UNITED STATES COURT OF APPEALS

FOR THE SECOND CIRCUIT

August Term, 2006

(Argued: June 18, 2007 Final Submission: August 3, 2007

Decided: February 22, 2008)

In re "Agent Orange" Product Liability Litigation

J. MICHAEL TWINAM,

Plaintiff-Appellant,

- v - 05-1509-cv

DOW CHEMICAL COMPANY, et al.,

Defendants-Appellees.

ROBERT S. BAUER and SANDRA J. BAUER,

Plaintiffs-Appellants,

- v - 05-1693-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

SHERYL A. WALKER, ERIC C. WALKER, A Minor, By his Mother and Next Friend on behalf of SHERYL A. WALKER, STEPHEN J. WALKER, WILLIAM HAMILTON and ESTHER M. HAMILTON, His Wife, Individually and on Behalf of All Others Similarly Situated,

Plaintiffs-Appellants,

- v - 05-1694-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees,

DOES 1-100,

Defendants.

SHERMAN CLINTON STEARNS and DORTHA MONYENE STEARNS,

Plaintiffs-Appellants,

- v - 05-1695-cv

DOW CHEMICAL COMPANY, et al.,

Defendants-Appellees.

WILMER PLOWDEN JR.,

Plaintiff-Appellant,

- v - 05-1696-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

CHARLES T. ANDERSON,

Plaintiff-Appellant,

- v - 05-1698-cv

DOW CHEMICAL COMPANY, et al.,

Defendants-Appellees,

PFIZER, INC., et. al.,

Defendants.

LINDA FAYE CLOSTIO-BREAUX, RACHEAL M. BREAUX, JOEY M. BREAUX, APRIL R. BREAUX, STACY M. BREAUX, ERIC J. BREAUX, and SCOTT M. BREAUX,

Plaintiffs,

CHARLES J. BREAUX,

Plaintiff-Appellant,

- v - 05-1700-cv

DOW CHEMICAL COMPANY, et al.,

Defendants-Appellees.

THOMAS G. GALLAGHER,

Plaintiff-Appellant,

- v - 05-1737-cv

DOW CHEMICAL CO. and OCCIDENTAL CHEMICAL CORP.,

Defendants-Appellees.

DANIEL RAYMOND STEPHENSON, SUSAN STEPHENSON, DANIEL ANTHONY STEPHENSON and EMILY ELIZABETH STEPHENSON,

Plaintiff-Appellants,

- v - 05-1760-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

CASEY J. SAMPEY, JR.,

Plaintiff-Appellant,

- v - 05-1771-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

CHRISTINE NELSON, Individually and on behalf of her deceased husband, FRANKLIN NELSON, REGINALD WILLIAMS, KAREN HOLLAND, FRANKLIN NELSON JR. and SHALISA NELSON,

Plaintiffs-Appellants,

- v - 05-1810-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

HENRY C. KIDD and SHIRLEANE J. KIDD,

Plaintiffs-Appellants,

- v - 05-1813-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

WILLIE WILLIAMS JR., and RITA WILLIAMS,

Plaintiffs-Appellants,

- v - 05-1817-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

JOE ISAACSON and PHYLLIS LISA ISAACSON,

Plaintiffs-Appellants,

- v - 05-1820-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

VICKEY S. GARNCARZ,

Plaintiff-Appellant,

- v - 05-2450-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

JACK RICHARD PATTON,

Plaintiff-Appellant,

- v - 05-2451-cv

DOW CHEMICAL CO., et al.,

Defendants-Appellees.

Before: MINER, SACK, and HALL, Circuit Judges.

Appeals from final judgments of the United States District Court for the Eastern District of New York (Jack B. Weinstein, Judge) granting summary judgment to the defendants, orders denying certain requests for discovery, and the order denying the Stephenson plaintiffs' motion to amend their complaint.

Affirmed.

JAMES BOANERGES, Cooper, Sprague, Jackson & Boanerges, P.C., Houston, TX; MARK I. BRONSON, Newman, Bronson & Wallis, St. Louis, Missouri; GERSON H. SMOGER, Smoger & Associates, Oakland, California; MARK R. CUKER, Williams Cuker Berezofsky, Philadelphia, PA, for Plaintiffs-Appellants;

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Ian Heath Gershengorn (Lise T. Spacapan and Fazal R. Khan, on the brief), Jenner & Block LLP, Washington DC, for Amicus Curiae American Chemistry Council and Chlorine Chemistry Council.

Raphael Metzger, Metzger Law Group, Long Beach, CA, for Amicus Curiae Drs. Brian G. Durie, Devra Davis, Peter L. deFur, Alan Lockwood, David Ozonoff, Arnold J. Schecter, David Wallinga, Carl F. Cranor, The Council for Education and

Research on Toxic, and the Lymphoma Foundation of America.

SACK, Circuit Judge:

More than thirty-five years ago, the United States military stopped using Agent Orange and related chemicals as defoliants to prosecute the war in Vietnam. This appeal is but the latest chapter in a thirty-year struggle by the litigants, their counsel, and judges of the United States District Court for the Eastern District of New York and of this Court to bring to just legal closure to the alleged consequences of that use.

We explain below why these sixteen unconsolidated appeals are now before us and why, in our view, the government contractor defense applies to bar these claims. In the course of doing so, we consider the discovery limitations imposed by the district court and that court's denial of the Stephenson plaintiffs' motion to amend their complaint. By an opinion written by Judge Hall also filed today, we decide that those of the sixteen cases that were originally filed in state court were properly removed by the defendants to federal court. A third decision by the panel, written by Judge Miner, addresses the separate issues related to the use of Agent Orange raised on appeal in Vietnam Assoc. for Victims of Agent Orange/Dioxin v. Dow Chemical Co., No. 05-1953-cv.

The plaintiffs pursuing this appeal are United States military veterans or their relatives who allege that myriad injuries, mostly forms of cancer, were caused by the veterans' exposure to the chemical defoliant "Agent Orange" during service

in Vietnam.[1] They assert that the district court erred in concluding that the government contractor defense -- which protects government contractors from state tort liability under certain circumstances when they provide defective products to the government -- applied to bar the plaintiffs' claims. The plaintiffs contend further that the district court abused its discretion by denying them discovery beyond what was available in files from prior Agent Orange litigation. We disagree with the plaintiffs on both counts.

We also conclude that it was error to deny the Stephensons' motion to amend their complaint. In light of our conclusion that the defendants are entitled to invoke the government contractor defense, however, we find the error to be harmless.

We therefore affirm the judgments of the district court in all respects.

BACKGROUND

The cases concerning the United States military's acquisition and use of Agent Orange during the Vietnam War, of which these are but a relative few, and their massive factual

[1] Plaintiff Garncarz is the only plaintiff who alleges harmful exposure to Agent Orange outside of Vietnam. She contends that her husband died from conditions resulting from his exposure to Agent Orange along the Korean Demilitarized Zone. She does not, however, raise any distinct arguments arising out of her husband's alleged exposure in Korea. We therefore consider her case, for present purposes, as indistinguishable from the others before us.

records, have been addressed in so many different judicial opinions over the years that we do not even attempt to list them here. See generally In re "Agent Orange" Prod. Liab. Litig., 304 F. Supp. 2d 404, 410-14 (E.D.N.Y. 2004) ("Agent Orange III Gov. Contractor Def. Op."). Neither do we undertake a detailed retelling of the history of or facts underlying this litigation. See id. at 407-22 (describing the history of Agent Orange lawsuits brought by Vietnam veterans).[2] Instead, we set forth below only what we think necessary for an understanding of our resolution of these appeals.

Agent Orange was one of several chemically similar herbicides[3] used by the United States government during the Vietnam War in connection with "Operation Ranch Hand," the code name for the military's efforts to defoliate various areas in Vietnam. See In re Agent Orange Prod. Liab. Litig., 373 F. Supp. 2d 7, 19 (E.D.N.Y. 2005) ("Between 1961 and 1971, herbicide mixtures . . . were used by the United States and Republic of Vietnam . . . forces to defoliate forests and mangroves, to clear

[2] The Court's opinion in Vietnam Assoc. for Victims of Agent Orange/Dioxin v. Dow Chem. Co., — F.3d —, 2008 WL —, 2008 LEXIS App. —, No. 05-1953-cv (2d Cir. 2008), filed today, sets forth in some detail, based on the record in that litigation, the history of the employment of Agent Orange and related chemicals to prosecute the war in Vietnam.

[3] The several formulations were, like Agent Orange, named according to the color-coded band on the drums containing the chemicals. Since Agent Orange was the most widely deployed, the parties refer to all the herbicides collectively as "Agent Orange" unless the particular circumstance requires that the agents be distinguished. We adopt the same convention.

perimeters of military installations and to destroy 'unfriendly' crops, as a tactic for decreasing enemy armed forces[']
protective cover and food supplies."). The government purchased the defoliants from the defendants-appellees in the instant appeals pursuant to various government contracts.[4] As the defoliation campaign intensified, many of the contracts were subjected to various government directives entered pursuant to the Defense Production Act of 1950, see 50 U.S.C. app. § 2061 et seq., and regulations promulgated pursuant thereto. The government characterized delivery of Agent Orange as part of the prosecution of military action, which enabled the defendants to procure otherwise scarce materials and equipment necessary to produce it. Agent Orange III Gov. Contractor Def. Op., 304 F. Supp. 2d at 424-25.

