

**FOR PUBLICATION
UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT**

UNITED STATES OF AMERICA,
Plaintiff-Appellant,

and

STATE OF CALIFORNIA, ex rel.
CALIFORNIA DEPARTMENT OF HEALTH
SERVICES; HAZARDOUS SUBSTANCE
ACCOUNT AND HAZARDOUS CLEANUP

FUND,
Plaintiff,

v.

SHELL OIL COMPANY; UNION OIL
COMPANY OF CALIFORNIA; ATLANTIC
RICHFIELD COMPANY; TEXACO, INC.;
LOS COYOTES ESTATES; RAMPARTS
RESEARCH & FINANCIAL
CORPORATION,
Defendants-Appellees.

No. 00-55027

D.C. No.
CV 91-00589-RJK

UNITED STATES OF AMERICA;
STATE OF CALIFORNIA, ex rel.
CALIFORNIA DEPARTMENT OF HEALTH
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SHELL OIL COMPANY; UNION OIL
COMPANY OF CALIFORNIA; ATLANTIC

RICHFIELD COMPANY; TEXACO, INC.
Defendants-Appellants.

and

LOS COYOTES ESTATES; RAMPARTS
RESEARCH & FINANCIAL
CORPORATION.
Defendants.

Appeal from the United States District Court
for the Central District of California
Robert J. Kelleher, District Judge, Presiding

Argued and Submitted
June 4, 2001--Pasadena, California

Filed February 11, 2002

Before: Stephen S. Trott, Sidney R. Thomas and
William A. Fletcher, Circuit Judges.

Opinion by Judge William A. Fletcher

No. 00-55077

D.C. No.
CV 91-00589-RJK

OPINION

COUNSEL

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OPINION

W. FLETCHER, Circuit Judge:

We are asked to decide who must pay for cleaning up the McColl Superfund Site in Fullerton, California. The site was contaminated with hazardous wastes associated with the production of aviation fuel during World War II. Defendants in this case, Shell Oil Co., Union Oil Co. of California, Atlantic Richfield Co., and Texaco, Inc.¹ (collectively, "the Oil Companies"), operated aviation fuel refineries in the Los Angeles area during the war and dumped their wastes at the McColl site.

The United States and the State of California brought suit against the Oil Companies under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. §§ 9601-9675, to recover cleanup costs incurred at the site. The Oil Companies counterclaimed under the same statute, contending that the United States was liable for cleanup costs.

On motion for summary judgment by the United States and the State of California, the district court held that the Oil Companies were liable as "arrangers" under 42 U.S.C. § 9607(a)(3). See United States v. Shell Oil Co. (Shell I), 841

¹ Texaco is the successor in interest to defendant The Texas Company.

F. Supp. 962, 969-70 (C.D. Cal. 1993). The district court rejected the Oil Companies' argument that they were exempt from liability on the ground that the contamination was caused by an "act of war" within the meaning of 42 U.S.C. § 9607(b)(2). See id. at 970-73. On later cross-motions for summary judgment by the United States and the Oil Companies, the district court held that the United States was liable as an "arranger" under 42 U.S.C. § 9607(a)(3) for the "non-benzol" waste dumped at the site. See United States v. Shell Oil Co. (Shell II), No. 91-0589, at 14-19 (C.D. Cal. Sept. 18, 1995). The district court also held that the United States had waived its sovereign immunity to suit under 42 U.S.C. § 9620(a)(1). Id. at 6-9. After trial, the district court held that 100% of the cleanup costs for the non-benzol waste should be allocated to the United States, and 0% to the Oil Companies, under 42 U.S.C. § 9613(f)(1). See United States v. Shell Oil Co. (Shell III), 13 F. Supp. 2d 1018 (C.D. Cal. 1998).

The United States appeals, arguing that the district erred in holding that § 9620(a)(1) waives the sovereign immunity of the United States; in holding that the United States is liable as an "arranger" for the non-benzol waste under § 9607(a)(3); and in allocating 100% of the cleanup costs to the United States under § 9613(f)(1). The Oil Companies cross-appeal, arguing that the district court erred in rejecting their argument that they were exempt from liability under the "act of war" provision of § 9607(b)(2). The State of California is a cross-appellee only on the "act of war" issue.

We hold the following: (1) We affirm the holding of the district court that § 9620(a)(1) waives the sovereign immunity of the United States. (2) We reverse the holding of the district court that the United States is liable for the "non-benzol" waste cleanup costs as an "arranger" under § 9607(a)(3). Because the United States is not liable as an "arranger," the question of allocation of liability between the United States and the Oil Companies under § 9613(f)(1) is moot. (3) We affirm the holding of the district court that the Oil Companies

are not exempt from liability under the "act of war" provision of § 9607(b)(2).

