UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

TIMOTHY KARCHER, *et al.*, Plaintiffs, v. ISLAMIC REPUBLIC OF IRAN, Defendant.	Civil Action No. 16-232 (CKK)

MEMORANDUM OPINION
(August 26, 2019)

In Iraq, the U.S. military encountered a unique weapon, known as an explosively formed penetrator ("EFP"), that caused exceptional damage to armored personnel carriers and their occupants. This case concerns ninety-two attacks on U.S. servicemembers and others in Iraq from 2004 through 2011. The vast majority of those attacks involved EFPs. All of them were allegedly facilitated by Defendant Islamic Republic of Iran ("Iran").

After Iran was properly served and it defaulted, the Court held a bench trial regarding seven "bellwether" attacks to determine the sufficiency of evidence to support entry of default judgment under the Foreign Sovereign Immunities Act ("FSIA").

Upon consideration of Plaintiffs' [80] Proposed Findings of Fact and Conclusions of Law, the relevant legal authorities, and the record as a whole, in an exercise of its discretion the Court shall **GRANT** default judgment against Iran as to the claims of certain Plaintiffs arising from those seven attacks.

For damages and any other appropriate determinations, the Court expects to refer the bellwether attacks to a special master, who shall prepare a report and recommendation to the Court. At that time, the Court shall issue additional instructions for liability and damages proceedings concerning non-bellwether attacks.

I. BACKGROUND

Well over 300 Plaintiffs filed this suit on February 12, 2016.[1] Those Plaintiffs generally consist of military servicemembers, their estates, and their family members, nearly all of whom are allegedly U.S. nationals.[2] Plaintiffs allege that Iran went to great lengths to enlist, train, and supply operatives in Iraq to attack American forces. As stated above, most of the attacks at issue in this case involve the EFP, a weapon allegedly attributable to Iran. The three-count Amended Complaint seeks relief for the personal injuries of the surviving victims, the personal injuries and deaths of victims who were killed, and the intentional infliction of "severe" emotional distress endured by families of those injured or killed. *See* Am. Compl., ECF No. 8, ¶¶ 1161-74.

The Court shall summarize certain proceedings leading up to the bench trial in this matter, and those that precipitate the present decision.

A. Service and Entry of Default

After Plaintiffs purported to effectuate service on Iran via diplomatic channels pursuant to 28 U.S.C. § 1608(a)(4), and Iran failed to respond, they sought entry of default, which the Clerk entered. *See* ECF Nos. 16-18. When Plaintiffs thereafter moved for default judgment, the Court denied the motion without prejudice to permit Plaintiffs to demonstrate the grounds for proper service. Nov. 15, 2016 Order, ECF No. 22.

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[1] Plaintiffs' brief identifies the number of Plaintiffs in this action as 369. Pls.' Proposed Findings of Fact and Conclusions of Law, ECF No. 80 ("Pls.' Br."), at 1. By the Court's count, that figure is instead 373. Whatever the reason for the discrepancy, the precise number is immaterial. One or more special masters shall adjudicate the claims of whomever is listed in the Amended Complaint.

[2] Plaintiffs report that non-servicemember decedents are limited to two military contractors and one journalist. Pls.' Br. at 1 n.1. With respect to the one or more Plaintiffs who are not U.S. citizens, Plaintiffs propose to supplement their arguments and furnish evidence to a special master at the appropriate time. *Id.* at 169 n.45, 173. It may be appropriate to address non-servicemember decedents and non-U.S. citizen Plaintiffs prior to referral to a special master. *See infra* Part V (discussing next steps).

Plaintiffs then took a dual-tracked approach to completing service. They supplied further justification for their attempt to serve Iran under Section 1608(a)(4), while also asking the Clerk of Court to facilitate service on Iran's Minister of Foreign Affairs under Section 1608(a)(3). ECF Nos. 23-27. The Clerk again entered default against Iran at Plaintiffs' request once proof of service under Section 1608(a)(3) was returned and Iran failed to respond within the statutory time period. *See* ECF Nos. 27-30; 28 U.S.C. § 1608(c)(2), (d). The Court then determined that Plaintiffs had properly effectuated service. Apr. 19, 2017 Mem. Op. and Order, ECF No. 31.

The FSIA sets forth the requirements for service on a foreign state such as Iran. 28 U.S.C. § 1608(a); Fed. R. Civ. P. 4(j)(1). Under the FSIA, there are four methods of effecting service, the first two of which, if applicable, must be exhausted before moving to the third. 28 U.S.C. § 1608(a)(3); *see also Barot v. Embassy of the Republic of Zambia*, 785 F.3d 26, 27 (D.C. Cir. 2015) (recognizing "descending order of preference" in this provision). Neither special arrangements with Iran nor an international convention signed by Iran was available to facilitate service under Section 1608(a)(1) or (a)(2), so Plaintiffs were permitted to avail themselves of Section 1608(a)(3). Apr. 19, 2017 Mem. Op. and Order, ECF No. 31, at 3. Accordingly, even though Plaintiffs had improperly resorted first to Section 1608(a)(4) means, the Court concluded that their belated service under Section 1608(a)(3) was effective. *Id.* at 2-4.

B. Pretrial Proceedings

Through a series of Orders, the Court elicited Plaintiffs' views to facilitate proceedings in the default setting. *See id.* at 4; Scheduling and Procedures Order, ECF No. 32; Min. Order of May 15, 2017; Pretrial Scheduling and Procedures Order, ECF No. 39. Based on that briefing, and discussion on the record with Plaintiffs, the Court decided to hold a three-day bench trial regarding a subset of attacks that Plaintiffs proposed as "bellwethers." In the Court's Phase I

bellwether proceedings, Plaintiffs would present evidence as to jurisdiction, liability, and at least an aspect of damages. *See* Min. Orders of June 18, 2018, and July 17, 2018. One or more special masters then would conduct Phase II bellwether proceedings to complete damages determinations and make a report and recommendation to the Court. *See* Min. Orders of June 18, 2018, and July 17, 2018. The Court would issue further instructions thereafter regarding non-bellwether proceedings. *See* Min. Order of July 17, 2018.

Subsequent pretrial proceedings included the entry of a protective order to facilitate the military's production of certain documents to Plaintiffs. Privacy Act and Personal Information Protective Order, ECF No. 54. Plaintiffs also sought the Court's pretrial approval of several demonstrative exhibits, two of which the Court permitted in its discretion: an actual-sized model EFP and an actual-sized model High Mobility Multipurpose Wheeled Vehicle ("HMMWV" or "Humvee"). Oct. 9, 2018 Order, ECF No. 55. The Court permitted Plaintiffs to file certain documents under seal; the basis for sealing most of those documents was their national-security sensitivity. *See* Nov. 5, 2018 Order, ECF No. 57 (citing *United States v. Hubbard*, 650 F.2d 293, 315-16 & n.83 (D.C. Cir. 1980)); Min. Order of June 18, 2018.

In a further exercise of its discretion, the Court granted Plaintiffs' request for pre-admission of ninety-six government records under Federal Rule of Evidence 803(8), the public records exception to the hearsay rule. Nov. 27, 2018 Order, ECF No. 64. Plaintiffs had furnished sufficient evidence under the rather liberal evidentiary standards applicable to FSIA cases in default posture, particularly when the foreign sovereign has been recognized as a sponsor of terrorism. *Id.* at 1-2 (citing 28 U.S.C. § 1608(e); *Owens v. Republic of Sudan*, 864 F.3d 751, 785-86 (D.C. Cir. 2017), *cert. granted in part on other grounds sub nom. Opati v. Republic of Sudan*, 139 S. Ct. 2771 (2019) (Mem.); *Han Kim v. Democratic People's Republic of Korea*, 774 F.3d 1044, 1048-51 (D.C. Cir.

2014)). The Court nevertheless deferred its "determination of the appropriate weight to accord each of these exhibits." *Id.* at 2.

The Court refused, however, to pre-admit reports prepared by Plaintiffs' experts, who were scheduled to testify at trial. Nov. 28, 2018 Mem. Op. and Order, ECF No. 66, at 1. Plaintiffs could lay adequate foundation for admission of those reports simply by asking the experts whether they adopted the facts and conclusions therein. *Id.*

And lastly, at Plaintiffs' request, the Court exercised its discretion to take judicial notice of certain findings by Judge Randolph Moss in another case about the same attack on the Provincial Joint Coordination Center ("PJCC") in Karbala. Nov. 28, 2018 Mem. Op. and Order, ECF No. 66, at 1-4 (citing *Fritz v. Islamic Republic of Iran*, 320 F. Supp. 3d 48 (D.D.C. 2018) (Moss, J.)). Nevertheless, the Court made clear that it must make its "own, independent findings of fact" based on the evidence presented at trial. *Id.* at 3-4 (quoting *Rimkus v. Islamic Republic of Iran*, 750 F. Supp. 2d 163, 172 (D.D.C. 2010); citing, e.g., *Harrison v. Republic of Sudan*, 882 F. Supp. 2d 23, 31 (D.D.C. 2012)) (internal quotation marks omitted).

C. Bench Trial

Over the three-day trial, Plaintiffs presented evidence regarding seven bellwether attacks. Six attacks in Baghdad or the vicinity allegedly involved EFPs. The seventh attack—on the PJCC in Karbala—involved more conventional weapons.

Plaintiffs put on a total of 19 witnesses, consisting of 8 fact witnesses and 11 expert witnesses.[3] The fact witnesses consisted of the following five military servicemember Plaintiffs who were injured in the bellwether attacks: Robert Bartlett, Robert Canine, David Haines, Chris

[3] Plaintiffs assert that there were 10 expert witnesses but they list 11 specific individuals, consistent with the Court's own recollection. *See* Pls.' Br. at 7-11.

Levi, and Wesley Williamson. The other fact witnesses were Kelli Hake, a Plaintiff and the widow of servicemember Christopher Hake, who was killed in a bellwether attack; Colonel (Ret.) Kevin Farrell, a non-Plaintiff witness of the attack that injured Mr. Bartlett; and then-First Lieutenant Rusty Mason, a non-Plaintiff witness of the attack that killed Mr. Hake.

Of the expert witnesses, seven spoke to liability issues consisting generally of Iran's role in Iraq, Iran's relationship with its Lebanese and Iraqi proxies, the weapons they used in Iraq, and the U.S. military's efforts to respond. The remaining four experts were medical doctors who testified about EFP-inflicted injuries to inform damages assessments.

Because of the importance of the experts to this case, the Court shall briefly summarize some relevant qualifications of Plaintiffs' eleven experts and identify the topics as to which the Court found them to be qualified. *See* Fed. R. Evid. 702.[4]

Liability Experts

- Captain (Ret.) Donald Wade Barker performed counter-IED research and development at Georgia Tech after leading counter-IED units of the U.S. Army in Iraq, Afghanistan, and the United States. Expert Rep. of Capt. (Ret.) Donald Wade Barker, PX-158 ("Barker Rep."), Ex. 1; *see also* Barker T3-6:19-10:7.[5] The Court qualified Mr. Barker as an expert in "[improvised explosive devices ("IEDs")], EFPs and counter-IED technology." Barker T3-10:8-12.[6]

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[4] Certain subjects that the experts discussed appeared to be "common knowledge" amongst those who study recent conflicts involving Iran and Iraq. For example, a number of the experts discussed Iranian proxies in Iraq. In the Findings of Fact below, the Court sometimes cites experts as to topics that may fall outside the topics that they were expressly qualified at trial to address. However, the Court finds their reports and/or testimony to be credible as to any such topics for which it cites them.

[5] Citations to testimony from the bench trial shall use the following format: "name T#-page(s):line(s)," i.e., witness name, transcript volume, and then page number(s) and line(s) thereon.

[6] The Court appreciates the titles of the former military officials cited in this Opinion. However, the Court shall join Plaintiffs in respectfully omitting those titles from subsequent references to these individuals. *See, e.g.*, Pls.' Br. at 8-11.

- Colonel (Ret.) Leo E. Bradley III commanded U.S. Army units in Iraq, Afghanistan, and the United States that were responsible for explosive ordnance disposal ("EOD") and/or counter-IED initiatives. Expert Rep. of Colonial Leo E. Bradley III, U.S. Army (Retired), PX-156 ("Bradley Rep."), Ex. A; Bradley T2-7:14-9:24. The Court found Mr. Bradley qualified to serve as an expert as to "U.S. military EOD operations and IED investigations." Bradley T2-12:9-13.

- Dr. Matthew Levitt directs a counterterrorism and intelligence program at the Washington Institute for Near East Policy and previously served in related roles at the Federal Bureau of Investigation and the U.S. Departments of State and the Treasury. Expert Rep. of Dr. Matthew Levitt, PX-154 ("Levitt Rep."), Ex. A; *see also* Levitt T1-15:5-26:5. The Court found Dr. Levitt qualified to address "Iran's role as a state sponsor of terrorism, Iran's Islamic Revolutionary Guard Corps, or IRGC; the Islamic Revolutionary Guard Corps Qods Force, or IRGC-QF; Hezbollah; and those entities' support and training of the Special Groups in Iraq." Levitt T1-26:6-14.

- Colonel (Ret.) Kevin Lutz established and commanded the U.S. military's Combined Joint Task Force Troy ("Task Force Troy") in Iraq and led other counter-IED and EOD units of the U.S. Army. Expert Rep. of Col. (Ret.) Kevin Lutz, PX-159 ("Lutz Rep."), Ex. A; *see also* Lutz T5-6:18-15:2. The Court found Mr. Lutz qualified to address "the use of explosive devices, including IEDs and other ordnance, by transnational terrorist organizations and specifically the tactics, techniques and procedures used by terrorist groups in Iraq between 2003 and 2011." Lutz T5-15:4-11.

- Russell McIntyre has held intelligence roles that include [redacted] and serving with Multi-National Corps-Iraq in a counter-IED cell. Expert Rep. of Russell L. McIntyre, PX-157 ("McIntyre Rep."), at 2 & Ex. A; *see also* McIntyre T5-59:10-64:15. The Court recognized Mr. McIntyre as an expert regarding "IED threats to [U.S.] forces, specifically in Iraq between 2003 and 2011, and with an additional focus on explosively formed projectiles or penetrators." McIntyre T5-64:16-22.

- Lieutenant General (Ret.) Michael L. Oates directed the U.S. military's Joint Improvised Explosive Device Defeat Organization ("JIEDDO") and served in a number of U.S. Army leadership roles in, or concerning, Iraq during the relevant time period. Expert Rep. of Lt. Gen. Michael L. Oates, United States Army (Ret.), PX-153 ("Oates Rep."), at 2; *see also* Oates T1-81:2-9, 81:25-86:8. The Court recognized Mr. Oates as an expert in "tactical and strategic threats faced by US and Coalition Forces in Iraq [from] 2003 to 2008 and including the specific threat to US military forces from IEDs and other ordnance, including EFPs." Oates T1-86:15-22.

- Michael P. Pregent performed intelligence roles for the United States Central Command Intelligence Directorate, Defense Intelligence Agency, and U.S. Army

and currently serves as a senior fellow at the Hudson Institute, where he focuses on, among other things, counter-Iranian policy proposals. Expert Rep. of Michael P. Pregent, PX-155 ("Pregent Rep."), at 1-2; *see also* Pregent T5-165:15-173:2. The Court found that Mr. Pregent was qualified to testify regarding "intelligence matters, including attribution of terror attacks and also evidence collection and analysis in the intelligence field." Pregent T5-173:3-7.

Medical Experts

- Dr. Romney Andersen has chaired orthopedic surgery units of military and civilian hospitals, including the 10th Combat Support Hospital in Baghdad's Green Zone and the Walter Reed National Military Medical Center. Andersen T2-84:23-86:4, 87:3-92:7; *see also* Expert Rep. of Dr. Romney C. Andersen, PX-162 ("Andersen Rep."), Ex. A. The Court recognized Dr. Andersen as qualified to address "the treatment and prognosis for orthopedic blast injuries including injuries from EFP attacks." Andersen T2-92:8-12.

- Dr. Russell Gore served as a military flight surgeon before launching the Complex Concussion Clinic for mild brain injuries at the Shepherd Center in Atlanta, where he also directs the SHARE Military Initiative focused on veterans. Gore T4-4:5-7:22; *see also* Medical Expert Rep. Concerning Traumatic Brain Injuries Caused by EFP Strikes in Iraq (2004-2011), PX-161 ("Gore Rep."), Ex. A. The Court found Dr. Gore to be qualified to address "traumatic brain injury, consequences of those [injuries], [and] diagnosis and treatment" of the same. Gore T4-7:23-8:2.

- Dr. Charles Marmar, who currently chairs the Department of Psychiatry at New York University School of Medicine, played a leading role in the development of diagnostic criteria for post-traumatic stress disorder ("PTSD") and has since launched PTSD clinics for veterans. Marmar T3:70:12-74:12, 75:1-77:16; *see also* Expert Rep. of Charles R. Marmar, M.D., PX-163 ("Marmar Rep."), Ex. A. The Court qualified Dr. Marmar as an expert in "post-traumatic stress disorder, major depressive disorder, neurocognitive disorder following traumatic brain injury ("TBI"), PTSD in veterans surviving EFP attacks and the impact of war zone service on military family members." Marmar T3:77:17-23.

- Dr. Shean Phelps treated blast victims at the point of injury as a U.S. Army Special Forces medical sergeant in the 1980s and later as a senior flight surgeon in Iraq in the 2000s. Phelps T5-119:2-129:21; Medical Expert Rep. Concerning Polytraumatic Injuries Caused by EFP Strikes in Iraq (2004-2011), PX-160 ("Phelps Rep."), Ex. A. The Court qualified Dr. Phelps as an expert in "the treatment of combat injuries, including polytrauma, blast injuries, particularly with respect to Iraq and IEDs in Iraq." Phelps T5-129:22-130:2.

In addition to the nearly one hundred pre-admitted exhibits, the Court admitted twenty-five more based on the witnesses' testimony. *See generally* Ex. List, ECF No. 68. Those exhibits

consisted largely of the expert reports, as well as audiovisual and photographic evidence. A number of demonstrative exhibits also were used at trial but were not offered into evidence.

D. Trial & Post-Trial Proceedings

The Court held a bench trial on December 3, 4, and 6, 2018. Of note here, Plaintiffs suggested at the outset of trial that they did not expect the Court to assign damages based on trial testimony alone. Whereas that testimony would furnish a "broad overview" of EFP-related damages, in particular, Plaintiffs intended to reserve medical records and, in their view, further testimony, until they appeared before a special master. Trial Tr. 1-9:19-11:1.

After the trial, the Court held a teleconference on the record with Plaintiffs to identify the appropriate format for its Proposed Findings of Fact and Conclusions of Law. Upon receiving the timely submitted Proposed Findings of Fact and Conclusions of Law, the Court instructed Plaintiffs to file a revised version that would, in pertinent part, address a potential statute of limitations issue. *See* Min. Orders of Mar. 5, 2019, and Mar. 8, 2019.

