

“Joint Opposition to Renewed Motion for Class Certification,” filed on September 29, 2005, and Plaintiffs’ “Reply in Support of Renewed Motion for Class Certification,” filed on October 13, 2005 in the above captioned cause.² After due consideration, the Court is of the opinion that Plaintiffs’ Renewed Motion for Class Certification should be denied for the reasons set forth below.

I. FACTUAL AND PROCEDURAL BACKGROUND

This case concerns allegations that injuries were caused by radars manufactured, designed, and marketed by Defendants.³ Plaintiffs allege physical injuries resulting from exposure to x-ray (or ionizing) radiation emitted by Defendants’ radars.⁴ *See, e.g.*, Pls. Erwin Bast et al.’s Second Am. Original Pet. (“Bast Pet.”) ¶ 8.⁵

Plaintiffs allege that Defendants, comprised of several designers, manufacturers, and marketers of radar equipment, (1) did not adequately shield transmitter tubes in their radars, thereby emitting dangerous amounts of ionizing radiation and (2) failed to adequately warn Plaintiffs of health risks associated with radiation exposure. *See, e.g.*, Bast Pet. ¶¶ 46, 52–56. Consequently,

²The Court also considered the numerous filings cited by or incorporated into the above-referenced pleadings, including those submitted pursuant to Plaintiffs’ original “Motion for Class Certification,” filed on October 1, 2004.

³“Radar (radio detection and ranging) operates by generating and transmitting electromagnetic energy into space and detecting the echo returned from reflecting objects or targets.” Pls. Erwin Bast et al.’s Second Am. Original Pet. ¶ 36.

⁴Radiation is “the movement of energetic particles or waves through space.” App. of Defs. in Supp. of Joint Brief in Opp’n to Pls.’ Mot. for Class Certification [hereinafter “Defs.’ App. to Resp.”], Ex. E3, Report of Nisy E. Ipe, Ph.D., C.H.P. 6 [hereinafter “Ipe Report”]. X-rays and gamma rays, collectively referred to as “ionizing radiation,” are two forms of high energy radiation. *Id.* at 7. The Court will use the term ionizing radiation to refer to the radiation that putative plaintiffs allege caused their injuries.

⁵The Court consolidated three actions in the above-captioned cause on April 30, 2004. The complaints in each of the consolidated cases allege substantially similar claims.

Plaintiffs assert the following causes of action against Defendants: negligence, breach of express and implied warranties, strict products liability, fraudulent concealment, civil conspiracy, and wrongful death.⁶ *See, e.g.*, Bast Pet. ¶¶ 211–36, 252–57, 265–85. To remedy Plaintiffs’ alleged injuries, Plaintiffs seek compensatory and exemplary damages. *See, e.g.*, Bast Pet. ¶¶ 237–39, 286–88 .

Plaintiffs seek to represent a class of putative plaintiffs consisting of “[a]ll radar technicians, operators, and/or mechanics who have suffered and/or are suffering certain illnesses, injuries and/or death as a direct and proximate result of exposure” to radiation caused by Defendants’ “design, manufacture and distribution of Radar Devices.”⁷ Bast Pet. ¶ 8. The proposed class would include those asserting independent or derivative claims based on “their personal relationship with persons who suffered injuries and/or death as a result of exposure to ionizing radiation emitted from Defendants’ RADAR devices, including, without limitation, spouses, parents, children, dependents, other relatives or significant others.” Pls.’ Renewed Mot. for Class Certification ¶ 3.

II. GENERAL DISCUSSION

A. *Class Actions Generally*

“The class-action device was designed as an exception to the usual rule that litigation is conducted by and on behalf of the individual named parties only.” *Gen. Tele. Co. v. Falcon*, 457

⁶The Court notes that a currently pending motion seeks the dismissal of Plaintiffs’ fraudulent concealment and civil conspiracy claims. The Court will address the merits of those arguments at a later time.

⁷Previously, Plaintiffs sought the creation of a class (“Medical Monitoring Class”) consisting of radar operators, mechanics, and technicians exposed to radiation “but *not yet affected* with an illness or injury caused by such exposure.” Bast Pet. ¶ 6 (emphasis added). However, on January 17, 2006, the Court issued an Order (Docket No. 265) dismissing Plaintiffs’ medical monitoring claims, thus rendering moot Plaintiffs’ request for the certification of a Medical Monitoring Class.

U.S. 147, 155 (1982) (internal quotations omitted). The purpose of the class-action device is to conserve “resources of both the courts and the parties by permitting an issue potentially affecting every [class member] to be litigated in an economical fashion under Rule 23.” *Id.* (internal quotations omitted).

Federal Rule of Civil Procedure 23 (“Rule 23”) governs class actions. FED. R. CIV. P. 23. In order to be certified, every class action must meet the four prerequisites found in Rule 23(a). *Mullen v. Treasure Chest Casino, LLC*, 186 F.3d 620, 623 (5th Cir. 1999). The four prerequisites of Rule 23(a) are commonly known as (1) numerosity, (2) commonality, (3) typicality, and (4) adequacy. *Id.* In addition, a class must satisfy the requirements of Rule 23(b) in one of three ways. FED. R. CIV. P. 23(b). Plaintiffs attempt to certify the proposed class pursuant to Rule 23(b)(3). Pls.’ Mem. of P. & A. in Supp. of Class Certification 2 [hereinafter “Pls.’ Mem. of P. & A.”]. The proponents of a Rule 23(b)(3) class must show that the proposed class meets two additional requirements, known as “predominance” and “superiority”: “Common questions must predominate over any questions affecting only individual members; and class resolution must be superior to other available methods for the fair and efficient adjudication of the controversy.” *Mullen*, 186 F.3d at 623 (internal quotations omitted).

“A district court must conduct a rigorous analysis of the rule 23 prerequisites before certifying a class.” *Castano v. Am. Tobacco Co.*, 84 F.3d 734, 740 (5th Cir. 1996). The party seeking certification bears the burden of proving that the proposed class satisfies all relevant requirements. *Id.* In order to evaluate these Rule 23 requirements, it is necessary to understand Plaintiffs’ proposed class structure.

B. Proposed Class Structure

Plaintiffs seek the certification of an issues class pursuant to Rule 23(c)(4). FED. R. CIV. P. 23(c)(4); Pls.' Mem. of P. & A. 2. Specifically, Plaintiffs propose that the following three issues be decided on a class-wide basis: (1) the government contractor defense, (2) general causation, and (3) general negligence. Pls.' Mem. of P. & A. 2-3. If the Court were to certify an issues class, the remaining issues would be adjudicated on an individual basis.⁸

Plaintiffs also propose the creation of five subclasses, one for each Defendant. Pls.' Reply in Sup. of their Mot. for Class Certification 5 [hereinafter "Pls.' Reply"]. Each proposed subclass would be comprised of persons alleging injuries that worked on radars designed, manufactured, or marketed by the same Defendant. Hence, the Court must determine whether each proposed subclass meets the requirements of Rule 23. *See, e.g., In re A.H. Robins Co.*, 880 F.2d 709, 728 (4th Cir. 1989) ("[E]ach subclass must independently meet all the requirements of [Rule 23](a) and at least one of the categories specified in (b)."); *Betts v. Reliable Collection Agency*, 659 F.2d 1000, 1005 (9th Cir. 1981) ("As a practical matter, the litigation as to each subclass is treated as a separate law suit.").

C. Proposed Class Definition

Plaintiffs define their proposed class as follows:

All radar technicians, operators, and/or mechanics who have suffered and/or are suffering certain illnesses, injuries and/or death as a direct and proximate result of exposure to ionizing radiation and who worked with Radar devices designed, manufactured, and/or marketed by Defendants during the Class Period. This Class includes other persons asserting the right to sue Defendants independently or derivatively by reason of their personal relationship with persons who suffered

⁸Plaintiffs provide the Court with no specific plan for conducting the individual phase of a class trial.

injuries and/or death as a result of exposure to ionizing radiation emitted from Defendants' RADAR devices, including, without limitation, spouses, parents, children, dependents, other relatives or significant others.

Pls.' Renewed Mot. for Class Certification ¶ 3. Plaintiffs' proposed class period "begins in or about 1958 and ends in 1994." *Id.* Plaintiffs propose a worldwide class as evidenced by their allegation that putative class members "were exposed to dangerous ionizing radiation at RADAR installations throughout the world." *Id.*

"A precise class definition is necessary to identify properly those entitled to relief, those bound by the judgment, and those entitled to notice." *In re Monumental Life Ins. Co.*, 365 F.3d 408, 413 (5th Cir. 2004) (internal quotation omitted). Defendants argue that Plaintiffs' proposed class definition is too imprecise to warrant certification. Specifically, Defendants argue that Plaintiffs' proposed class is not ascertainable because it does not identify the specific radars at issue, "certain illnesses" and "injuries," or "an objective method for determining whether [the injuries] are a direct and proximate result of exposure to ionizing radiation." Defs.' Joint Br. in Opp'n to Pls.' Mot. for Class Certification 10–11 [hereinafter "Defs.' Resp."].

The Court disagrees with Defendants' assessment of the proposed class definition. Plaintiffs' proposal limits class membership to persons allegedly injured from working on radars designed, manufactured, or marketed by one of the five Defendants during the limited class period. Additionally, Plaintiffs' Motion for Class Certification and other filings adequately limit the types of diseases and injuries allegedly suffered by class members. *See In re Monumental*, 365 F.3d at 413 (upholding a class definition, in part because the definition was narrowed by the plaintiffs' certification motion). Furthermore, it is not fatal to Plaintiffs' proposed definition that it includes an element of causation without providing an objective method for determining causation. *See*

Mullen, 186 F.3d at 624 n.1 (rejecting the argument that it is improper to make class membership “contingent upon ultimate issues of causation”). Thus, the Court finds that Plaintiffs’ proposed class definition is adequately precise.⁹

III. RULE 23(a) REQUIREMENTS

A. Numerosity

The numerosity requirement is satisfied when “the class is so numerous that joinder of all members is impracticable.” FED. R. CIV. P. 23(a)(1). Plaintiffs allege that a reasonable estimate of the size of the class is “in the hundreds.” Pls.’ Mem. of P. & A. 12. Plaintiffs base this estimate on “publicly available information about the numbers of installations deployed, which were manned by soldiers over the decades of their deployment, as well as information from the plaintiffs.” *Id.* Defendants do not contest the fact that Plaintiffs satisfy the numerosity requirement. Therefore, the Court concludes that Plaintiffs’ proposed class satisfies the requirement of numerosity.¹⁰

B. Commonality

The commonality requirement demands that “there [be] questions of law or fact common to the class.” FED. R. CIV. P. 23(a)(2). “The threshold of ‘commonality’ is not high.” *Jenkins v.*

⁹If it were to certify this case as a class action, the Court would maintain authority to narrow the class definition if necessary at a later time. See *In re Monumental Life Ins. Co.*, 365 F.3d at 414 (“District courts are permitted to limit or modify class definitions to provide the necessary precision.”).