I. Factual Background

A. Avgas Production

The parties have entered into a comprehensive stipulation of facts, upon which the following narrative is based. In the early 1930s, petroleum refiners in the United States developed new technologies for producing high-octane gasoline fuel. Until that time, the highest octane gasoline available had an octane rating of about 72-73, but by 1935 refiners possessed the ability to produce mass quantities of 100-octane fuel. The primary consumer of this fuel was the United States military, which used it in airplane engines, leading to its colloquial name "avgas." The high octane and low volatility of avgas allowed the design and use of high-compression internal combustion engines for military airplanes.

Avgas was a blend of petroleum distillates and chemical additives. Its base component was ordinary gasoline, to which the refineries added varying amounts of several additives. The most prevalent additive was a compound called "alkylate," which comprised 25-40% of the weight of avgas. The production of alkylate, as well as other additives, required the use of sulfuric acid. In the production of alkylate, through a process called "alkylation," the refineries used 98% purity sulfuric acid as a catalyst. Approximately 90% of the sulfuric acid used by the refineries during the war was devoted to this purpose. As a consequence of its use in alkylation, the purity of the acid was greatly reduced. "Spent" alkylation acid could be reprocessed, at some expense, so that its purity was once again high enough for use as an alkylation catalyst. Alternatively, spent acid either could be used in other refinery processes, or could be dumped without being reused.

When the war began, the alkylation process and the production of avgas were new technological developments. During

the war, production of avgas increased more than twelve-fold, from roughly 40,000 barrels per day in December 1941 to 514,000 barrels per day in 1945. Sulfuric acid consumption increased five-fold, from 24 million pounds per year in 1941 to 120 million pounds per year in 1944. The use of sulfuric acid in the alkylation process produced quantities of spent alkylation acid far greater than had ever been produced before.

Because avgas was critical to the war effort, the United States government exercised significant control over the means of its production during World War II. In 1942, President Roosevelt established several agencies to oversee war-time production. Among those with authority over petroleum production were the War Production Board ("WPB") and the Petroleum Administration for War ("PAW"). The WPB established a nationwide priority ranking system to identify scarce goods, prioritize their use, and facilitate their production; it also limited the production of nonessential goods. The PAW centralized the government's petroleum-related activities. It made policy determinations regarding the construction of new facilities and allocation of raw materials, and had the authority to issue production orders to refineries. Although the WPB, PAW, and other government agencies had the authority to require production of goods at refineries owned by the Oil Companies, and even to seize refineries if necessary, in fact they relied almost exclusively on contractual agreements to ensure avgas production. In particular, the government entered into long-term contracts to purchase avgas, and offered low-cost loans to refineries to help finance the construction of avgas-producing plants.

The government sought to maximize avgas production through the Planned Blending Program. Under this program, the government assisted the refineries operated by the Oil Companies in exchanging and blending various avgas components in order to maximize production of avgas. The government could, and sometimes did, direct that specific exchanges

be made, but it usually accepted what was proposed by the refineries. The instructions issued under the Planned Blending Program were at times quite detailed. Sometimes they directed refiners to blend avgas in a way that would allow increased overall production even if that method would reduce an individual refinery's yield. The program did not exercise direct control over the production of avgas components; rather, it controlled only their exchange and blending after they had been produced.

The government reduced the financial risk to producers of avgas and its components through the Aviation Gas Reimbursement Plan ("AGRP"). This program allowed oil companies that entered into long-term avgas supply contracts to recoup costs they could not have anticipated at the time of the execution of the contracts. The AGRP directly reimbursed the refineries for any extraordinary expenditures they undertook --including those incurred under the Planned Blending Program to maintain maximum avgas production during the war.

Throughout the war, the Oil Companies designed and built their facilities, maintained private ownership of the facilities, and managed their own refinery operations. The Oil Companies affirmatively sought contracts to sell avgas to the government, and the contracts were profitable throughout the war. After the war, the Oil Companies retained ownership of the facilities they had built with the help of government loans.

B. Acid Disposal and the McColl Site

Spent alkylation acid generated in the production of avgas could be reprocessed, used in other refinery operations, or discarded as waste. Some of the Oil Companies reprocessed spent alkylation acid themselves, but at various times all of them entered into contracts to have other private entities reprocess it. The Oil Companies also used spent alkylation acid to improve the effectiveness of other avgas additives and to purify other refinery products, including gasoline, kero-

sene, and lubricating oil. The use of spent alkylation acid in other refinery processes produced waste in the form of "acid sludge." Acid sludge had an acid content significantly lower than spent alkylation acid. Because of its low purity, it was difficult to reprocess and was not useful for refinery processes. Acid sludge had been a product of refinery operations before the discovery of the alkylation process. Before the war, the technology to reprocess acid sludge had existed, and some had, in fact, been reprocessed. For reasons of cost, however, most acid sludge had been dumped or burned. During the war, acid sludge was generated in much greater quantities than ever before, and the Oil Companies dumped most of it.