After they submitted their briefing, the Court of Appeals issued a decision that squarely prohibits district courts from raising, *sua sponte*, "the FSIA terrorism exception's statute of limitations on behalf of an entirely absent defendant." *Maalouf v. Islamic Republic of Iran*, 923 F.3d 1095, 1101, 1112 (D.C. Cir. 2019); *see also* Pls.' Notice of New Authority, ECF No. 81. Accordingly, the Court need not inquire further into any statute of limitations defenses that Iran could have raised if it had appeared in this action.

The Court also sought Plaintiffs' input as to the proper handling of their sealed exhibits. *See* Min. Orders of June 3, 2019, and June 4, 2019. After a teleconference on the record, Plaintiffs agreed to review the sealed material and indicate what must remain sealed. Min. Order of June 4, 2019. They notified the Court informally that two of the sealed expert reports and a sealed exhibit

could be placed on the public docket in their entirety, and that the five other sealed expert reports could also be released with redactions. At the Court's instruction, Plaintiffs moved to unseal these documents, either in full or with redactions, which the Court permitted. Min. Orders of Aug. 23, 2019, and Aug. 26, 2019. In this Memorandum Opinion, the Court refers to only a limited amount of information from exhibits that remain sealed, or from the redacted portions of publicly docketed exhibits. Accordingly, the Court is issuing sealed and redacted public versions of this Memorandum Opinion.

E. Default Judgment

In their brief, Plaintiffs "request," *inter alia*, "that the Court find that they have established their claims by evidence satisfactory to the Court and[ ] grant default judgment against Defendant as to the 7 bellwether attacks." Pls.' Br. at 4. Accordingly, the Court considers whether to enter default judgment as to the seven bellwether attacks, and whether its decision should extend only to liability or to encompass damages as well. Any further default judgment as to the remaining attacks would follow Phase II bellwether proceedings before one or more special masters.

II. LEGAL STANDARD

The entry of default judgment is governed by Federal Rule of Civil Procedure 55. Where the damages sought from a defaulting party are not for a sum certain or are not readily susceptible to computation, "the party must apply to the court for a default judgment." Fed. R. Civ. P. 55(b).

Even then, "the entry of a default judgment is not automatic." *Mwani v. bin Laden*, 417 F.3d 1, 6 (D.C. Cir. 2005). In ordinary civil litigation, "[t]he determination of whether a default judgment is appropriate is committed to the discretion of the trial court." *Hanley-Wood LLC v. Hanley Wood LLC*, 783 F. Supp. 2d 147, 150 (D.D.C. 2011) (citing *Jackson v. Beech*, 636 F.2d

831, 836 (D.C. Cir. 1980));[7] *see also* 10A Charles Alan Wright et al., Federal Practice & Procedure Civil § 2685 (4th ed.) (same). Because "strong policies favor resolution of disputes on their merits[,] '[t]he default judgment must normally be viewed as available only when the adversary process has been halted because of an essentially unresponsive party.'" *Jackson*, 636 F.2d at 836 (quoting *H.F. Livermore Corp. v. Aktiengesellschaft Gebruder Loepfe*, 432 F.2d 689, 691 (D.C. Cir. 1970) (per curiam)).

A plaintiff seeking default judgment must persuade the trial court that subject-matter jurisdiction and personal jurisdiction over the defendant are satisfied. *Thuneibat v. Syrian Arab Republic*, 167 F. Supp. 3d 22, 33 (D.D.C. 2016) (citing *Khadr v. United States*, 529 F.3d 1112, 1115 (D.C. Cir. 2008); *FC Inv. Grp. LC v. IFX Mkts., Ltd.*, 529 F.3d 1087, 1091 (D.C. Cir. 2008)).

Under the FSIA specifically, this Court cannot enter default judgment against a foreign state "unless the claimant establishes his claim or right to relief by evidence satisfactory to the court." 28 U.S.C. § 1608(e); *see Roeder v. Islamic Republic of Iran*, 333 F.3d 228, 232 (D.C. Cir. 2003) ("The court . . . has an obligation to satisfy itself that plaintiffs have established a right to relief."), *cert. denied*, 542 U.S. 915 (2004). "[T]he FSIA leaves it to the court to determine precisely how much and what kinds of evidence the plaintiff must provide," *Han Kim*, 774 F.3d at 1047, and "[u]ncontroverted factual allegations that are supported by admissible evidence are taken as true," *Thuneibat*, 167 F. Supp. 3d at 33.

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[7] Although *Jackson* expressly deals with the trial court's discretion to *vacate* a default judgment, *Jackson*, 636 F.2d at 835, it is commonly cited for the proposition that discretion applies to the *grant* of default judgment as well, *see, e.g.*, *Int'l Painters & Allied Trades Indus. Pension Fund v. Auxier Drywall, LLC*, 531 F. Supp. 2d 56, 57 (D.D.C. 2008) (citing *Jackson*, 636 F.2d at 836).

Before entering a default judgment, the Court has discretion to conduct a hearing to "establish the truth of any allegation by evidence" or "determine the amount of damages," among other purposes. Fed. R. Civ. P. 55(b)(2).

III. FINDINGS OF FACT

The Court has concluded that it has subject-matter jurisdiction over this action against a foreign state. Iran has waived its sovereign immunity by providing material support for acts of extrajudicial killing and hostage taking resulting in personal injury and/or death. *See* 28 U.S.C. §§ 1330(a), 1605A(a)(1). The Court shall reserve further discussion of jurisdiction until after the Court sets forth the factual record, which is essential to establishment of that jurisdiction.

The Court's Findings of Fact are based on testimony presented at the bench trial held in this matter in December 2018, as well as a substantial amount of evidence submitted before and during that trial. Plaintiffs' proposed findings have assisted the Court in identifying the most relevant of this evidence. *See* Pls.' Br. at 15-111. The present Findings of Fact are also supported, where appropriate, by Judge Moss's findings of fact in *Fritz.*

This Court's findings fall into three overarching categories: (1) Iran's relationship with Hezbollah and other proxy groups operating in Iraq; (2) the nature and use in the Iraqi theater of EFPs, an Iranian "signature weapon," Pls.' Br. at 2; and (3) how Iran's material support for its proxies, including via EFPs, resulted in the injuries and deaths in the bellwether attacks in Iraq.

A. Iran's Material Support for Hezbollah and Other Proxies in Iraq

1. Iranian Interests in the Region

Like many accounts of Iran's modern activities, this one properly begins with the revolution in 1979. Shortly after Ayatollah Ruhollah Khomeini came to power as Supreme Leader, he instituted what became known as the Islamic Revolutionary Guard Corps ("IRGC") to forestall any "backsliding in implementing [his] vision for an Islamic theocratic government" in the Islamic

Republic of Iran. McIntyre Rep. at 4-5; *see also* Levitt T1-27:9-12. While the Iranian armed forces would "protect the borders of Iran," the IRGC with its "parallel" military structure was tasked with "protect[ing] the revolution." Levitt T1-28:3-8 (observing that IRGC has its own army, navy, and air force). A subsidiary of the IRGC—the Qods Force, or IRGC-QF—is responsible for its international operations, including training Muslim groups to support the revolution through insurgency and terrorism. McIntyre Rep. at 6; Levitt T1-27:18-21, 33:6-16 (likening the Qods Force to "the sharp end of [a] spear" when it comes to "Iran's extraterritorial activities"). That subsidiary is led by General Qasem Soleimani, a direct report of the second Supreme Leader of Iran, Ayatollah Sayyid Ali Hosseini Khamenei. McIntyre Rep. at 4-5; Oates Rep. at 11.

As a result of Iran's "support for acts of international terrorism," the United States designated Iran as a state sponsor of terrorism on January 19, 1984. State Sponsors of Terrorism, U.S. Dep't of State (Dec. 20, 2017), PX-1; *see also* McIntyre Rep. at 6 (attributing designation "in large part to the actions of the IRGC and later its Qods Force"); Levitt T1-27:16-17 (observing that designation has not been discontinued). Similar terrorism-related designations of the IRGC and IRGC-QF have followed more recently: the IRGC-QF on October 25, 2007, and the IRGC on October 13, 2017. *See* U.S. Dep't of Treasury, Fact Sheet: Designation of Iranian Entities and Individuals for Proliferation Activities and Support for Terrorism (Oct. 25, 2007), PX-5 ("IRGC-QF Designation"), at 1, 3 (announcing designation of IRGC-QF under Executive Order ("E.O.") 13224 for supporting terrorist organizations); McIntyre Rep. at 3 n.1, 4 n.3 (recognizing this designation of IRGC-QF as "Specially Designated Global Terrorist"); U.S. Dep't of Treasury, Treasury Designates the IRGC Under Terrorism Authority and Targets IRGC and Military Supporters Under Counter-Proliferation Authority (Oct. 13, 2017), PX-6 (announcing designation

of IRGC under E.O. 13224 for supporting IRGC-QF); McIntyre Rep. at 3 n.1 (recognizing this designation of IRGC as "Specially Designated Global Terrorist"); Levitt Rep. at 6 n.4 (same).

Among Iran's foreign activities, its campaign in Iraq figures prominently. Dating at least to the Iran-Iraq War in the 1980s, the Shi'a Muslim regime in Iran sought to undermine Saddam Hussein's largely Sunni Muslim government by supporting Shi'a political groups in Iraq. *See* McIntyre Rep. at 14; Levitt Rep. at 16. These efforts escalated after the United States' Second Iraq War, opines Dr. Matthew Levitt, a former U.S. counterterrorism intelligence analyst:

> By forcing the collapse of Saddam Hussein's regime, Operation Iraqi Freedom removed Iran's greatest enemy and longtime nemesis. The 2003 invasion therefore provided Iran with a historic opportunity to reshape its relationship with Iraq and, in the process, increase its influence in the region. To that end Iran employed an "all elements of national power" approach in exploiting the outcome of this seminal event. This included both soft and hard power, from the use of political, economic, religious, and cultural leverage to the support of militant proxies.

Levitt Rep. at 7. The United States' post-invasion presence in Iraq threatened Iran's opportunities, however, only reinforcing "the long-held Iranian desire to push the United States out of the Gulf region." *Id.* at 8. Iran accordingly pursued "a Shia-dominated and unified Iraq" while causing the United States "continued setbacks in [its] efforts to promote democracy and stability" there. Annual Threat Assessment of the Director of National Intelligence for the Senate Select Comm. on Intelligence (Feb. 2, 2006) ("Annual Threat Assessment"), PX-16, at 12.

Meanwhile, Iran had long exerted its influence in Lebanon, as well. Beginning in the early 1980s, IRGC shaped the development and military capabilities of Lebanese Hezbollah (herein, "Hezbollah"),[8] a militant Shi'a political party that wanted to oust Israeli forces from Southern Lebanon. McIntyre Rep. at 7-8. As the relationship between IRGC and Hezbollah grew, Hezbollah reciprocated by executing terrorist missions against Israeli and American targets at

[8] Elsewhere the Court shall distinguish an Iraqi Shi'a militia group known as Kata'ib Hezbollah.

Iran's request, offering Iran "reasonable deniability" after the fact. Levitt T1-30:10-19; *see also* McIntyre Rep. at 7-8; Annual Threat Assessment at 13 (describing Hezbollah as "Iran's main terrorist ally" and "capable of attacks against US interests if it feels its Iranian patron is threatened").

2. Iran's Network of Influence in Post-Invasion Iraq

In order to bolster its influence in Iraq, and counter American efforts there, Iran continued to sponsor Shi'a political movements—now vying for control of the post-Hussein government—while funding and facilitating the training of Shi'a militia groups, with Hezbollah's help. *See, e.g.*, Oates Rep. at 14-17. In the political sphere, the Da'wa Party, the Supreme Council for the Islamic Revolution in Iraq ("SCIRI"), and Muqtada al-Sadr's Office of the Martyr Sadr ("OMS") filled varying niches but each benefitted from Iranian support. *See id.* The armed wings of SCIRI and OMS—the Badr Corps and Jaysh al-Mahdi ("JAM"), respectively—were likewise closely affiliated with IRGC-QF. *Id.* at 14, 17. Among the downstream effects of that Iranian support was militia infiltration of the Iraqi police and security forces, resulting in widespread corruption and "death squads" targeting at least Sunnis, if not Western officials as well. *See, e.g.*, McIntyre Rep. at 19-21; Oates Rep. at 15-16. Meanwhile, Iranian arms, funding, and operatives flowed into Iraq through the Sheibani Network and other smuggling operations, while some Iraqi allies made the reverse trip to Iran for training. McIntyre Rep. at 26.

The fruits of Iran's soft power are perhaps best demonstrated by Michael Pregent's testimony. As a civilian intelligence officer with the Defense Intelligence Agency, Mr. Pregent was tasked with "curbing Iranian influence in the security ministries." Pregent T5-168:2-25, 169:16-24. His undercover assignment in the Iraqi prime minister's Office of the Commander in Chief gave him a unique vantage point. *Id.* at 169:24-170:2. He witnessed "the level of complicity

with Iraqi ministers tied to the Shi'a Da'wa Party that went after American allies in the Sunni community and the Kurdish community and also Shi'a nationalists." *Id.* at 170:7-10. These connections benefitted Shi'a militia members, who gained access to "government vehicles, government waivers to travel during curfews," and "official ministerial paperwork and permissions" that enabled them to "develop targeting packets against opposition leaders and also Sunnis." *Id.* at 170:11-16. Iranian allies threatened American military interests in Iraq in part because they had "saturat[ed] . . . the security ministries and the intelligence apparatus." *Id.* at 170:17-21.

As for the hard power, the IRGC-QF spearheaded a closely coordinated campaign to equip the Shi'a militia for proxy warfare. That campaign is well attested to in U.S. Government documents. In 2007, the Qods Force earned its Treasury Department designation under E.O. 13224 in part because it "provides lethal support in the form of weapons, training, funding, and guidance to select groups of Iraqi Shi'a militants who target and kill Coalition and Iraqi forces and innocent Iraqi civilians." IRGC-QF Designation, PX-5, at 3. The State Department found that in 2011,

> Iran was responsible for the increase of lethal attacks on U.S. forces [in Iraq] and provided militants with the capability to assemble explosives designed to defeat armored vehicles. The IRGC-QF, in concert with Lebanese Hizballah, provided training outside of Iraq as well as advisors inside Iraq for Shia militants in the construction and use of sophisticated improvised explosive device technology and other advanced weaponry.

U.S. Dep't of State, Country Reports on Terrorism 2011 (July 2012), PX-18, at 172.[9]

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[9] The Court has no reason to believe that "Lebanese Hizballah" is not synonymous with Lebanese Hezbollah, to which the Court refers simply as Hezbollah. *See Hezbollah*, Oxford English Dictionary (2d ed. 1989) (identifying other transliterations of Arabic term for "Party of God"), *available at* https://www.oed.com/oed2/00105782 (last visited Aug. 12, 2019); *Peterson v. Islamic Republic of Iran*, 515 F. Supp. 2d 25, 37 n.1 (D.D.C. 2007) (discussing some transliterations), *abrogated on other grounds*, *Mohammadi v. Islamic Republic of Iran*, 782 F.3d 9 (D.C. Cir. 2015).

The threat from Shi'a militia continued to evolve under Iranian direction or support. After American and Iraqi forces inflicted tremendous casualties on JAM in the battle of Najaf in 2004, Mr. al-Sadr permitted the formation of JAM "Special Groups" with enhanced capabilities to attack American and Coalition forces, while the remainder of JAM would focus on anti-Sunni violence and other criminal activities. Oates Rep. at 22; McIntyre Rep. at 37. This resulted in a realignment of leadership, where local commanders of JAM Special Groups operated with some autonomy from Mr. al-Sadr and "received their training, weapons and operational direction directly from Hezbollah and the IRGC-QF." Oates Rep. at 22-23. IRGC-QF funding and equipment for Special Groups reached an estimated $750,000 to $3 million per month by August 2007. Pregent Rep. at 12 (reporting U.S. military estimate).

Qais Khazali, who commanded one or more JAM Special Groups, traveled to Iran in 2006 and met with IRGC-QF leadership as well as Supreme Leader Ayatollah Khamenei. Declassified Detainee Document Regarding Qais Khazali, at 000324 (Aug. 13, 2007), PX-57; McIntyre T5-104:9-17; McIntyre Rep. at 25. Declassified military intelligence indicates that the Supreme Leader asked Mr. Khazali to start Asa'ib Ahl al-Haq ("AAH") or the K2 network, a further special group outside of Mr. al-Sadr's auspices and awareness. Declassified Detainee Document Regarding Qais Khazali, at 000324 (Aug. 13, 2007), PX-57. The AAH initiative demonstrated Iran's effort to foster dependence on its aid for Iraqi militia to carry out attacks on Coalition Forces. Pregent Rep. at 13. Although AAH was later deprived for some time of the leadership of Qais Khazali and his brother, Layth,[10] during their detention by U.S. forces, the group "was able to

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Any other presumptive versions of that organization's name that appear in the evidence shall be treated likewise.

[10] The record suggests that Layth Khazali's first name is also transliterated "Laith." But the Court shall use Layth uniformly, for simplicity. *See supra* note 9 (discussing transliterations of Hezbollah).

maintain a fairly high-level offensive tempo" and "operated as Iran's direct terror proxy targeting U.S. personnel at the direction of Hezbollah and the IRGC-QF" from 2006 through 2011. Oates Rep. at 33; *see also* McIntyre Rep. at 39, 51 (discussing AAH's successes without the Khazalis, and identifying the release of Layth in June 2009 and Qais in January 2010);[11] Pregent T5-223:4-13 (stating that AAH "was funded, directed, trained and equipped by the IRGC-Qods Force and Lebanese Hezbollah").

Perhaps Iran sought an even closer ally, or simply to multiply its options for proxy attacks on U.S. and Coalition forces. Whatever the reason, Iran directed the formation of still another militia group—Kata'ib Hezbollah ("KH" or "Hezbollah Brigades")—in 2007. Oates Rep. at 33; Oates T1-123:24-25 (calling KH a "whole-cloth creation of the IRGC"). This group would be led by Abu Mahdi al Muhandis, a senior advisor to the IRGC's Qasem Soleimani with both Da'wa Party and Badr Corps credentials. Oates Rep. at 33; McIntyre Rep. at 40. Since 2007, Kata'ib Hezbollah had been "responsible for numerous terrorist acts against Iraqi, U.S., and other targets in Iraq," the U.S. Department of State noted when it designated the group as a Foreign Terrorist Organization in June 2009. U.S. Dep't of State, Designation of Kata'ib Hizballah (June 26, 2009), PX-10.