The Agent Orange delivered to the government was a mixture of two different herbicides: 2,4-D (2,4-Dichlorophenoxyacetic acid) and 2,4,5-T (2,4,5-Trichlorophenoxyacetic acid). The contracts required that the chemicals be nearly 100% pure and that they be combined in roughly equal proportions.

The manufacture of 2,4,5-T produced, as a byproduct, trace elements of the toxic chemical dioxin (2,3,7,8-Tetrachlorodibenzo para dioxin (TCDD)). The plaintiffs allege

[4] Most of these contracts have been produced to the plaintiffs, but some are difficult to read in the form in which they survive, and, as discussed below, some are missing.

that it is dioxin that caused the injuries of which they now complain.

The amount of dioxin contained in a particular batch of Agent Orange varied depending on the production method used by its manufacturer. See In re "Agent Orange" Prod. Liab. Litig., 818 F.2d 145, 150, 173 (2d Cir. 1987) ("Agent Orange I Settlement Op."), cert. denied, 484 U.S. 1004 (1988); In re "Agent Orange" Prod. Liab. Litig., 818 F.2d 187, 189 (2d Cir. 1987) ("Agent Orange I Opt-Out Op."), cert. denied, 487 U.S. 1234 (1988). The defendants knew at the time they were manufacturing Agent Orange that dioxin was a byproduct and that it could cause certain kinds of harm under certain conditions. Various government agencies and officers assessed the toxicity of the defoliating agents, including Agent Orange, being used in Vietnam. Precisely what knowledge the government and the defendants possessed and when they came to have it is in dispute.

I. Overview of Agent Orange Litigation

The plaintiffs now before us on appeal represent a small fraction of the many Americans who have pursued legal claims arising out of the government's use of Agent Orange to fight the Vietnam War. See generally Agent Orange III Gov. Contractor Def. Op., 304 F. Supp. 2d at 410-14 (listing more than one hundred Agent-Orange-related decisions); see also, e.g., id. at 407-23 (detailing the history of Agent Orange litigation involving Vietnam veterans). Their claims find their roots in the "Agent Orange I" litigation, the veterans' class action begun in the late 1970s and settled in 1984.

In those cases, the Judicial Panel on Multidistrict Litigation designated the United States District Court for the Eastern District of New York as the Multidistrict Litigation ("MDL") court for all federal Agent Orange-related cases brought by military veterans of various countries. Thereafter, first Judge Pratt and then Judge Weinstein presided over proceedings involving approximately 600 litigants, hundreds of thousands of putative class members, several years of motion practice (including motions for class certification), and one appeal to this Court. On the eve of trial of those cases, the defendants and class representatives reached what was then thought by the parties and the courts to be a final global settlement of Agent Orange-related cases in the amount of $180 million. Agent Orange I Settlement Op., 818 F.2d at 152-55.

Because of what we termed "formidable hurdles" to the plaintiffs' claims, id. at 174, we affirmed the district court's approval of the settlement at what -- even at a total of $180 million -- we termed "nuisance value," equivalent to "at best only a small multiple of, at worst less than, the fees the chemical companies would have had to pay to their lawyers had they continued the litigation." Id. at 171. The Plaintiffs in 287 cases opted out of the class and thereby the settlement.

Thereafter, the district court granted the defendants' motion for summary judgment in those opt-out actions "on the alternative dispositive grounds that no opt-out plaintiff could prove that a particular ailment was caused by Agent Orange, that no plaintiff could prove which defendant had manufactured the

Agent Orange that allegedly caused his or her injury, and that all the claims were barred by the military contractor defense." Agent Orange I Opt-Out Op., 818 F.2d at 189 (internal citations omitted).

From 1987 through 1997, the settlement fund, which, with interest and other augmentations, eventually grew to about $330 million was distributed to, inter alios, some 291,000 class members who filed claims prior to the 1994 cutoff date. Agent Orange III Gov. Contractor Def. Op., 304 F. Supp. 2d at 421. Meanwhile, two sets of plaintiffs who had been members of the original plaintiff class and who were therefore entitled to receive settlement payments, but whose injuries had manifested after their opportunity to opt out of the class action had expired, filed class actions on behalf of themselves and other similarly situated veterans. The district court decided that because the plaintiffs were class members, their claims were barred, and we affirmed. In re "Agent Orange" Prod. Liab. Litig., 996 F.2d 1425, 1439 (2d Cir. 1993) ("Agent Orange II"), overruled in part on other grounds by Syngenta Crop Protection, Inc. v. Henson, 537 U.S. 28, 34 (2002).

Shortly after the settlement fund distributions were completed, the third, and instant, series of lawsuits was initiated. These were brought by two of the sixteen plaintiffs now before us, the Isaacsons and Stephensons, who had not been members of the original plaintiff class. These veterans and their families alleged injuries that resulted from exposure to Agent Orange but did not manifest until after the 1994 cutoff

date for filing settlement claims in the original actions. In a 2001 opinion, we held that the district court had erred in deciding that the plaintiffs' claims were barred by the Agent Orange I settlement. Stephenson v. Dow Chem. Co., 273 F.3d 249, 261 (2d Cir. 2001) ("Agent Orange III").[5] We concluded that a conflict existed between the plaintiffs and the class representatives because the representatives had permitted the settlement fund to terminate without a provision for post-1994 claimants such as these plaintiffs. Id. at 260-61 (relying on Ortiz v. Fibreboard Corp., 527 U.S. 815 (1999) and Amchem Prods., Inc. v. Windsor, 521 U.S. 591 (1997)). As a result, the plaintiffs were not adequately represented by the class, and Agent Orange I did not prevent them from pursuing their claims. Id. at 261.[6]

II. The Instant Appeals

On remand, the Stephensons and Isaacsons were eventually joined by fourteen other sets of plaintiffs alleging Agent Orange injuries first discovered after the 1994 cutoff

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[5] We also held that the defendants had properly removed the Isaacson case from state to federal court. Id. at 256-57. As explained in the companion opinion, see Stephenson v. Dow Chem. Co., 346 F.3d 19, 21 (2d Cir. 2003), this holding was subsequently vacated by the Supreme Court and remanded to the district court for a further determination as to the propriety of removal. See Dow Chem. Co. v. Stephenson, 539 U.S. 111, 112 (2003).

[6] At oral argument, we requested supplemental briefing on the question of whether we are bound by our decision in Agent Orange III to conclude that these plaintiffs are not bound by the settlement agreement addressed in Agent Orange I. We received the parties' submissions on August 3, 2007. In light of our disposition regarding the government contractor defense, however, we decline to reach the issue.

date. The cases were not consolidated, but the district court conducted simultaneous proceedings and applied rulings in the Stephenson and Isaacson cases to each of the others. Together, the plaintiffs raised three tort claims under various state laws: design defect, failure to warn, and manufacturing defect.

Six days after our mandate issued in Agent Orange III, the defendants moved in the district court for summary judgment against the Stephensons and Isaacsons.[7] At about the same time, the Stephensons moved to amend their complaint.

On February 9, 2004, several days after receiving voluminous submissions from the plaintiffs and two weeks after oral argument, the district court issued four decisions, two of which -- one granting the defendants' motion for summary judgment and the other denying the Stephensons' motion to amend -- are now before us on appeal.[8] Even though only the motions for summary judgment in Stephenson and Isaacson were before it, the district court considered all the evidence put forth by the parties in

[7] Although not expressly raised by the appellants or noted by the district court, the defendants' Rule 56.1 Statement appears to have been in blatant violation of Local Rule 56.1, which requires summary judgment movants to list each undisputed material fact "followed by citation to evidence which would be admissible . . . ." S.D.N.Y. & E.D.N.Y. Local R. 56.1(a), (d), available at http://www1.nysd.uscourts.gov/rules/rules.pdf. The defendants' approach to compliance with this rule has rendered our task of determining on appeal whether there are genuine issues of disputed material fact considerably more difficult than it should have been.

[8] The district court also denied plaintiffs' motion to strike certain of defendants' affidavits and exhibits -- a ruling the plaintiffs did not appeal -- and found removal of the state court cases proper. Judge Hall's companion opinion addresses this latter ruling.

Agent Orange I in ruling on defendants' summary judgment motion. Having done so, it concluded that the government contractor defense barred both the design defect and failure-to-warn claims. Agent Orange III Gov't Contractor Def. Op., 304 F. Supp. 2d at 441-42. As to plaintiffs' manufacturing defect claims, the court concluded that they were barred because the defendants' products conformed to the government's specifications. Id. at 442.