¹⁰However, “[w]hen subclasses are requested by the moving party . . . , it is generally settled that each subclass must independently satisfy class action criteria.” 1 NEWBERG ON CLASS ACTIONS § 3:9 (4th ed. 2006). No information is provided as to the size of each of Plaintiffs’ proposed subclasses. Because the numerosity requirement is uncontested, and because the Court finds that class certification should be denied based on independent and adequate grounds, namely, that the proposed class fails to meet the predominance and superiority requirements of Rule 23(b)(3), the Court will assume that the subclasses are numerous enough to satisfy the numerosity requirement.

Raymark Indus., Inc., 782 F.2d 468, 472 (5th Cir. 1986). Commonality requires “only that resolution of the common questions affect all or a substantial number of the class members.” *Id.*; *see also Lightbourn v. County of El Paso, Tex.*, 118 F.3d 421, 426 (5th Cir. 1997) (“The commonality test is met when there is at least one issue, the resolution of which will affect all or a significant number of the putative class members.”).

In this case, Plaintiffs request that three issues be decided on a class-wide basis: (1) the government contractor defense, (2) general negligence, and (3) general causation. To establish commonality, Plaintiffs need only demonstrate that one or a combination of these issues will affect a substantial number of putative class members, as to each subclass. *Mullen*, 186 F.3d at 625.

Looking first at the government contractor defense, the Court concludes that this issue standing alone is sufficient to meet the requirements of commonality. The government contractor defense provides that

[l]iability for design defects in military equipment cannot be imposed, pursuant to state law, when (1) the United States approved reasonably precise specifications; (2) the equipment conformed to those specifications; and (3) the supplier 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.

Boyle v. United Techs. Corp., 487 U.S. 500, 512 (1988). All five Defendants are government contractors. Additionally, Defendants clearly intend to assert the government contractor defense. *See* Defs.’ Joint Opp’n to Pls.’ Mot. for Remand 19 (arguing that the government contractor defense will apply to Plaintiffs’ claims). Because it is potentially dispositive of the claims of all putative class members, the resolution of the government contractor defense clearly affects a significant number of putative class members in each subclass. Therefore, the proffered common issue of the government contractor defense, standing alone, satisfies the commonality requirement. *See In re*

“Agent Orange” Prod. Liab. Litig. MDL No. 381, 818 F.2d 145, 166 (2d Cir. 1987) (approving class certification based on the government contractor defense). Thus, it is not necessary to thoroughly analyze the other proffered common issues at this point. The Court will more thoroughly investigate the common issues in its predominance analysis. *See infra* Part IV(A)(2)(i) (evaluating to what extent the proffered common issues are amenable to class-wide adjudication).

C. *Typicality*

The typicality requirement demands that “the claims or defenses of the representative parties are typical of the claims or defenses of the class.” FED. R. CIV. P. 23(a)(3). “Like commonality, the test for typicality is not demanding. It focuses on the similarity between the named plaintiffs’ legal and remedial theories and the theories of those whom they purport to represent.” *Mullen*, 186 F.3d at 625 (internal quotations omitted).

Defendants argue that the class representatives’ claims are not typical because they do not fully represent all the time periods, geographic areas, and diseases that are covered by the class definition. For example, the class representatives reside only in the United States and Germany, but Plaintiffs attempt to certify a worldwide class. These factual differences, however, do not alter the fact that the class representatives and purported class members assert the same legal and factual theories with respect to the *common* issues. *See, e.g., Newton v. S. Wood Piedmont Co.*, 163 F.R.D. 625, 633 (S.D. Ga. 1995) (holding that the typicality inquiry “is whether the class representatives themselves present those *common issues* of law and fact that justify class treatment” (emphasis added)). For example, the government contractor defense will apply identically to the class representatives and purported class members because it focuses on Defendants and their respective relationships to the Government. In addition, general causation and general negligence do not

depend on the nature of individual class members' claims.¹¹ Thus, Plaintiffs satisfy the typicality requirement.¹²

D. Adequacy

The adequacy requirement demands that "the representative parties will fairly and adequately protect the interests of the class." FED. R. CIV. P. 23(a)(4). This inquiry "looks at both the class representatives and their counsel." *Jenkins*, 782 F.2d at 472. The adequacy determination is "an inquiry into (1) the zeal and competence of the representative[s'] counsel and . . . (2) the willingness and ability of the representative[s] to take an active role in and control the litigation and to protect the interests of absentees[.]" *Berger v. Compaq Computer Corp.*, 257 F.3d 475, 479 (5th Cir. 2001) (alteration in original) (quoting *Horton v. Goose Creek Indep. Sch. Dist.*, 690 F.2d 470, 484 (5th Cir. 1982) (citations omitted)).

With respect to the class representatives' counsel, the Court has examined Plaintiffs' evidence regarding the qualifications of counsel. *See* Pls.' Mot. for Class Certification, Exs. C–E (detailing the extensive qualifications of Plaintiffs' counsel, as well as their experience in representing various plaintiffs, including representations of clients in consumer protection litigation,

¹¹However, the Court notes that factual variations in putative class members' claims will affect the Court's predominance and superiority analyses. *See infra* Part IV(A),(B) (analyzing the predominance and superiority requirements).

¹²Defendants also argue that Plaintiffs fail the typicality requirement because two of the class representatives are not named plaintiffs. As a result, there is currently no named plaintiff that asserts claims against two of the named defendants, Honeywell and ITT. However, Rule 23(a) does not explicitly require that class representatives be named plaintiffs. FED. R. CIV. P. 23(a); *see also In re Telectronics Pacing Sys.*, 172 F.R.D. 271, 283 (S.D. Ohio 1997) ("[W]e find it is unnecessary for a class member to have filed an individual action in order to qualify as a class representative."). Therefore, the Court finds that the fact that the class representatives have not sued individually does not affect the Court's typicality analysis. *See supra* n.1 (noting that the Court will decide the merits of Plaintiffs' motion to add additional plaintiffs at a later time).

mass tort cases, and class actions). Based on Plaintiffs' evidence, the Court concludes that the class representatives' counsel can adequately represent the absent class members' interests.

With respect to the class representatives, the class proponent must demonstrate that the interests of the class representatives "are sufficiently aligned with those of the other class members." *Jenkins v. Raymark Indus., Inc. (Jenkins Trial)*, 109 F.R.D. 269, 273 (E.D. Tex. 1985). In addition, the adequacy inquiry is meant to "uncover conflicts of interest between named parties and the class they seek to represent." *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 594 (1996). In this case,¹³ Defendants argue that the class representatives lack incentive to vigorously pursue the interests of absent class members because the class members' claims are different from their own. The class representatives do, however, have adequate incentive to vigorously litigate the common issues. *See supra* pp. 8-10 (explaining that the common issues, due to their focus on Defendants, apply identically to the class members and the class representatives). Like all putative class members, the class representatives allege injuries resulting from exposure to ionizing radiation emitted from radars manufactured, designed, or marketed by Defendants. The class representatives' interests are aligned with the interests of the putative class members with respect to the common proffered issues; all putative plaintiffs are interested in proving general causation and negligence, as well as the inapplicability of the government contractor defense. Thus, the Court concludes that Plaintiffs have demonstrated that class representatives will adequately represent the interests of absent class members.

¹³Because Plaintiffs' Renewed Motion for Class Certification seeks certification in each of the three cases consolidated in the instant cause, for purposes of simplicity, the Court will use the phrase "this case" to refer to the consolidated action. The Court is mindful that the Court's consolidation order did not merge the Texas, New Jersey and Massachusetts cases into one case.

IV. RULE 23(b) REQUIREMENTS

A. Predominance

1. Standard

The predominance requirement demands “that the questions of law or fact common to the members of the class predominate over any questions affecting only individual members.” FED. R. CIV. P. 23(b)(3). “In order to ‘predominate,’ common issues must constitute a significant part of the individual cases.” *Jenkins*, 782 F.2d at 472.

The fact that Plaintiffs seek to certify an issues class pursuant to Rule 23(c)(4) affects the predominance inquiry. In the past, some courts seemed to suggest that creating an issues class allows plaintiffs to isolate individual issues until the common issues necessarily predominate. *See, e.g., In re Tetracycline Cases*, 107 F.R.D. 719, 727 (W.D. Mo. 1985) (suggesting that the effect of considering an issues class pursuant to Rule 23(c)(4) is “to lessen . . . the importance of the predominance requirement”); *see generally* Laura J. Hines, *Challenging the Issue Class Action End-Run*, 52 EMORY L.J. 709 (2003) (explaining how modern courts have resisted the view espoused by some legal scholars in favor of an expansive interpretation of Rule 23(c)(4) that would reduce the importance of the predominance requirement for issues classes). The Fifth Circuit, however, has clearly mandated that proponents of class certification cannot circumvent the predominance requirement “through the nimble use of [Rule 23](c)(4).” *Castano*, 84 F.3d at 745 n.21. Rather, each “cause of action, as a whole, must satisfy the predominance requirement . . . and [Rule 23](c)(4) is a housekeeping rule that allows courts to sever the common issues for a class trial.” *Id.* at 746 n.21. Thus, the Court must balance the severed common issues against the remaining individual

issues to determine whether the common issues predominate for each cause of action as a whole.¹⁴ *See id.* (citing *In re N.D. Cal. Dalkon Shield IUD Prods. Liab. Litig.*, 693 F.2d 847, 856 (9th Cir. 1982) (“balancing severed issues against the remaining individual issues”)).

The Court will first analyze Plaintiffs’ proffered common issues, determining to what extent the common issues are amenable to adjudication on a class-wide basis. The Court will then analyze the remaining individual issues, paying particular attention to how the applicable law will be chosen and how potential variations in the law will affect the adjudication of the individual issues. *See id.* at 740 (holding that a trial court must “consider how variations in state law affect predominance and superiority”). Finally, the Court will balance the common issues against the individual issues to determine whether common issues predominate with respect to each cause of action as a whole. Ultimately, the Court will determine that variations in factual and legal issues, the complexity of which are compounded by variations in state and foreign law, present an insurmountable hurdle to a finding of predominance.

2. *Application*

(i) *Proffered Common Issues*

Plaintiffs proffer several specific issues that they characterize as common: (1) determining whether the government contractor defense applies to each defendant; (2) forming a dose reconstruction matrix; (3) determining which diseases result from radiation, and what minimum dose is required to establish a *prima facie* case; and (4) establishing what Defendants knew of the hazards

¹⁴While Plaintiffs have proposed five separate subclasses, one for each Defendant, Plaintiffs bring each cause of action against all Defendants. Therefore, the proffered common issues and individual issues for each cause of action will be substantially similar for each subclass; a subclass by subclass analysis is not warranted for the predominance and superiority analysis.

of ionizing radiation.¹⁵ Defendants argue that several of Plaintiffs' proffered common issues contain substantial individualized components. Before analyzing the individual issues, the Court must evaluate each of Plaintiffs' proffered common issues to determine if and how they could be adjudicated on a class-wide basis.