During the war, there was a chronic shortage of railroad tank cars to transport spent acid for reprocessing or reuse off-site from the refineries where it was generated. On two occasions, the government refused to allocate the materials and resources necessary to build new acid reprocessing facilities in northern California. However, some reprocessing facilities were built during the war. One, owned by Stauffer Chemical Company, was capable of handling both spent alkylation acid and acid sludge, but it failed to operate at design capacity and this failure resulted in the dumping of both spent alkylation acid and acid sludge. By late 1944 and 1945, the Oil Companies were producing so much spent alkylation acid that they could not reuse all of it in their own refineries, and the facilities for reprocessing this acid were insufficient. When the resulting bottleneck threatened to halt avgas production, the Oil Companies dumped large quantities of spent alkylation acid at the McColl site.

The government was aware during the war that avgas production generated acid wastes and that increased avgas production increased acid waste generation. The government took some actions to alleviate the problem of waste disposal. For example, in 1945, it attempted to solve the problem of the spent acid reprocessing bottleneck by facilitating the lease of a large storage tank (known as the "Wilshire Storage Tank")

in Southern California. The government never specifically ordered or approved the dumping of spent acid and acid sludge by the Oil Companies, and there is no evidence that the United States was aware of the disposal contracts between the Oil Companies and McColl.

The dumping site in this case is named after Eli McColl, who contracted to accept both spent acid and acid sludge from refineries near Los Angeles.² McColl began accepting the waste and dumping it in earthen sumps at the site in June 1942, and continued to do so until shortly after the end of the war. According to the district court, about 12% of the waste at the McColl site was spent sulfuric acid from the alkylation process, and about 5.5% was acid sludge resulting from the treatment of government-owned benzol. Shell III, 13 F. Supp. 2d at 1024-25. Of the remaining 82.5% of the waste, most was acid sludge resulting from the chemical treatment of non-avgas refinery products using spent alkylation acid. In the 1950s, McColl, with the assistance of the Oil Companies, filled and capped the waste sumps to allow residential development of nearby areas, even though approximately 100,000 cubic yards of hazardous waste remained at the site. The government began removing this waste from the site in the 1990s, at an eventual cost of close to \$100 million. On August 27, 1998, the McColl Site was officially removed from the National Priorities List and converted into a wildlife sanctuary and community recreation facility.

II. Sovereign Immunity

We first examine whether the government has waived its sovereign immunity for purposes of liability under CERCLA. Plaintiffs suing the United States must point to an "unequivocal expression" of intent to waive sovereign immunity.

² No contracts have been found between Eli McColl and the Oil Company defendants other than Shell Oil, but it has been stipulated by the parties that the McColl site contains waste from all the Oil Companies.

See Lane v. Pena, 518 U.S. 187, 192 (1996); Blue v. Widnall, 162 F.3d 541, 544 (9th Cir. 1998). A waiver of sovereign immunity must be "unambiguous[]," and the relevant statutory language is to be "strictly construed" in favor of the sovereign. Lane, 518 U.S. at 192; see also United States v. Williams, 514 U.S. 527, 531 (1995).

The Oil Companies contend that the necessary waiver appears in § 120(a)(1) of CERCLA, codified at 42 U.S.C. § 9620(a)(1):

Each department, agency, and instrumentality of the United States (including the executive, legislative, and judicial branches of government) shall be subject to, and comply with, [CERCLA] in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity, including liability under section 9607 of this title. Nothing in this section shall be construed to affect the liability of any person or entity under sections 9606 and 9607 of this title.

The district court held that this provision does waive the government's immunity in the circumstances of this lawsuit. We review this question of subject matter jurisdiction de novo. See Ma v. Reno, 114 F.3d 128, 130 (9th Cir. 1997). We agree with the district court.

The Supreme Court has read the language of § 9620(a)(1) as an unambiguous waiver of the sovereign immunity of the United States. In Pennsylvania v. Union Gas Co., 491 U.S. 1 (1989), the Court concluded that an analogous provision of CERCLA was an unambiguous abrogation of the sovereign immunity of the states. It was led to that conclusion by comparing the language of § 9607(d)(2), applicable to the states, to the language of § 9620(a)(1), applicable to the United States:

It can be no coincidence that in describing the potential liability of the States in [§ 9607(d)(2)], Congress chose language mirroring that of [§ 9620(a)(1)]. In choosing this mirroring language in [§ 9607(d)(2)], therefore, Congress must have intended to override the States' immunity from suit, just as it waived the Federal Government's immunity in [§ 9620(a)(1)].

Id. at 10 (emphasis added). We are, of course, aware that the Court has overruled its conclusion in Union Gas that Congress has the power under the Commerce Clause to abrogate the sovereign immunity of the states. See Seminole Tribe v. Fla., 517 U.S. 44 (1996). But Seminole Tribe does nothing to cast doubt on the correctness of the Court's understanding of the meaning of § 9620(a)(1).

The United States does not dispute that § 9620(a)(1) waives its sovereign immunity under CERCLA for some of its avgas-related activities. Indeed, it concedes liability under CERCLA for all of the cleanup costs associated with Shell Oil's processing of benzol for the government. The United States argues, however, that the waiver contained in § 9620(a)(1) is limited to cases in which it has undertaken "nongovernmental" activities. In part, it bases its argument on the fact that the heading for § 9620 is "Federal facilities." It also bases its argument on the text of § 9620(a)(1), contending that the phrase making the government subject to CERCLA "in the same manner and to the same extent . . . as any nongovernmental entity" restricts the waiver of sovereign immunity to situations in which the government acts as a "nongovernmental entity."