Not to be outdone, Mr. al-Sadr's militant activity against U.S. and Coalition forces came full circle. Whereas previously he had ceded those kinds of initiatives to the JAM Special Groups, in July 2008 Mr. al-Sadr announced the formation of the Promise[d] Day Brigades ("PDB"), which could be called a JAM Special Group of his own. Oates Rep. at 38; McIntyre Rep. at 46. This

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[11] In his testimony, Mr. Pregent identified the release date of Layth as 2008 and Qais as 2009, but the discrepancy is immaterial. Pregent T5-180:112-14. Evidently the Khazali brothers and Mr. Daqduq had been turned over to the Iraqi government and subsequently released "at the request of Iran." Pregent T5-179:5-180:14, 181:7-10.

group too was supported by the IRGC-QF and Hezbollah, "in keeping with the IRGC's long-time policy of investing in all Shi'a factions." Oates Rep. at 38. And it was responsible for its own string of attacks on U.S. and Coalition forces. Oates Rep. at 38; *see also* Exhibit, [redacted].

B. Explosively Formed Penetrators as a Signature Weapon

Plaintiffs' evidence shows that Iran supplied or bankrolled a number of types of weapons used by Shi'a militia groups in Iraq. *See, e.g.*, McIntyre Rep. at 41 (noting that Iran provided Kata'ib Hezbollah with a certain type of rocket launcher). The Court shall focus on the explosively formed penetrator, however, because that weapon is implicated in 82 or 83 of the 92 attacks,[12] including six of the seven bellwether attacks. The seventh bellwether attack, on the PJCC in Karbala, does not turn on uniquely Iran-affiliated weaponry, but instead on the tactics and personnel involved. The Court shall postpone discussion of any non-EFP weapons in non-bellwether attacks until those attacks are properly before the Court.

1. The Nature, Uses, and Deployment of EFPs

The Court's understanding of EFP design, construction, and detonation is aided by the report and trial testimony primarily of Wade Barker, an explosives expert. *See* Barker T3-13:3-15:7; Barker Rep. at 5-9; *see also* Lutz T5-17:8-18:19 (affirming Mr. Barker's testimony and describing EFP video admitted as PX-60). An EFP typically consists, in pertinent part, of a short metal pipe loaded with high-energy explosive ("HE" explosive) and capped with a concave copper

[12] While Plaintiffs report that all but nine of the attacks involved EFPs, Pls.' Br. at 114, the Court's own prior count had suggested that all but ten involved EFPs. The precise number is immaterial at this time, however, as the special master(s) shall apply findings specific to EFPs in whichever attacks do involve EFPs.

disk. Barker Rep. at 6-7 & n.13 (defining HE explosives in part as "chemical compounds or mixtures that are capable of supporting or sustaining a detonation wave"). Detonation of the EFP forces the inverted center of the disk outwards into a molten slug capable of traveling 2,000 meters per second or more.[13] *Id.*

That speed is sufficient to puncture an "up-armored" Humvee's rolled homogenous armor ("RHA"), which, Mr. Barker said, is "the hardest steel that we can make" and is intentionally deployed "in layers on the vehicles to prevent penetration." Barker T3-14:3-11. The combination of RHA and ballistic glass windows is enough to thwart other types of weapons. Barker Rep. at 13 (recognizing efficacy against "truly-improvised IEDs and small arms fire"). After an EFP pierces even an up-armored Humvee, the slug disperses shards of the Humvee's steel and Teflon, potentially blows the vehicle's doors off of their hinges due to the pressure wave, and possibly ignites the vehicle's fuel. *Id.* at 7.

Inflicting this damage requires precision craftsmanship of the EFP. Nowhere is this more apparent than in the specifications for the copper disk. Mr. Barker indicated, for example, that this disk must be milled to a specific "thickness and angle."[14] *Id.* at 9; *see also* Barker T3-17:19-18:1. If the depth of the disk is too thick or too thin, or if the curvature of the disk is incorrect, then the slug may be unable to form or may split into multiple pieces during flight. Barker Rep. at 9; Barker

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[13] Mr. Barker's report states, in different places, that EFPs "typically" travel 2,000 meters per second but "up to" 5,000 meters per second. Barker Rep. at 7. Mr. Barker does not explain what might drive the wide variation between the typical and maximum speeds.

[14] While the Court could add further detail, the Court shares Plaintiffs' concern that publishing, or re-publishing, too much of this information about EFP construction could create unnecessary risk. *See* Nov. 5, 2018 Order, ECF No. 57 (permitting filing of certain EFP-related documents under seal because, although they "have reportedly been publicly released," they "appear to be national-security sensitive"). Although most of Mr. Barker's report discussing the design and deployment of EFPs has been unsealed, portions containing sensitive details have been redacted.

T3-17:19-18:1. As a result, the slug may be unable to penetrate the target or may miss it entirely. Barker Rep. at 9; Barker T3-17:19-18:1. Moreover, the disk must consist of copper, rather than other metals whose melting points are not conducive to proper formation of an effective slug. Barker Rep. at 9; Barker T3-17:4-18. The explosive too must be of a certain type and strength in order to shape and propel the slug fast enough to cut through RHA. Barker Rep. at 8.

Detonating an EFP relies on a "two-step arming and triggering process" akin to that of other explosive weapons. *Id.* at 10, 12. At least for EFPs in the Iraqi theater, the operator typically would arm the EFP using either a command wire ("CW") or remote frequency ("RF"). *Id.* at 10. Whereas the CW approach had a range of 100 meters or less, the RF approach enabled the operator to arm the EFP from more than 300 meters away.[15] *Id.* Often a spotter closer to the site of the EFP would alert the operator when the target vehicle approached. Barker T3-32:19-25. The operator of an RF-equipped EFP would then send the signal "using something as simple as a key-fob or as complex as a dual-tone multi-function reference board found inside a cell phone." Barker Rep. at 10. The cell phone method permitted the EFP maker to incorporate a safety system requiring the operator to enter a four- to ten-digit PIN into the cell phone in order to arm the device. Barker T3-33:2-9. After arming the EFP, the operator did not need to take any further action. Upon moving from passive into active mode, the armed device awaits only a triggering event in order to detonate. Barker Rep. at 10. An approaching vehicle would generate enough heat to cause a passive infra-red device ("PIR") attached to the EFP to send an electrical current to the EFP, thereby triggering detonation. *Id.* (deeming this a "Victim Operated IED ('VOIED')").

[15] In his trial testimony, Mr. Barker remarked that operators could arm an RF device from even "a few thousand miles" away. Barker T3-24:23-25:3.

As the foregoing suggests, so Mr. Barker confirmed at trial that making effective EFPs requires substantial technical expertise. He admitted that it had "taken [him] years to even understand how" to make an EFP, and that building the demonstrative EFP exhibit for trial involved two months of work by two electrical engineers and two mechanical engineers. Barker T3-19:2-10.

Effectively deploying the EFP called for a further layer of technical know-how combined with substantial strategic planning. Identifying precisely the right directional focus, distance from the target, and timing of the PIR-enabled weapon would require an extensive "trial and error" process. Bradley T2-26:16-27:15. The EFP emplacers were also adept, for example, at camouflaging the weapon to avoid tipping off U.S. forces. EFPs could be embedded in piles of trash, trash barrels, concrete street curbing, or synthetic rocks made out of foam and covered with dirt. Barker T3-26:4-12, 45:15-21; Lutz T5-43:14-44:13 (discussing "rock" pictured in PX-65); McIntyre Rep. at 10. The sophistication of EFP attacks also evolved in step with the U.S. military's countermeasures, as explained below.

2. The Sources of EFPs and the Training to Deploy Them

Who in the Iraqi theater possessed sufficient expertise to make and deploy the EFPs that the U.S. military encountered? If it is not possible to create an EFP without being "a classically trained engineer," as Mr. Barker maintains, then the average Iraqi Shi'a militia member could not reasonably be expected to construct this weapon on his own. Barker T3-33:11-19. Due to the unique components of the EFP, the tactics through which it is effectively deployed, and the extensive expertise necessary to overcome U.S. countermeasures, Plaintiffs' experts have traced the EFPs encountered in Iraq to Iran and Hezbollah.

According to several expert reports, EFPs were first seen in combat when Hezbollah attacked one or more Israeli Humvees in Southern Lebanon on October 5, 1998. Barker Rep. at 6; McIntyre Rep. at 12.[16] But even before Hezbollah used EFPs, it had been developing increasingly effective IEDs by honing tactics, techniques, and procedures ("TTP"). *See* McIntyre Rep. at 10-11. Each time the Israeli military devised countermeasures, Hezbollah's engineers would adapt TTP accordingly. *See id.* For example, Hezbollah developed synthetic rock camouflage for their IEDs, turned from CW to RF methods of arming those weapons, and added PIR for a trigger. *Id.* And those hallmarks of Hezbollah's TTP appeared in the Iraqi theater as well, where, as the Court described above, camouflage, RF-armament, and PIR-triggering were keys to EFPs' success. *See also, e.g.*, Lutz T5-43:20-44:25 (describing camouflaged EFP characteristic of Hezbollah's practices in Lebanon); Levitt T1-58:19-59:25 (discussing Hezbollah's transfer of its EFP tactics, including camouflage, from Lebanon to Iraq).

Although Hezbollah appears to have developed the first EFPs, both Iran and Hezbollah were instrumental to their use in Iraq, beginning in 2004. *See, e.g.*, Lutz T5-20:2-21:2 (identifying earliest reported EFP use in Iraq). First, the evidence shows that Iran supplied EFPs that were fired in Iraq. Mr. Oates, the former director of JIEDDO, said that the U.S. Department of Defense established JIEDDO to "coordinate all of the defense activities to understand" IEDs, including EFPs, "how [U.S. institutions] might mitigate the effects from a material[s] solution or from training and furthermore to understand the intelligence components associated with the networks that are being used against Coalition Forces with these devices." Oates T1-85:18-86:8. While JIEDDO coordinated counter-IED efforts from Washington, D.C., Task Force Troy was "the

[16] *Contra* McIntyre T5-79:2-7 (attributing earliest-known EFP deployment to Hezbollah in July 1998).

operational force" on the ground in Iraq, bringing together "intelligence, explosive ordnance expertise and engineering expertise." Oates T1-95:1-9. Task Force Troy and domestic U.S. intelligence conducted extensive forensic analysis after EFP attacks, as well as when EFP components were found in caches. *See, e.g.*, Lutz T5-27:16-25; Bradley T2-43:25-44:16. When Mr. Oates was asked whether "Task Force Troy and/or JIEDDO ever reach[ed] any conclusion about the source of the EFPs being used in Iraq," he concluded unequivocally that "[t]he principal source of the materials and the completed munition, the EFP, was . . . Iran." Oates T1-95:11-18; *see also, e.g.*, Oates Rep. at 24-25 ("[O]ne of Iran's primary forms of material support to the [JAM] Special Groups was financing, manufacturing and deploying EFPs. . . . The U.S. military traced much of the machinery used to manufacture the EFPs, high explosives and PIR devices deployed in Iraq to Iran and its illicit supply chain."); U.S. Dep't of Defense, Measuring Stability and Security in Iraq (Mar. 2007), PX-35, at 17 (identifying Iranian origin of EFPs supplied to some Shi'a militants, who in turn have attacked Coalition forces). At a minimum, the metal, the HE explosive, and some degree of EFP manufacturing have each been attributed to Iran. *See* Oates T1-95:19-25 (agreeing that "the actual metal," as well as "the milling or the actual manufacture," could be traced to Iran); Lutz T5-46:12-47:18 (ascribing HE explosive that looked like American C4 to non-U.S. origin, "most likely . . . Iran through the IRGC"); *id.* at 48:5-48:15 (indicating that "large shipments of steel [were] going into Iran to a specific manufacturing plant that had the capability to cut and mill the casings"). It appears that Iran facilitated the smuggling of these components into Iraq along well-established, yet clandestine supply lines for assembly into the finished weapons. *See* McIntyre T5-96:20-97:11 (discussing network of supply bases, weapons caches, and safe houses); Lutz T5-47:19-48:4 (describing HE explosives disguised as American equivalent to pass through "logistic rat lines").

Meanwhile, IRGC-QF and Hezbollah conducted trainings in a combination of Iraq, Iran, and Lebanon for Iraqi Shi'a militant leaders in the effective use of EFPs. *E.g.*, U.S. Dep't of Defense, FY 2010 NDAA Conference Rep., PX-39, at 3; U.S. Dep't of State, Country Reports on Terrorism 2008 (Apr. 2009), PX-18, at 183. Compared with Iranian instructors, Hezbollah instructors were reportedly more effective, in part because they shared a language (Arabic) and culture (tribal relationships and other networks) with Iraqi Shi'a that Iranians coming from a Persian, cosmopolitan culture generally did not. Strategic Debriefing Element – Recommendation for Continued Internment, at 000330-31 (Oct. 5, 2008), PX-107; McIntyre T5-107:2-108:20 (interpreting PX-107). Whatever their nationality, the trainers offered critical assistance that, for example, enabled Shi'a militia groups to understand how to position EFPs' PIR triggers based on the likely speed of a moving target vehicle. *See* Bradley T2-26:16-27:21 (indicating, *inter alia*, that substantial calculations were involved); Lutz T5-36:11-37:24 (discussing, e.g., Hezbollah's characteristic use of PIR triggers).

That training was further evidenced in the Iraqi Shi'a militia's ability to respond so rapidly and effectively to the U.S. military's sophisticated countermeasures. For example, the U.S. military attached several more inches of RHA and ballistic glass to up-armored Humvees using "door kits," such as the Level 5 Interim Fragmentary Armor Kit ("Frag 5 Kit"). Barker Rep. at ii, 15. That was not enough to stop EFPs. *Id.* at 15. The military also began attaching appendages, called "Rhinos," to the front of Humvees to trigger early detonation of EFPs ahead of the vehicle or into the engine, but the militia responded by offsetting and angling the EFPs' PIRs so that the EFP would still hit the crew cabin. *See* Barker T3-29:2-30:18. This kind of response to the Rhinos "might appear simple on paper," but would be "far more complex" in the field. Barker Rep. at 18.

As Mr. Oates testified, "the rapid capability development of the Shi'a militia in Iraq from a weapons training and tactics [perspective], the speed with which they achieved this capability and their ability to adapt led me to believe that there was external assistance provided." Oates T1-97:23-98:10 (explaining his metaphor that a turtle found atop a fence post required some outside help to get there). And Mr. Lutz more pointedly identified that assistance when it came to surmounting U.S. countermeasures:

> [redacted] cost hundreds of millions of dollars to design, maintain and deploy and were well beyond the capacity of a local terror cell—limited by education, experience and access to technology—to overcome. In my professional opinion, the Special Groups and other local Shi'a terror cells could not have deployed and implemented throughout southern Iraq the sophisticated radio-frequency technology necessary to defeat our [redacted] without the IRGC's active involvement, training, equipment and support.

Lutz Rep. at 4, 21. Moreover, the U.S. military determined that many thousands of copies of a device used to thwart U.S. countermeasure technologies had passed through Iran and thereafter into EFPs used in Iraq. Lutz T5-48:16-49:12.

While the evidence shows that Iran supplied EFPs to Shi'a militia groups, Iran is not necessarily responsible for all of the EFPs deployed by Shi'a militia. *See* Lutz T5-52:7-14 (opining that "overwhelming majority" but not "100 percent" of EFP attacks in Iraq "were conducted by or facilitated by the IRGC or Lebanese Hezbollah"). Although, speaking from his explosive ordnance disposal expertise, Mr. Bradley has found sufficient evidence that "the type of EFPs used to injure Plaintiffs were of Iranian provenance and provided to Special Groups by Iran to attack Coalition Forces." Bradley Rep. at 46 (relying on "robust system for developing evidence and analysis" shared between United States and partner countries). Accordingly, Plaintiffs must establish the linkage between a particular EFP attack and the Iranian role in the attack.

C. Seven Bellwether Attacks in Iraq

The Court shall now turn to Plaintiffs' evidence of seven bellwether attacks. First the Court shall consider the six EFP attacks before examining the attack on the Karbala PJCC.

1. Six EFP Attacks in Baghdad

There are two principal issues involved in each purported EFP attack: 1) whether the weapon was indeed an EFP, and 2) whether Iran or one of its agents furnished that EFP, its constituent parts, and/or the training to assemble or deploy it. Two of Plaintiffs' experts, Wade Barker and Kevin Lutz, reviewed each bellwether attack and agree that each involved at least one EFP. Under Plaintiffs' theory—corroborated by the Court's foregoing analysis—identification of the weapon as an EFP *all but* necessitates the inference that Iran was responsible. The small caveat is effectively the concession of Mr. Lutz, who acknowledged that Iran may not be implicated in every instance. *See* Lutz T5-52:7-14. But Mr. Lutz has confirmed that each of the bellwether attacks "involved explosively formed penetrators that were provided by the IRGC" and "probably facilitated in some way through the Lebanese Hezbollah, if not jointly" with the IRGC. Lutz T5-16:15-17; *id.* at 51:11-52:5; *see also* Barker T3-6:4-15 (corroborating conclusion that attacks involved EFPs). Based on Mr. Lutz's testimony and absent any indication that any of these EFPs was *not* backed by Iran, the Court shall find that Iran was indeed the provider of the EFP(s) in each bellwether attack.

The Court shall analyze the bellwether attacks using the following template, which hopefully will be useful in non-bellwether proceedings as well. First, the Court shall summarize each attack and identify the harms inflicted on the respective Plaintiff(s) (or the decedent(s) represented by Plaintiff(s)). Next, the Court shall identify the key elements of the attack that persuade the Court that it is, in fact, an EFP strike. There are some limitations to the experts'

assessments of the individual strikes, so the Court is chary of relying heavily on those evaluations. Rather, the Court shall make its determinations primarily by applying the evidence of EFP characteristics that the Court discussed above. And finally, the Court shall trace the connection to Iran. Part of that connection will be based on Mr. Lutz's assessment that a given attack was likely the work of an Iran-sponsored Special Group, including his comments about any particularly unique indicia of that sponsorship. But here too, the Court shall rely more heavily on its own discussion, above, of EFP sources than on Mr. Lutz's evaluation of specific attacks.