(a) *The Government Contractor Defense*

Plaintiffs seek the certification of the government contractor defense, which "generally immunizes government contractors from civil liability arising out of the performance of federal procurement contracts." *Bailey v. McDonnell Douglas Corp.*, 989 F.2d 794, 797 (5th Cir. 1993). The defense "is designed to protect the exercise of discretion by government officers in the selection of the appropriate design for military equipment to be used by our Armed Forces." *Id.* (internal quotations omitted). Specifically, the government contractor defense precludes imposing liability pursuant to state law for design defects in military equipment when: "(1) the United States approved reasonably precise specifications; (2) the equipment conformed to those specifications; and (3) the supplier 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" ("the *Boyle* elements"). *Boyle v. United Techs. Corp.*, 487 U.S. 500, 512 (1998).

Defendants argue that the government contractor defense cannot be adjudicated on a class-wide basis because its resolution requires the consideration of questions of fact specific to particular contractors and products. Defs.' Resp. 39. Defendants assert that the radars at issue in this case

¹⁵The second and third proffered common issues fall under Plaintiffs' rubric of "general causation;" the fourth common issue falls under the rubric of general negligence. *See supra* p. 6 (explaining that Plaintiffs' three proffered class-wide issues are the government contractor defense, general causation, and general negligence).

differ “as to design, hardware configurations, types and power levels of electron tubes, shielding, safety interlock systems, operating instructions and warnings, and required different training in different locations and possessed different operating instructions and warnings regarding safety or health hazards.” *Id.* Therefore, an examination of the *Boyle* elements would require producing evidence specific to the numerous products, components, branches of the military, foreign countries involved, and points of time in the thirty-six year proposed class period. *Id.* Defendants argue these variations preclude adjudicating the government contractor defense on a class-wide basis.

All Defendants have indicated that they intend to assert the government contractor defense. *See* Defs.’ Joint Opp’n to Pls.’ Mot. for Remand 19 (arguing that the government contractor defense will apply to Plaintiffs’ claims). Each element of the government contractor defense can be adjudicated based on defendant-focused evidence. Furthermore, the government contractor defense is a federal common law doctrine. *Bailey*, 989 F.2d at 797. Therefore, its adjudication will not require that the Court engage in any choice-of-law analysis. Thus, for purposes of the predominance inquiry, the Court concludes that the government contractor defense is amenable to resolution on a class-wide basis for each subclass.¹⁶

¹⁶Plaintiffs suggest that the government contractor defense would be resolved by creating a subclass for each Defendant. However, Plaintiffs propose no plan for further dividing the government contractor defense issue based on the other various factual variations necessary to apply the *Boyle* elements to the various radars that allegedly caused the individual plaintiffs’ injuries. Although not necessarily fatal to predominance, Plaintiffs’ failure to account for factual variations in adjudicating the government contractor defense could create manageability problems that militate against a finding of superiority. *See infra* Part IV(B)(2)(i) (analyzing the pertinent superiority considerations).

(b) *Dose Reconstruction*¹⁷

Plaintiffs request that the Court “oversee the creation of a ‘matrix’ to determine the likely radiation dose that each individual Plaintiff received.”¹⁸ Pls.’ Reply 9. Plaintiffs’ proposed matrix would be created by evaluating “the variability of the existing measurements for a device family . . . over specified periods and to assign that information to the group of individuals with comparable job classifications, taking the length of employment into account.” *Id.* Plaintiffs argue that the creation of such a matrix is necessary because “it is impossible to perform an individual-by-individual dose reconstruction.” *Id.* This is the case because individual dosimetry information from the relevant time period is unavailable.¹⁹ *Id.*

Plaintiffs assert that federal procedural rules rather than state substantive law would govern because the creation of the matrix would be heavily based on expert testimony. *Id.* Consequently, Plaintiffs argue that no choice-of-law analysis would be required.

Defendants disagree with Plaintiffs’ proposed matrix. Rather, Defendants argue that dose reconstruction must occur on an individual-by-individual basis. Defs.’ Resp. 35; *see also* Defs.’ App. to Resp., Alvarez Report 1, 3 (“Generic dose reconstructions for groups of individuals are unlikely to be useful, since the various plaintiffs have injury to different organs.”). Defendants argue that each individual plaintiff should be required to reconstruct his dose based on a number of factors,

¹⁷“Dose reconstruction is the assigning of dose based on historical information.” Defs.’ App. to Resp., Ex. E1, Report of Joseph L. Alvarez, Ph.D, C.H.P. 5 [hereinafter “Alvarez Report”].

¹⁸A “matrix” is “a rectangular array of mathematical elements . . .” or “something resembling a mathematical matrix especially in rectangular arrangement of elements into rows and columns.” MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 716 (10th ed. 2001).

¹⁹“Dosimetry” is the measurement of dose. Defs.’ App. to Resp., Alvarez Report 1.

including factors related to the particular radar device to which the plaintiff was exposed and factors relating to the time of exposure, distance from the device, and the amount of shielding on the device.

Plaintiffs have not convinced the Court that a dose reconstruction matrix could be used to ultimately prove each individual's dose with sufficient accuracy. Plaintiffs present no evidence contradicting Defendants' evidence that many individualized factors must be considered before an individual plaintiff's dosimetry can be determined with sufficient accuracy to prove causation.²⁰ See Defs.' App. to Resp., Alvarez Report 6 ("[D]ose can meaningfully be assigned to a person only after a dose reconstruction individual to that person is undertaken."); Defs.' App. to Resp., Ipe Report 26 ("[S]cientifically defensible reconstruction of doses from ionizing radiation must be undertaken on an individual-by-individual basis."); Defs.' App. to Resp., Ex. E4, Report of Dr. Fred A. Mettler, Jr. 4 [hereinafter "Mettler Report"] ("Each person's particular circumstances must be considered on a case-by-case basis."). Nevertheless, the Court believes that a group dose matrix might be useful for a limited purpose, such as determining whether individuals have been exposed to a sufficient dose to present a *prima facie* case. However, for purposes of deciding predominance, the Court finds that some individual dose reconstruction will be required to ultimately prove causation.

²⁰The Court notes that Plaintiffs' expert Bernd Franke's statement that "individual dose reconstruction is not possible" appears somewhat inconsistent with his statement that "group or class wide dose reconstruction is possible." See Pls.' Reply, Ex. B, Supp. Decl. of Bernd Franke 1. The apparent inconsistency arises from the fact that uncertainties are only multiplied when moving from individual dose reconstruction to group dose reconstruction. If it is necessary for individuals to have been wearing personal dosimeters in order to obtain dose reconstructions sufficiently accurate to prove causation in a civil trial, as Franke implies, it would also be impossible to obtain sufficiently accurate group dose reconstructions. See *id.* ("[I]ndividual dose reconstruction is not possible because individual dosimetry information is not available."). Individual dose reconstructions are more accurate because they are based on more information. Rather than adopting Plaintiffs' seemingly inconsistent position, the Court finds Defendants' position more plausible, namely, that it is possible to obtain a dose reconstruction sufficiently accurate to prove causation if enough information is available for a particular putative plaintiff.

(c) *General Disease Causation and Prima Facie Requirements*

Plaintiffs request the certification of the questions of which diseases result from ionizing radiation (“general causation”), and of the minimum radiation dose necessary to establish a *prima facie* case of causation. Pls.’ Reply 10. Plaintiffs assert that it is disputed whether certain diseases, such as prostate cancer, result from ionizing radiation. *Id.*

Defendants argue that general causation is not an issue because Defendants concede that ionizing radiation sometimes causes injury.²¹ Defs.’ Resp. 33. That being the case, Defendants argue that the causation question requires an inquiry into a number of individualized factors, and each potential plaintiff must prove his radiation dose, his claimed disease or injury, and that radiation caused his injury. *See* Defs.’ App. to Resp., Mettler Report 3 (“Determining the probability that radiation caused a particular cancer in a particular individual . . . requires analysis of a number of inquiries that focus on facts particular to the individual’s circumstances” and “of other factors unique to each individual, such as genetic makeup, diet, blood type, age, occupational exposures, chemical exposures, infections, smoking history, medical treatments, familial history of disease and lifestyle factors.”). In light of the fact that Defendants admit that radiation can cause the diseases Plaintiffs assert, a general causation inquiry would not yield significant progress in the litigation. *See Georgine v. Amchem Prods., Inc.*, 83 F.3d 610, 626 (3d Cir. 1996) (“The capacity of asbestos fibers to cause physical injury is surely a common question, though that issue was settled long ago.”), *aff’d*, 521 U.S. 591 (1997); *In re “Agent Orange” Prod. Liab. Litig. MDL No. 381*, 818 F.2d 145,165 (2d Cir. 1987) (“The relevant question, therefore, is not whether Agent Orange has the capacity to cause

²¹In other words, Defendants do not contend that ionizing radiation exposure never causes harm and Plaintiffs do not contend that exposure always causes harm. Defs.’ Resp. 33.

harm, the generic causation issue, but whether it *did* cause harm and to whom.”).

With respect to establishing *prima facie* requirements, Plaintiffs have not presented the Court with any examples of a court establishing minimum doses necessary to establish a *prima facie* case in a mass-tort cause of action. But even assuming that establishing *prima facie* minimum doses would help the litigation progress, the Court finds that individual disease causation analysis will be required in order for a putative plaintiff to prove causation at trial.

(d) *Defendants’ Knowledge of Radiation Hazards*

Plaintiffs request that the Court certify the factual issue of “what the Defendants knew regarding the dangers of ionizing radiation associated with the use of their radar devices, and when they knew it.” Pls.’ Reply 11. Plaintiffs assert that resolving this factual question would necessarily be incident to resolving the government contractor defense because it is relevant to the third element of the *Boyle* test. *Id.* In addition to the government contractor defense, Plaintiffs argue that Defendants’ knowledge is significant to several legal issues, including the state-of-the-art defense, negligence, failure to warn, fraudulent concealment, and civil conspiracy. *Id.* Although Plaintiffs concede that the applicable law may vary in different trials, the defendant-centric factual issue will be the same for each Defendant’s subclass.²² Therefore, the Court concludes that the issue of Defendants’ knowledge of radiation hazards is amenable to class certification.