In granting the motion for summary judgment, however, the district court noted that the plaintiffs had complained of "difficulties in obtaining evidence for their position," an "understandable" problem in light of the passage of time between exposure and injury. Id. "To ensure due process," id., therefore, Judge Weinstein charted a distinctly unusual course -- he permitted discovery, never undertaken by Agent Orange III litigants in light of the timing of prior appeals and the defendants' motion, to continue through August 10, 2004, and he set a motion schedule for an anticipated motion for reconsideration based on the results of that discovery. Id.

Thereafter, the district court ordered that all files relating to Agent Orange sent to the National Archives pursuant to court order following Agent Orange I be returned to the district court and made available to the plaintiffs for their review. The magistrate judge assigned to the case then denied all requests for additional non-MDL discovery, although the district court subsequently granted the plaintiffs access to "up to six complete deposition transcripts utilized in non-MDL 381

cases claimed by plaintiffs to shed light on relevant knowledge of defendants."

On November 3, 2004, the plaintiffs in Stephenson and Isaacson, as anticipated, filed a motion for reconsideration of the district court's order granting summary judgment. On November 16, 2004, the district court, without awaiting response from the defendants, denied the plaintiffs' motion. In re "Agent Orange" Prod. Liab. Litig., 344 F. Supp. 2d 873, 874-75 (E.D.N.Y. 2004). It further ordered the defendants to "submit a specific judgment in favor of each named defendant against each named plaintiff whose claims arise from service in the Armed Forces of the United States," thereby rendering the court's judgment in Stephenson and Isaacson applicable to each of the fourteen additional plaintiffs now before us on appeal. Id. at 875.

Following a motion by the Bauer plaintiffs, who argued that granting the motion for summary judgment was inappropriate because, inter alia, the procedural posture of their case had rendered them unable to respond to the defendants' motion, all plaintiffs were ultimately given until February 28, 2005, to submit additional papers supporting their position that summary judgment should not have been granted. Oral argument was held on February 28. On March 2, 2005, the district court summarily reaffirmed its November 16, 2004 Order. In re "Agent Orange" Prod. Liab. Litig., No. 79 MD 381, 2005 WL 483416, at *1

(E.D.N.Y. Mar. 2, 2005). Separate judgments of dismissal in each action were then filed.

More than a year before, in February 2004, the district court had denied the Stephensons' motion to amend their complaint to add additional defendants and several new causes of action. Stephenson v. Dow Chem. Co., 220 F.R.D. 22, 25-26 (E.D.N.Y. 2004). Although the defendants had never answered the Stephensons' original complaint, filed pro se in the Western District of Louisiana, the motion to amend was denied on a variety of grounds. Id.

The plaintiffs appeal. Before us are challenges to (1) the district court's grant of the motion for summary judgment as to their design claim only;[9] (2) the denial of their requests for additional discovery; and (3) the denial of the Stephensons' motion to amend.[10]

DISCUSSION

I. Summary Judgment

A. Standard of Review

[9] Because the plaintiffs' briefs make no arguments regarding the district court's findings as to their failure-to-warn or manufacturing defect claims, we deem these claims to have been abandoned. See Hughes v. Bricklayers & Allied Craftworkers Local #45, 386 F.3d 101, 104 n.1 (2d Cir. 2004).

[10] Not all of the plaintiffs have raised the same arguments on appeal. Because the defendants have grouped the plaintiffs together as one unit in opposing this appeal, and because by Order dated September 15, 2005, we granted the plaintiffs permission to rely on the arguments made by one another, we here treat each issue raised on appeal by one plaintiff, with the exception of the Stephensons' motion to amend, as having been raised by all.

We review the district court's grant of summary judgment de novo, "construing the evidence in the light most favorable to the non-moving party and drawing all reasonable inferences in its favor." Allianz Ins. Co. v. Lerner, 416 F.3d 109, 113 (2d Cir. 2005). "We will affirm the judgment only if there is no genuine issue as to any material fact, and if the moving party is entitled to a judgment as a matter of law." Id. (citing Fed. R. Civ. P. 56(c)).

B. The Government Contractor Defense

Almost twenty years ago, in Boyle v. United Technologies Corp., 487 U.S. 500 (1988), the Supreme Court recognized the government contractor defense,[11] a federal common law doctrine. The Court concluded that the "uniquely federal interest[]" of "getting the Government's work done" requires that, under some circumstances, independent contractors be protected from tort liability associated with their performance of government procurement contracts. Id. at 504-05.

The Court looked to the Federal Tort Claims Act, 28 U.S.C. § 2671 et seq. ("FTCA"), for guidance. Id. at 509-12. Under the FTCA, Congress waived sovereign immunity for the government insofar as Congress "authorized damages to be recovered against the United States for harm caused by the negligent or wrongful conduct of Government employees, to the

[11] The defense is referred to in the case law as the "government contractor defense" or the "military contractor defense." For purposes of this opinion, we refer to it as either the "government contractor defense" or simply the "contractor defense."

extent that a private person would be liable under the law of the place where the conduct occurred." Id. at 511 (citing 28 U.S.C. § 1346(b)). The Act's discretionary function exception, however, carves out from that authorization "'[a]ny claim . . . based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a federal agency or an employee of the Government, whether or not the discretion involved be abused.'" Id. (quoting 28 U.S.C. § 2680(a)) (brackets in original).

The Boyle Court concluded that the protection for discretionary action taken by federal agencies and employees implies some measure of similar protection for government contractors even though they are themselves non-governmental entities. The Court noted that the exercise of government discretion is inherent to military contracting:

> We think that the selection of the appropriate design for military equipment to be used by our Armed Forces is assuredly a discretionary function within the meaning of this provision. It often involves not merely engineering analysis but judgment as to the balancing of many technical, military, and even social considerations, including specifically the trade-off between greater safety and greater combat effectiveness.

Id. Accordingly, the Court said,

> permitting "second-guessing" of these judgments through state tort suits against contractors would produce the same effect sought to be avoided by the FTCA exemption. . . . To put the point differently: It makes little sense to insulate the Government against financial

> liability for the judgment that a particular feature of military equipment is necessary when the Government produces the equipment itself, but not when it contracts for the production.

Id. at 511-12 (citation omitted). The defense thus protects government contractors from the specter of liability when the operation of state tort law would significantly conflict with the government's contracting interest. Id. at 507.

Adopting the reasoning employed in several previous court of appeals decisions, the Court limited "the scope of [state law] displacement" to instances in which "(1) the United States approved reasonably precise specifications [for the allegedly defectively designed equipment]; (2) the equipment conformed to those specifications; and (3) the [contractor who supplied the equipment] warned the United States about the dangers in the use of the equipment that were known to the supplier but not to the United States." Id. at 512. The first two requirements "assure that the suit [from which protection is sought] is within the area where the policy of the 'discretionary function' would be frustrated -- i.e., they assure that the design feature in question was considered by a Government officer, and not merely by the contractor itself." Id. The third requirement is imposed because "in its absence, the displacement of state tort law would create some incentive for the manufacturer to withhold knowledge of risks, since conveying that knowledge might disrupt the contract but withholding it would produce no liability." Id. The Court therefore

"adopt[ed] this provision lest [its] effort to protect discretionary functions perversely impede them by cutting off information highly relevant to the discretionary decision." Id. at 512-13.

The plaintiffs here contend that the defendants cannot, at least as a matter of law at the summary judgment stage, satisfy any one of the three requirements.

1. Reasonably Precise Specifications.

The plaintiffs argue that the defendants have not established the first Boyle requirement -- that "the United States approve[] reasonably precise specifications," 487 U.S. at 512 -- because: (1) Agent Orange procurement contracts contained no specifications regarding the defective feature, dioxin; (2) there is at least a genuine issue of material fact regarding whether Agent Orange was a commercially available product whose specifications were created by the defendants rather than the government, whose involvement was minimal; and (3) the alleged defect was unrelated to the contractual specifications for 2,4,5-T because it was the defendants' chosen manufacturing processes -- with which the government was not involved and which were not integral to contract compliance -- that caused dioxin to be present.[12]

[12] The plaintiffs also complain that because the defendants cannot produce every contract between them and the government for Agent Orange, it is impossible for the defendants to prove what contractual specifications they were subject to under the missing contracts and, therefore, impossible for the defendants to meet their burden of proof under the government contractor defense.

The first argument concerns the proper conception of the complained-of defect and can readily be resolved. The second and third arguments are, in distinct ways, about how the government exercised its discretionary authority: The second argument asks whether the government was involved in the contractual process to the extent that Boyle requires; while the third asks us to determine in what context the government must exercise its discretion for the government contractor defense to apply. To conduct this third inquiry, we must determine the source of the "conflict" between the government's interests and state tort law that is required for the defense to apply.

a. The complained-of defect

The plaintiffs assert that because the contracts at issue contain no specifications whatsoever with regard to the dioxin, the government exercised no discretionary authority over that which is the subject of their state tort litigations, as a successful defense based on Boyle requires. Their argument misconceives the nature of what the contracts in question were about and defines the alleged defective design too narrowly.