We believe that the United States' construction of § 9620(a)(1) is too narrow. First, we disagree with the government's analysis of the importance of the heading "Federal facilities" at the beginning of § 9620. Relying on this heading, the government argues that Congress intended to waive sovereign immunity only with respect to federally-owned facilities.

We agree with the Third Circuit's analysis in rejecting this argument. See FMC Corp. v. United States Dep't. of Commerce, 29 F.3d 833, 842 (3d Cir. 1994) (en banc). As an initial matter, we note that nothing in the text of § 9620(a)(1) limits its effect to federal facilities. See id. Further, the waiver language of § 9620(a)(1) was enacted in 1980, and the "Federal facilities" portion of CERCLA was added in 1986. For organizational reasons, the post-1986 codifiers placed the already-existing waiver of immunity under the "Federal facilities" heading applicable to the newly-added 1986 provision. Id. Finally, after the waiver provision was moved, it employed language that explicitly referred without qualification to the liability-creating provision of CERCLA. It employed no new language that would have limited the scope of the waiver. Id.

Second, the United States has repeatedly been held liable under CERCLA for acts that cannot possibly be characterized as "nongovernmental." The clearest example is the United States' immense CERCLA liability for cleanups associated with military installations and activity. Private parties do not operate military bases, and yet the United States has been found liable for the cleanup of hazardous wastes at military facilities. As explained by the Third Circuit:

[A]lthough no private party could own a military base, the government is liable for clean up of hazardous wastes at military bases because a private party would be liable if it did own a military base. Cf. United States v. Allied Corp., 1990 WL 515976, at *2-3, 1990 U.S. Dist. LEXIS 20061, at *7-9 (N.D. Cal. Apr. 26, 1990) (United States Navy found liable under CERCLA because it authorized demolition which caused release of hazardous substances).

FMC, 29 F.3d at 840.

We hold that CERCLA's waiver of sovereign immunity is coextensive with the scope of liability imposed by 42

U.S.C. § 9607. If § 9607 provides for liability, then § 9620(a)(1) waives sovereign immunity to that liability. In so holding, we align ourselves with the two circuits that have thoroughly considered the issue. See East Bay Mun. Util. Dist. v. United States Dep't of Commerce, 142 F.3d 479, 482 (D.C. Cir. 1998) ("East Bay MUD") (recognizing that the phrase "in the same manner and to the same extent . . . as any nongovernmental entity" was potentially ambiguous, but holding that § 9620 does not, on its face, "suggest a distinction between the exercise of private . . . and regulatory powers"); FMC, 29 F.3d at 841-42 ("[T]he relevant sovereign immunity question under CERCLA is . . . whether [the government's] activities, however characterized, are sufficient to impose liability on the government as an owner, operator, or arranger.").

The United States warns that this reading of § 9620(a)(1) will subject it to liability in a wide range of cases where it acts in either a regulatory or remedial capacity. We believe its fears are exaggerated. We recognize that by making the United States liable "in the same manner and to the same extent" as a private party, § 9620 does subject the government to significant risk of liability. But the government is subject to liability only to the extent of the substantive provisions of CERCLA. That is, the waiver of sovereign immunity is coextensive with the scope of liability under 42 U.S.C. § 9607, but the United States is liable under that section only when it qualifies as an owner or operator of a facility, an arranger of waste disposal, or an entity that accepts waste for treatment or disposal. Otherwise, it is not liable and it maintains its sovereign immunity. As we hold below, even the pervasive activity of the government in this case does not fit within these categories.

We also note two defenses provided within § 9607. First, § 9607(d)(1) confers a defense upon parties "for costs or damages as a result of actions taken or omitted in the course of rendering care, assistance, or advice in accordance with the National Contingency Plan," unless such actions are negli-

gent. Second, § 9607(d)(2) expressly immunizes state and local governments from liability for actions "taken in response to an emergency created by the release or threatened release of a hazardous substance generated by or from a facility owned by another person." See East Bay MUD, 142 F.3d at 483 (suggesting that § 9607(d)(1) is intended to apply to activity that is "primarily or exclusively governmental"); FMC, 29 F.3d at 841 ("[I]nasmuch as state and local governments are immune from CERCLA liability [because of § 9607(d)(2)] for the consequences of cleanup activities . . . this distinction [is] implied in the federal government's waiver of sovereign immunity as well.").

III. "Arranger" Liability

We next examine whether the government is liable as an "arranger" with respect to the "non-benzol" waste at the McColl site.³ Section 107(a)(3) of CERCLA, codified at 42 U.S.C. § 9607(a)(3), specifies that an arranger is a "covered person" and is thus liable for cleanup costs. The text of § 9607(a)(3) provides that:

any person who by contract, agreement, or otherwise arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by such person, by any other party or entity, at any facility or incineration vessel owned or operated by another party or entity and containing such hazardous substances . . . shall be liable

(Emphasis added.)