(ii) *Individual Issues and Variations in Applicable Law*

Having examined the proffered common issues, the Court will evaluate the remaining individual issues. In particular, the Court must analyze how potential factual variations in putative

²²Plaintiffs do not provide the Court with a plan for applying the common fact determinations to the individual legal standards, which militates against a finding of superiority. *See infra* Part IV(B)(2)(i) (analyzing the pertinent superiority considerations).

plaintiffs' claims, choice-of-law issues, and variations in the applicable laws will affect the adjudication of the individual issues.

(a) *Factual Variations in Claims*

As discussed above, Plaintiffs must individually prove each element of their negligence causes of action. *See supra* Part IV(A)(2)(i)(b),(c) (determining that although group dose reconstruction may serve a limited purpose, potential class members must individually prove dose reconstruction and that radiation exposure caused the plaintiff's particular injury). In addition, Plaintiffs must individually prove each element of their other causes of action, with the exception of evidence establishing what Defendants knew pertaining to Plaintiffs' fraud and civil conspiracy claims. As well, Defendants' numerous defenses, other than the government contractor defense, must be adjudicated individually as to each putative plaintiff.

Putative class members allege injuries resulting from radars manufactured by five different companies, who manufactured forty different radar systems and 256 different types of radar equipment. Bast Pet. ¶¶ 30–35, 61–67. Potential class members allege exposure in numerous geographic locations, including numerous different countries. *See* Defs.' App. to Resp., Ex. B1, Pls.' Resp. to Requests for Admis. Directed by Def. Raytheon, No. 2 (admitting that putative class members operated, repaired, or maintained radar devices in more than one country); Bast Pet. ¶ 83 (alleging that one radar system manufactured by one Defendant was used by over 140 German army units, which could potentially be deployed in numerous countries). Potential class members allege exposure over a thirty-six year time span. Pls.' Renewed Mot. for Class Certification ¶ 3. Each of these factual variations is relevant to the breach element of putative class members' negligence

causes of action, as well as to proving causation for all causes of action.²³

Additionally, each putative class member potentially received different written and verbal warnings, which is relevant to Plaintiffs' failure to warn negligence theory. Defs.' App. to Resp., Ex. B1, Pls.' Resp. to Requests for Admis. Directed by Def. ITT, No. 1. Putative class members possessed different knowledge about the dangers of ionizing radiation, which is relevant to proportionate responsibility. *See, e.g., id.*, Ex. C4 at 70 (reporting that many German radar technicians had knowledge of the hazards of ionizing radiation). Also, potential class members differ as to the dates they discovered or should have discovered their injuries, which is relevant to the respective statutes of limitations for all putative plaintiffs' causes of action. With respect to their injuries, class members allege injuries including "but not limited to: various malignant and non-malignant conditions, including thyroid disease, various forms of leukemia, lymphoma, brain tumors and cancer of the testes, anus, skin, stomach, bladder, kidney, prostate, liver, esophagus, throat, tongue, vocal cords, larynx, and pancreas." Bast Pet. ¶ 201.

(b) *Choice of Law*

Before making the Rule 23(b)(3) determinations, the Court "must initially identify the substantive law issues which will control the outcome of the litigation." *Alabama v. Blue Bird Body Co.*, 573 F.2d 309, 316 (5th Cir. 1978). The above-captioned cause is a consolidation of cases originally filed in Texas, New Jersey, and Massachusetts. Thus, the Court must consider the choice-of-law rules in each of those jurisdictions. *See Ferens v. John Deere Co.*, 494 U.S. 516, 523 (1990)

²³In particular, Defendants' evidence demonstrates that a causation determination is dependent on the particular types of radar equipment in proximity to which a putative class member worked. *See* Defs.' App. to Resp., Ipe Report 21-24 (explaining the numerous factors affecting the quantity of radiation emitting from electron tubes).

(holding that a court in a federal diversity action should apply the choice of law rules of the state from which the case was transferred).²⁴ New Jersey and Texas both apply the “most significant relationship” test to all cases sounding in tort. *Discover Bank v. Shea*, 827 A.2d 358, 364 (N.J. 2001) (“New Jersey courts apply the ‘most significant relationship test.’”); *Gutierrez v. Collins*, 583 S.W.2d 312, 318 (Tex. 1979) (“It is the holding of this court that in the future all conflicts cases sounding in tort will be governed by the ‘most significant relationship’ test as enunciated in Sections 6 and 145 of the Restatement (Second) of Conflicts.”). Massachusetts applies a similar multi-faceted test. *See Cohen v. McDonnell Douglas Corp.*, 450 N.E.2d 581, 586 (Mass. 1983) (determining which state had a “more significant relationship” to the plaintiff’s tort claim). Thus, applying the “most significant relationship” test will adequately determine the likely applicable laws as to the claims arising in each jurisdiction.²⁵

The “most significant relationship” test requires a court to take the following contacts into account in determining the law applicable to an issue: “(a) the place where the injury occurred, (b) the place where the conduct causing the injury occurred, (c) the domicil, residence, nationality, place

²⁴The Court previously decided that jurisdiction in the case filed in Texas is based on federal enclave jurisdiction. *See* Order Adopting Report and Recommendation (Docket No. 76) (holding that federal enclave jurisdiction is present). Courts are not in accord as to whether 16 U.S.C. § 457 requires the application of the choice-of-law rules of the state surrounding the federal enclave. *See Adams v. Alliant Techsystems Inc.*, 218 F. Supp. 2d 792, 800 (W.D. Va. 2002) (recognizing that courts have not uniformly interpreted 16 U.S.C. § 457 to require the adoption of the choice-of-law rules of the state surrounding the enclave). However, even if the Fifth Circuit would not agree that 16 U.S.C. § 457 requires the application of Texas choice-of-law rules to the claims arising in the Texas case, the Fifth Circuit is still likely to hold that the “most significant relationship” test is properly applied due to its widespread acceptance. *See Quadrini v. Sikorsky Aircraft Div., United Aircraft Corp.*, 425 F. Supp. 81, 88 (D. Conn. 1977) (applying the most significant relationship test as a kind of federal common law instead of adopting the choice-of-law rules of the state surrounding the federal enclave).

²⁵Defendants assume that Texas choice-of-law rules should govern all claims in this case. Plaintiffs do not address any choice-of-law issues.

of incorporation and place of business of the parties, and (d) the place where the relationship, if any, between the parties is centered.” *Gutierrez*, 583 S.W.2d at 319 (quoting RESTATEMENT (SECOND) OF CONFLICT OF LAWS § 145 (1971)). A court must analyze these contacts in light of the following policy concerns:

(a) the needs of the interstate and international systems, (b) the relevant policies of the forum, (c) the relevant policies of other interested states and the relative interests of those states in the determination of the particular issue, (d) the protection of justified expectations, (e) the basic policies underlying the particular field of law, (f) certainty, predictability and uniformity of result, and (g) ease in the determination and application of the law to be applied.

RESTATEMENT (SECOND) OF CONFLICT OF LAWS § 6 (1971).

“The number of contacts with a state is not determinative. Rather, [a court] must evaluate the contacts in light of the state policies underlying the particular substantive issue.” *Torrington Co. v. Stutzman*, 46 S.W.3d 829, 848 (Tex. 2000) (citation omitted). A court must undertake this analysis for each plaintiff on an issue-by-issue basis. *See Lutheran Bhd. v. Kidder Peabody & Co.*, 829 S.W.2d 300, 310 (Tex. App.—Texarkana 1992) (“When there are multiple plaintiffs, the choice of law must be made on an individual basis.”), *vacated*, 840 S.W.2d 384 (Tex. 1992) (vacating due to settlement agreement of the parties).

Plaintiffs bear the burden of proof; they must present a sufficient choice-of-law analysis “to meet their burden of showing that common issues predominate.” *Spence v. Glock, Ges.m.b.H.*, 227 F.3d 308, 313 (5th Cir. 2000). Plaintiffs have failed to address a choice-of-law analysis, instead relying on the fact that the government contractor defense is a federal common law doctrine.²⁶

²⁶Plaintiffs also argue that variations in negligence law, such as breach of duty and general causation, are not significant. Pls.’ Mem. of P. & A. 17. However, negligence law varies significantly in American jurisdictions despite the fact that most jurisdictions require proof of the same basic elements. *See infra* Part IV(A)(2)(ii)(c)(1) (examining differences in American

However, the Court must perform a choice-of-law analysis as to each issue in the litigation, not just the proffered common issues. *See Castano*, 84 F.3d at 742-43 n.15 (analyzing variations in state law as to individual issues). Consequently, Plaintiffs' failure to address choice-of-law issues in and of itself is sufficient to defeat predominance.

Nevertheless, for the sake of thoroughness, the Court will conduct its own choice-of-law analysis. After analyzing the above-mentioned contacts, the Court concludes that choice-of-law determinations in this case must be undertaken on an individualized basis and that the determinations will potentially implicate the laws of all fifty-one American jurisdictions and numerous foreign jurisdictions.

(1) *Potential Contacts*

The place where the injury occurred is often an important factor in determining the applicable law in personal injury cases. RESTATEMENT (SECOND) OF CONFLICT OF LAWS § 145 cmt. e (1971). With respect to the places of exposure, some putative class members operated, repaired, or maintained radar devices in more than one state, and some operated, repaired, or maintained radar devices in more than one country. Defs.' App. to Resp., Ex. B4, Pls.' Resp. to Requests for Admis. Directed by Def. Lucent, No. 2 [hereinafter "Lucent Directed Admis."]. Some putative class members were trained on the operation, repair, or maintenance of radar devices in more than one state, and some were trained in more than one country. *Id.* Some putative class members never even trained, operated, repaired, or maintained radar devices while in the United States. *Id.* at Nos. 4-5.

The place where the conduct causing the injury occurred must be considered when applying the "most significant relationship" test. In a products liability case alleging defective design, courts

jurisdictions with respect to the negligence cause of action).

generally consider the place where the conduct causing the injury occurred to be the place where the product was designed and manufactured.²⁷ *See Perry v. Aggregate Plant Prods. Co.*, 786 S.W.2d 21, 25 (Tex. App.—San Antonio 1990, writ denied) (holding that the place where the conduct causing the injury occurred was where the product was designed and manufactured). The places where Defendants designed or manufactured the radar devices include, among other places, Massachusetts, New Jersey, North Carolina, New York, California, and Maryland. Defs.' Resp. 20. To further complicate matters, some putative class members operated, maintained, or repaired multiple radar devices manufactured by different Defendants, thus implicating more than one place of manufacture even for one individual plaintiff.²⁸ Defs.' App. to Resp., Ex. B4, Lucent Directed Admis., No. 7.

Courts must also consider the domicile, residence, nationality, or place of business of the parties. In a worldwide class action, putative class members, by definition, are potentially domiciled in all fifty-one jurisdictions of the United States and numerous foreign countries. Defendants' principal places of business are in Massachusetts (Raytheon), New Jersey (Lucent and Honeywell), Connecticut (General Electric), and New York (ITT). Putative plaintiffs' domiciles are of particular importance in determining issues of damages. *See Spence*, 227 F.3d at 314 ("All these 51 relevant

²⁷With respect to Plaintiffs' fraud and civil conspiracy claims, the places where the conduct causing the injury occurred are probably Defendants' principal places of business.