This argument is without merit for many reasons. We note here only that although it is true that a defendant who had no way to demonstrate what specifications were within the contract or contracts at issue would likely have difficulty successfully asserting the contractor defense, the plaintiffs here do not attempt to rely on particular contracts or to distinguish one contract from another. None of their arguments regarding the first Boyle prong rely on the specifications of a particular contract versus the specifications of another. The plaintiffs therefore have not demonstrated that the inability to produce each and every contract is relevant to the applicability of the government contractor defense for the Agent Orange contracts as a whole.

The contracts at issue provided for the defendants to supply Agent Orange. The Agent Orange was allegedly defective because it contained excessive trace amounts of dioxin, which were present as a result of the manufacture of a specified Agent Orange component, 2,4,5-T. The dioxin -- while a defect of 2,4,5-T -- was not itself defective, nor did it exist within Agent Orange apart from the 2,4,5-T therein.[13] It was therefore the 2,4,5-T that was alleged to be defective, not the dioxin.

b. The government approved specifications for a uniquely tailored product

The plaintiffs contend that the defendants cannot demonstrate that the government exercised its discretionary authority to create the Agent Orange specifications that are contained in the contracts. The government contractor defense protects federal contractors solely as a means of protecting the government's discretionary authority over areas of significant federal interest such as military procurement. Defendants asserting the defense must demonstrate that the government made a discretionary determination about the material it obtained that relates to the defective design feature at issue. Where the government "merely rubber stamps a design, . . . or where the [g]overnment merely orders a product from stock without a significant interest in the alleged design defect," the government has not made a discretionary decision in need of protection, and the defense is therefore inapplicable. Lewis v.

[13] Pure lead, without defect, may be a defect of a child's painted toy.

Babcock Indus., Inc., 985 F.2d 83, 87 (2d Cir.) (citing Trevino v. Gen. Dynamics Corp., 865 F.2d 1474, 1480, 1486 (5th Cir.), cert. denied, 493 U.S. 935 (1989), and Boyle, 487 U.S. at 509) (internal quotation marks omitted), cert. denied, 509 U.S. 924 (1993). If the government buys a product "off-the-shelf" -- "as-is" -- the seller of that product cannot be heard to assert that it is protected from the tort-law consequences of the product's defects. Where the government is merely an incidental purchaser, the seller was not following the government's discretionary procurement decisions.

Here, the plaintiffs contend that the government rubber-stamped its approval of the defendants' suggested specifications, which, in turn, were simply combinations of off-the-shelf, commercially available herbicides. They say that Dow Chemical owned the patents for certain aspects of the herbicides' component parts and that many different defendants manufactured and sold 2,4,5-T and 2,4-D in various combinations as early as 1948, with some of the formulations including the same 50% mixture as Agent Orange. As a result, the plaintiffs assert, there are at least triable issues of fact as to whether (1) Agent Orange and related herbicides were "stock" products, rather than products tailored to the government's needs; and (2) even if the herbicides were not commercially available products, Agent Orange's components were devised by the defendants without the significant government input necessary to meet the first Boyle requirement.

As to the former, the plaintiffs do not dispute the defendants' assertions that 2,4,5-T and 2,4-D were not commercially available at the same high concentrations as that contained in Agent Orange. The Stephensons, for example, concede that 2,4,5-T was not commercially available in concentrations greater than 55%. See Final Reply Br. for Pl.-Appellants, 05-1760-cv, at 67-68. Agent Orange, by contrast, contained 2,4,5-T at greater than 90% purity levels. See, e.g., Aff. of William A. Krohley, counsel for defendant Hercules Inc., Oct. 27, 2004 ("Krohley Aff."), Exh. 11 (July 19, 1963 military specification).

Moreover, as the Fifth Circuit aptly noted in unrelated Agent Orange litigation, the fact that a product supplied to the government comprises commercially available component parts says nothing about whether the finished product resulted from the exercise of governmental discretion as to its design. "[A]ll products can eventually be broken down into various off-the-shelf components." Miller v. Diamond Shamrock Co., 275 F.3d 414, 420 (5th Cir. 2001); see also In re Joint Eastern and Southern Dist. New York Asbestos Litig., 897 F.2d 626, 638 (2d Cir. 1990) ("Grispo") (Miner, J., concurring) ("[T]he [g]overnment prescription of how [stock] items should be combined and packaged [is] the key to the military contractor defense . . . .").

As to the latter argument -- the plaintiffs' contention that there was no significant government input -- the plaintiffs misperceive the nature of the government involvement necessary to invoke the contractor defense. That the component chemicals were

not developed for military use in the first instance, that some aspects of their composition were patented, and that the defendants may have proposed certain specifications to the government, are not determinative. Boyle explicitly contemplated government reliance on manufacturers' expertise in making a fully informed decision as to what to order. See Boyle, 487 U.S. at 513. "[I]t is necessary only that the government approve, rather than create, the specifications . . . ." Carley v. Wheeled Coach, 991 F.2d 1117, 1125 (3d Cir.), cert. denied, 510 U.S. 868 (1993); see also Boyle, 487 U.S. at 513 ("The design ultimately selected may well reflect a significant policy judgment by [g]overnment officials whether or not the contractor rather than those officials developed the design.").

The extent of the defendants' involvement in suggesting specifications or the defendants' reliance on previously attained industry expertise in doing so is thus not conclusive. The government exercises adequate discretion over the contract specifications to invoke the defense if it independently and meaningfully reviews the specifications such that the government remains the "agent[] of decision." Grispo, 897 F.2d at 630; see also Stout v. Borg-Warner Corp., 933 F.2d 331, 336 (5th Cir.) (government issued reasonably precise specifications when it reviewed contractor's detailed drawings several times and evaluated test models), cert. denied, 502 U.S. 981 (1991); Harduvel v. Gen. Dynamics Corp., 878 F.2d 1311, 1320 (11th Cir. 1989) (government issued reasonably precise specifications for F-

16 fighter aircraft having approved its design following "continuous back and forth" with contractor), cert. denied, 494 U.S. 1030 (1990).

With respect to Agent Orange, the record contains, for example, a memorandum dated February 22, 1963, regarding "Ester Specifications for U.S. Army Biological Laboratories," written by an employee of one of the defendants, that discussed a February 8, 1963, meeting called "to satisfy the U.S. Army about specifications and typical physical properties on the next type of blend they [sic] will be purchasing." Mem. from I.F. Hortman to, inter alios, S.D. Daniels and W.A. Kuhn (Feb. 22, 1963), at 1. It indicated that an effort to permit use of a different n-butyl ester from 2,4,5-T was "impossible at this time because the Army had studied only the normal esters," and that, therefore, the chemical company would have to present the proposed change directly to "the commanding officer, U.S. Army Biological Laboratories and Dr. Charles Minarick, Chief of Crops Division" for approval. Id. And notes from a 1968 meeting between government officials and representatives of several of the defendants indicate that the government insisted on a test for chemical composition despite "much resistance to this added requirement on the part of the Industry [sic]" as well as on a 98% purity level for the 2,4,5-T ester. Memorandum of R.A. Guidi, Diamond Alkali Co. (Feb. 20, 1968), at 1-2.

We conclude, based on the evidence in the extensive record that has been brought to our attention,[14] that no reasonable jury could find that the government did not exercise sufficient discretion for it to have been said to have "approved" specifications for the herbicides. The government was plainly the "agent[] of decision," Grispo, 897 F.2d at 630, with respect to Agent Orange's contractually specified composition.

c. The government made a discretionary determination regarding Agent Orange's toxicity

The next question, and we think it to be a more difficult one, is whether the government made a discretionary determination that created the conflict between the federal government's interests and the defendant's state law duties that is necessary to invoke the government contractor defense. The plaintiffs argue that the defendants could have manufactured Agent Orange that produced either dioxin-free or nearly dioxin-free 2,4,5-T by employing the lower-temperature manufacturing process developed and used by a German manufacturer, C.H. Boehringer Sohn. This process, the plaintiffs say, would have permitted the defendants to comply with their federal contractual duties and deliver a less toxic defoliating agent, albeit at a somewhat slower rate. As a result, the plaintiffs argue, the defendants could have met both their federal duties and their

[14] "Fed. R. Civ. P. 56 does not impose an obligation [on the court considering a motion for summary judgment] to perform an independent review of the record to find proof of a factual dispute." Amnesty America v. Town of West Hartford, 288 F.3d 467, 470 (2d Cir. 2002).

state tort-law duties; the direct conflict contemplated by Boyle is absent; and the first requirement for the contractor defense therefore cannot be established.[15]

(i) Analysis. In determining whether the government made a discretionary decision that would create the type of conflict between tort law and government interests contemplated by Boyle, we are not called upon to assess the merits of the alleged state tort law violation.[16] We are tasked only with

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[15] The plaintiffs at times refer to the defendants' failure to use the Boehringer process as resulting in a "manufacturing" defect. Not so. The plaintiffs allege a defective process, not that the process used was somehow erroneously applied. They therefore allege a design defect. As the Eleventh Circuit noted,

> [the] distinction between "aberrational" defects and defects occurring throughout an entire line of products is frequently used in tort law to separate defects of manufacture from those of design. Stated another way, the distinction is between an unintended configuration, [a manufacturing defect], and an intended configuration that may produce unintended and unwanted results[,] [a design defect].

