future costs if the evidence is not unduly speculative or otherwise subject to challenge." *Exxon I*, 108 F. Supp. 3d at 536–37 (citing *New York v. Solvent*, 664 F.3d 22, 26–27 (2d Cir. 2011); *Beazer E., Inc. v. Mead Corp.*, 412 F.3d 429, 449 (3d Cir. 2005); *United States v. Davis*, 261 F.3d 1, 45 n. 41 (1st Cir. 2001); *Basic Mgmt. Inc. v. U.S.*, 569 F. Supp. 2d 1106, 1126 (D. Nev. 2008); *F.P. Woll & Co. v. Fifth and Mitchell Street, Corp.*, 2006 WL 2381778, *8–9 (E.D. Pa. Aug. 16, 2006)).

There are two categories of claimed future costs: those for the cleanup units and those for the adjacent waterbodies. The first category is units at which Exxon has already incurred and will continue to incur cleanup costs. This category includes, among others, Separators 3M and 10, the South Landfarm, the Upper and Lower Outfall Canals, the Velasco Street Ditch, the Baytown FOAs, the Shallow Fill Zone, the Old Silt Pond, and the Rice Paddy Landfarm. The second category, the future costs related to the adjacent waterbodies, include activities at the Houston Ship Channel, Black Duck Bay, Scott's Bay, Mitchell Bay, the Mississippi River, and the Monte Sano Bayou.

The parties conducted extensive discovery related to allocation and costs, including future response activities. Exxon argues that a declaration of the United States's "specific allocable share

of future response costs, which is based on the [United States's] contribution to contamination during the wartime over seventy years ago, is ripe and appropriate, and serves the interests of judicial economy." (Exxon Response at 77). The United States agrees that a declaratory judgment may be entered for future costs for the cleanup units at issue where past costs have been incurred, as long as the court first finds that: "(1) Exxon has incurred necessary costs of response consistent with the National Contingency Plan; (2) Exxon's recovery is not barred by CERCLA's statute of limitations; and (3) the United States is responsible for an equitable share of Exxon's past costs at that unit." (Gov't Response at 72).

The parties agree that a declaratory judgment is appropriate as to the future costs for the cleanup units at which Exxon has already incurred past costs. The court will enter a declaratory judgment assigning the United States its share of the future cleanup costs at those units based on its share of the past costs determined at the bench trial. *See, e.g.*, *Boeing Co. v. Cascade Corp.*, 207 F.3d 1177, 1191–92 (9th Cir. 2000) (affirming district court's decision to allocate a cleanup site's future costs and past costs in the same way because sufficient facts existed for determining each company's responsibility for the contamination, even if future costs were unknown); *Tosco Corp. v. Koch Indus., Inc.*, 216 F.3d 886, 897 (10th Cir. 2000) ("[F]uture response costs are likely to be incurred, but the exact amount remains unknown, a judgment on proportional liability is an appropriate remedy."); *Kelley*, 17 F.3d at 845 (affirming the district court's declaratory judgment that the defendant was responsible for future cleanup costs at a landfill where liability for costs already been allocated).

As to the future costs associated with the adjacent waterbodies and other areas of

contamination, the United States argues that Exxon has not identified facts showing what the costs at these waterbodies will be or what relative responsibility the United States may have for their contamination. The United States points to the following areas as examples of costs lacking record support:

- Exxon Facts ¶ 789 (past costs for Baytown waterbodies not listed)
- Exxon Facts ¶ 790 (citing past costs for Mitchell Bay shoreline work only)
- Exxon Facts ¶ 796 (past costs for Baton Rouge waterbodies not listed).

The United States argues that determining the contamination cleanup costs for sediments and underlying waterbodies requires extensive information on the source and extent of this contamination. The United States points to the testimony of Peter Gagnon, Exxon's compliance consultant, that although Exxon has collected groundwater samples from the shorelines at Black Duck Bay, Mitchell Bay, and the Houston Ship Channel, Exxon has not sampled the underlying sediments and has not taken remediation steps or corrective action. (Gov't Facts ¶¶ 59, 180, 181). The United States also points to the testimony of Stephen Johnson, Exxon's National Contingency Plan expert, that there are no documents showing that the Mississippi River groundwater is contaminated or that Exxon will seek response costs to clean up the Monte Sano Bayou. (Gov't Facts ¶¶ 183, 185). The United States argues that future costs associated with adjacent waterbodies and their underlying sediments remains too speculative to include in a declaratory judgment.