²⁸Should the Court determine that the place where the conduct causing the injury occurred is the most important contact for certain substantive issues, even these limited jurisdictions have numerous differences for which Plaintiffs have not provided a plan of management. *See supra* Part IV(A)(2)(ii)(c) (analyzing the numerous variations in state laws with respect to the substantive issues in this case). *See also* Defs.' App. to Resp., Ex. D, Law by Jurisdiction Charts (charting the numerous legal variations in all fifty-one American jurisdictions as to Plaintiffs' claims and the applicable defenses).

jurisdictions are likely to be interested in ensuring that their consumers are adequately compensated in cases of economic loss . . .”). It might be particularly important to apply foreign laws to claims of putative plaintiffs domiciled abroad due to the interest in maintaining harmonious international relations. *See* RESTATEMENT (SECOND) OF CONFLICT OF LAWS § 6 cmt. d (1971) (“Probably the most important function of choice-of-law rules is to make the interstate and international systems work well.” Therefore, the rules should encourage “harmonious relations.”).

Finally, the Court must consider the place where the relationship, if any, between the parties is centered. In this case, the place where the relationship between the parties is centered should probably be considered the same place where the radars were designed and manufactured. *Perry*, 786 S.W.2d at 25 (holding that the place where the relationship between the parties was centered in a product liability action was where the product had been designed and manufactured). Again, Defendants’ radars were manufactured and designed in numerous states. *See supra* p. 26 (listing places where Defendants’ products were manufactured).

(2) *Individualized Choice-of-law Analysis*

Having analyzed the potential contacts for putative class members, the Court determines that class certification would require a choice-of-law analysis particular to each individual’s claims within each subclass. *See Castano*, 84 F.3d at 742 n.15 (holding that a court “must apply an individualized choice of law analysis to each plaintiff’s claims”). The Court’s analysis of potential contacts demonstrates that the places of exposure, as well as the places where the alleged defective design and manufacture occurred, are likely to govern putative plaintiffs’ substantive claims, and plaintiffs’ domiciles are likely to govern damages issues. However, what contacts are most important will depend on each plaintiff’s circumstances and must be analyzed with respect to the

policies underlying each substantive issue of law.²⁹ In addition, the examination of potential contacts reveals that the putative plaintiffs' claims could require the application of the laws of all fifty-one American jurisdictions and numerous foreign jurisdictions. Thus, the Court must determine how potential variations in substantive law affect the adjudication of the individual issues in this case.

(c) *Variations in State Laws*

Having determined that the laws of all fifty-one American jurisdictions and numerous foreign jurisdictions are potentially applicable to the issues in this case, the Court will analyze each issue to determine how variations in applicable law could affect its adjudication.³⁰ See *Castano*, 84 F.3d at 741 (“[A] district court must consider how variations in state law affect predominance and superiority.”). The Court will begin by focusing on variations in the laws of the fifty-one American jurisdictions. Having surveyed the laws of the American jurisdictions, the Court concludes that significant variations exist in the laws applicable to each of the putative class members' causes of

²⁹For example, if a putative plaintiff is domiciled in the same state as the principal place of business of the relevant Defendant, that state may have a greater interest in regulating the parties' behavior. See RESTATEMENT (SECOND) OF CONFLICTS OF LAWS § 145 cmt. e (1971) (“[T]he fact that the domicile and place of business of all parties are grouped in a single state is an important factor to be considered in determining the state of the applicable law.”). Similarly, a plaintiff's domicile may be an important contact if it is in one of the states where the plaintiff was exposed to radiation. See *id.* (“The state where these contacts are grouped is particularly likely to be the state of the applicable law if either the defendant's conduct or the plaintiff's injury occurred there.”). In light of the fact that Plaintiffs have not even attempted to engage in a choice-of-law analysis for potential plaintiffs regarding each substantive issue, it would be unduly tedious to engage in speculation regarding the numerous potential factual situations that could arise and how they would affect the policies underlying each substantive issue.

³⁰Plaintiffs, the proponents of class certification, fail to provide the Court with an analysis of variations in state and foreign law. Although Plaintiffs' failure is in and of itself sufficient to defeat a finding of predominance, the Court will point out some of these differences for the sake of thoroughness. See *Castano*, 84 F.3d at 743 n.15 (detailing variations in potentially applicable state law because the trial court failed to make such an inquiry).

action.³¹

(1) *Causes of Action*

Although the basic elements of a negligence cause of action are consistent throughout the United States,³² there are substantial variations in negligence law from one jurisdiction to the next. When the negligence cause of action is based on a products liability theory, some states recognize a common law negligence claim, some states recognize a negligence claim regulated in certain aspects by statute,³³ and some states have abolished the negligence claim in favor of a statutory products liability regime.³⁴ Furthermore, states differ with respect to how they treat proportional responsibility.³⁵

³¹The Court was aided in its variation of law analysis by Defendants' jurisdictional survey charts. Defs' App. to Resp., Ex. D, Law by Jurisdiction Charts. Because they are uncontradicted, the Court incorporates Defendants' jurisdictional charts for the purpose of supporting propositions to the effect that multiple jurisdictions have adopted a legal position where the Court provides an example of only one such jurisdiction. This procedure should be sufficient to demonstrate potential conflicts in light of the fact that Defendants' evidence is uncontradicted.

³²Generally, the elements of a negligence cause of action are duty, breach, proximate cause, and damages. *See* Pls.' Mem. of P. & A., App. A (showing that all fifty-one American jurisdictions require a plaintiff asserting negligence to establish these four elements).

³³*See, e.g.*, ARIZ. REV. STAT. §§ 12-681–12-688 (2002) (outlining rules of evidence and affirmative defenses that apply regardless of whether a products liability action is based on strict liability, negligent design, or negligent failure to warn).

³⁴*See, e.g.*, CONN. GEN. STAT. ANN. § 52-572m(b) (2005) ("Product liability claim[s] shall include . . . all actions based on the following theories: [s]trict liability in tort; negligence; breach of warranty, express or implied; breach of or failure to discharge a duty to warn or instruct, whether negligent or innocent; misrepresentation or nondisclosure, whether negligent or innocent." (internal quotations omitted)).

³⁵*See, e.g.*, COL. REV. STAT. ANN. § 13-21-111 (2005) (stating that a plaintiff's negligence shall not bar recovery "if such negligence was not as great as the negligence of the person against whom recovery is sought"); S.D. CODIFIED LAWS § 20-9-2 (1998) (stating that a plaintiff's contributory negligence "does not bar a recovery when the contributory negligence of the plaintiff was slight in comparison with the negligence of the defendant, but in such case, the damages shall

Strict products liability law differs in American jurisdictions in several respects.³⁶ See 38 A.L.R.3d 1247 § 1[c] (recognizing “the very substantial differences between the views of the courts of the various states in regard to the law of products liability”). First, jurisdictions differ with respect to the elements a plaintiff must prove.³⁷ Second, jurisdictions differ with respect to the evidence a defendant may present.³⁸ Third, jurisdictions differ as to the relevant time for determining what

be reduced in proportion to the amount of plaintiff’s negligence.”); TEX. CIV. PRAC. & REM. CODE ANN. § 33.001 (Vernon 1997) (“[A] claimant may not recover damages if his percentage of responsibility is greater than 50 percent.”); *Bd. of County Comm’rs v. Bell*, 695 A.2d 171, 180 (Md. 1997) (“Under Maryland law, contributory negligence of a plaintiff will ordinarily bar his, her, or its recovery.”); *Scott v. Rizzo*, 634 P.2d 1234, 1242 (N.M. 1981) (adopting a “pure comparative negligence” regime which “permits recovery to the extent of another’s fault”).

³⁶Although substantial variations exist, the Restatement’s formulation of a strict liability cause of action is typical of American jurisdictions:

One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

- (a) the seller is engaged in the business of selling such a product, and
- (b) it is expected to and does reach the user or consumer without substantial change in the condition which it is sold.

RESTATEMENT (SECOND) OF TORTS § 402A (1965).

³⁷Most jurisdictions require a products liability plaintiff to show only the elements listed in section 402A of the Restatement of Torts. See, e.g., *Hawkeye-Sec. Ins. Co. v. Ford Motor Co.*, 174 N.W.2d 672, 684 (Iowa 1970) (“We now adopt the principles found in Restatement, Second, Torts § 402A . . .”). However, a few states require plaintiffs to prove additional elements. See, e.g., TEX. CIV. PRAC. & REM. 82.005(a)(1) (Vernon 2005) (requiring a plaintiff alleging a design defect to prove “there was a safer alternative design”); *Kohler v. Ford Motor Co.*, 191 N.W.2d 601, 606 (Neb. 1971) (requiring a strict liability plaintiff to show he was “rightfully using that product”).

³⁸See, e.g., KAN. STAT. ANN. § 60-3307(a) (1994) (prohibiting evidence of subsequent remedial measures in products liability cases “for any purpose”); TEX. R. EVID. 407(a) (prohibiting the admission of evidence of subsequent remedial measures for the purpose of proving “negligence, culpable conduct, a defect in a product, a defect in a product’s design, or a need for a warning or instruction,” but allowing such evidence for other purposes “such as proving ownership, control, or feasibility of precautionary measures, if controverted, or impeachment”);

information was available to a defendant, so as to judge the defectiveness of a product.³⁹ Fourth, jurisdictions differ as to the test for determining whether a product is unreasonably dangerous.⁴⁰ Finally, several jurisdictions do not maintain a strict liability cause of action,⁴¹ or have devised their own unique strict liability standards.⁴²

Wood v. Gen. Motors Corp., 865 F.2d 395, 396 (1st Cir. 1988) (assuming it was proper for a trial court applying Massachusetts products liability law to consider evidence of compliance with safety standards); *Banks v. Iron Hustler Corp.*, 475 A.2d 1243, 1253 (Md. Ct. Spec. App. 1984) (“[A] manufacturer’s compliance with industry standards . . . is generally considered to be irrelevant in a strict liability case.” (internal quotations omitted)).

³⁹See, e.g., *Barker v. Lull Eng’g Co.*, 573 P.2d 443, 457 (Cal. 1978) (holding that a manufacturer’s reasonable precautions “will not preclude the imposition of liability under strict liability principles if, upon hindsight, the trier of fact concludes that the product’s design is unsafe to consumers, users, or bystanders” (emphasis added)); *Fabian v. Minster Mach. Co.*, 609 A.2d 487, 493 (N.J. Super. Ct. App. Div. 1992) (“The burden on a defendant who claims a state-of-the-art defense is to prove only the technological state-of-the-art when the product was manufactured.” (citing *Feldman v. Lederle Labs.*, 479 A.2d 374, 388 (N.J. 1984) (emphasis added))).