Harduvel, 878 F.2d at 1317 (internal citation omitted).

[16] Although not dispositive here, we nonetheless note that the plaintiffs' argument regarding the defendants' purported failure to use state-of-the-art manufacturing processes would appear problematic in ways that do not affect our decision as to the applicability of the government contractor defense as a matter of law, but which might present insurmountable obstacles were we to remand for consideration of the plaintiffs' claims on their merits. For example, documents that are part of the record on appeal indicate that the Dow Chemical Company purchased the proprietary information for the Boehringer process in December 1964 and began using it in its chemical plants two years later. See Mem. from J.D. Doedens, Chemicals Dep't, Dow Chem. Co. (Mar. 1, 1965), at 2; Mem. from K.E. Coulter, Midland Division Research & Dev., Dow Chem. Co. (Apr. 25, 1967), at 2. The plaintiffs do not explain how they can seek to hold Dow Chemical liable for Agent Orange produced using the method they now contend should have been used by all manufacturers at all relevant times, or how they might seek to distinguish among manufacturers or between

determining whether the government's discretionary actions with respect to the allegedly defective design and the alleged state law tort duty conflict. If they do, the first Boyle requirement is met; if they do not, the government contractor defense does not apply, and we must return the case to the district court for trial on its merits. Cf. Grispo, 897 F.2d at 627 n.1 (noting that appeal of summary judgments pertaining to applicability of the contractor defense did "not raise the question whether New York law imposes a duty to warn under the[] facts [of the case], or whether a failure to warn was the proximate cause of the [plaintiffs'] alleged injuries.").

The first Boyle requirement is designed to ensure that "a conflict with state law exists." Lewis, 985 F.2d at 86. We have observed that, therefore, "answering the question whether the [g]overnment approved reasonably precise specifications for the design feature in question necessarily answers the question whether the federal contract conflicts with state law." Id. at 87. If such specifications are present, the contractor's federal contractual duties will inevitably conflict with alleged state

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particular manufacturers' batches of herbicides in proving that their exposure to the defoliants caused the injuries about which they now complain. See Agent Orange I Opt-Out Op., 818 F.2d at 189 (noting the "undisputed facts that the amount of dioxin in Agent Orange varied according to its manufacturer and that the government often mixed the Agent Orange of different manufacturers and always stored the herbicide in unlabeled barrels"). Nor is it clear that under these circumstances, the defendants' knowledge dating from the late 1950s that the Boehringer plant was using a new manufacturing process would necessarily translate into a state law tort duty to have adopted it themselves.

tort duties to the contrary because complying with the federal contract will prevent compliance with state tort law as the plaintiffs have alleged that it exists. See id. Alternatively, where a "contractor could comply with both its contractual obligations and the state-prescribed duty of care," displacement "generally" would not be warranted, and state law would apply. Boyle, 487 U.S. at 509.

The defendants do not contest that the government's contractual specifications for Agent Orange were silent regarding the method of manufacture or that the government harbored no preference, expressed or otherwise, regarding how the herbicides were to be produced. See, e.g., Appellees' Br. at 36-37. Indeed, they admit that they were under no federal contractual duty to produce Agent Orange using any particular manufacturing process or with any particular reference to the resulting toxicity levels. See id. at 96-97, 99 (characterizing lack of specifications regarding method of manufacture or toxicity levels as discretionary omission and conceding that "omitted specifications do not constitute contractual duties"). The defendants argue instead that the government's Agent Orange procurement contracts nevertheless created a conflict with their alleged state tort duty to manufacture the herbicides differently. The defendants reason that the documentary evidence establishes as a matter of law that the manufacture of dioxin-free Agent Orange was impossible and that, in any event, they could not have complied with their procurement contracts with the

government had they used the slower, less efficient, Boehringer method. They contend further that the government ordered the herbicides with full knowledge of the relevant dangers, which, they say, is equivalent to the government having approved a reasonably precise specification about that danger. Id. at 91-99, 102-04.

But the documents cited by the defendants as to the inevitability of dioxin content in Agent Orange -- including declarations by the Environmental Protection Agency that dioxin in some very small amounts was "unavoidable" and that the "potential risks" of harm to humans outweighed any benefits of continued use of commercially available 2,4,5-T, see EPA Notice of the Denial of Applications for Federal Registration of Intrastate Pesticide Products Containing 2,4,5-T, 45 Fed. Reg. 2,898, 2,899 (Jan. 15, 1980); EPA Decision and Emergency Order Suspending Registrations for the Forest, Rights-of-Way, and Pasture Uses in 2,4,5-T, 44 Fed. Reg. 15,874, 15,874 n.1 (Mar. 15, 1979) -- do not refute what we understand to be the thrust of the plaintiffs' argument: that had the defendants used the Boehringer method, the Agent Orange they produced would have contained no then-detectable amounts of dioxin. In that event, the plaintiffs allege, the lower levels of dioxin would have avoided much, if perhaps not all, of the harm allegedly suffered as a result of the presence of dioxin in Agent Orange.

The documents submitted to the district court also do not establish as a matter of law that there was an inherent

conflict between use of the Boehringer process and compliance with defendants' contractual obligation to the government. Dow Chemical adopted and used the Boehringer method, or something like it, see Mem. from J.D. Doedens, Chemicals Dep't, Dow Chem. Co. (Mar. 1, 1965), at 2; Mem. from Alex Widiger, Midland Division Research & Dev., Dow Chem. Co. (Apr. 25, 1967), at 2, at the time the government was requesting Agent Orange in increasing quantities and sequestering the entire domestic market for 2,4,5-T. This change in manufacturing method and its timing at least raises a triable issue of fact as to whether the defendants could have complied with their contractual obligations to the government while using what the plaintiffs contend was a process that would have resulted in a defoliating agent substantially less dangerous to military personnel.

And so we must determine whether the government did in fact, as the defendants argue, approve of the toxicity levels present in Agent Orange in a manner that would create the necessary conflict with the alleged state law tort duty such that the latter must be displaced. We think that it did.

We have previously concluded that where the government contracts for the purchase of a product with knowledge that the product has an arguable defect, it is considered to have approved "reasonably precise specifications" for that product, with the known defect, for purposes of the first Boyle requirement. Lewis, 985 F.2d at 89. In Lewis, the government reordered a cable that connected a parachute to the crew module of an Air

Force fighter jet with knowledge that the coating that protected the steel cable was prone to cuts, resulting in cable corrosion. Id. at 85. Although the government during its initial order had not made a discretionary decision about which materials should be used in constructing the cable, it subsequently ordered replacement cables even after an Air Force investigation into the corroded cables had revealed the problem with the protective coating, reasoning that changes to its maintenance manual would sufficiently alleviate the risk of harm. Id. In light of this considered attention by the government to the precise defect alleged, we concluded that the cable could not be characterized as a stock item and that the "contractor's decision regarding the materials to be used for the cable" could not be "second-guess[ed]." Id. at 89. We did not discuss whether or how the contractor had been alerted to the government's investigation or the reasons for its reordering, nor whether the contract for replacement cables also omitted reference to the material used to construct them, as had the original cable contract. "Based on the reorder" alone, we said, "the contractor c[ould] claim: 'The [g]overnment made me do it.'" Id. (quoting Grispo, 897 F.2d at 632).

Here, similarly, the record discloses that the government explicitly evaluated the alleged design defect (toxic 2,4,5-T), and thereafter continued to order "replacement" herbicides. The government examined the toxicity of what the plaintiffs contend was the most toxic Agent Orange variant used

in Vietnam -- Agent Purple -- and determined that it posed no unacceptable hazard. See Tr. of Oral Arg. at 24 (plaintiffs' attorney's comments regarding Agent Purple's toxicity). On April 26, 1963, the Army conducted a meeting at its Edgewood (Maryland) Arsenal "to evaluate the toxicity of a[n herbicide] mixture known as 'Purple.'" Minutes of a Meeting Held to Discuss and Evaluate the Toxicity of 2,4-D and 2,4,5-T Compounds (Apr. 26, 1963) ("April 1963 Meeting Minutes"), at 3. Their analysis required reaching a conclusion "about dose levels and hazards to health of men and domestic animals from 2,4-D and 2,4,5-T based on the medical literature and unpublished data of various research laboratories." Id. Those in attendance included officials from various branches of the military and various other government agencies, and representatives from manufacturers Dow Chemical and AmChem Products. Id. at 2. The group heard various presentations on the subject. At the end of the meeting, the participants adopted "acute toxicity" figures for Agent Purple. They concluded

> in summary and after careful review of toxicological data related to 2,4-D and 2,4,5-T plus the knowledge as to the manner these materials have been used for defoliation in military situations in Southeast Asia, . . . that no health hazard is or was involved to men or domestic animals from the amounts or manner these materials were used . . . .