³ The parties agree that the United States is liable for cleanup costs at the McColl site attributed to acid waste resulting from the production of benzol. See Shell III, 13 F. Supp. at 1024.

A. Direct Arranger Liability

The district court characterized "traditional " direct arranger liability cases as those in which the "sole purpose of the transaction is to arrange for the treatment or disposal of the hazardous wastes." Shell II, No. 91-0589 at 14. It noted that the Oil Companies had not argued for direct arranger liability on this basis, but it nonetheless held that "certain facts have been presented to the Court upon which the Court could rest a traditional finding of arranger liability. The Government began to arrange for the disposal of acid wastes, by undertaking the responsibility for disposing of the sludge. . . . The case law certainly supports the proposition that once an entity undertakes to arrange for disposal or treatment, it cannot abdicate responsibility when the disposal becomes infeasible. " Id. at 18-19.

The district court relied on two things to support its conclusion that the United States was liable as a direct arranger. First, it relied on an August 1944 letter from the PAW concerning an acid reclamation plant proposed by the Monsanto Chemical Company that would have reprocessed acid waste produced by a Tidewater Oil Company refinery in Northern California. Monsanto had delayed building the plant because of a disagreement with the government over the amount of accelerated depreciation it would receive. A compromise was reached on the depreciation issue in March 1944, but Monsanto had allowed its priority ranking, which would have authorized the construction of the plant, to expire. Then, in July 1944, the WPB refused to renew the priority ranking.

The PAW made estimates of the amount of fresh acid that would be required in Northern California, and was aware of acid waste disposal problems that the Tidewater refinery was having, but it declined to get involved in resolving them. According to the stipulated facts, "[t]he PAW responded to Tidewater that it considered Tidewater's disposal problems when making its acid estimates to WPB. On July 8, 1944, the

PAW said that the acid disposal problem was being left to WPB since 'they have overall responsibility for industrial uses of acid.' . . . In a letter dated August 23, 1944, from the PAW to Tidewater, the PAW again stated 'the sludge disposal problem was being left with the WPB since they have the over-all responsibility for industrial uses of acid.' "

Second, the district court states that the "Government even undertook the rental of a storage tank, known as the Wilshire Storage Tank, for the disposal of some acid wastes. " Id. at 19. The stipulated facts indicate that in March 1945 the government did make efforts to facilitate the lease of a storage tank for acid waste in Southern California owned by the Wilshire Oil Company, with the result that the tank was being used for that purpose by April 1945. The stipulated facts indicate that the government initially gave some consideration to leasing the tank itself, but do not indicate that the government was, in the end, the lessee of the tank.

The Oil Companies do not argue to us, just as they did not argue to the district court, that these facts are sufficient to support a finding that the United States was liable as a "traditional" direct arranger. A direct arranger must have direct involvement in arrangements for the disposal of waste. See, e.g., Cadillac Fairview/Cal., Inc. v. United States, 41 F.3d 562 (9th Cir. 1994) (in which rubber companies that had transferred contaminated styrene to Dow Chemical for reprocessing were held to be arrangers); Catellus Devel. Corp. v. United States, 34 F.3d 748 (9th Cir. 1994) (in which an automotive parts company that had sent used car batteries to a battery-cracking plant for lead recovery and disposal was held to be an arranger). We understand why the Oil Companies did not argue, and are not arguing, for arranger liability on this basis. There are simply insufficient facts in the record to support a conclusion that the United States directly entered into arrangements to dispose of acid waste at the McColl site.

B. Broader Arranger Liability

The Oil Companies argue for arranger liability on a broader theory, contending that the government had sufficient control over the process that created the waste such that it should be considered an arranger. The test they propose is that if a party "has substantial control over a manufacturing process wherein a hazardous waste stream is generated and disposed of, then that party assumes the obligation to control the disposal of that waste stream." The district court applied a somewhat different test to find arranger liability on a broader theory. It took its test from its reading of a case decided by the Eighth Circuit, United States v. Aceto Agric. Chem. Corp., 872 F.2d 1373 (8th Cir. 1989). That test, like the Oil Companies' proposed test, includes a focus on the control by the United States: "[A] party is . . . an arranger (1) if it supplies raw materials to be used in making a finished product, (2) and it retains ownership or control of the work in progress, (3) where the generation of hazardous substances is inherent in the production process." Shell II, No. 91-0589 at 15. We agree with the Oil Companies and the district court that control is a crucial element of the determination of whether a party is an arranger under § 9607(a)(3). But we disagree with their conclusion that the government exercised the requisite control on the facts of this case.