⁴⁰See, e.g., *Barker*, 573 P.2d at 450-52 (holding that it was erroneous to use the language of the Restatement’s unreasonably dangerous standard in a jury instruction regarding a design defect); *Standhardt v. Flintkote Co.*, 508 P.2d 1283, 1290 (N.M. 1973) (“The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics.” (quoting RESTATEMENT (SECOND) OF TORTS § 402A cmt. i (1965))); *Voss v. Black & Decker Mfg. Co.*, 450 N.E.2d 204, 208 (N.Y. 1983) (holding that the standard for dangerousness should be “whether it is a product which . . . a reasonable person would conclude that the utility of the product did not outweigh the risk inherent in marketing a product designed in that manner”); *Sims v. Gen. Motors Corp.*, 751 P.2d 357, 365 (Wyo. 1988) (approving an instruction defining unreasonably dangerous as “unsafe when put to a use that is reasonably foreseeable considering the nature and function of the product and its uses”).

⁴¹See, e.g., *Swartz v. Gen. Motors Corp.*, 378 N.E.2d 61, 62 (Mass. 1978) (“We hold that there is no ‘strict liability in tort’ apart from liability for breach of warranty under the Uniform Commercial Code.”).

⁴²See, e.g., *Dawson v. Chrysler Corp.*, 630 F.2d 950, 956 (3d Cir. 1980) (acknowledging that New Jersey law requires a plaintiff asserting strict liability to show (1) that he was owed a duty of care (a legal question for the trial judge), (2) that the product was defective, and (3) that the defective product was a proximate cause of the plaintiff’s injuries (citing *Suter v. San Angelo Foundry & Mach. Co.*, 406 A.2d 140, 153 (N.J. 1979))).

The law relating to allegations of fraud differs in American jurisdictions.⁴³ Jurisdictions differ concerning the circumstances under which a duty to disclose arises.⁴⁴ Furthermore, the Fifth Circuit has indicated that class certification is inappropriate when reliance is an issue. *See Castano*, 84 F.3d at 745 (“[A] fraud class action cannot be certified when individual reliance will be an issue.”).

American jurisdictions differ as to the elements of a civil conspiracy claim. Some jurisdictions require proof only that the defendants have entered into a public or private agreement to commit a wrong.⁴⁵ However, “[a] majority of states require proof that the conspirators complete

⁴³Although substantial variations exist, the following elements of a fraud cause of action in Ohio are typical of American jurisdictions:

- (a) a representation or, where there is a duty to disclose, concealment of a fact,
- (b) which is material to the transaction at hand,
- (c) made falsely, with knowledge of its falsity, or with such utter disregard and recklessness as to whether it is true or false that knowledge may be inferred,
- (d) with the intent of misleading another into relying upon it,
- (e) justifiable reliance upon the representation or concealment, and
- (f) a resulting injury proximately caused by the reliance.

Cohen v. Lamko, Inc., 462 N.E.2d 407, 409 (Ohio 1984) (internal quotations omitted). *See, e.g., GMH Assocs., Inc. v. Prudential Realty Group*, 752 A.2d 889, 901 (Pa. Super. Ct. 2000) (defining the torts of intentional misrepresentation and intentional non-disclosure).

⁴⁴*See, e.g., Brager v. Friedenwald*, 97 A. 515, 523 (Md. 1916) (holding that a duty to speak may arise when a defendant makes “a partial and fragmentary statement of fact”); *King v. Philip Morris, Inc.*, No. 99-C-856, 2000 WL 34016358, at *11 (N.H. Sup. Ct. Nov. 2, 2000) (determining that a plaintiff sufficiently alleged a duty to disclose by averring that the defendants publicly professed superior knowledge of smoking risks); *Macon County Livestock Mkt, Inc. v. Ky. State Bank*, 724 S.W.2d 343, 349 (Tenn. Ct. App. 1986) (“[T]he duty to disclose exists . . . 1. Where there is a previous definite fiduciary relation between the parties. 2. Where . . . one or each of the parties to the contract expressly reposes a trust and confidence in the other. 3. Where the contract or transaction is intrinsically fiduciary and calls for perfect good faith.” (quoting *Domestic Sewing Mach. Co. v. Jackson*, 83 Tenn. 418, 424-25 (1885))).

⁴⁵*See, e.g., Stetson v. TAP Pharm. Prods., Inc.*, 598 S.E.2d 570, 582 (N.C. Ct. App. 2004) (“[A] defendant has engaged in a civil or criminal conspiracy upon the making of the agreement [to do an unlawful act or to do a lawful act in an unlawful way].”).

an overt act in furtherance of the conspiracy before they can be found liable.” *Stetser v. TAP Pharm. Prods., Inc.*, 598 S.E.2d 570, 581-82 (N.C. Ct. App. 2004). Some jurisdictions require proof of both an overt act and a specific intent to harm the plaintiff.⁴⁶

Variations exist in state laws regarding breach of express and implied warranties. First, jurisdictions vary as to whether a plaintiff asserting a breach of warranty claim must be in contractual privity with the defendant.⁴⁷ Second, while punitive damages are available in some states for breach of warranty claims,⁴⁸ in other states they are not.⁴⁹

States vary in their treatment of wrongful death causes of action. “Not all state death acts are the same. Some grant to survivors of a decedent a derivative right; some grant them a right that is

⁴⁶*See, e.g., Snyder v. Faget*, 326 So.2d 113, 119 (Ala. 1976) (“The most important feature of a tortious conspiracy . . . is that the object or purpose of the combination must be to cause damage to the plaintiff. . . . [A]n overt act causing damage is an essential of liability in tort.” (internal quotations omitted)).

⁴⁷*See, e.g., N.J. STAT. ANN. § 12A:2-318* (1961) (extending the seller’s warranty to personal injuries suffered by any one of the buyer’s family, household, or guests, but only “if it is reasonable to expect that such person may use, consume, or be affected by the goods”).

⁴⁸*See, e.g., Cantrell v. Amarillo Hardware Co.*, 602 P.2d 1326, 1331 (Kan. 1979) (“Punitive damages are permitted whenever the elements of fraud, malice, gross negligence, or oppression mingle in the controversy.” (internal quotation omitted)); *Hafner v. Guerlain, Inc.*, 310 N.Y.S.2d 141, 142 (App. Div. 1970) (“There was no proof of a conscious disregard of the rights of others, or recklessness on the part of defendant. Accordingly the award of punitive damages [in a breach of warranty action] was properly eliminated.”).

⁴⁹*See, e.g., DeRose v. Putnam Mgmt.*, 496 N.E.2d 428, 432 (Mass. 1986) (“There are no punitive damages in contract.”); *Town of Hooksett School Dist. v. W.R. Grace & Co.*, 617 F.Supp. 126, 135 (D.N.H. 1984) (“‘[P]unitive’ damages cannot be granted in this [breach of warranty] action as it is not the purpose of a civil action to ‘punish’ the defendant.”); *see generally* U.C.C. §§ 2-714–715 (2001) (not including punitive damages as a possible remedy for breach of warranty claims); 1 PUNITIVE DAMAGES: LAW AND PRAC. 2d § 6.3 (“No product liability case has been found in which punitive damages were awarded based solely on a breach of warranty.”).

independent of the right of the decedent—had he survived and sued to recover for personal injuries.”⁵⁰ *Montellier v. United States*, 202 F. Supp. 384, 393 (E.D.N.Y. 1962). States also differ as to whether wrongful death claims are compensatory or punitive in nature. *Id.*

(2) *Defenses*

States differ with respect to several affirmative defenses that Defendants have asserted in this case. First, in failure to warn cases, states differ as to whether they recognize the heeding presumption, which creates a rebuttable presumption that a plaintiff would have followed an adequate warning had one been provided. While some states recognize the heeding presumption,⁵¹ other states do not.⁵² Among states that recognize the heeding presumption, the nature of the defendant’s burden differs. Some states shift both the burden of production and burden of persuasion onto defendants.⁵³ Some states merely shift the burden of production onto defendants.⁵⁴

Second, some states recognize a “state of the art” defense, which applies when no safer

⁵⁰*See, e.g., Pacheco v. Allen*, 55 P.3d 141, 143 (Colo. Ct. App. 2001) (“[E]ven when the statute of limitations would have barred the decedent’s personal injury claim as of the time of his death, the decedent’s surviving spouse had a separate and viable wrongful death claim with its own statute of limitations.”).

⁵¹*See, e.g., Magro v. Ragsdale Bros., Inc.*, 721 S.W.2d 832, 834 (Tex. 1986) (“When a manufacturer fails to give adequate warnings or instructions, a rebuttable presumption arises that the user would have read and heeded such warnings or instructions.”).

⁵²*See, e.g., Sosna v. Am. Home Prods.*, 748 N.Y.S.2d 548, 549 (App. Div. 2002) (holding that in failure to warn claims, the plaintiff’s “burden includes adducing proof that the user of a product would have read and heeded a warning had one been given”).

⁵³*See, e.g., Bloxom v. Bloxom*, 512 So.2d 839, 850 (La. 1987) (finding that the defendant had rebutted not only its burden of production but also its burden of persuasion created by the heeding presumption).

⁵⁴*See, e.g., Gen. Motors Corp. v. Saenz*, 873 S.W.2d 353, 359 (Tex. 1993) (“The effect [of the heeding presumption] is to shift the burden of producing evidence to the party against whom it operates. . . . The presumption has no effect upon the burden of persuasion.” (citations omitted)).

alternative design existed for a product at the time the product was built, designed, or sold;⁵⁵ others do not recognize this defense.⁵⁶ Furthermore, the jurisdictions that recognize the state of the art defense differ as to the time at which the applicable state of the art is determined. Some jurisdictions look to the time at which the product was designed to determine the state of the art.⁵⁷ Other jurisdictions look at the time at which the product was manufactured.⁵⁸

(d) *Variations in International Law*

Variations in the laws of American jurisdictions are complicated by variations in the laws of the numerous foreign jurisdictions where Defendants' radars were operated and maintained by putative class members. *See supra* Part IV(A)(2)(ii)(b)(1) (explaining that the places of exposure may constitute important contacts for choice-of-law purposes). Again, Plaintiffs do not attempt to account for these variations. Based on Defendants' evidence, the Court concludes that the laws of potentially applicable foreign jurisdictions differ significantly with respect to Plaintiffs' claims of

⁵⁵*See, e.g.*, N.J. STAT. ANN. § 2A:58C-3(a) (2000) (“In any product liability action [for design defects] . . . the manufacturer or seller shall not be liable if: (1) At the time the product left the control of the manufacturer, there was not a practical and technically feasible alternative design that would have prevented the harm without substantially impairing the . . . function of the product . . .”).