Id. at 5. Thereafter, the government continued to contract with the defendants for purchase of the same and similar defoliating agents.[17]

In other words, the Army examined the toxicology data available to it and concluded that Agent Orange's components, 2,4,5-T and 2,4-D -- in the formulation that the government, in its discretion, used when ordering it, and as it was then being manufactured -- posed "no health hazard" and were, at least under the circumstances of international armed conflict, suitable for use in Southeast Asia. Since the government continued to order Agent Orange after having evaluated its toxicity levels and declared them acceptable, we "cannot second-guess" the manufacturers' decision to produce the agents in the manner that they did. Lewis, 985 F.2d at 89. Because "[t]he imposition of liability under state law would constitute a significant conflict with the [g]overnment's decision" that the defoliants used in Vietnam as they were produced by the defendants posed no

[17] The government also evaluated the toxic effects of 2,4,5-T at other points during its use in Vietnam. For example, just several weeks after the Edgewood meeting, on May 9, 1963, the President's Scientific Advisory Committee was briefed on the "Possible Health Hazard of Phenoxyacetates As Related to Defoliation Operations in Vietnam." The Bionetics Study -- a government-sponsored research project that included research into the health effects of 2,4,5-T -- also began in 1963. It was this research that ultimately triggered, among other curtailments of 2,4,5-T's use, cessation of the defoliation campaign. Dr. R.A. Darrow, Fort Detrick, "Historical, Logistical, Political and Technical Aspects of the Herbicide/Defoliant Program, 1967-1971," at 20-22.

unacceptable hazard, id., we conclude that the first Boyle requirement is met.

(ii) The Grispo language. There is language in Grispo that seems to require something more: that when the government "mak[es] a discretionary, safety-related military procurement decision contrary to the requirements of state law," it "incorporate[] th[e] decision into a military contractor's contractual obligations." Grispo, 897 F.2d at 632. But we concluded in Lewis that the government's order of replacement Babcock cables with knowledge of the risks to pilots associated with the defect in question was itself sufficient to prevent "second-guess[ing]" of the manufacturer's choice to continue using the same cable coating, even though nothing in Lewis suggests either (1) that the government included in the re-order contract a specification instructing that the suspect material be used, or (2) that the defendant manufacturer had been apprised of the government's investigation of the alleged corrosion problem. See Lewis, 985 F.2d at 89 ("We hold that when the [g]overnment reordered the specific Babcock cable, with knowledge of its alleged design defect, the [g]overnment approved reasonably precise specifications for that product such that the manufacturer qualifies for the military contractor defense for any defects in the design of that product." (emphasis added)).

Insofar as there is a tension between the two cases, we think it is resolved by Boyle. In framing the first Boyle requirement, the Boyle Court sought to "assure that the suit [in

which the contractor defense is asserted] is within the area where the policy of the 'discretionary function' would be frustrated" absent the availability of the defense. Boyle, 487 U.S. at 512. Although the Court used the term "reasonably precise specifications," we think that, as in Lewis, reordering the same product with knowledge of its relevant defects plays the identical role in the defense as listing specific ingredients, processes, or the like.

In Boyle, the alleged state law duty of care was "precisely contrary to the duty imposed by the [g]overnment contract." Id. at 509. But the opinion did not hold that a conflicting, express contractual duty was required for the contractor defense to preempt state law. The issues as framed by the Boyle Court were not narrowly about duties imposed by contract; they were more broadly about federal policies and interests and the exercise of federal discretion, in the face of contrary state law, in furthering them. See id. at 507 ("Displacement will occur only where . . . a 'significant conflict' exists between an identifiable 'federal policy or interest and the [operation] of state law.'" (quoting Wallis v. Pan Am. Petroleum Corp., 384 U.S. 63, 68 (1966) (brackets in original) (emphasis added)); see also id. at 509 (stating that even where federal contractual and state tort duties were "precisely contrary," "it would be unreasonable to say that there is always a 'significant conflict' between the state law and a federal policy or interest" (emphasis added)).

The government's "uniquely federal interest," id. at 504, in fully taking advantage of its ability to determine what level of risks and dangers must be tolerated in order to achieve a particular military goal need not be belabored. See Agent Orange I Opt-Out Op., 818 F.2d at 191 ("Civilian judges and juries are not competent to weigh the cost of injuries caused by a product against the cost of avoidance in lost military efficiency. Such judgments involve the nation's geopolitical goals and choices among particular tactics . . . ."). We pause only to note that the federal interest implicated by the lawsuits here is not only the ordinary need to ensure the government's "work" gets "done," Boyle, 487 U.S. at 505, but the ability to pursue American military objectives -- in this case, protection of American troops against hostile fire.

The government made an express determination, based on the knowledge available to it at the time, that Agent Orange as then being manufactured posed no unacceptable hazard for the wartime uses for which it was intended, and that the product should continue to be manufactured and supplied to it. In light of this exercise of discretion, we read Boyle to require displacement of any alleged state law rules to the contrary.[18]

[18] We note that the second and third Boyle requirements remain essential to proving the government contractor defense even where, as here, the defendants do not rely on a contractual duty to demonstrate the required conflict between federal interests and state law. The government's discretionary determination about the design defect alleged was necessarily made in the shadow of the government's expectations regarding the product it expected to receive. Defendants therefore must

2. Compliance with Specifications. The plaintiffs' challenge to the defendants' ability to demonstrate the second requirement for Boyle protection -- compliance with the contracts' specifications -- does not warrant extensive discussion. Nothing about the presence of dioxin in trace amounts within the 2,4,5-T component of Agent Orange rendered the Agent Orange delivered to the government non-compliant with its contractual obligations. The plaintiffs' own expert agrees. See Aff. of Harry Ensley (Feb. 6, 2004), at ¶ 20 ("[T]he 2,4,5-T the government purchased could contain varying amounts of such impurities as . . . dioxin . . . , yet still be in compliance with the government's specifications . . . ."). There is no allegation that the government received Agent Orange with 2,4,5-T present in anything other than the proportions and purity levels called for by the terms of the contracts. The second requirement is therefore met as a matter of law. See Miller, 275 F.3d at 420-21 (rejecting same argument made by civilian plaintiffs seeking compensation for injuries allegedly caused by Agent Orange).

3. Defendants' Warnings About Known Dangers. The final Boyle requirement for the invocation of the government contractor defense is that the defendants demonstrate that they "warned the United States about the dangers in the use of the equipment that

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demonstrate that the product it delivered to the government was precisely what the government requested. The third prong is likewise unaffected: The government's discretionary determination must be a fully informed one.

were known to [them] but not to the United States." Boyle, 487 U.S. at 512. The plaintiffs make essentially two arguments in this regard: (1) that the defendants knew more about the hazards of 2,4,5-T than did the government, but failed to warn the government about them; and (2) that even if some members of the government had some knowledge regarding the dangers of dioxin, Boyle requires that for the defense to be applicable, the actual contracting officials must have such knowledge, and those involved in the specification process for Agent Orange knew nothing about 2,4,5-T's hazards.

The thrust of the defendants' response is that (1) none of the plaintiffs claim an injury of the sort that was a danger known by anyone at the time of Agent Orange's production; (2) as to dangers about which the defendants were aware, the evidence demonstrates as a matter of law that they shared that knowledge with the government; and (3) irrespective of what the defendants knew about Agent Orange in general, the government had far greater knowledge than the defendants about Agent Orange and the dangers posed by its intended use in Vietnam.

We doubt that the defendants can establish as a matter of law on the present record either the second or third of their contentions -- that they shared the knowledge of dangers of which they were aware with the government and that the government had far more knowledge about the dangers of Agent Orange in its

planned use. Each is intensely factual and hotly disputed.[19] We think that the record is clear, however, that the defendants did not fail to inform the government of known dangers at the time of Agent Orange's production of the type that would have had an impact on the military's discretionary decision regarding Agent Orange's toxicity. We therefore conclude that the defendants have established Boyle's third requirement as a matter of law.

Boyle mandates that to obtain the benefit of the government contractor defense, a contractor must inform the government about known "dangers in the use of the equipment." Boyle, 487 U.S. at 512. But the Boyle Court was silent as to what types of risks rise to the level of dangers that must be disclosed. Prior to Boyle, we were of the view that manufacturers need disclose to the government only those hazards that (1) are "based on a substantial body of scientific evidence"; and (2) create dangers likely "serious enough to call for a weighing of the risk against the expected military benefits," that is, "substantial enough to influence the military

[19] We concluded in Agent Orange I, based on much the same record now before us, that "the critical mass of information about dioxin possessed by the government during the period of Agent Orange's use in Vietnam was as great as or greater than that possessed by the chemical companies." Agent Orange I Opt-Out Op., 818 F.2d at 193. The Fifth Circuit, relying in large part on our Agent Orange I determination, concluded the same. See Miller, 275 F.3d at 421. But we are required to review the factual record anew as it is presented to us, not as it was presented to a different panel twenty years ago. And we note, as we did in Agent Orange I, that we were in 1987 without the benefit of briefing by the parties on this subject. Agent Orange I Opt-Out Op., 818 F.2d at 190.

decision to use the product." Agent Orange I Opt-Out Op., 818 F.2d at 193. Until now, neither we nor the Supreme Court has been called upon to decide, post-Boyle, what constitutes "knowledge" of a "danger" that would trigger a duty to inform as to the "equipment" being ordered.