There is no bright-line test, either in the statute or in the case law, for a broad theory of arranger liability under § 9607(a)(3). Rather, we are required to sort through the fact patterns of the decided cases in order to find similarities and dissimilarities to the fact pattern of our case. In finding that the United States was an arranger, the district court explicitly relied on Aceto. The question in Aceto was whether pesticide manufacturers were arrangers and therefore liable for cleanup costs for contamination at the plant of a pesticide "formulator," Aidex Corporation. The pesticide manufacturers routinely shipped active pesticide ingredients to Aidex, which blended them with inert ingredients in order to produce

commercial-grade pesticides that could be sold on the open market. After the commercial-grade pesticides were formulated, Aidex shipped them either back to the manufacturers or directly to customers of the manufacturers. The manufacturers owned the pesticide ingredients and the commercial-grade pesticides at all times. The generation of waste at the Aidex plant was an "inherent" part of the formulation process, through such things as spills, cleaning of equipment, and mixing and grinding operations. The Eighth Circuit held, under these circumstances, that the pesticide manufacturers were arrangers: "Aidex is performing a process on products owned by defendants for defendants' benefit and at their direction; waste is generated and disposed of contemporaneously with the process." Id. at 1381.

We disagree with the district court that Aceto controls this case, for the United States was in a materially different position in this case from the pesticide manufacturers in that case. The United States was the end purchaser of avgas, and was thus more like a customer of the pesticide manufacturers than like the manufacturers themselves. Further, unlike the pesticide manufacturers, the United States never owned any of the raw materials or intervening products. It never owned unrefined petroleum, refined gasoline, fresh sulfuric acid, spent acid, or alkylate or any other additive. Finally, the United States did not contract out, unlike the manufacturers, a crucial and waste-producing intermediate step in a manufacturing process, and then seek to disclaim responsibility for the waste generated during that step.

The Oil Companies also rely on an earlier Eighth Circuit case, United States v. Northeastern Pharmaceutical & Chemical Co., ("NEPACCO"), 810 F.2d 726 (8th Cir. 1986). NEPACCO manufactured disinfectant at one of its plants. Edwin Michaels was the president and a principal shareholder of NEPACCO, and John W. Lee was a vice-president. With the knowledge and permission of Lee, the plant supervisor agreed with a third party to bury drums of chemical waste

from the plant on a farm several miles away. Both Lee and Michaels were sued for cleanup costs as arrangers under § 9607(a)(3). By the time of the suit, NEPACCO was insolvent.

The Eighth Circuit held that Lee was an arranger, even though he did not personally own or possess the waste:

It is the authority to control the handling and disposal of hazardous substances that is critical under the statutory scheme. . . . Lee, as plant supervisor, actually knew about, had immediate supervision over, and was directly responsible for arranging for the transportation and disposal of the NEPACCO plant's hazardous substances at the Denney farm site. We believe requiring proof of personal ownership or actual physical possession of hazardous substances as a precondition for liability under . . . § 9607(a)(3), would be inconsistent with the broad remedial purposes of CERCLA.

Id. at 743. It also held that Michaels was an arranger, even though he was not as directly involved as Lee:

Unlike Lee, Michaels was not personally involved in the actual decision to transport and dispose of the hazardous substances. As NEPACCO's corporate president and as a major NEPACCO shareholder, however, Michaels was the individual in charge of and directly responsible for all of NEPACCO's operations, including those at the Verona plant, and he had the ultimate authority to control the disposal of NEPACCO's hazardous substances.

Id. at 745. In Aceto, the Eighth Circuit explained its earlier holding in NEPACCO, stating in dictum that it had held in that case that arranger liability is appropriate for "those who

had the authority to control the disposal, even without ownership or possession." Aceto, 872 F.2d at 1382.

The Oil Companies rely on NEPACCO, and its later characterization in Aceto, for the proposition that neither ownership nor actual control is necessary for arranger liability under § 9607(a)(3). In the view of the Oil Companies, mere "authority to control" is sufficient. The United States did not exercise any actual control over the Oil Companies' disposal of spent acid and acid sludge at the McColl site; indeed, it did not even know that the Oil Companies had contracts to dispose of their waste at the site. But the United States had ultimate authority to exercise such control. It could have exercised control over the disposal of the waste, just as it could have seized the Oil Companies' refineries under eminent domain and operated those refineries itself. If authority to control the Oil Companies' waste disposal were sufficient without more, as the Oil Companies contend, then we would agree that the United States was an arranger under § 9607(a)(3).

However, we believe that the Oil Companies' conception of "authority to control" is based on an incorrect reading of NEPACCO. In NEPACCO, there was actual control exercised by vice-president Lee, who gave permission to the plant supervisor to dispose of the waste at the farm. Michaels was Lee's superior in the chain of command. Not only did Michaels have authority to control Lee's actions, but there had also been an actual exercise of control by Lee. In other words, NEPACCO holds that responsible officials in the chain of command of a corporation may be held responsible as arrangers when one of those officers has exercised actual control over the disposition of waste on behalf of the corporation, and the other officer has the authority to control the first officer.