⁵⁶*See, e.g.*, *Johnson v. Raybestos-Manhattan, Inc.*, 740 P.2d 548, 549 (Haw. 1987) (“Although highly relevant to a *negligence* action, [the state of the art defense] has absolutely no bearing on the elements of a strict products liability claim.”).

⁵⁷*See, e.g.*, *Roach v. Kononen*, 525 P.2d 125, 127 (Or. 1974) (“The unreasonableness of the danger must necessarily be derived from the state of the art at the time of design.” (quoting *Balido v. Improved Mach., Inc.*, 105 Cal. Rptr. 890, 895 (Dist. Ct. App. 1972))).

⁵⁸*See, e.g.*, *Brown v. Williams*, 504 So.2d 1188, 1191 (Miss. 1987) (determining the state of the art at the time of the defective product's manufacture); *Boatland of Houston, Inc. v. Bailey*, 609 S.W.2d 743, 746 (Tex. 1980) (“Whether a product was defectively designed must be judged against the technological context existing at the time of its manufacture.”).

negligence, products liability, and breach of warranty.⁵⁹ These variations would further complicate the adjudication of the legal issues in a worldwide class action.

(iii) *Common Issues Do Not Predominate*

To briefly summarize the foregoing analysis, the Court determined that the common issues amenable to class certification are the government contractor defense and evidence as to what Defendants knew about the hazards of ionizing radiation. *Supra* Part IV(A)(2)(i). The remaining individual issues include all putative class members' causes of action, including several applicable defenses other than the government contractor defense, and all factual determinations that must be made to resolve those legal issues, except evidence regarding what Defendants knew. *Supra* Part IV(A)(2)(ii)(a). In addition, determining what jurisdiction's laws apply to each substantive issue must be made on an individual basis. *Supra* Part IV(A)(2)(ii)(b).

⁵⁹The effects of these variations are summarized concisely in the declaration of Defendants' expert, Professor Hans W. Baade:

For each country of injury, there would need to be determined for each individual class member and for each specific product from which they claim injury:

- (A) date of: enactment of products liability law, if any; triggering date of: statute of limitation for (i) warranty, (ii) tort/delict; (iii) wrongful death actions; repose period; accessibility of liability-triggering information;
- (B) contents of: law of tort or delict, including standards of required conduct, presumptions, and burden of proof;
- (C) periods of limitation and repose for: warranty and tort/delict; warranty privity for users/bystanders; burden of proof in tort/delict relating to defective products; state of technical and scientific knowledge for each product; post-circulation duty to warn or recall; proof of actual damage causing actual injury; limitation on pain and suffering recovery, including devolution after death; caps on liability; limitation on consortium claims; *cessio legis*, deduction, and/or recoupment both as affecting standing to sue and extent of damages recoverable;
- (D) the defect of the product, the exposure thereto of the claimant, and the causal relationship between that exposure and the injury suffered.

Defs.' App. to Resp., Ex. E2, Decl. of Hans W. Baade 10-11.

Weighing Plaintiffs' proffered common issues against the remaining individual issues, the Court concludes that the common issues do not predominate. This determination is based on its findings that (1) numerous individual factual and legal issues must be adjudicated, (2) the complexity of adjudicating the individual issues is compounded by variations in state and foreign laws, and (3) the Court cannot determine that Plaintiffs' proffered issues will be central to the litigation.

First, as demonstrated by the analysis, putative class members assert significantly diverse factual claims, that will in turn result in significant legal variations. *See supra* Part IV(A)(2)(ii)(a) (explaining factual variations in putative plaintiffs' claims). The advisory notes following Rule 23 make the following comments regarding the appropriateness of certifying mass accident cases:

A "mass accident" resulting in injuries to numerous persons is ordinarily not appropriate for a class action because of the likelihood that significant questions, not only of damages but of liability and defenses of liability, would be present, affecting the individuals in different ways. In these circumstances an action conducted nominally as a class action would degenerate in practice into multiple lawsuits separately tried.

FED. R. CIV. P. 23(b)(3) Advisory Notes to 1966 Amendment.

The advisory committee's concerns with certifying a mass accident case are even more relevant in this case than in the typical mass accident case. In a typical mass accident, injuries result from a discrete event in a confined geographic location with a common cause. *See In re Am. Med. Sys., Inc.*, 75 F.3d 1069, 1084 (6th Cir. 1996) ("In mass tort accidents, the factual and legal issues of a defendant's liability do not differ dramatically from one plaintiff to the next."); *In re Telectronics Pacing Sys., Inc.*, 172 F.R.D. 271, 288 (S.D. Ohio 1997) ("Generally, mass tort accidents are appropriate for resolution on a class-wide basis because the cause of the accident is a single course of conduct.").

In contrast, the injuries in the instant case were allegedly caused by exposure over extended

periods of time in countless locations and by products with significant variations. *See supra* Part IV(A)(2)(ii)(a) (explaining the factual variations inherent in the purported class members' claims). *Compare Castano*, 84 F.3d at 742-43 n.15 (overturning class certification in part because of numerous factual differences such as that the class members were exposed to different products, for different amounts of time, in different ways, and over different periods of time), *and Georgine v. Amchem Prods., Inc.*, 83 F.3d 610, 626 (3d Cir. 1996) (overturning certification in part because “[c]lass members were exposed to different asbestos-containing products, for different amounts of time, in different ways, and over different periods”), *with Telectronics*, 172 F.R.D. at 288–89 (upholding certification because the claims were unusual medical products liability actions in that the class members' alleged injuries were caused by “two nearly identical pacemaker leads manufactured by one company” and causation was “likely to be straightforward and easily resolvable”).

Thus, in this case, even more than in the typical mass accident case, “significant questions, not only of damages but of liability and defenses of liability, [are] present, affecting the individuals in different ways.” FED. R. CIV. P. 23(b)(3) Advisory Notes to 1966 Amendment. The uniquely diverse factual claims putative class members assert lead the Court to question whether Plaintiffs' proposed class, if certified, “would degenerate in practice into multiple lawsuits separately tried.” *Id.*; *cf. Jenkins Trial*, 109 F.R.D. at 279 (certifying an asbestos class based on a determination that “the interests of the individual claimant in pursuing his own case can be protected without permitting the proposed mini-trials to degenerate into multiple lawsuits that would thwart judicial economy” (internal quotations omitted)).

Second, as demonstrated above, choice-of-law determinations must be made on an individual

basis, and the laws of fifty-one American jurisdictions and numerous foreign jurisdictions are implicated. *Supra* Part IV(A)(2)(ii)(b)(2). In addition, analyzing the putative class members' claims and applicable defenses reveals that the potentially applicable law contains numerous variations that would significantly complicate the adjudication of the individual legal issues. *See supra* Part IV(A)(2)(ii)(c),(d) (explaining variations in potentially applicable state and foreign law); *see also Castano*, 84 F.3d at 742 n.15 (finding it "difficult to fathom how common issues could predominate in this case when variations in state law are thoroughly considered"). The Fifth Circuit has cautioned that "[i]n a multi-state class action, variations in state law may swamp any common issues and defeat predominance." *Castano*, 84 F.3d at 741. Defendants have demonstrated numerous variations in state and foreign laws that could swamp the proffered common issues and defeat predominance for each cause of action.

Furthermore, it is Plaintiffs' burden to show that variations in state law do not defeat predominance. *See Spence v. Glock, Ges.m.b.H.*, 227 F.3d 308, 313 (5th Cir. 2000) (noting that it is the plaintiffs' burden to establish certification "where a class will involve multiple jurisdictions and variations in state law"); *Walsh v. Ford Motor Co.*, 807 F.2d 1000, 1017 (D.C. Cir. 1986) (refusing to accept the assertion "on faith" that "no variations in state warranty laws relevant to this case exist"), *quoted in Castano*, 84 F.3d at 741. In this case, Plaintiffs have not attempted to resolve the variations in state laws that would be applied to the numerous individual factual and legal issues that class certification would require. *Cf. In re Sch. Asbestos Litig.*, 789 F.2d 996, 1010 (3d Cir. 1986) (affirming class certification because the class plaintiffs had "undertaken an extensive analysis of the variances in products liability among the jurisdictions").

Third, the Court cannot determine that Plaintiffs' proffered common issues will be central

to the litigation. Plaintiffs mistakenly rely on the proposition that “where a single affirmative defense is common to the putative class, that issue predominates.”⁶⁰ Pls.’ Reply 6. In support of this proposition, Plaintiffs rely on *Jenkins v. Raymark Indus., Inc.*, 782 F.2d 468 (5th Cir. 1986). In *Jenkins*, the Fifth Circuit upheld certification of a class action comprised of asbestos plaintiffs for the purpose of determining whether the defendants could assert the “state of the art” defense. *Id.* However, in *Castano*, the Fifth Circuit refuted the proposition that a single issue common to a class, such as an affirmative defense, necessarily predominates; otherwise, “any common issue would predominate if it were common to all the individual trials.” *Castano*, 84 F.3d at 745. The *Castano* Court distinguished *Jenkins* from the case before it based on the fact that the trial judge in *Jenkins* concluded, based on his “vast amount of experience with asbestos cases,” that the state of the art defense was “the most significant contested issue in each case.” *Id.* at 745 n.18. Unlike the trial and appellate courts in *Jenkins*, the trial court analyzing the *Castano* class “did not, and could not, have determined that the common issues would be a significant part of each case.” *Id.* The district judge in *Castano* “had no experience with [that] type of case and did not even inquire into how a case would be tried to determine whether the defendants’ conduct would be a significant portion of each case.” *Id.*

Like the trial judge in *Castano*, this Court has no way to determine that proffered common issues will constitute a significant part of each case. The Court has never adjudicated a similar case, and Plaintiffs have presented the Court with no evidence of how similar ionizing radiation exposure

⁶⁰Reliance on this proposition, in conjunction with a failure to understand the proper purpose of Rule 23(c)(4), is the probable reason for Plaintiffs’ failure to address potential conflicts in applicable law. *See supra* p. 13 (explaining that Rule 23(c)(4) is primarily a “house-keeping rule”).

cases have proceeded. Unlike the well-known and understood asbestos litigation proceeding in *Jenkins*, Plaintiffs have presented the Court with no evidence of litigation involving alleged injuries caused by radars or ionizing radiation. Thus, Plaintiffs have failed to prove that the proffered common issues would constitute a significant portion of the putative class members' cases.

The second case Plaintiffs rely upon in support of predominance is *Agent Orange*, a case in which the Second Circuit made a determination similar to the one made by the Fifth Circuit in *Jenkins* about the centrality of the proffered common issues. *In re "Agent Orange" Prod. Liab. Litig. MDL No. 381*, 818 F.2d 145 (2d Cir. 1987). In *Agent Orange*, the Second Circuit affirmed the certification of a settlement class based primarily on "the centrality of the government contractor defense." *Id.* at 166. The Second Circuit's determination that the government contractor defense would be a significant aspect of the individual cases was based in part on its conclusion that "many potential difficulties were avoided only because all plaintiffs had very weak cases on causation and the military contractor defense was so strong." *Id.* at 167.