The Court has several reasons to limit its reliance on the experts' evaluations of the individual attacks. First, those evaluations sometimes depend on government reports containing minimal detail or that conflict with the experts' own judgment of what specifically occurred. Second, the Court finds Mr. Lutz's report about the nature of the weapon used in each attack to be of limited utility as an independent source of expertise; in this respect, his report copies Mr. Barker's report verbatim in many instances. *Compare, e.g.*, Barker Rep. at 28 (conveying conclusions about October 22, 2006, attack), with Lutz Rep. at 38 (reflecting nearly verbatim conclusions with addition of IRGC comments).[17] Rather, the Court shall generally credit Mr. Barker with conclusions about the weapons used, and Mr. Lutz with conclusions about their sources, except in some instances where Mr. Barker makes the same observation.

i. May 3, 2005

The Court heard testimony from a soldier injured in the first bellwether attack, which occurred on May 3, 2005. Plaintiff then-Staff Sergeant Robert Bartlett was a U.S. Army sniper and cavalry scout whose latter duties included checking areas for threats and building relationships

[17] The Court observes Mr. Lutz's acknowledgement that he relied in part on Mr. Barker's expert report. *See* Lutz Rep. at 2-3; Lutz T5-49:14-17. The Court also observes that Mr. Lutz cited Mr. Barker's appendix numerous times in his own report.

with locals. *See* Bartlett T2-51:2-13; Barker Rep. at 18. On the day of the attack, Mr. Bartlett was driving the lead Humvee of a convoy traveling between scouting assignments outside of Sadr City, Baghdad. Bartlett T2-53:12-13, 56:25-57:10. *But see* Barker Rep. at 18-19 (noting that Mr. Bartlett "was working as a sniper in a reconnaissance team . . . providing overwatch for other soldiers . . . who were, at the time, largely engaged in operations against [JAM] personnel").[18] As he was maneuvering the up-armored Humvee around concrete "Jersey" barriers on an overpass, a projectile pierced the top edge of the vehicle, between the door frame and the roof, and "cut [Mr. Bartlett] from the left corner of [his] temple down through [his] jaw," leaving him with third degree burns and lodging shrapnel in his hands. Bartlett T2-51:24-25, 53:18-23, 55:13-14, 17-18, 57:11-13; Barker Rep. at 19 (noting that this was up-armored model). As for the other three occupants of the Humvee, one died when the top of his head was severed; another whose legs were severely damaged lost consciousness; and a third was knocked unconscious when he was blown through the back of the vehicle. Bartlett T2-52:1-20, 54:6-55:3, 58:5-6. When Mr. Bartlett was at last extricated from his Humvee, loaded onto another, and arrived at camp, he too lost consciousness, and his memory picks up again on May 7, 2005, at Walter Reed hospital. *Id.* at 55:11-23, 57:25-58:15, 60:9-18, 61:20-22. During those harrowing days, Mr. Bartlett required resuscitation three times. *Id.* at 59:25-60:3. Over the next four and a half years, Mr. Bartlett underwent dozens of medical procedures, including facial reconstructive surgery. *Id.* at 62:8-12, 63:3-8. Other results of the attack have included TBI, PTSD, short-term memory loss, and chronic pain due to nerve damage. *Id.* at 63:9-65:9. Mr. Bartlett brought photographs of the damaged vehicle and his

[18] As to this bellwether attack and others, the Court assumes that discrepancies between the soldiers' testimony as to their missions on the dates in question, and experts' descriptions of those missions, is attributable to a putative tendency on the part of those soldiers to obscure sensitive parts of their work.

military colleagues' post-blast analysis of the same. *Id.* at 65:10-66:19; Post-Attack Photographs Provided by Robert Bartlett ("Bartlett's Photographs"), PX-126.

The Court also heard fact witness testimony from Kevin Farrell, a retired U.S. Army colonel who commanded Mr. Bartlett's battalion at the time. Farrell T2-69:3-6. Even though Mr. Farrell did not see the attack occur, he was close enough to hear the "distinctive sound" that he had learned to associate with EFP strikes. *Id.* at 78:19-79:19. When Mr. Farrell reached the site of the attack, he witnessed the damaged vehicle, as well as the efforts to remove Mr. Bartlett from it. *Id.* at 79:25-80:10. Mr. Farrell described Mr. Bartlett's "ghastly injury" as follows: "Half of his face was gone, [and] it was covered in blood." *Id.* at 80:11-18; *see also id.* at 81:25-82:14 (describing, *inter alia*, Mr. Bartlett's skin grafts as part of facial reconstructive surgery). Mr. Farrell evidently had seen the results of EFP damage to other vehicles in the past, but his testimony did not explore the specific damage to Mr. Bartlett's Humvee. *See id.* at 73:22-74:19, 80:4. Mr. Farrell also testified broadly to what he understood to be Iran's activities in Iraq, including the provision of EFPs. *See id.* at 75:15-78:15. However, this is outside of his purview as a fact witness to the attack on Mr. Bartlett. Nor was Mr. Farrell either proffered or qualified as an expert witness. Accordingly, the Court does not rely on Mr. Farrell's assessment that Mr. Bartlett experienced an EFP attack sponsored by Iran. *Id.* at 83:17-22.

The Court nevertheless finds that this was an EFP attack for three main reasons. First, there is no indication that enemy combatants were in the vicinity of the attack. Barker T3-40:11. The absence of enemy combatants on site is consistent with a victim-initiated weapon, such as an EFP triggered by PIR. *Cf.* Barker Rep. at 22 (concluding that this EFP was armed by RF and triggered by PIR due to "the lack of discovery of command wire or other initiation system"). Second, the weapon pierced the RHA and ballistic glass of an up-armored Humvee, which a truly

improvised IED could not have achieved. *See* Barker Rep. at 13, 19-23; Barker T3-36:15-37:1, 38:2-20. Third, and most importantly, copper residue at several strike points could not be attributed to anything other than an EFP. *See* Barker T3-37:5-23, 39:15-17; Barker Rep. at 21. Mr. Barker agrees that this was an EFP attack. Barker Rep. at 22-23; *see also* Barker T3-39:20-41:1 (adding, *inter alia*, that this weapon was "[a]bsolutely" propelled by HE explosive).

The Court reaches the conclusion that an EFP was involved despite certain weaknesses in the evidence. First, the government reports and other evidence of this event are rather limited because the military did not send a trained team to evaluate the attack site. *See* Barker Rep. at 19 (identifying this incident as "one of the earliest EFP attacks recorded against U.S. armor in Iraq," and indicating that "no EOD detachment was dispatched to the attack site to perform a post-blast analysis or sensitive site exploitation" because soldiers in the convoy decided to transport the wounded to camp themselves); *see also id.* at 22 (referring to the "limited information" in multiple government reports about the incident); *see also* Lutz Rep. at 27 (agreeing that absence of EOD analysis "would not be unusual in 2005 as EOD units and [Weapons Intelligence Teams] were limited assets and not widely aligned across the entire Iraqi Theater of Operations"). Because no site exploitation took place, the Court would expect that forensic evidence about the attack would be more limited. Therefore, the fact that no command wire was recovered from the scene is not particularly revealing. Second, one government graph identifies the first EFP strikes as occurring in July 2005, which would seem not to account for the May 3, 2005, attack, but Mr. Lutz attributes this discrepancy to the advent of "proper exploitation" only in July 2005 with the launch of Task Force Troy. Lutz T5-19:23-21:2 (discussing PX-41 and indicating that, despite the graph, "the intelligence will tell you that EFPs were seen in 2004"). Third, the Court has trouble tracing the trajectory of the projectile because of actual or potential discrepancies between Mr. Bartlett's

photographs, Mr. Bartlett's testimony, Mr. Barker's analysis, and one of the government reports. *See, e.g.*, Barker Rep. at 19-20 (registering expert's disagreement with government report's conclusion that EFP detonated on Humvee's right side). Fourth, the Swiss-cheese puncture pattern challenges Mr. Barker's indication, elsewhere, that an effective EFP requires a certain design to avoid fragmentation in flight. *See, e.g.*, Bartlett's Photographs, PX-126 (17th photograph, depicting wheel).

Notwithstanding these evidentiary flaws, the Court stands by its conclusion that this was an EFP strike. Plaintiffs have put forward sufficient evidence to satisfy the Court under the evidentiary standards applicable to this type of case. *See* 28 U.S.C. § 1608(e); *Owens*, 864 F.3d at 785-86; *Han Kim*, 774 F.3d at 1048-51.

Based on the Court's analysis further above, the Court requires only Mr. Lutz's confirmation to conclude that Iran had a role in procuring this EFP. And indeed, Mr. Lutz finds that this attack was "an early example of the use of an EFP of original Hezbollah and IRGC design that was supplied by the IRGC." Lutz Rep. at 25. He adds that "the weapon was likely assembled and emplaced by an IRGC-sponsored Special Group." *Id.* While he does not elaborate much beyond what Mr. Barker put forward, the Court finds this to be sufficient. *See also* Lutz T5-51:11-52:5 (concluding that each of six attacks was attributable to EFPs supplied, and potentially coordinated in part, by IRGC); *id.* at 53:7-54:1 (agreeing with Mr. Barker's identification of EFP strike on Mr. Bartlett's vehicle based on "the signature from the attack, the damage that was done, the injuries sustained by the individuals and the vehicle"). The Court agrees that Iran bears responsibility with its proxies for this EFP strike.

ii. October 22, 2006

Plaintiff Lieutenant Colonel (Ret.) David W. Haines offered testimony about an attack he experienced on October 22, 2006, when he served as an operations officer at the rank of major in a U.S. Army infantry task force. Haines T4-157:18-22, 158:15-159:10. His unit was engaged in a relief in place / transfer of authority process, whereby he and other incoming soldiers were learning from an outgoing unit and preparing to take their place. *Id.* at 162:3-24. On one particular patrol on October 22, 2006, Mr. Haines, his unit, and the outgoing unit were riding in four up-armored Humvees with Frag 5 Kits while they "rehears[ed] the route" between a military base and the Baghdad hospital. *Id.* at 162:14-16; Barker Rep. at 23; *see also* Barker Rep. at 23 (describing patrol as "personal security detachment"). Mr. Haines was riding in the rear seat on the driver's side of the lead vehicle when a weapon hit the front passenger door. Haines T4-163:20, 164:7-20; Barker Rep. at 23. The front passenger was killed, while the driver and two of the other passengers lost one or both legs. Haines T4-163:8-10, 163:15-25, 164:8-11, 164:23-165:13. Mr. Haines sustained injuries to his right hand, left arm, right leg, side, and—he would later discover—right forearm, all attributable to shrapnel. *Id.* at 165:13-15, 167:19-24. When asked whether he could leave the Humvee himself, Mr. Haines explained why not:

> [T]he metacarpals in my right hand were shattered, and it looked like somebody had taken a bite out of the side of my hand. I had shrapnel lodged in my left arm. It segmented my ulna and ulnar nerve, and it locked my hand back so it was not functional. The shattered metacarpals caused a lot of my fingers to be just dangling on my hand. The shrapnel in my right femur broke my leg, and there had been some metal and probably part of my rifle that had somehow jammed my feet into the Humvee. And I was not – because I couldn't unlatch the door and couldn't move my feet, I was unable to move in the initial aftermath of the attack.

Id. at 168:1-23. Eventually he was pulled from the vehicle, flown to a Baghdad hospital, and underwent initial surgeries to remove the shrapnel. *Id.* at 168:24-169:20.

While some of the shrapnel extracted from Mr. Haines may have come from the Humvee itself, other pieces were "coppery and shiny," consistent with an EFP's copper disk. *Id.* at 166:23-167:7. When the U.S. Army removed further shrapnel from Mr. Haines's right forearm in June 2018, testing confirmed that this shrapnel contained copper. *Id.* at 167:19-25.[19]

Flickering in and out of consciousness, Mr. Haines was transported from the Baghdad hospital to medical facilities in Balad, Iraq, and then Landstuhl, Germany. *Id.* at 170:15-171:5. After undergoing skin grafts and other extensive medical treatment over three or four weeks in Landstuhl, Mr. Haines was transferred to Walter Reed hospital. *Id.* at 171:16-172:5. A Vietnam veteran who served as a mentor to him at Walter Reed "commented one time that he'd never seen anybody with more holes in him than" Mr. Haines. *Id.* at 167:10-17 (also comparing Mr. Haines to Swiss cheese).

Although Mr. Haines served a further six years in the military after his injury, and found his service as a Warrior Transition Battalion Commander to be fulfilling, he encountered further difficulties after his retirement in 2012. *Id.* at 172:6-173:5. Part of the trouble was a rocky experience in several civilian jobs. *See id.* at 173:1-18. Meanwhile, Mr. Haines fell into depression and lost control of his anger, "taking it out on" his wife and family in "emotionally abusive" behavior. *See id.* at 173:6-174:19. He and his family eventually emerged intact—but not unscathed—from this "ugly time." *Id.* at 174:8-9; *see also id.* at 174:11-12, 174:20-175:3 (noting, e.g., "a lot of damage to [his] marriage").

Thanks to an extensive post-blast analysis by the military's Combined Explosives Exploitation Cell ("CEXC"), the Court finds strong evidence that this was an EFP attack. First,

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[19] The Court has not been assured that the copper shrapnel removed in June 2018 is attributable to the attack at issue, but the Court has no particular reason to doubt it.

traces of HE explosive ingredients recovered from the scene are an important component of EFPs. Barker Rep. at 8, 25; Barker T3-42:19-43:6. Mr. Haines's up-armored Humvee, further outfitted with a Frag 5 Kit, could not be breached by a standard IED, but an EFP powered by HE explosive could do so. Barker Rep. at 13, 25. And lastly among major evidence, copper slugs found onsite—together with "minimal copper splattering around points of penetration" on the vehicle and copper shrapnel removed from Mr. Haines—fully persuade the Court that an EFP was used. Barker Rep. at 26 (internal quotation marks and alteration omitted); *see also* Barker T3-42:14-18 (noting test result that slugs "recovered from Mr. Haines's vehicle" were "pure copper"); Haines T4-166:23-167:7, 167:19-25 (indicating that copper, or seeming copper, was removed from Mr. Haines's body). Mr. Barker shares CEXC's conclusion that this attack involved an EFP. *See, e.g.*, Barker Rep. at 25-27; Barker T3-41:3-42:2, 47:10-18 ("well-built, sophisticated EFP").

As with the May 3, 2005, attack, the Court is satisfied with the conclusion that this evidence was of an EFP attack despite at least one inconsistency in other evidence. Mr. Barker disagrees with a CEXC report suggesting that Mr. Haines's Humvee was struck by a shaped charge, in addition to EFPs. *See* Barker Rep. at 25; Barker T3-43:10-44:8; *cf.* Lutz Rep. at 33-34 (agreeing that this attack likely involved only EFP but holding out possibility that shaped charge could have been involved); Lutz T5-50:2-51:10 (agreeing with Mr. Barker's conclusion that this was EFP strike). But the Court need not decide whether a shaped charge was also involved, as this case turns on EFPs, which undisputedly were involved.

There are a few particularly significant indicia that whoever launched this EFP had outside support. One is that the EFP launched from a roadside curb, where it had been well camouflaged with foliage. Lutz Rep. at 34, 38; Barker T3-45:19-21 (noting EFP had been "embedded . . . in concrete in a curb"). What is more, the EFP was precisely angled so that it struck the passenger

door of the Humvee despite the Rhino device meant to trigger early detonation. Lutz Rep. at 36-38; Barker T3-29:2-30:18, 45:22-46:8. These kinds of sophisticated tactics suggest to the Court that Hezbollah and/or the IRGC were involved. And Mr. Lutz is convinced that this EFP attack was "a well-planned and coordinated attack that was part of the EFP campaign orchestrated by the IRGC and Hezbollah and conducted by one of the IRGC's Special Group proxies." Lutz Rep. at 38; *see also* Lutz T5-51:11-52:5 (relaying conclusion as to all six bellwether EFP attacks). The Court concludes that Iran bears responsibility with its proxies for the EFP attack on Mr. Haines's vehicle.

iii. March 17, 2008

Plaintiff then-Specialist Christopher Levi testified regarding an attack in New Baghdad on March 17, 2008, when his U.S. Army convoy was heading to a military base to pick up detainees, among other mission objectives. Barker Rep. at 29; Levi T4-177:16-18, 182:2-19 (stating convoy's goals included returning vehicle due to its (presumably defective) communications systems). As truck commander of an up-armored Humvee, the third in the convoy, Mr. Levi says that he was seated in the front right passenger seat when a weapon struck the right side of the vehicle. Levi T4-181:20-182:4, 182:11-12, 182:23-25; *see also* Barker Rep. at 29 (noting that all five vehicles were up-armored Humvees). After the impact and several minutes of unconsciousness, Mr. Levi reverted to his training by performing a self-assessment that revealed a few graphic injuries:

> Well, starting at my head with my hands, when I pulled my hands up over my head, I felt something on the inside of my thigh. So I thought my arm may have been trapped by a strap or something. But I still couldn't see from the smoke, so I tried to get my arm into the light where I realized that the entire time it was my thumb that -- when I was hit, I was leaning up against the door with a hand mic on my face talking to the driver and the gunner while surveying the scene.
> . . . . And a piece of shrapnel that if I had my hands in my lap would have hit me in my throat. Because of my hand, it entered my forearm and give [sic] me a really

> cool scar. But it entered my forearm, bounced off my ulnar, hit my radius, took five of my wrist bones out and two-thirds of my second metacarpal and just deflected away from my face saving my life. That's what was hanging off my arm when I lifted it up.
> . . . . [A]fter realizing my arm was damaged, I continued to do the self-assessment where I tried to wiggle my toes and was flush with panic thinking that I had been paralyzed from the blast. So when I did the self-assessment and I realized the skin had fallen mostly off my arm, I tried to wiggle my toes and I couldn't move them. Like they felt like they were really cold, but I couldn't wiggle my toes or move them. And I just was flush with panic thinking that I had been paralyzed. So when I moved down and I felt the warm, gooey, Play-Dohy feeling -- it's kind of hard to describe, you could feel wet meat -- and I knew I lost my legs.

Levi T4-183:3-185:23; *see also id.* at 185:23-186:3 (noting that Mr. Levi was "ecstatic" to have "only lost [his] legs" rather than suffer paralysis). Because "[t]he EFP that came across went directly through [Mr. Levi's] thighs," he experienced a "[d]ouble transfemoral amputation." *Id.* at 184:24-185:1. The carnage was so bad that an officer on site determined that Mr. Levi had "obviously died" due to "the way the truck looked and the parts of [him] that were spread around." *Id.* at 186:4-12. The medics attended first to the other two occupants of the Humvee, the driver and the gunner,[20] before Mr. Levi managed to attract attention. *Id.* at 186:13-18. Once they applied tourniquets to Mr. Levi's arm and legs, he was periodically conscious during a journey that is increasingly familiar to the Court: first to a nearby base for initial surgery, then to Germany for further care, and lastly to Walter Reed for still more extensive treatment. *See id.* at 186:19-188:13, 189:1-10.

Mr. Levi's long road to recovery included more than 100 surgeries. *Id.* at 189:19-22. The surgeries prepared his legs for prosthetics and introduced a metal plate and screws into his arm and hand to "hold[ ] the separate parts together." *Id.* at 189:1-23. All told, Mr. Levi spent more than two years and seven months at Walter Reed through various stages of inpatient treatment,

[20] Specific injuries to those occupants were not identified.

outpatient care, including prosthetics training, and finally a twilight zone when the VA hospital "lost [his] entire medical file and had to rebuild it from scratch." *Id.* at 189:24-192:20.