This much is plain: Boyle did not contemplate requiring disclosure of any and all potential risks by the contractor to the government, irrespective of their relation to the governmental discretionary decision at issue. The Boyle Court was concerned primarily with protecting the government's ability to assume certain kinds of risks without assuming the costs of liability for those risks. See Boyle, 487 U.S. at 511-12. It protected this ability by ensuring that where the government accepts such a risk knowingly, a state law that would require finding that same risk unacceptable must be displaced. We therefore do not think that the Boyle Court meant that a defendant seeking the protection of the defense was required to demonstrate that it had shared all known hazards with the government, irrespective of whether those hazards allegedly not conveyed would have had an impact on the government's exercise of discretion about the design defect alleged. It would be impractical to require that a manufacturer compile and present to the government in advance a list of each and every risk associated with a product it is producing for the government. The operation of a tank or a transport plane -- more so the manufacture and use of a chemical agent -- involves, at the

extremities, virtually limitless risks. Even if it were possible to generate such complete lists, their comprehensiveness would overwhelm government decision makers with largely irrelevant data, extending the time and costs associated with federal contracting and obscuring those risks most likely to have an impact on contracting decisions. A rule that required full disclosure of all possible risks to anyone would be contrary to Boyle's underlying rationale of protecting the federal interest in "getting the Government's work done." Id. at 505.

We therefore adhere to our pre-Boyle precedent. We conclude, much as we did before Boyle was decided, that a defendant may satisfy the third Boyle requirement if it demonstrates that it fully informed the government about hazards related to the government's exercise of discretion that were "substantial enough to influence the military decision" made. Agent Orange I Opt-Out Op., 818 F.2d at 193. The defendants can demonstrate a fully informed government decision by showing either that they conveyed the relevant known and "substantial enough" dangers, id., or that the government did not need the warnings because it already possessed that information, see Lewis, 985 F.2d at 89-90 ("There is no requirement that appellees inform the Air Force of dangers already known to the Air Force.").

Here, the plaintiffs allege that the defendants knew of dioxin's hazards but failed to inform the government of them. The documents to which they cite for this proposition, however,

pertain almost universally to the risk of chloracne (a severe skin disease) and liver damage to workers manufacturing Agent Orange. These risks, the manufacturers thought, were created by the dioxin "impurity" that resulted from producing trichlorophenol, a component of 2,4,5-T. See, e.g., V.K. Rowe, Test. for the 2,4,5-T Hr'g (undated), at 28 (referring to dioxin build-up in trichlorophenol manufacture), PA 3501-02.; Mem. of V.K. Rowe, Dow Chemical Co., at 1 (Jun. 24, 1965) ("Rowe Jun. 1965 Mem.") (referring to dioxin "impurities" present in trichlorophenol that could be "carried through into the T acid").

There is, indeed, ample evidence that the defendants were concerned about the health effects of dioxin, specifically chloracne[20] and liver damage,[21] on their workers. Tests were

[20] As to the dangers related to chloracne, the documents submitted show that knowledge of the risk varied among manufacturers. Not all manufacturers had experienced chloracne outbreaks. Among those that did, it was not clear that dioxin was in the final products emanating from the contaminated plant. See V.K. Rowe, Test. for the 2,4,5-T Hr'g (undated), at 28-29 (indicating testing of Dow trichlorophenol and 2,4,5-T following 1964 chloracne outbreak in manufacturing plant revealed no "chloracnegens," and that source of outbreak was contaminated waste oil, "not exposure to trichlorophenol"). Dow thought that dioxin concentrations of less than one part per million presented no chloracne hazard to workers or consumers, Rowe Jun. 1965 Mem., at 1, and changed its production process such that the concentration of dioxin in its Agent Orange would be reduced to the point where, in its view, the hazard would be eliminated.

[21] Variance among the defendants regarding their knowledge of the risks of liver damage to humans was similar to that related to chloracne, with some, but not all, of the defendants aware that animal tests showed liver damage was a possible result of direct exposure to dioxin and that there was liver damage among workers engaged in manufacturing 2,4,5-T. There were also isolated instances of other health concerns arising from manufacturing processes -- for example, temporary nerve damage (Monsanto) and unspecified "systemic injury" (Dow). See

conducted that involved exposing animals to pure dioxin, which revealed some "severe response[s]," see Report on the Chloracne Problem Meeting on March 24, 1965 (Mar. 29, 1965) ("Mar. 29 Report"), at 5; similar tests performed on humans some years later using a one-percent dioxin solution that resulted in skin lesions, see Letter of Albert M. Kligman to V.K. Rowe, Dow Chemical Co. (Jan. 23, 1968) PA 3732. At least two defendants considered whether the dioxin in trichlorophenol's manufacture would be manifest in the trichlorophenol itself or in the end products containing trichlorophenol, see, e.g., id. at 4; Mem., Dow Chem. Co. (Mar. 10, 1965) ("Mar. 10 Dow Mem."), Mem. from E.L. Chandler, Diamond Shamrock Co. ("Chandler Mem.") (Jul. 9, 1962), but the danger with which they were concerned was limited to the possibility of a chloracne outbreak among those handling it, see Mar. 10 Dow Mem. (discussing possible need to take precautions that would "prevent injury" akin to what had been taken following past incidents of chloracne outbreaks); Chandler Mem. (indicating two commercial customers had claimed chloracne problems with "Diamond esters," one of which had no similar problems with other manufacturers' product). There is no evidence to which we have been directed or that we have otherwise found that the defendants' knowledge of 2,4,5-T's risks extended to dioxin as a carcinogen, as a toxin that potentially might cause diseases long after exposure, or as a significant health

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Deposition Excerpts of Dr. Wallace, at 2468; Rowe Jun. 1965 Mem. at 1. None of the documents reveal knowledge of any such danger to non-workers.

risk (apart from chloracne) to those exposed to herbicides containing 2,4,5-T being used as such, in wartime conditions or otherwise, except for workers manufacturing them or their component chemicals.[22]

How much the government knew about the workplace dangers associated with production of 2,4,5-T while it was considering the use of and ordering Agent Orange is unclear. The minutes from the 1963 meeting at Edgewood Arsenal contained references to a lack of workplace incidents involving 2,4-D and 2,4,5-T. April 1963 Meeting Minutes at 4, Appendix A. The domestic safety record of herbicides containing these two chemicals, including the manufacturers' alleged reports to the Department of Agriculture regarding the absence of ill effects

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[22] As to the specific subject of dioxin as a carcinogen, the Dow Chemical Company testified before Congress that its numerous tests and experiments regarding dioxin's toxicity did not examine the chemical's carcinogenicity. Test. of Dr. Julius E. Johnson, Vice President, Dow Chemical Co., Apr. 7 and 15, 1970, at 371. The plaintiffs do point us to a memorandum written by Monsanto's medical director, R. Emmet Kelly, in which he expresses the need to "minimize the presence of this known chloracne agent" because dioxin "[v]ery conceivably [could] be a potent carcinogen." Mem. from R. Emmet Kelly, Monsanto Company (Mar. 30, 1965). But this "conception" alone -- without any context as to its basis or the relationship between the harms of dioxin in its pure form versus the trace amounts of the chemical found within Agent Orange -- is not enough to convince a reasonable factfinder that dioxin was a known carcinogen at the time of Agent Orange's production or, more importantly, that the defendants knew that the trace amounts of dioxin in Agent Orange might prove to be a carcinogen for those not involved in its manufacture or direct handling. See Agent Orange I Opt-Out Op., 818 F.2d at 193 ("[T]he fact that dioxin may injure does not prove the same of Agent Orange . . . ."). We express no view regarding whether the defendants might have done more to investigate dioxin's dangers, as it is well beyond the purview of our inquiry. Cf. Kerstetter v. Pac. Sci. Co., 210 F.3d 431, 436 (5th Cir. 2000) (discussing relationship between contractor defense and latent defects).

from the herbicides on their workers, was also relayed to the President's Science Advisory Committee in a May 1963 briefing entitled "Possible Health Hazard of Phenoxyacetates as Related to Defoliation Operations in Vietnam." At least two domestic manufacturers, however, had already experienced chloracne breakouts and other problems among its workers.

The documents make clear, however, that the military was concerned about the likely effect on those exposed to the herbicides in the manner in which they were, and were to be, used in Vietnam. This is hardly surprising. The principal purpose of Agent Orange was to attempt to protect American troops from attack by limiting vegetation around American facilities and emplacements that could provide cover to enemy combatants. To that extent, the chemical agents were to be used on American and allied positions, not those of the Viet Cong.

And the undisputed record with respect to dangers that were posed by the use of Agent Orange is that during the entirety of the production of Agent Orange, the defendants knew only that it was possible that those handling herbicides containing 2,4,5-T might develop the skin disease chloracne. The Edgewood participants, including delegates from various branches of the government, military and civil, were aware of this type of risk. See April 1963 Meeting Minutes at 5 (AmChem representative related experiences of "industrial firms making . . . continuous field applications over very large areas" and noted "skin sensitization was the maximum effect produced" in "probably one

out of a thousand persons"). Yet the government continued to order Agent Orange in the manner specified in the procurement contracts.