In contrast to the Second Circuit in *Agent Orange*, the Court in the instant case has no basis for concluding that the government contractor defense will play such a central role. *See Castano*, 84 F.3d at 745 ("Absent knowledge of how addiction-as-injury cases would actually be tried, however, it was impossible for the court to know whether the common issues would be a significant portion of the individual trials.") (internal quotations omitted). The *Agent Orange* trial court concluded that "[n]o 'defenses to liability [are] present affecting individuals in different ways.'" *In re "Agent Orange" Prod. Liab. Litig. MDL No. 381*, 100 F.R.D. 718, 723 (E.D.N.Y. 1983) (alteration in original) (citation omitted). The instant case, however, implicates numerous issues of both liability and defenses to liability affecting individuals in different ways. *See supra* Part

IV(A)(2)(ii)(a) (discussing numerous factual variations in adjudicating class members' claims that will in turn result in legal differences).

As demonstrated by the foregoing analysis, class certification would require the adjudication of numerous factual and legal issues on an individual basis as to each of Plaintiffs' causes of action and numerous defenses applicable to each cause of action. *See supra* Part IV(A)(2)(ii)(a) (explaining the factual variations in putative plaintiffs' claims that will in turn lead to legal differences). Furthermore, the complexity of adjudicating the individual issues is multiplied by the numerous variations in state and international law. *See supra* Part IV(A)(2)(ii)(c),(d) (analyzing the variations in the laws of American and foreign jurisdictions with respect to putative class members' claims). Moreover, Plaintiffs have wholly failed to account for the variations of legal and factual issues, or the variations in the laws of American and foreign jurisdictions. Furthermore, Plaintiffs have not convinced the Court that the common issues amenable to class-wide determination will constitute a significant aspect of the individual plaintiffs' claims. Thus, having weighed Plaintiffs' proffered common issues against the remaining individual issues for each of Plaintiffs' causes of action, the Court is of the opinion that common issues do not predominate.⁶¹

B. Superiority

1. Standard

The superiority requirement demands that "a class action is superior to other available methods for the fair and efficient adjudication of the controversy." FED. R. CIV. P. 23(b)(3). In particular, a court should consider:

⁶¹Although Plaintiffs' failure to establish predominance precludes certification, the Court will address the superiority requirement for the sake of thoroughness.

(A) the interest of members of the class in individually controlling the prosecution or defense of separate actions; (B) the extent and nature of any litigation concerning the controversy already commenced by or against members of the class; (C) the desirability or undesirability of concentrating the litigation of the claims in the particular forum; [and] (D) the difficulties likely to be encountered in the management of the class action.

Id. With respect to the fourth requirement, commonly referred to as manageability, “this consideration encompasses the whole range of practical problems that may render the class action format inappropriate for a particular suit.” *Eisen v. Carlisle & Jacquelin*, 417 U.S. 156, 164 (1974).

2. Application

(i) Pertinent Superiority Considerations

With respect to the first consideration, the interest of members of the class in individually controlling the prosecution or defense of separate actions, “the most compelling rationale for finding superiority in a class action [is] the existence of a negative value suit.” *Castano*, 84 F.3d at 748. A “negative value suit” is a case “in which the costs of enforcement in an individual action would exceed the expected individual recovery.” *In re Inter-Op Hip Prosthesis Liab. Litig.*, 204 F.R.D. 330, 348 (N.D. Ohio 2001). The Supreme Court has quoted with approval the Seventh Circuit’s statement:

The policy at the very core of the class action mechanism is to overcome the problem that small recoveries do not provide the incentive for any individual to bring a solo action prosecuting his or her rights. A class action solves this problem by aggregating the relatively paltry potential recoveries into something worth someone’s (usually an attorney’s) labor.

Amchem Prods., Inc. v. Windsor, 521 U.S. 591, 617 (1997) (quoting *Mace v. Van Ru Credit Corp.*, 109 F.3d 338, 344 (7th Cir. 1997)).

Putative class members assert claims for death or serious personal injuries, which could potentially result in large damage awards. Therefore, “this is not a case where ‘the amounts at stake for individuals [are] so small that separate suits would be impracticable.’” *Georgine*, 83 F.3d at 633

(quoting FED. R. CIV. P. 23(b)(3) Advisory Notes to 1966 Amendment) (alteration in original). The Court is mindful of the considerable litigation costs faced by an individual plaintiff in the instant case. However, Plaintiffs have not presented any evidence that the costs of litigation would exceed any expected recovery. Furthermore, “this action involves claims for personal injury and death—claims that have a significant impact on the lives of the plaintiffs and that frequently receive huge awards in the tort system.” *Id.* Thus, putative plaintiffs have “a significant interest in individually controlling the prosecution of separate actions,” including in deciding whether to settle. *Id.*

With respect to the second consideration, the extent and nature of any litigation concerning the controversy already commenced by or against members of the class, the Court is not aware of any litigation already commenced by putative class members against Defendants. *See* Pls.’ Mot. for Class Cert. 9 (denying knowledge of “any other actions currently pending in another court against any Defendant, alleging the same or similar causes of action”).

With respect to the third consideration, the desirability of concentrating litigation in a particular forum, this factor implicates some of the choice-of-law issues previously discussed. *See supra* Part IV(A)(2)(ii)(b)(2) (determining that choice-of-law issues must be determined on an individual basis and that the laws of all fifty-one American jurisdictions and numerous foreign jurisdictions are potentially implicated). In particular, numerous jurisdictions, including foreign countries, may have strong interests in litigating claims in their own forums and according to their own laws.

With respect to the final consideration, the difficulties to be encountered in the management of the class action, Plaintiffs’ proposed class implicates many problems with manageability. First, choice-of-law determinations must be made on a plaintiff-by-plaintiff basis. *See supra* Part

IV(A)(2)(ii)(b) (explaining that the choice-of-law determinations must be individualized). This complexity militates strongly against class adjudication. *See Castano*, 84 F.3d at 749 (“The complexity of the choice of law inquiry also makes individual adjudication superior to class treatment.”).

Second, the numerous individual issues that would require adjudication weigh against class treatment. *See supra* Part IV(A)(2)(ii)(a) (explaining factual variations in putative plaintiffs’ claims that must be determined on an individual basis); *see also In re Am. Med. Sys., Inc.*, 75 F.3d 1069, 1085 (6th Cir. 1996) (“[T]he economies of scale achieved by class treatment are more than offset by the individualization of numerous issues relevant only to a particular plaintiff.”); *In re N. Dist. of Cal., Dalkon Shield IUD Prods. Liab. Litig.*, 693 F.2d 847, 856 (9th Cir. 1982) (“The few issues that might be tried on a class basis in this case, balanced against issues that must be tried individually, indicate that the time saved by a class action may be relatively insignificant. A few verdicts followed by settlements might be equally efficacious.”).

Third, Plaintiffs’ class implicates numerous variations in state law, many of which could lead to conflicts. *See supra* Part IV(A)(2)(ii)(c),(d) (explaining the numerous variations in state and foreign laws implicated by Plaintiffs’ proposed world-wide class action). *Compare Castano*, 84 F.3d at 743 (noting that the trial court “failed to perform its duty to determine whether the class action would be manageable in light of state law variations”) *with Telectronics*, 172 F.R.D. at 293 (determining that the plaintiffs established superiority because the proposed subclass distinctions adequately accounted for variations in state law). The variations in applicable law multiply the difficulties in adjudicating the numerous factual and legal issues implicated by Plaintiffs’ proposed class action.

Fourth, Plaintiffs have not demonstrated that issues presented at the proposed class phase would not be presented again during the individual phase, resulting in further inefficiencies. *See, e.g., Castano*, 84 F.3d at 749 (stating that if the defendants' negligence is considered in both the class and individual phases of trial, it may result in "a waste, not a savings, in judicial resources"); *Agent Orange*, 818 F.2d at 154 (noting that the trial judge determined that the military contractor defense "implicated factual issues also central to both liability and causation and thus should not be tried separately").

Finally, the Court is not aware of any prior verdicts or judgments based on injuries caused by ionizing radiation emitted by radars. Prior resolutions of similar causes of action guide a court's predominance and superiority analysis; the absence of any such prior verdicts or judgments makes class certification inappropriate in this case. *See Castano*, 84 F.3d at 738, 747 ("[A] mass tort cannot be properly certified without a prior track record of trials from which the district court can draw the information necessary to make the predominance and superiority analysis required by rule 23."). Thus, future individual adjudications may result in more manageable choice-of-law and predominance inquiries. *See id.* at 750 ("Through individual adjudication, the plaintiffs can winnow their claims to the strongest causes of action. The result will be an easier choice of law inquiry and a less complicated predominance inquiry.").

(ii) *Class Treatment Is Not Superior*

For the foregoing reasons, the Court concludes that this is not a negative value suit, an important rationale underlying class certification. In addition, Plaintiffs' proposed class evinces numerous manageability problems. Furthermore, Plaintiffs have not presented the Court with any plan for dealing with the numerous manageability issues. Thus, having considered the relevant

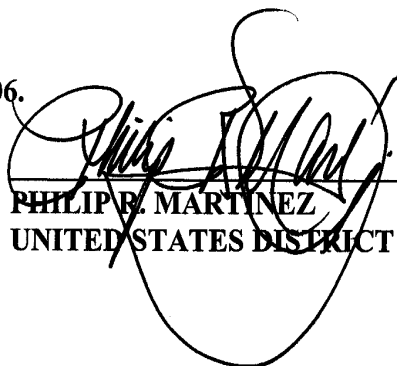
factors, the Court is not convinced that class treatment is superior to individual adjudication in this case.

V. CONCLUSION

To summarize, Plaintiffs have proposed the certification of an issues class pursuant to Rule 23(c)(4). Although the proposed class meets the requirements of Rule 23(a), it does not meet the requirements of Rule 23(b)(3). Specifically, the complexity of the numerous individual factual and legal determinations are compounded by variations in state and foreign laws, so that the Court cannot conclude that common issues predominate. In addition, the fact that this is not a negative value suit, in combination with multiple manageability problems, causes the Court to conclude that class adjudication is not superior. Thus, the Court is of the opinion that Plaintiffs' Renewed Motion for Class Certification should be denied.

Accordingly, **IT IS ORDERED** that Plaintiffs' "Renewed Motion for Class Certification" (Docket No. 254) is **DENIED**.

SIGNED this 11th day of September, 2006.


PHILIP R. MARTINEZ
UNITED STATES DISTRICT JUDGE