Mr. Levi's testimony was generally characterized by gallows levity. Yet, he spoke frankly about that last period, the "darkest time," when he was moved into barracks while awaiting reconstruction of his file. *Id.* at 192:8-24. Because Mr. Levi had expected to move home shortly, he had told his theretofore-supportive family that they no longer needed to visit him, and he had discontinued his pain medication. *Id.* at 192:11-17; *see also id.* at 190:14-19 (describing his parents' visit rotation every fifteen days for a year during his outpatient treatment). His morale soon suffered as he was unable to participate in the assignments of the troops who were stationed there, and he was unable to navigate the "non-ADA accessible" barracks. *Id.* at 192:19-193:11. Due at least partially to his bed-ridden state, Mr. Levi eventually landed in the emergency room with infected bed sores, pulmonary embolisms, and a fever. *Id.* at 193:8-23. Once Mr. Levi eventually emerged from Walter Reed, and was at some point discharged from the Army, he spent years struggling with family interactions, pulling shrapnel out of his body, and taking medication for ongoing nerve pain lasting through the present. *See id.* at 193:24-195:25.

The Court again finds certain telltale signs of an EFP strike. Despite its up-armoring, Mr. Levi's Humvee was pierced. Investigators retrieved "[s]mall pieces of copper slugs" from that Humvee, found "copper residue" on it, and even discovered a "copper fragment that fused itself into one of the soldier's eye protection." Barker Rep. at 31, 33; *see also* Barker T3-51:15-23 (recognizing that only EFP would deposit copper residue). And residue of an HE explosive ingredient was recovered from debris at the scene. Barker Rep. at 35; Barker T3-50:22-51:1; *see also* Barker Rep. at 25 (describing some HE explosive ingredients). Based on this and other evidence, Mr. Barker easily concludes that this was an EFP strike, attributable to "a 4-array copper-

lined EFP concealed between two jersey barriers that was likely remotely armed and PIR triggered." Barker Rep. at 36; *see also* Barker T3-48:10-15, 51:4-12, 52:2-10 (concluding that angled "multiarray" EFP overcame vehicle's Rhino device).

The Court agrees with this conclusion despite certain questions about the evidence. For example, no one has explained the inconsistency between Mr. Levi's testimony that he was in the front right seat and Mr. Barker's report stating that Mr. Levi was in the back right seat. *See* Barker Rep. at 30. But Mr. Levi could suffer the above-described injuries in either position. It also seems unusual—based on the Court's limited knowledge of EFP arming and triggering—that Mr. Levi's vehicle would be struck by an EFP even though it was not the first vehicle in the convoy. However, Mr. Barker attributes this to "a communications lag between 'the spotters and the trigger man,'" and because "[o]nce the EFP is armed, the PIR can take up to 90 seconds to become fully functional." *Id.* at 32-33. And lastly among curious observations, the Court recalls evidence that placing an EFP takes some time; yet, how did the emplacers have that kind of time when they were situated right across the street from an Iraqi Police station? *See id.* at 17 (suggesting that best-case scenario for a "camouflaged, multi-array, remotely-armed, PIR triggered EFP" was "under 45 minutes"); *id.* at 31 (police location).[21] Mr. Barker relays military investigators' speculation that either the police were "not being vigilant" or were "cooperating" with the attackers. *Id.* at 31-32 (internal quotation marks omitted); *see also supra* Part III.A.2 (discussing militia infiltration of Iraqi Police). The Court is not privy to any further military intelligence as to that issue, nor does

[21] The Court understands that the Iraqi Police are different from the Iraqi National Police. *See* Pregent Rep. at 30 n.77 (distinguishing between the "local Iraqi Police Service" and the "smaller paramilitary National Police" (internal quotation marks omitted)). In this Opinion, the Court distinguishes between the two to the extent that the materials permit.

its absence detract from the Court's finding, based on the above information, that this was an EFP attack.

In light of a string of attacks in that Shi'a area, military analysts attributed it to a JAM Special Group that was "likely loosely interpreting" a self-defense exception to Mr. al-Sadr's announcement of a ceasefire with Coalition Forces. Barker Rep. at 30, 34 & n.62 (internal quotation marks omitted) (referring to recent IED incidents on this specific portion of road, and suggesting that emplacers might have construed the detention of some Special Group individuals as a violation of ceasefire terms). Based on all of the evidence, Mr. Lutz again determines that the IRGC and Hezbollah played a key role in this attack carried out by a Special Group proxy. Lutz Rep. at 47; *see also* Lutz T5-51:11-52:5 (attributing the six bellwether EFP attacks). The Court concludes that Iran bears responsibility with its proxies for this EFP strike.

iv. March 23, 2008

The Court heard testimony from then-First Lieutenant Rusty Mason about an attack on a patrol he commanded on March 23, 2008. Mason T4-52:2-5, 52:16-18. That evening, U.S. military and Iraqi National Police vehicles were wrapping up a mission in Baghdad that focused on securing an area known for launching mortar attacks on a nearby base. *Id.* at 56:2-13, 58:2-59:3, 59:22-60:21, 61:4-7 (detailing psychological "shaping operations" using loudspeaker and signs, as well as house visits to "build rapport with the local people"); *see also* Barker Rep. at 37 (describing mission). Two of those vehicles were M2A2 Bradley fighting vehicles. Mason T4-57:16-58:4 (depicting these as "armored personnel carrier[s]" with guns); *see also* Barker Rep. at 43 (describing "M2 Bradley" as "heavily armored assault vehicle"); Barker T3-55:24-56:6 (listing the vehicle's "two purposes" as bearing infantry and "killing enemy tanks" with its cannon). While

one Bradley headed the convoy, Mr. Mason in the second Bradley covered the rear. Mason T4-61:23-62:6.

Mr. Mason suddenly heard a "loud pop[ping]" sound in his helmet's headset before observing that the first Bradley was no longer moving. *Id.* at 62:7-16. After Mr. Mason tried unsuccessfully to contact the vehicle, and after relaying to headquarters that it likely experienced an IED attack, Mr. Mason approached the vehicle in his own Bradley. *Id.* at 62:16-63:6.

Shortly thereafter, an individual "completely engulfed in flames" came "running back," and Mr. Mason quickly realized from the runner's gait that he was the commander of the lead Bradley. *Id.* at 59:8-9, 65:13-18, 65:23-66:6. At Mr. Mason's command, two soldiers left his Bradley to receive and treat the burning man. *Id.* at 66:6-9. Those troops experienced small-arms fire from windows not far away, although the shots died down once the still-operative Bradley fired back and U.S. reinforcements arrived. *Id.* at 67:9-68:1; Barker Rep. at 40.

When U.S. military personnel "attempted to gain access to the now burning Bradley," they were unable to do so because "flames would come shooting out" of any hatches they managed to open, and ammunition inside was detonating due to the fire's heat. Mason T4-69:13-19; *see also* Barker Rep. at 40 & n.71 (describing "cooking off" of ammunition (internal quotation marks omitted)). Due to the poor firefighting resources in the area, extinguishing the flames required three or four hours. Mason T4-69:20-70:2. The charred remains of Private George Delgado, Private First Class Andrew J. Habsieger, and Staff Sergeant Christopher M. Hake were among the soldiers eventually identified inside. Mason T4-53:21-23, 59:9-13, 70:3-7; Barker Rep. at 40.

These three soldiers' family members are Plaintiffs in this action, representing themselves and, with regard to Mr. Delgado and Mr. Hake, the soldiers' estates. Among those Plaintiffs is Mr. Hake's widow, Kelli Hake, who sues on her own behalf and on behalf of his estate. Am.

Compl., ECF No. 8, ¶ 833. She also testified, bravely. Although Ms. Hake's comments pertain to damages rather than liability, the Court incorporates her testimony by reference in order to inform the special master's damages determination. *See* Hake T4-78:11-101:13.

Neither of the two fact witnesses supplied details about the damage to the first Bradley. Mr. Barker did so, however, based on his analysis of military records. He attributes the damage to an EFP slug that cut all the way through the armored vehicle from right to left. Barker Rep. at 38. As the slug "passed through the vehicle's fuel tank," "[t]he blast energy immediately ignited" the tank, "setting the vehicle on fire and burning alive [Mr.] Hake and [Mr.] Habsieger, and killing [Mr.] Delgado." *Id.*; *see also* Barker T3-57:21-25 (regarding strike on fuel tank). Although the Bradley's commander mentioned above managed to evacuate through a hatch, he would die within months from his burn wounds. Barker Rep. at 38.

The Court finds sufficient evidence that the weapon that destroyed the lead Bradley was an EFP. The projectile managed to puncture "*both* sides" of a vehicle whose armor was "capable of absorbing small arms fire, common IED blasts and shrapnel." Barker Rep. at 43. A Bradley has "twice the armor" of a Humvee. Barker T3:60:25-61:2. An EFP is the best explanation for the attack even though a few other typical signs are missing. Neither the testimony nor the expert reports referred to any copper slugs or residue, or to any traces of HE explosive ingredients, that are often recovered from such attacks. That lacuna could be expected, however, given the intense fire in the vehicle and the likely difficulties of exploiting the scene of a nighttime attack. Mr. Barker still concludes based on the damage—particularly the double puncture of such a heavily armored vehicle—that the weapon was a "precision manufactured and copper-lined" EFP propelled by HE explosives. Barker Rep. at 43; *see also* Barker T3-60:23-61:9.

A few wrinkles in the record are worth mentioning, but do not change the Court's conclusion. One is a minor dispute about whether the putative EFP consisted of one warhead or two. *See* Barker T3-58:4-60:2 (responding to military assessment of attack). Mr. Barker seems to have the better of the argument: there was only one hole on each side of the large vehicle, so only one of these extremely fast-moving slugs could have been fired. *Id.* at 58:4-60:2 ("It's just too large of a target to miss."); *see* Barker Rep. at 41 (noting the one hole per side). Another small disagreement concerns how the EFP was fired. Because wire was found at the scene, at least one military assessment determined that someone positioned by the battery used command wire to "detonate[ ]" the EFP. Barker T3-56:15-19 (internal quotation marks omitted); Barker Rep. at 41-42. But Mr. Barker does not think this is likely due to the nighttime conditions, the relatively deserted street, and the precision damage. Barker Rep. at 43; Barker T3-56:20-23. In his view, the wire was instead used to arm the EFP, whereas the detonation itself was probably caused by the approaching Bradley that triggered a PIR. Barker T3-52:24-53:14, 56:15-57:3, 60:6-19; Barker Rep. at 43. Arming by wire would evade U.S. military countermeasures that could block RF arming of an EFP. *See* Barker Rep. at 43. And lastly, while Mr. Barker implies some distinction between the exact causes of death of Mr. Hake and Mr. Habsieger, on the one hand, and Mr. Delgado, on the other, perhaps due to their different positions in the vehicle, a military investigator attributed the three men's deaths uniformly to their "incapacitat[ion]" from the "intense fire," "resulting in their inability to extricate themselves from the vehicle." *Id.* at 40 (internal quotation marks omitted); *see also id.* at 43 (noting that Mr. Delgado was driver and others were passengers). None of this is material to the Court's determination that the weapon was an EFP.

What remains is an identification of the aggressor. Various military intelligence analyses attributed this EFP strike to so-called Special Group Criminals ("SGCs") who "most likely

conducted this attack in response to the recent detention of SGCs" from that area, or as "a defensive emplacement by SGC" that was "intended to deter [Coalition Forces] from conducting raids in the area." Lutz Rep. at 53-54 (alteration in original) (internal quotation marks omitted). After the attack, more "suspected JAM S[pecial] G[roup] members [were] detained." *Id.* at 54 (alterations in original) (internal quotation marks omitted). Mr. Lutz found, *inter alia*, that "the large penetration hole of the Bradley's armor is indicative of a well-manufactured EFP that was a signature of EFPs provided to Iranian-backed Special Groups by the IRGC and Iran's Hezbollah proxy." *Id.* at 56; *see also* Lutz T5-51:11-52:5 (attributing the six bellwether EFP attacks). The Court agrees that Iran bears responsibility with its proxies for this EFP strike.

v. May 9, 2008

On May 9, 2008, Plaintiff then-Private First Class Wesley Williamson was the gunner of an up-armored Humvee in a "blocking position" outside of Sadr City, Baghdad,[22] where he provided security during construction of walls to help control arms traffic. Williamson T4-141:16-17, 141:23-142:15, 142:22; Barker Rep. at 43.[23] When Mr. Williamson's shift ended, he was returning to base in the late evening as part of a convoy. Williamson T4-142:17-19; Barker Rep. at 44. Within one or two hundred meters after Mr. Williamson passed an Iraqi National Police checkpoint, a projectile tore through the upper right side of his Humvee, the second vehicle in the convoy. Williamson T4-143:3-14, 144:12-16, 145:16; Barker Rep. at 47. The driver was struck in the face and Mr. Williamson in the right arm, as he testified: "Basically the shrapnel traveled

[22] There is some ambiguity in the record as to whether the location was considered New Baghdad. *See* Barker Rep. at 43-44, 48-49.

[23] Mr. Williamson testified that he was a Private when he went to Iraq. Williamson T4-137:11-19. But the Court assumes that Mr. Barker's report, which indicates that Mr. Williamson was a Private First Class at the time of the incident, represents the more updated, or specific, information.

right below my elbow through my forearm. And it severed my ulna and my radius as well as my post interosseous nerve." Williamson T4-145:16-18, 146:3-7, 146:15-25 (describing post-interosseous nerve as "the nerve that runs down your arm that controls your use of your digits," controlling whether "your fingers [are] able to open and close").[24] When he performed a standard self-evaluation, Mr. Williamson "lifted up [his] arms to look down at [his] body" and found that his right arm "was just kind of dangling like a dead fish over here just kind of pouring blood all over the place." *Id.* at 147:4-12. He could not succeed in applying a tourniquet until fellow soldiers in the Humvee assisted at his request. *Id.* at 147:13-148:12.

Mr. Williamson was transported back to base, where he "got injected with morphine while they were stuffing [his] arm with gauze" in the medical building. *Id.* at 149:14-25. Then he was "clicked into the back of a Blackhawk" on a litter as he was flown to the Green Zone for a proper medical evaluation. *Id.* at 150:1-7, 150:24-25. Because he was "strapped down" during the flight, Mr. Williamson "couldn't really get out of the stream" of bodily fluids "pouring down" from the Humvee driver's higher litter onto Mr. Williamson's face, causing him nightmares for long thereafter. *Id.* at 150:8-21. In the Green Zone doctors applied an "external fixation device"—"which was basically a cast outside your body"—until two plates and sixteen screws were permanently inserted into his arm at Brooke Army Medical Center in San Antonio, where he was an inpatient for one month and outpatient for approximately two years. *Id.* at 150:24-151:20, 152:5-11. Despite the surgery, he continues to feel "general discomfort" on a daily basis due to

[24] Mr. Williamson believed that the putative EFP slug "split up" upon entering the vehicle, thereby accounting for the injuries both to the driver and to the gunner in the turret, namely Mr. Williamson. Williamson T4-145:7-18. Evidently a third person in the vehicle was injured as well. Barker Rep. at 44.

the plates and screws. *Id.* at 151:21-152:4 (reporting that "general discomfort is always going on in my arm," and implying that it worsens when he places pressure on parts of the arm).

After retiring from the Army in 2010, Mr. Williamson experienced substantial difficulties adjusting to civilian life, and he responded by "isolating [him]self a lot." *Id.* at 152:14-16, 152:22-153:9 (deeming "the mental stuff" to be "probably the most difficult thing I've ever dealt with aside from the physical injuries"). Only approximately seven years after his retirement did he "regain [his] sanity" sufficiently to pursue a college degree, though the mental issues are "still a daily struggle" and require anxiety medication. *Id.* at 152:16-153:5, 153:21-24 (noting that he is currently studying occupational therapy at a community college).

Mr. Williamson also took the "irrational" precaution of buying multiple tourniquets to make sure he has one on hand should he or someone else ever need it. *Id.* at 148:13-149:13. He likewise kept a rifle at his bedside for "multiple years," and still sleeps with a pistol nearby. *Id.* at 153:10-20.

Like the March 23, 2008, bellwether attack on a Bradley, this one lacks certain hallmarks of an EFP attack. Neither the testimony nor the expert reports mentioned any traces of copper or HE explosive ingredients recovered from the scene. And, unlike the Bradley attack, the Court has not observed any reason why any such evidence would not be gathered; for instance, the damaged vehicle was not on fire, nor was there a follow-up attack by small arms or otherwise. But it may be that the materials comprising a standard EFP do not survive some attacks.

The Court falls back on other basic evidence of an EFP attack: a projectile punctured an up-armored Humvee. The Court is not aware of any other type of weapon within the scope of this case that can cut through RHA. The projectile punched the kind of neat hole that is often attributed to EFP strikes. *See* Barker Rep. at 47-48 (depicting and discussing hole approximately 8-10" in

diameter).[25] That the projectile could be an EFP is consistent with the one hundred meters of command wire found in a nearby alley. *Id.* at 45-46.[26] That wire trailed northward, consistent with an attack on the right side of the southwesterly traveling vehicle. *See id.* at 45. And indeed Mr. Barker attributes the attack to "a concealed, copper-lined EFP that was likely command wire-armed and triggered. The copper slug from the weapon, moving in an upward trajectory, defeated the vehicle's RHA, penetrated and destroyed the vehicle frame and struck [Mr.] Williamson." *Id.* at 49-50. In addition, the Court relies on the military's record of "8 IED events [including EFPs and "conventional IEDs"] reported within 1 KM of this attack" in the prior thirty days. *Id.* at 49 (internal quotation marks omitted). Similar to this instance, the EFPs were 8-12" in diameter, and "[t]he most common switch encountered ha[d] been command wire." *Id.*

The fact that this was not the first vehicle in the convoy does not detract from other evidence that this is an EFP attack. Whereas the slow warm-up of a PIR likely accounted for the March 17, 2008, attack on a non-leading vehicle, military investigators attributed this attack to command wire found leading up an alleyway. Mr. Barker determined that the command wire was responsible not only for arming the EFP, as on March 23, 2008, but also for detonating the EFP. Although this is inconsistent with Mr. Barker's trial testimony that the EFP was armed by command wire and triggered by PIR, Barker T3-62:16-18, the Court assumes that his report represents Mr. Barker's more accurate assessment of the situation. The Court is likewise undeterred by Mr. Williamson's testimony that an Iraqi National Police checkpoint was so close

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[25] Mr. Barker made clear that a second, "squared off" hole above the "very large bore hole" is not from an EFP, but may be attributable to efforts "to get the door open." Barker T3-62:8-15.

[26] The photos of the damaged vehicle do not show electronic countermeasures ("ECM") that could be used to block RF means of arming an EFP. *See* Lutz Rep. at 60 (commenting on photo); Barker Rep. at 11-12 (referring to ECM's role of preventing armament). A command wire could be used to arm and trigger the EFP even if the Humvee had the aforementioned defenses.

to the scene. Mr. Barker made a similar observation in conjunction with the March 17, 2008, attack. *See* Barker Rep. at 31-32; *see also supra* Part III.A.2 (discussing militia infiltration of Iraqi Police). The Court is persuaded that Mr. Williamson experienced an EFP attack.