In this case, the United States neither exercised actual control, nor had the direct ability to control, in the sense intended in NEPACCO. In this case, the waste never belonged to the

United States, so there was never a United States employee in a position comparable to Lee's. Further, even if we put the problem of ownership of the waste to one side, Lee exercised actual control over the disposal of waste. In this case, no official or employee of the United States ever exercised actual control over any of the waste disposal at issue. Thus, NEPACCO's premise for liability of a superior with authority to control never existed.

Moreover, an analogy to NEPACCO misses the essence of that case: The court in NEPACCO held officers of a bankrupt company liable for an actual misdeed of that corporation. One of the two officers had participated in the misdeed; the other officer was the president and a principal shareholder of the corporation, who as president had the authority to control the other officer and as shareholder had the potential to realize substantial financial benefit from the misdeed. In this case, there is no bankrupt corporation; the United States committed no misdeed; and there is no officer or employee named as a defendant.

To summarize our view of Aceto and NEPACCO, and to assess the interrelationship of the factors of ownership, possession, and control over waste disposal, we can do no better than to quote from Judge Levi's careful opinion in United States v. Iron Mountain Mines, Inc., 881 F. Supp. 1432 (E.D. Cal. 1995). He writes:

It is true that some cases impose arranger liability on parties who did not literally own or physically possess hazardous waste at the time it was disposed of or released. But in each of these cases the party either was the source of the pollution or managed its disposal by the arranger [citing numerous cases, including Aceto and NEPACCO].

No court has imposed arranger liability on a party who never owned or possessed, and never had any

authority to control or duty to dispose of, the hazardous materials at issue. See, e.g., General Elec. Co. v. AAMCO Transmissions, Inc., 962 F.2d 281, 286 (2d Cir. 1992) ("it is the obligation to exercise control over hazardous waste disposal, and not the mere ability or opportunity to control the disposal of hazardous substances that makes an entity an arranger under CERCLA's liability provision") (emphasis in original).

Id. at 1451.

There are two circuit cases more closely on point than Aceto and NEPACCO, both of which deal with arranger liability of the United States for its activities in wartime. The first is FMC Corp. v. United States Dep't of Commerce, 29 F.3d 833 (3d Cir. 1994) (en banc). In FMC, suit was brought against the United States under CERCLA to recover cleanup costs at a plant that had been used to manufacture high tenacity rayon during World War II. The government had vigorously sought to increase production of such rayon during the war, and it considered facilities producing it to be "war plants' subject to its maximum control." Id. at 836. The United States installed government-owned rayon-manufacturing equipment, which it leased to the plant owner. To ensure an adequate supply of sulfuric acid for the plant, the government built and retained ownership of a new plant adjacent to the rayon-manufacturing plant, and the two plants were connected by a pipeline. The government obtained draft deferments for workers at the plant, directly controlled the process by which the rayon was manufactured, directly controlled the supply and price of the raw materials, and directly controlled the price of the rayon produced.

The Third Circuit, sitting en banc, held in FMC that the United States was liable under CERCLA as an "operator" of the facility under § 9607(a)(1). But it divided evenly on the question of whether the United States was an "arranger"

under § 9607(a)(3). Because it divided evenly, it wrote no opinion on the arranger question; but we may, despite the lack of opinion, derive something from the case. If it was a close question on the facts of FMC whether the United States was an arranger, it cannot possibly be a close question on the facts in the case before us. The degree of the United States' actual control over the manufacture of rayon in FMC, and its actual control over the resulting production of waste, was substantially greater than in this case. Yet, even on those facts, a majority of the court was not willing to hold that the United States was an arranger.

The second case is United States v. Vertac Chem. Corp., 46 F.3d 803 (8th Cir. 1995). The issue was whether the United States was liable as an arranger for cleanup costs at a plant that had manufactured Agent Orange during the Viet Nam War. The plant had been devoted exclusively to the production of Agent Orange, pursuant to "rated contracts" with the United States directing that the manufacturing of Agent Orange take precedence over all other manufacturing. The United States did not own any of the components of Agent Orange, but it did issue directives to a third-party chemical company to ensure a sufficient supply of an essential raw material. The contracts required the manufacturer to maintain certain health and safety standards, and United States inspectors visited the plant on two occasions. "The United States knew or should have known that the production of Agent Orange produced wastes," id. at 807, but the manufacturer disposed of the waste by burial without the knowledge or consultation of the United States. The manufacturer profited from its sales of Agent Orange to the United States, and after the war continued to make related chemical products that it sold commercially.

The Eighth Circuit held in Vertac that the United States was not an arranger under § 9607(a)(3). The facts in Vertac are similar to the facts in this case. In both cases, products were manufactured for purchase by the United States in war-

time; in both cases, the manufacturing was carried out under government contracts and pursuant to government programs that gave it priority over other manufacturing; in both cases, the companies voluntarily entered into the contracts and profited from the sale; and in both cases, the United States was aware that waste was being produced, but did not direct the manner in which the companies disposed of it. The involvement of the United States in the manufacturing of avgas was somewhat greater than its involvement in the manufacturing of Agent Orange, but we believe that this was a matter of degree rather than kind.