Exxon responds that no additional factfinding is necessary to determine the amounts and liability allocation for the future costs of the adjacent waterbodies and the underlying sediments. According to Exxon, if, for example, the United States is 50 percent liable for the past costs incurred

at the cleanup sites at issue in this litigation, it should be 50 percent liable for the cleanup costs incurred at waterbodies adjacent to the Baytown and Baton Rouge facilities.

Exxon relies primarily on two cases, *New York State Electric & Gas Corp. v. FirstEnergy Corp.*, 808 F. Supp. 2d 417, 446–52 (N.D.N.Y. 2011), *vacated on other grounds*, 766 F.3d 212 (2d Cir. 2014), and *Board of County Commissioners of La Plata, Colorado v. Brown Grp. Retail, Inc.*, 768 F. Supp. 2d 1092, 1097, 1105–06 (D. Colo. 2011). In *FirstEnergy*, New York State Electric and Gas Corporation incurred costs responding to hazardous-substance releases at 16 facilities. *FirstEnergy*, 808 F. Supp. 2d at 533. The court determined that FirstEnergy was liable for an equitable part of the past response costs at the 16 facilities. *Id.* at 534. Because New York State Electric and Gas Corporation would incur future costs at those facilities, the court held that FirstEnergy would be responsible for future costs based on the percentages of its responsibility for past costs. *Id.* at 535. The court in *La Plata* determined that one party was 75 percent responsible for past response costs and also responsible for 75 percent of future response costs. *La Plata*, 768 F. Supp. 2d at 1122–23.

The cases on which Exxon relies are distinguishable. The *FirstEnergy* decision about future costs is not analogous to a declaratory judgment for liability for cleanup costs of adjacent, off-site waterbodies for which no past cleanup costs have been incurred, and for which equitable shares of past cleanup costs can not yet be determined. Similarly, the *La Plata* court considered the allocation of future responsibility as to only one property. Here, Exxon seeks recovery for future costs at several waterbodies.

Entering a declaratory judgment for the future cleanup costs for the numerous adjacent

waterbodies is not so simple. In this case alone, the United States has disputed its share of responsibility for contamination at several individual cleanup sites based on the years these sites became contaminated. Similar issues could arise affecting the parties' relative liability for cleanup costs for the adjacent waterbodies. Exxon has produced little evidence about the levels of contamination in the adjacent waterbodies and their underlying sediments, about the contaminants' source, and about whether and to what extent the United States contributed to that contamination during the wartime. The facts related to allocating responsibility for adjacent waterbodies are not sufficiently developed and remain speculative. A declaratory judgment allocating future costs for the adjacent waterbodies, their underlying sediments, and other areas of contamination for which Exxon has not yet determined the amount and source of the contamination, taken response actions, or incurred past cleanup costs is premature.

The cross-motions for partial summary judgment on this point are granted in part and denied in part. The court will enter a declaratory judgment that Exxon is entitled to recover future cleanup costs associated with the units at which Exxon has already incurred costs. At this stage, the court will not enter a declaratory judgment for the amounts, nor will the court enter a declaratory judgment that Exxon is entitled to recover future costs related to cleanup activities at the adjacent waterbodies and their underlying sediments for which no past cleanup costs have been incurred.

XII. Conclusion

The cross-motions for partial summary judgment, (Docket Entries No. 200, 202), are granted in part and denied in part. The following issues remain for the bench trial:

- the allocation of responsibility for cleanup costs at the units on which the parties did not move for summary judgment;

- the allocation of responsibility for the costs at the Facilities Operations Areas;

- the amount by which to offset Exxon's equitable share of liability based on the North American Coverage Case settlement proceeds;

- challenges to Exxon's claimed costs that are not supported by both an invoice and proof of payment;

- determination of whether Exxon may recover prejudgment interest, "run rate" costs, and consultant costs;

- determination of the percentages of wartime production related to "commercial" products;

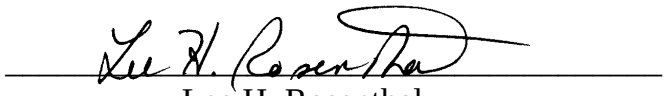
- determination of the adjustments for Exxon's post-wartime waste-management improvements;

- the application of the equitable-allocation methodology set out in this opinion to determine what amount each party must pay; and

- remaining issues that the pretrial work may identify.

The bench trial is set to begin on **February 19, 2019.**

SIGNED on August 17, 2018, at Houston, Texas.



Lee H. Rosenthal
Chief United States District Judge