As for attribution, a military intelligence officer determined that this attack was part of a pattern by "a S[pecial] G[roup] cell that lives in the Muh[alla] 732 area. The cell would leave the Muh[alla], conduct their operation, then return to that Muh[alla]." Barker Rep. at 45 (alteration in original) (internal quotation marks and footnote omitted). According to an "Event Storyboard" created by the battalion Command, Control and Communications Operations group, and echoing the finding of SGC responsibility, "[t]he attack was likely conducted to limit C[oalition] F[orces] freedom of movement within New Baghdad and draw attention away from Sadr City. SGC will continue to move away from traditional attack locations in an attempt to distract CF/I[raqi] S[ecurity] F[orces] as SGC perceive an impending assault into Sadr City." *Id.* at 48 (alteration in original) (internal quotation marks omitted). Mr. Lutz interprets the military intelligence, including the frequency of IED and EFP attacks in that area, as indicative that this attack "was orchestrated by an IRGC-sponsored Special Group." Lutz Rep. at 63. He yet again determines that this attack "was part of the EFP campaign orchestrated by the IRGC and Hezbollah, that was conducted by one of the IRGC's Special Group proxies." *Id.*; *see also* Lutz T5-51:11-52:5 (attributing the six bellwether EFP attacks). The Court finds that Iran bears responsibility with its proxies for this attack.

vi. May 17, 2009

On May 17, 2009, Plaintiff then-Staff Sergeant Robert Canine commanded an up-armored Humvee that was part of a patrol responsible for countering improvised rocket-assisted munitions ("IRAMs"). *Compare* Canine T4-107:6-20, 107:25-108:2 (reporting rank as "Staff Sergeant E-6"

and indicating they were performing "a routine patrol"), *with* Barker Rep. at 50-51 (identifying rank and more specific mission). That evening, as his Humvee led a convoy returning to base along a frequently used route, his vehicle was struck by a projectile on the front right passenger side, where Mr. Canine was seated. *Compare* Canine T4-107:23-24, 109:1-4, 109:8-15 (indicating that attack occurred when "returning from patrol"), *with* Barker Rep. at 50-51 (suggesting engagement in mission at time of attack); *see also* Barker Rep. at 52 (describing daily frequency of patrols on this route). The projectile was followed by small arms fire from multiple directions. Barker Rep. at 51.

As Mr. Barker later explained, the projectile had entered the engine bay, and, with the help of blast overpressure, "separated the armor from the [engine's] firewall, allowing penetration into the cab," where it struck Mr. Canine's feet. Barker T3-65:3-18; *see also* Barker Rep. at 53; Canine T4-113:19.[27] When the projectile struck, Mr. Canine "heard the initial blast which could have been the precursor of the main charge," and after blinking, he "saw golden sparks flying from right to left and then [he] was knocked out." Canine T4-114:7-12. Upon awakening, he "smell[ed]" and "taste[d]" explosives, and once he began performing a self-assessment, he "noticed [his] right leg was pretty much blown off," and when he tried to move, he "couldn't use either one of [his] feet." *Id.* at 114:20-115:17. He was also unable to open the Humvee's door, which had been blown partway off of its hinges and was now "pinned up against the curb" where the vehicle had "skidded to a halt." *Id.* at 115:17-22. Soldiers from a medical evacuation Humvee managed to open the door and begin pulling him from the vehicle, but that "started to rip [his] right leg off" because his "right foot was still kind of entangled in the debris of the vehicle, the metal." *Id.* at

[27] Evidently three other passengers were also injured, to a lesser degree than Mr. Canine. Barker Rep. at 53.

116:4-23. Once Mr. Canine "scream[ed] to get [his] foot," it was dislodged and he was fully removed from the vehicle. *Id.* at 116:23-117:2. He expected that amputation of his right leg would be necessary, but "thought they [were] going to be able to save [his] left leg at that point," even though "the toes were badly damaged" insofar as they "were intermingled in the end of the boot." *Id.* at 117:3-10.

Mr. Canine was evacuated first by Humvee to an intermediate stop, and then by air to the 28th Combat Support Hospital in Balad, Iraq, where part of his right leg and his left toes were removed and "they tried to close a large gash on the back of [his] left leg." *Id.* at 117:11-22. By this time, Mr. Canine had "lost so much blood [that he] almost died." *Id.* at 117:23-118:2 (noting that someone at the attack scene had likened the blood loss to a "a 5-gallon bucket of paint [dumped] on the ground"). He was transferred to Landstuhl, Germany, and then Walter Reed, where he was an inpatient for a month and an outpatient for approximately seventeen more. *Id.* at 118:3-19.

During his stay at Walter Reed, Mr. Canine underwent a number of medical procedures to "washout" infection from the remainder of his right leg, screw an external fixation device into his left leg to address a broken tibia and fibula, and ultimately to amputate part of the left leg rather than face a series of likely unsuccessful surgeries. *Id.* at 118:20-120:22, 121:15-122:3 (describing washouts as requiring removal of further tissue and bone).[28] Due in part to the phantom limb sensation after amputation, Mr. Canine experienced substantial pain during this period that required treatment with two nerve medications at "the max dose." *Id.* at 120:23-121:14 (also

[28] Counsel also asked Mr. Canine about the locations of his three "wound VACs," which were at "the end of [his] right residual limb," "the end of [his] left foot where the toes were," and "the back of [his] left thigh." Canine T4-120:6-22. Although the meaning of a wound VAC was not explained, the Court assumes from the context that these were used for drainage.

attributing respiratory and heart rate issues to the intense pain). He underwent extensive physical therapy to prepare him for bilateral prosthetics, and once he was fitted for them approximately one month after the attack, he required further training in order to walk. *Id.* at 122:4-13, 123:3-6, 123:16-17; *see also id.* at 125:9 (referring to "wear[ing]" plural "legs"). That training "was extremely painful mentally and physically," particularly while his wounds remained open, and he was relegated to very short periods of prosthetic use early on while otherwise using a wheelchair. *Id.* at 123:7-15, 123:20-124:24. After a "revision surgery" to his atrophied right leg to improve the prosthetic fit, Mr. Canine was discharged in 2010 but was still in "very much" pain while he took medications for "nerve pain, depression and sleeping disorders," and perhaps pain more generally. *Id.* at 125:6-126:1.

Mr. Canine's "post-traumatic stress type symptoms" took their toll as he "alienated [him]self from the majority of [his] friends and family" and drank too much. *Id.* at 126:5-20. He "hit a rock bottom" in October 2012, when his "wife . . . left." *Id.* at 126:21-25. Mr. Canine also dropped out of college, which he had attended for three semesters, because shrapnel in his right knee was "damaging the bursae sacks," causing so much swelling that he "could hardly walk." *Id.* at 127:2-21 (noting that he was "too embarrassed to continue to go in [his] wheelchair"). To this day, he continues to experience limitations on the amount of time that he can wear prosthetics; when he exceeds twelve hours, he develops a rash at the point of contact with the prosthetic liners, and he experiences hip, neck, and back problems that prohibit him from "be[ing] able to walk the next day." *Id.* at 127:22-128:13. More generally, he has much less energy and capability for physical activity than when he was in his excellent physical condition before the injuries, and he is limited in his household and family activities as well. *Id.* at 128:16-130:19; *see also id.* at 105:14-106:25 (describing indicators of pre-injury physical fitness). Only after nearly eight years

did Mr. Canine feel well enough to "work a full-time job with a 40-hour workweek," and he continues to suffer from PTSD, pain, and sleep issues. *Id.* at 130:20-131:9.

The Court observes a variety of indicators that at least one EFP was involved. At a basic level, the projectile(s) managed to puncture an up-armored Humvee. *E.g.*, Barker Rep. at 53-54. Military investigators found traces of HE explosive ingredients on the vehicle, as well as copper slug fragments. *Id.* at 52, 54-55; *see also id.* at 25 (describing some HE explosive ingredients). Although the investigators could not find evidence of how the device was armed or triggered, the fact that the projectile struck the "engine block rather than directly striking the passenger compartment" was consistent with a PIR that presumptively was triggered prematurely. *Id.* at 52-53; Barker T3-63:14-15 ("RF initiated, PIR triggered" EFP). Judging by "a piece of black cloth" recovered from the scene, Mr. Barker thinks that the EFP's location had been marked. *Compare* Barker T3-64:4-8, 64:12-24 (suggesting that this cloth was "a marker so that the insurgents know where to place the device after it's been predetermined" by a local scout looking for "a choke point . . . where it's hard for us to defend ourselves"), *with* [redacted]. Mr. Barker concludes that Mr. Canine's vehicle was struck by "a concealed, copper-lined EFP array that was likely remotely armed and PIR triggered." Barker Rep. at 56; *see also* Barker T3-66:3-8 (noting that military investigators "did a great job identifying the HE" and finding that "with the devastation of the vehicle, it had to be an EFP with HE"). The Court agrees that this was an EFP strike.

The Court reaches this conclusion notwithstanding some wrinkles in the evidence. Mr. Barker disagrees with military investigators about the EFP "warheads' probable trajectories,"

based on [redacted]. Barker Rep. at 52. [redacted] Barker Rep. at 52-53. Whereas Mr. Barker believes that a "PIR was placed in *advance* of the EFP warheads" because of the observed trajectory into the engine. *Id.* at 53. *But see id.* (disagreeing with some military investigators [redacted]). [redacted] But his theory that the PIR was prematurely triggered is also supported by Mr. Canine's remark that a Rhino device was affixed to his vehicle. *Id.* (premature triggering); Canine T4-108:13-25, 113:17-21 (noting that Humvee was equipped with Rhino, as well as "Duke electronic jammer" designed to "block[ ] electronic signals from initiating EFPs or IEDs"). Investigators differed in their assessments of whether one or multiple EFPs were involved, and Mr. Barker's conclusions on this point are somewhat ambiguous, but this issue is immaterial. *See* Barker Rep. at 53, 56; Barker T3-63:18-21 (agreeing with assessment that this was multiple-array EFP); *see also* Lutz Rep. at 71 (single EFP involved).

The Court also finds sufficient evidence to attribute this attack to Iran. The purpose of Mr. Canine's patrol involved looking for IRAMs, a weapon of at least partial Iranian provenance in at least some instances. Barker Rep. at 51 n.88 (noting that IRAMs "were a signature weapon of Kata'ib Hezbollah" and were "propelled by rockets – typically 107mm rockets provided by Iran"). The Court accordingly presumes that this area was known to receive Iranian support. *See also id.* at 56 (agreeing that nature of patrol "provides further evidence that [Mr.] Canine's unit was operating in territory that previously experienced kinetic events directed by Iranian-backed Special Groups"); Lutz Rep. at 71 (same).

That presumption is bolstered by military intelligence. For example, the battalion's Command, Control and Communications Operations group observed that a "JAM S[pecial] G[roup] used to operate in this area. It is unclear if a new F[ormer] S[pecial] G[roup] cell is operating here or if a cell from nearby Adhamiyah [sic] conducted this attack based on a target of opportunity or enemy observation of [Coalition Forces] convoys." Barker Rep. at 55 (alterations in original) (internal quotation marks omitted); *see also id.* at 52 (observing that one of the military's post-attack reports identified the likely location of the EFP's spotter based on the availability of "line of sight to the incident, line of sight being required both for *receiving payment from Iran*, as well as triggering the incident" (internal quotation marks omitted)). Relatedly, the experts agree that "the frequency with which the [U.S., or perhaps Coalition Forces,] soldiers were patrolling this route made the location a target of opportunity for the IRGC's local Special Group proxies." Barker Rep. at 52; Lutz Rep. at 66. Mr. Lutz once more concludes that this was an initiative of IRGC and Hezbollah, as facilitated "by one of the IRGC's Special Group proxies." Lutz. Rep. at 71; *see also* Lutz T5-51:11-52:5 (attributing the six bellwether EFP attacks). The Court agrees that Iran bears responsibility with its proxies for this EFP attack.

2. Attack on Karbala PJCC on January 20, 2007

Only one bellwether attack did not involve the EFP as a unique hallmark of Iranian involvement. Plaintiffs nevertheless put forward evidence of the attack on the Provincial Joint Coordination Center in Karbala as a further demonstration of Iranian support for Iraqi insurgents. As discussed above, the Court took judicial notice of specific portions of Judge Moss's prior decision addressing this attack, and shall refer to them below where they are relevant. *See* Nov. 28, 2018 Mem. Op. and Order, ECF No. 66, at 1-4 (citing *Fritz*, 320 F. Supp. 3d 48). But because none of the plaintiffs overlap between the two cases, the utility of those findings is somewhat

limited. In any case, the Court shall proceed with its own findings, as it must. *See Harrison*, 882 F. Supp. 2d at 31; *Rimkus*, 750 F. Supp. 2d at 172.

The Court shall focus on the expert report and testimony of Michael Pregent, who considered a number of sources in preparing his report, including the military's reports of the Karbala attack as it unfolded, the U.S. Army's formal AR 15-6 Investigation after the attack, recent testimony in another case by the AR 15-6 investigating officer, and a variety of other documentation. Pregent Rep. at 3-7. The Court has also looked directly at the Karbala AR 15-6 report to better understand the chain of events. U.S. Army Report Pursuant to AR 15-6, PX-96 ("Karbala AR 15-6").[29]

In his previous capacity as a military intelligence officer, Mr. Pregent had the opportunity to interrogate the Khazali brothers and Ali Musa Daqduq,[30] view documents found with them, and make use of forensic evidence recovered after the attack. *See* Pregent T5-178:25-183:20. The Court has also considered an animated simulation of the events that was prepared by Plaintiffs with the input of Mr. Pregent. *See* Satellite Image and Video Animation of January 20, 2007 Attack, PX-87; Pregent T5:212:18-213:14 (admitting that Mr. Pregent did not create the simulation, but maintaining that he "weighed in on it," and contributed to a "fine-tun[ing]" process). Although the Court admitted this simulation into evidence "as a demonstrative," the Court also indicated that it would instead "rely on [Mr. Pregent's] testimony and [his] report," particularly in the event of any inconsistencies. Pregent T5-219:25-220:15.

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[29] Among documents in the Karbala AR 15-6 exhibit is one entitled "15-6 Investigation – Attack at the Karbala PJCC – 20 January 2007." It is to this document that the Court shall cite page numbers.

[30] These individuals shall be further discussed below.

The PJCC in Karbala was an Iraqi compound where U.S. forces collaborated with Iraqi civil authorities, including police, to strengthen governance of the Karbala Province in central Iraq. Pregent Rep. at 15 & n.38. On January 20, 2007, U.S. military personnel stationed there were preparing security for Shi'a worshippers on a holiday that Sunni insurgents had used in the past to stage major attacks. *Id.* at 16. In *Fritz*, Judge Moss made findings about some of the U.S. personnel on site:

> [That day], the U.S. forces at the Karbala PJCC included the 1st Platoon, A Battery, 2d Battalion, 377th Parachute Field Artillery Regiment. At that time, the platoon's mission was to help the provincial government plan security for an upcoming religious event that was expected to draw more than ten million pilgrims. The 1st Platoon was led by First Lieutenant Jacob Fritz and included, among others, Specialist Johnathan Bryan Chism and Private First Class Shawn Falter. As platoon leader, Fritz was responsible for interacting with elected and religious officials who "would come to the PJCC to speak with the governing body of the PJCC." He lived and worked out of a small, courtyard-facing room at the front of the main building along with Captain Brian Freeman. Chism and Falter, meanwhile, worked rotating guard shifts, helping the Iraqi police secure the PJCC.

Fritz, 320 F. Supp. 3d at 65 (citations and footnote omitted). The estate of Mr. Freeman is a Plaintiff in this action. Other troops located at the PJCC on January 20 included Private First Class Johnathon Millican, then-Staff Sergeant Billy Wallace, and then-Specialist Johnny Washburn, each of whom is either a Plaintiff or, in the case of deceased Mr. Millican, is represented in this case. *See* Pregent Rep. at 20 (noting soldiers' titles).[31]

At approximately 6:00 PM, a convoy of seven to nine American-looking SUVs approached the first of two Iraqi Police checkpoints leading northwards to the PJCC. Pregent Rep. at 16-17; Pregent T5-186:25-187:21. These SUVs were "modified with decoy antennas, brush guards and

[31] Plaintiffs allege in their Amended Complaint that Evan Kirby and Marvin Thornsberry sustained certain injuries in the attack. *See* Am. Compl., ECF No. 8, ¶¶ 475, 500-04, 514-18. But Plaintiffs have not directed the Court's attention to any evidence about their role in the Karbala PJCC or their injuries. To the extent that Plaintiffs have such evidence, they may present it to the Court or a special master at the appropriate time.

signage to make them appear the same as American security contractor trucks." Pregent Rep. at 17. Exactly what transpired at the checkpoints, and the timing thereof, is somewhat ambiguous. First, it is not entirely clear whether the Iraqi Police found the American appearance of these vehicles to be persuasive, or instead that the police were complicit in the operation, but in any case, they permitted the vehicles to pass through the checkpoints. *See* Pregent T5-186:25-187:21, 194:5-6 (indicating generally that "Iraqis weren't stopping American vehicles," and here "those American vehicles would have been allowed to pass"); *id.* at 196:20-197:18 (suggesting that vehicles "were also waved through because the Iraqi Police knew they were coming").[32] Iraqi Police surrendered their weapons to the convoy, purportedly at the instruction of putative Iraqi interpreters who claimed that the convoy was American, and/or in response to English phrases spoken by others clad in versions of the American Army Combat Uniform ("ACU"). Karbala AR 15-6 at 4-5; Pregent Rep. at 17 (implying the latter, but lacking detail). Either scenario assumes that the Iraqi Police were not complicit in the operation. But the Court need not resolve its questions about the checkpoints, for those issues are subsumed by the attack that followed.

One of the SUVs stopped at each of the checkpoints, and another in between. Pregent Rep. at 17. After the other four to six SUVs reached the PJCC's parking lot, some of the assailants "detained at gunpoint" Iraqi Police officers posted in the vicinity, others secured the perimeter, and the remainder headed for the gated entrance to the PJCC. Pregent Rep. at 17; Karbala AR 15-6 at 1, 5.

After two SUVs managed to "push[ ] the metal gate open," five individuals in ACUs stepped from the lead SUV, conveyed greetings in English to Mr. Falter and Mr. Chism where

[32] The Karbala AR 15-6 raises the prospect that Iraqi Police at the southern checkpoints were complicit in the operation, but Mr. Pregent notes that the AR 15-6 did not definitively reach that conclusion. *See* Karbala AR 15-6 at 1; Pregent Rep. at 17 n.47.

they sat in a Humvee, and walked purposefully past them through the courtyard into the main building. Karbala AR 15-6 at 5; *see also* Pregent Rep. at 18-19. Mr. Falter left the driver's seat of the Humvee and walked towards the SUVs, as if to assess what meeting these Americans or American cooperators were appearing for, while Mr. Chism remained in the gunner position. Pregent Rep. at 18-19; *see also* Pregent T5-188:11-25 (suggesting that Iraqi-looking individuals would not necessarily have seemed out of place due to joint forces with Americans). Three more individuals from the lead SUV disembarked, greeted, and passed Mr. Falter. Pregent Rep. at 19. One of the trio suddenly turned and shot him, while another mounted the back of the Humvee and shot Mr. Chism. *Id.* The guards at the main building's entrance were disarmed by the third assailant. Karbala AR 15-6 at 5.