C. Conclusion

Based on a comparison of the facts in this case to those in Aceto, NEPACCO, FMC, and Vertac, we hold that the United States was not an arranger under § 9607(a)(3), even under a broad theory of arranger liability. Because the United States is not an arranger, it has no liability under CERCLA for the cleanup costs. The United States has appealed the district court's allocation of liability between itself and the Oil Companies. However, because of our holding that the United States is not an arranger, that portion of the Oil Companies' appeal is moot.

IV. Act of War

Finally, we examine whether the Oil Companies enjoy a defense to liability because the government's activities in regulating wartime petroleum production constituted an "act of war" under § 107 of CERCLA, codified at 42 U.S.C. § 9607(b)(2). That section provides:

There shall be no liability under [CERCLA] for a person otherwise liable who can establish by a preponderance of the evidence that the release or threat of release of a hazardous substance and the damages

resulting therefrom were caused solely by . . . an act of war[.]

The parties and the district court have recognized that there is very little authority to guide our interpretation of this provision. See Shell I, 841 F. Supp. at 970. CERCLA does not define the term "act of war," and we have found no case law exploring the extent of the defense.

We agree with the district court that the "act of war" defense is not available to the Oil Companies. Our analysis here recapitulates the district court's careful examination of the issue. See Shell I, 841 F. Supp. at 970-72. The district court first noted that CERCLA uses expansive language to impose liability, but uses circumscribed and narrow language to confer defenses. Compare, e.g., 42 U.S.C. § 9607(a) with id. § 9607(b). The district court then recognized that although the legislative history of CERCLA, and of its amendment in the Superfund Amendments and Reauthorization Act of 1986, did not explain the nature of the "act of war" defense, it did emphasize that CERCLA was to be a strict liability statute with narrowly construed exceptions.

The district court noted that the term "act of war" appears to have been borrowed from international law, where it is defined as a "use of force or other action by one state against another" which "[t]he state acted against recognizes . . . as an act of war, either by use of retaliatory force or a declaration of war." Shell I, 841 F. Supp. at 972 (citing James R. Fox, Dictionary of International and Comparative Law 6 (1992)). The two treatises that discuss the issue suggest that "act of war" has a narrow meaning. One suggests the "act of war" defense requires "massive violence." See 4 William H. Rodgers, Jr., Environmental Law: Hazardous Wastes and Substances § 8.13(C)(3)(c), at 697 (1992). The other suggests that it requires "natural or man-made catastrophes beyond the control of any responsible party." See 3 The Law of Hazardous Waste § 14.01[8][b], at 14-162.2 (Susan M. Cooke, ed.,

2001). Case law in other contexts also suggests a narrow definition of "act of war." For example, in Farbwerke Vormal's Meister Lucius & Bruning v. Chem. Found. Inc., 283 U.S. 152 (1931), the Supreme Court characterized, in dictum, the United States' wartime seizure and assignment of patents owned by German companies as "act[s] of war." Id. at 161. In doing so, the Court distinguished the unilateral acts of the United States from acts of mutually contracting parties. Other cases endorse this distinction. See also Ribas y Hijo v. United States, 194 U.S. 315, 322 (1904) (seizure of enemy vessel was an "act of war" because "there is no element of contract"); United States v. Winchester & Potomac R.R. Co., 163 U.S. 244, 256-57 (1896) (seizure of Confederate railroad materials was an "act of war" because it "had no element of contract, but was wholly military in character").

The Oil Companies do not discuss or otherwise respond to this authority. Rather, they argue that it is impossible to distinguish between acts of combat and acts taken pursuant to government direction. They contend that an "act of war" includes any action by the federal government under the authority of Article I, § 8, clause 11 of the Constitution, which grants Congress the power "[t]o declare war." But the argument that any governmental act taken by authority of the War Powers Clause is an "act of war" sweeps too broadly. To take but one example, we have been unable to discover any case in which wartime price controls have been held to be "acts of war."

Finally, even if we were to accept the Oil Companies' position, that the involvement of the United States on wartime production of avgas was an "act of war" within the meaning of § 9607(b)(2), they cannot show that the actions they took to dispose of avgas-related waste were caused "solely" by an act of war, as required by that section. The undisputed facts indicate that the Oil Companies had other disposal options for their acid waste, that they dumped acid waste both before and after the war, that they dumped acid waste from operations

other than avgas production at the McColl site, and that they were not compelled by the government to dump waste in any particular manner.

V. Conclusion

We AFFIRM the holding of the district court that § 9620(a)(1) waives the sovereign immunity of the United States under CERCLA. We REVERSE the holding of the district court that the United States is liable as an "arranger" under § 9607(a)(3). This holding renders moot the United States' appeal of the district court's allocation of liability between the United States and the Oil Companies. We AFFIRM the holding of the district court that the Oil Companies do not have a valid defense to liability under the "act of war" provision of § 9607(b)(2).

AFFIRMED in part and REVERSED in part.