If the government had decided to manufacture Agent Orange, as it considered doing for a period during the late 1960s, the defendants might well have been required more fully to inform the government of all the possible dangers associated with the manufacture of the chemical (none of them, incidentally, being malignancies). The record suggests that they were prepared to do so. See "Plan 'Orange' Production," Dow Chemical Co. (Apr. 20, 1967), at 3 (stating that "[a] serious potential health hazard to production workers is involved in the production of 2,4,5-T" and noting that its "knowhow regarding elimination of the hazard" could be made available to the government), attached to Letter from A.P. Beutel, Vice Pres., Dir. of Gov't Affairs, Dow Chemical Co., to H.G. Fredericks, Deputy Dir. of Procurement and Production, Edgewood Arsenal (Apr. 20, 1967).

We conclude, however, that no reasonable factfinder could find that the defendants had knowledge of a danger that might have influenced the military's conclusion that "operational use" of Agent Orange posed "no health hazard . . . to men or domestic animals," April 1963 Meeting Minutes, at 3, 5, and its presumably related decision to continue to purchase Agent Orange as it was then being produced by the defendants. We find nothing in the record to support an assertion that the defendants "cut[] off information highly relevant

to . . . discretionary decision[s]" of the government, Boyle, 487 U.S. at 513, i.e., that they possessed knowledge of dangers unknown to the government that, had they been shared, might have influenced the government's decision regarding the extent of the hazard posed by use of Agent Orange or its choice to continue its use.

We acknowledge that there may well have been some aspects of the dangers of Agent Orange resulting from the trace presence of dioxin that personnel of one or more of the defendants were aware of that members of the military may not have known, at least contemporaneously. We cannot conceive of a long-term relationship between the military and a civilian contractor in which complete equivalence of knowledge at all times in the relationship can be expected or could be established. But nothing in the record of which we are aware would create a triable issue of fact as to whether there was never-disclosed knowledge of a sort that might have influenced the government's decision-making process regarding Agent Orange as it was used in Vietnam.

Accordingly, we conclude that the defendants have established as a matter of law the third requirement of Boyle.

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We feel obliged to note, finally, what seems to us to be obvious: The question raised by government contractor defense cases arising in the context of contracts for military agents and equipment is the extent to which contractors are protected when

they provide materials designed to assist the government in obtaining what are ultimately military objectives -- in this case the principal objective being to protect members of the armed forces from enemy attack. Considerations of the validity of those objectives and the reasons for which the military seeks them are far beyond the competence of this Court. Our determination as to the protection of a military contractor must be made using the same principles regardless of the nature of the military conflict in which they are pursued, or the extent to which it is controversial or enjoys popular support.

II. Discovery Rulings

The plaintiffs also appeal from the discovery limitations imposed by the district court during the months following its initial February 9, 2004, decision granting the defendants' motion for summary judgment. We review discovery rulings for abuse of discretion. Wood v. FBI, 432 F.3d 78, 82 (2d Cir. 2005).

As we have noted, the district court's February 9, 2004, government contractor defense opinion granted the plaintiffs a six-month discovery period and permission to seek reconsideration of its summary judgment ruling. Shortly thereafter, the plaintiffs requested "the documents from all of the other litigation that these [defendants] have been involved in, involving the same pesticides and the same type of claims." Tr. of Civil Conference Before The Hon. Joan M. Azrack at 10. They did so without having attempted review of the MDL record.

Id. at 16. The defendants objected on the grounds that documents from other cases were likely to be largely irrelevant to the question of the applicability of the government contractor defense, duplicative of MDL materials where relevant in any event, and overly burdensome to produce. Id. at 13-14.

On March 2, 2004, Magistrate Judge Azrack denied the request, ruling that the plaintiffs first had to familiarize themselves with the MDL record before requesting additional documents. On March 19, 2004, Judge Weinstein granted the plaintiffs access to six deposition transcripts from non-MDL cases.

The plaintiffs now argue that the district court abused its discretion by limiting the plaintiffs to the documents produced in the MDL during the 1980s and six subsequent depositions. They assert that in the intervening period, the defendants have been sued by other end-users of their commercial herbicides, citizens exposed to industrial contamination from the herbicides' production, and their workers. Discovery in these cases, they contend, was more extensive than the discovery against the defendants that occurred during the 1980s and would be germane to the defendants' knowledge of the adverse health effects caused by their herbicides. They list thirteen other cases involving three defendants (Dow Chemical, Monsanto, and Hercules) and various government hearings from which they suspect discovery and papers would be helpful. Beyond broad claims that the discovery in those cases was more focused on the defendants'

knowledge as compared with the MDL, however, the plaintiffs do not cite specific bases for a conclusion on our part that the documents would differ materially from the voluminous documents available to them through the MDL. The defendants do not respond to the plaintiffs' discovery-related arguments.

The Federal Rules of Civil Procedure permit parties to "obtain discovery regarding any matter, not privileged, that is relevant to the claim or defense of any party," Fed. R. Civ. P. 26(b)(1), but a district court may limit discovery if, among other things,

> it determines that: (i) the discovery sought is unreasonably cumulative or duplicative, or is obtainable from some other source that is more convenient, less burdensome, or less expensive; (ii) the party seeking discovery has had ample opportunity by discovery in the action to obtain the information sought; or (iii) the burden or expense of the proposed discovery outweighs its likely benefit . . . .

Id. R. 26(b)(2)(C). A district court has wide latitude to determine the scope of discovery, and "[w]e ordinarily defer to the discretion of district courts regarding discovery matters." Maresco v. Evans Chemetics, Div. of W.R. Grace & Co., 964 F.2d 106, 114 (2d Cir. 1992). A district court abuses its discretion only "when the discovery is so limited as to affect a party's substantial rights." Long Island Lighting Co. v. Barbash, 779 F.2d 793, 795 (2d Cir. 1985). A party must be afforded a

meaningful opportunity to establish the facts necessary to support his claim. Id.

The plaintiffs here have failed to demonstrate that the district court's rulings limiting the scope of discovery constituted an abuse of discretion. We think the district court reasonably concluded that the MDL files were likely the best source regarding the information the plaintiffs' sought: defendants' knowledge of 2,4,5-T's risks at the time of production. The plaintiffs' motion to Judge Azrack was an unlimited and unfocused request for many thousands of additional documents, made without any attempt to review what was already available to them or to tailor their request to materials reasonably expected to produce relevant, non-duplicative information. Accordingly, the district court's limitations were well within its discretion under Rule 26.

III. Stephensons' Motion to Amend

Finally, the Stephensons challenge the district court's denial of their motion to amend their complaint. Federal Rule of Civil Procedure 15(a), as in effect at the time of the court's order, provided that "[a] party may amend the party's pleading once as a matter of course at any time before a responsive pleading is served. . . . Otherwise a party may amend the party's pleading only by leave of court or by written consent of the adverse party; and leave shall be freely given when justice so requires." Id. "We review the determination of a district court to deny a party leave to amend the complaint under Fed. R.

Civ. P. 15(a) for abuse of discretion." McCarthy v. Dun & Bradstreet Corp., 482 F.3d 184, 200 (2d Cir. 2007).

Here, at the time of the Stephensons' motion, the defendants had not filed an answer to their complaint. Stephenson, 220 F.R.D. at 24. Accordingly, the Stephensons were entitled to amend their complaint as a matter of right without leave of the district court, because "a motion is not a responsive pleading," 6 Charles Alan Wright, Arthur R. Miller & Mary Kay Kane, Federal Practice and Procedure § 1483, at 584 (2d ed. 1990); see id. at 586 ("Nor does a summary judgment motion made before responding [to plaintiff's complaint] have any effect on a party's ability to amend under the first sentence of Rule 15(a)."); accord, e.g., Zaidi v. Ehrlich, 732 F.2d 1218, 1219-20 (5th Cir. 1984); Miller v. Am. Exp. Lines, Inc., 313 F.2d 218, 218-19 & n.1 (2d Cir. 1963). Because the defendants had not filed a responsive pleading when the Stephensons sought to amend their complaint, the district court erred in denying the amendment.

We conclude, however, that in light of our finding regarding the government contractor defense, the district court's erroneous denial of the Stephensons' motion was harmless. Repleading could not avoid the application of the government contractor defense and, therefore, remand to permit the amendment would be futile. See Sinicropi v. Nassau County, 601 F.2d 60, 62 (2d Cir. 1979) (concluding that even if district court had erred in denying motion to amend, any error would be harmless because

the proposed amendment would have been barred by res judicata), cert. denied, 444 U.S. 983 (1979); cf. Unlaub Co., Inc. v. Sexton, 568 F.2d 72, 78 (8th Cir. 1977) (concluding any abuse of discretion by district court in failing to permit defendant to amend his answer was harmless because "[n]one of the matters set forth in the proposed amended answer would affect the result").

CONCLUSION

For the foregoing reasons, we affirm the judgments of the district court.