Meanwhile, assailants within the building attacked the command room where Mr. Millican, Mr. Wallace, Mr. Washburn, and other U.S. troops were located. Pregent Rep. at 20. That "nerve center" of the complex was "vital to [the PJCC's] ability to respond to an attack," and the fact that assailants immediately targeted it showed their "advance knowledge of the PJCC's layout." *Id.* When an attacker dressed in an older Army Battle Dress Uniform ("BDU") and speaking Arabic started shooting into the room, an American soldier tried to push the door closed but caught the muzzle of the assailant's AK-47. *Id.* at 20-21; Karbala AR 15-6 at 6. *But see* Pregent T5-203:20-204:7 (suggesting that this individual wore blue Iraqi National Police uniform, further supporting Mr. Pregent's theory of complicity). Through the gap, the assailant continued firing and evidently managed to throw a grenade. Pregent Rep. at 20; Karbala AR 15-6 at 6. After likely sustaining wounds from the initial shots, Mr. Millican "followed the bouncing grenade and fell on it when it came to a stop," blunting its force and enabling his fellow soldiers to continue defending the room, but he perished in the process. Karbala AR 15-6 at 6 (suggesting that grenade was concussion

grenade and noting autopsy report that assessed gunshot wounds as cause of death); *see also* Pregent Rep. at 20-21; Pregent T5-203:12-19. The different uniform, different language, and different weapon than American weapons suggested to the Army investigator who prepared the AR 15-6 that this assailant had not arrived with the SUVs, but instead was posted in the building in advance or had entered surreptitiously. Karbala AR 15-6 at 6; Pregent Rep. at 21; Pregent T5-204:9-20, 205:7-9.

Soldiers in the command room then heard shots in the hallway, and what was likely another concussion grenade was thrown into the room where Mr. Fritz and Mr. Freeman were stationed. Pregent Rep. at 22; Karbala AR 15-6 at 6. Whether or not Mr. Fritz and/or Mr. Freeman was located in the room at the time, both ultimately were captured and escorted to the SUVs. Karbala AR 15-6 at 7; Pregent Rep. at 22-23. The Army investigator observed evidence that Mr. Fritz must have "put up a fight somewhere" and was injured in the process. Karbala AR 15-6 at 7; *see also* Pregent Rep. at 23.

The assailants handcuffed Mr. Chism, Mr. Falter, Mr. Freeman, and Mr. Fritz and loaded them into two of the SUVs. Pregent Rep. at 23. The Army investigator understood that all four men were taken alive. Karbala AR 15-6 at 5, 7.

As assailants within the building withdrew, they tossed a "powerful" grenade into the relevant hallway of the PJCC building, which "left a hole in the concrete floor and blew the doors in the hallway off of their hinges, injuring [Mr.] Wallace" in the command room. Pregent Rep. at 23 (footnote omitted). Those assailants also "increased their rate of fire" to neutralize the threat from the soldiers in the control room. *Id.* Meanwhile, other assailants outside used "some form of home-made explosive device"—possibly "barrels filled with fuel and burning oil" and equipped with charges and timers—to disable certain Humvees in the courtyard and outside of it. *Id.* at 23

& n.63 (not mentioning any damage to the Humvee in which Mr. Falter and Mr. Chism were originally seated).

As some assailants were attacking within the main building, others in National Police uniforms were firing at the U.S. barracks next door, which prevented U.S. soldiers in a unit located there from aiding the troops in the main building or the abductees in the courtyard. Pregent Rep. at 24; Karbala AR 15-6 at 5. Another unit of U.S. soldiers took up position on the PJCC's roof, but "the assailants had already completed their assault, abducted the four servicemen, and exfiltrated." Pregent Rep. at 24. Nor could that unit fire after the departing SUVs, because "[t]he explosion from the Humvee positioned in the courtyard knocked [those] soldiers . . . to their backs, and subsequent rising smoke and dust obscured their vision." *Id.* Other assailants were firing at the back of the PJCC. Pregent T5-206:18-20; Karbala AR 15-6 at 5.

After the assailants took off, the SUVs carrying the hostages sped along "a known 'ratline' – a route used by the IRGC to smuggle weapons, ammunition, mortars, rockets, EFPs and IEDs from Iran into Iraq." Pregent Rep. at 25; *see also* Pregent T5-209:22-210:1 (indicating that SUVs without hostages went in another direction "[t]o confuse local security forces"). Headed southeast towards Hillah, the hostage convoy managed to pass through Iraqi Police checkpoints on this route, which they could not have accomplished without the support of the Office of the Martyr Sadr and Jaysh al-Mahdi. Pregent Rep. at 25.

By 7:30 PM, those SUVs reached a checkpoint north of Mahawil, at which point the record contains conflicting accounts of whether passage was permitted. *See, e.g.*, Pregent Rep. at 25-26 (finding that Iraqi Army denied passage, based on reports of Karbala attack); Karbala AR 15-6 at 9 & Tab FF (indicating that passage was permitted). It is clear, however, that three individuals—one an Iraqi Police officer, and another a local OMS official who indicated that he "belong[ed] to

JAM"—had urged the guards to let the vehicles through. Pregent Rep. at 26 & n.71 (alteration in original) (internal quotation marks omitted); *see also* Karbala AR 15-6 at 9 & Tab FF. Soon enough, Iraqi Army and Iraqi Police started pursuing the SUVs, who by this time were taking a "back road" once they "[r]ealiz[ed] that their escape route was compromised." Pregent Rep. at 26.

Knowing now that they "could not escape with hostages," the assailants stopped their SUVs, killed or fatally wounded all four of the U.S. servicemembers, and left behind their ACUs, much of their equipment, and their vehicles. Karbala AR 15-6 at 3, 9; Pregent Rep. at 26-27. The only servicemember still alive when Iraqi officers arrived, Mr. Freeman, was in severe condition from a gunshot wound to the head and, despite an "attempt[ ] to control the bleeding and appl[y] CPR," he died in an ambulance on the way to the Regional Embassy Office. Karbala AR 15-6 at 9; Pregent Rep. at 27. Judge Moss recounted similar atrocities to the other three servicemembers:

> The Court, accordingly, finds that Fritz, Chism, and Falter were each shot, beaten, and subsequently executed. Although it is possible that many of the contusions on the victim's [sic] bodies were received in the course of the abduction, the evidence that both Fritz and Chism were kicked in the face, along with the extensive nature of the injuries all three sustained, supports a finding that the victims were severely beaten while in captivity.

Fritz, 320 F. Supp. 3d at 70 (citation omitted).

Attributing this attack proves easier than the bellwether EFP attacks. Asa'ib Ahl al-Haq, a Special Group supported by the IRGC and spearheaded by Qais and Layth Khazali, willingly stepped forward. *See* Pregent T5-223:4-17; Pregent Rep. at 7 n.7. As Judge Moss found,

> AAH repeatedly claimed responsibility for the Karbala attack. First, the group produced and published a video titled "The General's Downfall," which contains footage of the PJCC, displays the photographs of the U.S. soldiers who were killed, and "claims [the attack] as one of [its] successes." This video was admitted into evidence based on testimony from Dr. [Daveed] Gartenstein-Ross, describing internal and external indicia that it was produced by AAH. As Dr. Gartenstein-Ross explained, the video served multiple purposes; it helped "rally[ ] popular support with AAH portraying itself as being at the forefront of the resistance," and it

> "show[ed] value to their sponsors[,] like Iran, that they[ ] [were] carrying out these attacks."

Fritz, 320 F. Supp. 3d at 71 (all alterations in original except expert's name gleaned from elsewhere in opinion) (citations omitted). A portion of a video entitled "Leauge [sic] of the Righteous (Asai'b Ahl Alhaq) – footage of generals [sic] confessions from 'Generals Downfall' part 2" was shown at trial in this case, and it was admitted into evidence when Mr. Pregent confirmed that it depicted the attack. Ex. List, ECF No. 68, at 15 (PX-82A) (video title); Pregent T5-225:20-228:1 (indicating that "it looks like a helmet cam from one of the individuals on the attack" and identifying AAH symbol). Moreover, he found that AAH's claim of responsibility was credible. Pregent T5-225:20-226:3 (assenting to question whether video conveyed "reliable" claim of responsibility); *see also id.* at 184:8-12 (indicating that U.S. intelligence already was aware of AAH responsibility at time AAH made the claim). AAH's website specifically identified the late Azhar al-Dulaimi as one of the perpetrators of the attack. Pregent Rep. at 33 (citing AAH Website Capture (Nov. 10, 2010), PX-118); *see also* Pregent T5-181:19-182:5 (indicating alias was "Abu Nur" and recognizing him as "assault force commander" in Karbala attack). And AAH's claim of responsibility on this page was likewise deemed credible. *See* Pregent T5-224:23-225:14.

The U.S. military performed an extensive investigation of the series of events leading to the Karbala attack. One red flag was the host of indicators that the Iraqi Police were cooperating with the assailants. *See* Pregent Rep. at 28-30. Perhaps most tellingly, before the attack the Iraqi Police disappeared from their typical areas at the PJCC, including their post at a back gate that they unlocked shortly beforehand, and did nothing to assist during the attack, as the commander "failed to leave his office until after [the attack] was over" and the third-in-command "watched the [a]ttack from his front window," "subsequently impeded the reaction of both the IP Commandos and Coalition Forces during the Search for [Mr.] Freeman and [Mr.] Fritz," and "was later

witnessed laughing into his cell phone after the [a]ttack." *Id.* at 29-30. Add to that the unexplained absences of the local vendors on site, a group of Iraqi carpenters that should have been working on site, and an Iraqi interpreter who translated for Mr. Freeman. *Id.* at 29. The Court recalls too the Iraqi Police officer who was detained along with the OMS/JAM official at the checkpoint near Mahawil. *Id.* at 30. For Mr. Pregent, this evidence corroborates the recurring observation that "IRGC-backed groups, including Special Groups[,] actively infiltrated the ranks of the Iraqi Police Forces." *Id.* at 30 & n.77. "Accordingly, the Army's conclusion that the IPs working at the PJCC actively colluded with the assault team is further evidence that the operation was planned by an experienced team under the direction of Hezbollah and the IRGC-QF." *Id.* at 30-31.

The military's investigation made major strides when, in a March 20, 2007, raid, Ali Musa Daqduq was captured with the Khazali brothers in Basra, Iraq. *Id.* at 31. Although Mr. Daqduq had assumed a deaf and mute persona, he eventually admitted his identity. *Id.* at 31-32. As a senior Hezbollah commander involved with the organization since the early 1980s, Mr. Daqduq had lately been "tasked with organizing AAH and other Special Groups in ways that mirrored how Iran had organized Hezbollah in Lebanon." *Id.* at 14. And Mr. Daqduq had a direct link to Iran through a deputy commander of the IRGC-QF, General Abdul Reza Shahlai, alias Hajji Yusif. *Id.* at 8, 14-15, 34-35 (indicating that Mr. Daqduq and Khazali brothers "directly reported" to Mr. Shahlai).

Information gleaned from documents and computers recovered in the Basra raid, and interrogations thereafter, confirmed that Hezbollah and the IRGC were closely involved in planning the Karbala attack and supporting AAH's execution. *See* Pregent Rep. at 31-35 (indicating also that Basra raid uncovered contents of wallet of U.S. soldier killed in Karbala attack); *see also* Pregent T5-181:2-6 ("Qasem Soleimani directed this attack through the Qods

Force and had Daqduq be the mediator between . . . AAH and IRGC-Qods Force, Daqduq of course being from Lebanese Hezbollah."). According to a military memorandum, Mr. Daqduq "admitted to an active role in Iraq as an agent of Iranian state-sponsored terrorism" and "to a significant operational planning role" in the Karbala attack. Pregent Rep. at 35 (internal quotation marks omitted); Pregent T5-222:18-223:3 (accusing Mr. Daqduq of "bragg[ing]" about "direct[ing] the attack"). As the "lead planner" of the attack, he placed a premium on intelligence gathering to identify the routines of Americans and Iraqis at the PJCC. Pregent T5-189:3-11, 222:2. That intelligence enabled Mr. Daqduq to scrupulously plan the attack step by step, as reinforced by the Basra documents, including a copy of Mr. Daqduq's journal. Pregent T5-208:8-25, 232:4-22 (indicating that "90 percent" of what Mr. Daqduq planned did in fact transpire). Mr. Daqduq and Mr. Shahlai were eventually designated by the U.S. Department of the Treasury, in part for their roles in facilitating the Karbala attack. Pregent Rep. at 36; Press Release, U.S. Dep't of the Treasury, *Treasury Designates Hizballah Commander Responsible for American Deaths in Iraq* (Nov. 19, 2012), PX-102 (designating Mr. Daqduq under E.O. 13224 "for acting on behalf of Hizballah," including "planning" Karbala); Press Release, U.S. Dep't of the Treasury, *Treasury Designates Individuals and Entities Fueling Violence in Iraq* (Sept. 16, 2008), PX-9 (designating Mr. Shahlai pursuant to E.O. 13438 "for threatening the peace and stability of Iraq and the Government of Iraq," including "plann[ing]" Karbala).

Although the attack itself was carried out by AAH, the Coalition Forces have found that the operational leader of the attack, Mr. Dulaimi, had previously been trained in Iran by Hezbollah at IRGC-QF's direction. Pregent Rep. at 33-34 (noting that Mr. Dulaimi's fingerprints were found on assailants' vehicles); Pregent T5-221:14-24 (identifying Mr. Dulaimi as "an AAH operative who's actually in charge of the actual raid on the ground").

Mr. Pregent also refers to a June 4, 2007, edition of *Aviation Week and Space Technology*, which purportedly reported that an American spy satellite had spotted a mock-up of the Karbala PJCC within Iranian borders. Pregent Rep. at 27 (describing source as U.S. weekly magazine). He states that "[a] source within the U.S. military confirmed the accuracy of this report." *Id.* at 28. But this magazine article is not in evidence, and the Court is not otherwise persuaded to rely upon it. Nor does the Court's decision not to do so detract from the other evidence of Iran's involvement in the Karbala attack. Even without this report of a mock PJCC, the Court does credit Mr. Pregent's quotation of a military spokesman's assessment that "the attack was well rehearsed" in light of its "precision," "the equipment used," and "the possible use of explosives to destroy the military vehicles in the compound." *Id.* (reporting also that "[t]he attackers went straight to where Americans were located in the provincial government facility, bypassing the Iraqi police in the compound") (internal quotation marks omitted in text and parenthetical).

In light of the evidence and his own expertise, Mr. Pregent "conclude[d] with a high degree of probability that Iran's IRGC and Hezbollah planned and orchestrated the January 20, 2007 attack on the Karbala Provincial Joint Coordination Center in Iraq, which was carried out at their direction by AAH." Pregent Rep. at 7, 37. AAH itself "was created by the IRGC and trained by Hezbollah," he confirmed. *Id.* at 37. Mr. Pregent's explanation of Iran's rationale for the Karbala attack further supports the narrative: "Lebanese Hezbollah and the IRGC-Qods Force identified a vulnerable site where Americans could be kidnapped in order to be exchanged for high-value prisoners that Iran wanted back." Pregent T5-174:1-4. The Iraqi militia that were conducting the attack "were supposed to get the captives out alive. And they did not." Pregent T5-174:21-175:3. Mr. Daqduq's journal and AAH's website reinforce that kidnapping U.S. servicemembers was the attack's objective. Pregent Rep. at 26 & n.73, 33 (citing Journal Entries of Ali Mussa [sic] Daqduq,

PX-103; AAH Website Capture (Nov. 10, 2010), PX-118). The Court finds sufficient evidence to support these conclusions.

Plaintiffs have not directed the Court's attention to evidence detailing Mr. Wallace's injur(ies) or to any evidence that Mr. Washburn was injured. *See* Am. Compl., ECF No. 8, ¶¶ 489-94, 505-13. Accordingly, the Court shall defer any further findings regarding those individuals until a special master receives relevant evidence.

IV. CONCLUSIONS OF LAW

The Court's Conclusions of Law proceed in three parts. First, the Court evaluates whether it has subject-matter jurisdiction over bellwether Plaintiffs' claims pursuant to the terrorism exception to foreign sovereign immunity under the FSIA. That inquiry also effectively determines whether bellwether Plaintiffs have satisfactorily established their claims for relief under the federal cause of action associated with the terrorism exception. Second, the Court considers whether it has personal jurisdiction over Iran. Finally, the Court considers Plaintiffs' proposed damages framework and indicates that it expects to refer the question of damages and any other appropriate determinations in the bellwether attacks for further proceedings before a special master.

A. Subject-Matter Jurisdiction and Liability

First, the Court concludes that it has subject-matter jurisdiction over bellwether Plaintiffs' claims under 28 U.S.C. 1605A(a)(1). Bellwether Plaintiffs have also established their claims for relief under the private cause of action provided by Section 1605A(c).

1. Subject-Matter Jurisdiction

"The FSIA provides a basis for asserting jurisdiction over foreign nations in the United States." *Price v. Socialist People's Libyan Arab Jamahiriya*, 294 F.3d 82, 87 (D.C. Cir. 2002) (citing *Argentine Republic v. Amerada Hess Shipping Corp.*, 488 U.S. 428, 443 (1989)). Pursuant

to the FSIA, the Court has "original jurisdiction" over "nonjury civil action[s]" against foreign states "without regard to amount in controversy" if the claims seek "relief in personam with respect to which the foreign state is not entitled to immunity either under sections 1605-1607 of this title or under any applicable international agreement." 28 U.S.C. § 1330(a). Most of these elements are clearly satisfied in this case and require little discussion. Plaintiffs do not demand a jury trial, assert civil causes of action, and seek in personam relief against Defendant Islamic Republic of Iran, a foreign state.

The question of Iran's immunity is more involved. "[A] foreign state is presumptively immune from the jurisdiction of United States courts; unless a specified exception applies, a federal court lacks subject-matter jurisdiction over a claim against a foreign state." *Saudi Arabia v. Nelson*, 507 U.S. 349, 355 (1993) (citing, e.g., 28 U.S.C. § 1604). "[E]ven if the foreign state does not enter an appearance to assert an immunity defense, a District Court still must determine that immunity is unavailable under the [FSIA]." *Verlinden B.V. v. Cent. Bank of Nigeria*, 461 U.S. 480, 493 n.20 (1983); *see also Gonzalez v. Thaler*, 565 U.S. 134, 141 (2012) (recognizing that a court must consider, *sua sponte*, a potential defect in its subject-matter jurisdiction). Plaintiffs have not identified an international agreement that would abrogate Iran's immunity, nor is the Court aware of any such agreement.

Plaintiffs instead claim that the FSIA's terrorism exception to foreign sovereign immunity applies. That exception states that:

> A foreign state shall not be immune from the jurisdiction of courts of the United States or of the States in any case not otherwise covered by this chapter in which money damages are sought against a foreign state for personal injury or death that was caused by an act of torture, extrajudicial killing, aircraft sabotage, hostage taking, or the provision of material support or resources for such an act if such act or provision of material support or resources is engaged in by an official, employee, or agent of such foreign state while acting within the scope of his or her office, employment, or agency.

28 U.S.C. § 1605A(a)(1). Additionally, this exception generally applies only when the defendant was a designated state sponsor of terrorism when the act happened *and* at the time the claim was filed or in the preceding six months, *id.* § 1605A(a)(2)(A)(i); the "claimant or the victim" in the case was "a national of the United States," "a member of the armed forces," or "otherwise an employee of the Government of the United States" when the act happened, *id.* § 1605A(a)(2)(A)(ii); and "in a case in which the act occurred in the foreign state against which the claim has been brought, the claimant has afforded the foreign state a reasonable opportunity to arbitrate the claim in accordance with the accepted international rules of arbitration," *id.* § 1605A(a)(2)(A)(iii).

Again, some of these elements are clearly satisfied and require little discussion. Iran has been a designated state sponsor of terrorism since 1984, *see* U.S. Dep't of State, State Sponsors of Terrorism (Dec. 20, 2017), PX-1; Levitt T1-27:16-17; at least one victim of each bellwether attack was a U.S. military servicemember, if not also a U.S. national, *see generally supra* Part III.C (discussing military service);[33] and the killings at issue did not take place in Iran and accordingly Plaintiffs had no obligation to afford Iran an opportunity to arbitrate.

More analysis is required to determine whether the relevant personal injuries and deaths in the bellwether attacks were caused by "torture, extrajudicial killing, aircraft sabotage, hostage taking, or the provision of material support or resources for such an act." 28 U.S.C. § 1605A(a)(1). Plaintiffs assert that the personal injuries and deaths resulted from extrajudicial killings, attempted

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[33] For the EFP attacks, the Court has found that each of the victims represented in this case was a U.S. military servicemember; whether other individuals harmed in the vehicles were U.S. military servicemembers is unnecessary to determine. At least the following victims of the Karbala attack were U.S. military servicemembers: Mr. Freeman, Mr. Millican, Mr. Wallace, and, assuming proof of an injury, Mr. Washburn. Again, the Court makes no finding as to Mr. Kirby and Mr. Thornsberry. *See supra* note 31.

extrajudicial killings, or, in the case of Karbala, hostage taking.[34] Plaintiffs further maintain that these acts were caused by material support or resources that Iran furnished to Hezbollah and other Iranian proxies in Iraq.

The FSIA adopts the definition of "material support or resources" found in 18 U.S.C. § 2339A. 28 U.S.C. § 1605A(h)(3). That section broadly defines "material support or resources" to consist of

> any property, tangible or intangible, or service, including currency or monetary instruments or financial securities, financial services, lodging, training, expert advice or assistance, safehouses, false documentation or identification, communications equipment, facilities, weapons, lethal substances, explosives, personnel (1 or more individuals who may be or include oneself), and transportation, except medicine or religious materials[.]

18 U.S.C. § 2339A(b)(1). Plaintiffs must establish that Iran's material support or resources were the "proximate cause" of Plaintiffs' personal injuries or deaths. *Owens*, 864 F.3d at 794 (citing *Kilburn v. Socialist People's Libyan Arab Jamahiriya*, 376 F.3d 1123, 1128 (D.C. Cir. 2004)) (clarifying that "jurisdictional causation" under Section 1605A(a) relies on same standard applicable to its predecessor, Section 1605(a)(7)).[35] "Proximate cause requires 'some reasonable connection between the act or omission of the defendant and the damage which the plaintiff has suffered.'" *Id.* (quoting *Kilburn*, 376 F.3d at 1128 (quoting *Prosser & Keeton on the Law of Torts* 263 (5th ed. 1984)) (internal quotation marks omitted)). The "two similar but distinct elements" to establish proximate cause are that 1) "the defendant's actions [were] a 'substantial factor' in the

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[34] Of those abducted servicemembers, only the late Mr. Freeman is represented in this case. Am. Compl., ECF No. 8, ¶ 482. Separately, because the Court deals at this time only with the bellwether attacks, the Court need not discuss the situation of another decedent, in a non-bellwether attack, who allegedly was taken hostage and tortured. *See* Am. Compl., ECF No. 8, ¶¶ 173-81 (Steven Vincent).

[35] In this Memorandum Opinion, "material support or resources" is sometimes abbreviated to simply "material support," which does not imply a finding that no resources were involved.

sequence of events that led to the plaintiff's injury," and 2) "the plaintiff's injury [was] 'reasonably foreseeable or anticipated as a natural consequence' of the defendant's conduct." *Id.* (quoting *Rothstein v. UBS AG*, 708 F.3d 82, 91 (2d Cir. 2013)). There is more than a "reasonable connection" between Iran's material support and the personal injuries and deaths in the bellwether attacks, as the Court shall discuss below. *See Kilburn*, 376 F.3d at 1130 (indicating, under former 28 U.S.C. § 1605(a)(7), that material support or resources need not be "*directly* traceable to a particular terrorist act"); *Owens v. Republic of Sudan*, 374 F. Supp. 2d 1, 13 (D.D.C. 2005) ("It is enough, the D.C. Circuit held [in *Kilburn*], to show that the material support or resources went to the terrorist organization that perpetrated the act, and that the support was a 'proximate cause' of the terrorist act." (citing *Kilburn*, 376 F.3d at 1127-30)).

But before identifying the reasonable connection to Iran, the Court considers *who* exactly is facilitating this Iranian support. In order to complete the link to Iran, the material support or resources must have been provided "by an official, employee, or agent of such foreign state while acting within the scope of his or her office, employment, or agency." 28 U.S.C. § 1605A(a)(1). Plaintiffs claim that Iran provided material support "to [its] agents." Pls.' Br. at 168. Presumably those agents are Hezbollah and other Iranian proxies in Iraq. But Plaintiffs overlook that the material support must be provided "*by* an official, employee, or agent." 28 U.S.C. § 1605A(a)(1) (emphasis added). It is clear that the material support for the bellwether EFP strikes and the Karbala attack flowed through the IRGC, specifically its Qods Force, whose leadership included Qasem Soleimani and Abdul Reza Shahlai. Deciding whether the Qods Force, Mr. Soleimani, Mr. Shahlai, or some other Qods Force-affiliated individual was specifically an official, employee, or agent of Iran, however, is unnecessary. The Court is satisfied that the Qods Force is at least an agent of Iran, if not a part of the government such that individuals working for it would be officials

or employees of Iran. *Cf., e.g.*, *Blais v. Islamic Republic of Iran*, 459 F. Supp. 2d 40, 60-61 (D.D.C. 2006) (finding, for purposes of punitive damages, that IRGC was governmental entity, rather than commercial agent). Accordingly, material support or resources for prohibited actions that are provided through the Qods Force do satisfy the requirements of Section 1605A(a)(1).

The prohibited actions at issue in the bellwether attacks are extrajudicial killing and hostage taking. Under the FSIA, the term "extrajudicial killing" is defined consistently with Section 3 of the Torture Victim Protection Act of 1991 ("TVPA"). 28 U.S.C. § 1605A(h)(7). The TVPA states that:

> For the purposes of this Act, the term "extrajudicial killing" means a deliberated killing not authorized by a previous judgment pronounced by a regularly constituted court affording all the judicial guarantees which are recognized as indispensable by civilized peoples. Such term, however, does not include any such killing that, under international law, is lawfully carried out under the authority of a foreign nation.

Torture Victim Protection Act of 1991, Pub. L. No. 102-256, § 3(a), 106 Stat. 73. The Court of Appeals recognizes "three elements" of this definition: "(1) a killing; (2) that is deliberated; and (3) is not authorized by a previous judgment pronounced by a regularly constituted court." *Owens*, 864 F.3d at 770.

As for hostage taking, the FSIA adopts the definition furnished by Article 1 of the International Convention Against the Taking of Hostages (the "Convention"). 28 U.S.C. § 1605A(h)(2). This provision of the Convention ascribes hostage taking to anyone "who seizes or detains and threatens to kill, to injure or to continue to detain another person (hereinafter referred to as the 'hostage') in order to compel a third party," for example, a state, "to do or abstain from doing any act as an explicit or implicit condition for the release of the hostage." International Convention Against the Taking of Hostages ("ICATH"), art. 1, ¶ 1, Dec. 17, 1979, 1316 U.N.T.S. 205. "The Convention does not proscribe all detentions, but instead focuses on the intended

purpose of the detention," which meets the standard if it represents a "demand for *quid pro quo* terms between the [putative hostage taker] and a third party" interested in the captives' release. *Price*, 294 F.3d at 94; *see also* ICATH art. 1, ¶ 2 (extending liability to attempted hostage taking and to accomplices of hostage takers or attempted hostage takers). "The essential element of [a] hostage-taking claim is that the intended purpose of the detention be to accomplish the sort of third-party compulsion described in the [C]onvention." *Hekmati v. Islamic Republic of Iran*, 278 F. Supp. 3d 145, 161 (D.D.C. 2017) (quoting *Simpson v. Socialist People's Libyan Arab Jamahiriya*, 470 F.3d 356, 359 (D.C. Cir. 2006)) (alteration in original) (internal quotation marks omitted).

Now the Court applies these remaining elements of sovereign immunity. As to each of the bellwether attacks, Iran provided material support for extrajudicial killing and, in Karbala, hostage taking. Beginning with the EFP strikes, the Court has concluded that Iran, through IRGC-QF and/or Hezbollah, furnished EFPs or the components thereof, facilitated training of Shi'a militia, and supported the militia's effective deployment of this weapon. EFPs were specifically designed to punch through armored vehicles. Iran's intention is further demonstrated by angling the weapon in order to overcome Rhino devices. Doing so ensured that the EFP would hit the crew compartment, rather than the engine. Barker T3-29:2-30:18. Because these weapons deliver deadly force, the Court presumes that Iran's intent was to kill a vehicle's occupants. In other words, the goal was to kill people, not just disable vehicles. Moreover, Iran wanted EFPs to be used against the U.S. military, which Iran saw as a threat to its objectives. Evidence that EFPs were used in the six bellwether attacks often includes, but is not limited to, a combination of the following factors: the puncture of a vehicle's RHA; the discovery of copper residue, copper fragments, and/or traces of HE explosives in or around the vehicle; and the absence of enemy

combatants in the vicinity of the strike. By virtue of this deadly weapon's design, its delivery to Shi'a militia proxies, and its effective deployment against U.S. military vehicles, the Court finds that the intended extrajudicial killings were deliberate. *See Owens*, 864 F.3d at 770. Iran equipped its proxies for extrajudicial killing that ultimately resulted either in personal injuries or death.[36] The "substantial factor" and "reasonable foreseeability" prongs of the proximate cause analysis are easily satisfied. *Id.* at 794.

Similarly, Iran, through IRGC-QF and particularly Mr. Shahlai, planned and otherwise supported the Karbala attack, which was directly coordinated by Mr. Daqduq and executed by AAH. The attack was intended to capture U.S. servicemembers who could be exchanged for Iranian detainees. That the attack did not result in the hostage exchange is irrelevant for these purposes, as is the fact that Mr. Freeman and the other hostages were not detained for long before they were killed or fatally injured. Iran prepared its proxies for hostage taking that ultimately resulted in personal injury and death. The Court has no difficulty concluding again that the "substantial factor" and "reasonable foreseeability" prongs of the proximate cause analysis are satisfied. *Id.*

Aside from those killed in the EFP attack on a Bradley on May 23, 2008, and those killed in the Karbala attack, there are servicemembers in the bellwether attacks who were neither killed nor taken hostage. Section 1605A(a)(1) strips immunity for, in pertinent part, "personal injury *or* death that was caused by an act of . . . extrajudicial killing . . . *or the provision of material support or resources for such an act*." 28 U.S.C. § 1605A(a)(1) (emphasis added). Nothing on the face

[36] It is inconceivable that a court satisfying the TVPA's definition would have permitted the EFP attacks, or the hostage taking described below. *See Schooley v. Islamic Republic of Iran*, Civil Action No. 17-1376 (BAH), 2019 WL 2717888, at *69 (D.D.C. June 27, 2019) (reaching this conclusion with respect to Khobar Towers bombing in Saudi Arabia).

of Section 1605A(a)(1) requires that the material support or resources for an intended extrajudicial killing actually result in someone's death, as long as the victim represented in the case was injured. Assuming, arguendo, that the provision is still somewhat ambiguous, the Court has briefly considered pertinent legislative history.

Before Congress passed the Antiterrorism and Effective Death Penalty Act of 1996 ("AEDPA"), which amended the FSIA by introducing the predecessor of the present terrorist exception, the Judiciary Committee of the House of Representatives reported its view that "allowing suits in the federal courts against countries responsible for terrorist acts where Americans and/or their loved ones suffer injury or death at the hands of the terrorist states is warranted." H.R. Rep. No. 104-383, at 62 (1995) (discussing provision ultimately codified at 28 U.S.C. § 1605(a)(7)); *see also* H.R. Rep. 104-518, at 112 (1996) (Conf. Rep.) (similarly discussing proposed jurisdiction over claims arising from "personal injury or death"). Neither here nor anywhere else in the Court's brief foray into the legislative history of AEDPA did Congress indicate that the death of *someone*, whether or not represented in the case, should be a prerequisite for jurisdiction under the terrorist exception. The relevant language of this exception did not change materially when the exception was transferred from Section 1605(a)(7) to the new Section 1605A(a)(1), so the original legislative history remains applicable. The FSIA's ambiguities should be "interpret[ed] . . . flexibly and capaciously" to fulfill Congress's solicitude for those injured in terrorist attacks. *Van Beneden v. Al-Sanusi*, 709 F.3d 1165, 1167 & n.4 (D.C. Cir. 2013). Based on the "text and purpose" of the FSIA, *id.* at 1167, as well as relevant legislative history, the Court concludes that material support for an incomplete act of extrajudicial killing falls within the scope of Section 1605A(a)(1).

Although the Court views the text and legislative history to be dispositive of this issue, the Court alternatively considers Plaintiffs' proposed means of addressing attacks that involved injuries. At the threshold, they claim that *someone* was killed in each of the bellwether attacks, even if the Plaintiff(s) survived, and that this is enough to satisfy the terrorism exception to sovereign immunity. Pls.' Br. at 171 (citing *Gill v. Islamic Republic of Iran*, 249 F. Supp. 3d 88, 99 (D.D.C. 2017); *Cohen v. Islamic Republic of Iran*, 238 F. Supp. 3d 71, 81 (D.D.C. 2017)). Joining its sister courts, this Court agrees that material support for an attack that extrajudicially killed someone other than the injured servicemember represented in this case is sufficient for jurisdictional purposes. *See Gill*, 249 F. Supp. 3d at 99 (discussing congressional intent and citing, e.g., *Van Beneden*, 709 F.3d at 1167 & n.4); *Cohen*, 238 F. Supp. 3d at 81 ("Plaintiffs need only establish that the bombing here was unauthorized, deliberate, and that there were casualties."); *Owens v. Republic of Sudan*, 174 F. Supp. 3d 242, 266 (D.D.C. 2016) (suggesting that injured plaintiff's ability to sue for act of extrajudicial killing depends on whether someone else was killed), *aff'd*, 864 F.3d 751; *Harrison*, 882 F. Supp. 2d at 29, 45 (finding jurisdiction over FSIA claim of material support for an attack that injured plaintiffs and killed others). This finding is enough to cover EFP attacks that injured Mr. Bartlett and Mr. Haines and killed a comrade in their respective vehicles. It is also enough to cover the Karbala attack, which injured Mr. Wallace and perhaps other bellwether Plaintiffs, while resulting in the deaths of Mr. Freeman, Mr. Millican, and others.

But, contrary to Plaintiffs' representation, it appears that no one was killed in the attacks that injured Mr. Canine, Mr. Levi, and Mr. Williamson. For them, the Court turns to Plaintiffs' other alternative, namely the notion of *attempted* extrajudicial killing. Pls.' Br. at 170-71 (citing *Gill*, 249 F. Supp. 3d at 99). This is closely related to the Court's plain-text reading above. The

text of Section 1605A(a)(1) does not expressly address attempts to commit acts that are listed in that provision. But again, the Court construes the FSIA's ambiguities broadly. *See Gill*, 249 F. Supp. 3d at 99 (citing *Van Beneden*, 709 F.3d at 1167 & n.4). At least several sister courts have found that injuries resulting from "deliberated" attempts to kill fall within the scope of Section 1605A(a)(1). *See id.* (following out-of-circuit authority discussing injuries resulting from "deliberated" attempt to kill (internal quotation marks omitted)); *Schertzman Cohen v. Islamic Republic of Iran*, Civil Action No. 17-1214 (JEB), 2019 WL 3037868, at *3 (D.D.C. July 11, 2019) (recognizing sufficiency of attempt to kill the injured plaintiffs, in a case in which other people died); *cf. Cohen*, 238 F. Supp. 3d at 81 (discussing "deliberate" nature of "decision to bomb a busload of civilians," killing many while injuring plaintiffs). Deploying an EFP represents a "deliberated" attempt to kill someone. In the alternative to a plain-text reading of Section 1605A(a)(1) that is bolstered by legislative history, the Court concludes that material support or resources to facilitate EFP attacks qualify as material support for attempted extrajudicial killings. Those attempts bring Iran within the terrorist exception to foreign sovereign immunity.

Having determined that Iran provided material support through IRGC-QF to Hezbollah and other proxies, and that this support was for the purpose of extrajudicial killing and hostage taking in each of the bellwether attacks, the Court concludes that it has subject-matter jurisdiction over bellwether Plaintiffs' claims under the FSIA's terrorism exception.

2. Liability

The Court also determines that Plaintiffs have established their entitlement to relief under 28 U.S.C. § 1605A(c). That provision states that state sponsors of terrorism shall be liable "for personal injury or death caused by acts described in subsection (a)(1) of that foreign state, or of an official, employee, or agent of that foreign state, for which the courts of the United States may

maintain jurisdiction under this section for money damages," in suits brought by four categories of individuals, including "member[s] of the armed forces" or their legal representatives. 28 U.S.C. § 1605A(c). In other words, this section creates a cause of action for the same conduct that gives rise to subject-matter jurisdiction under the terrorism exception to sovereign immunity. Given the overlap between the elements of this cause of action and the terrorism exception, Iran's liability has already been established, as to certain Plaintiffs, by the conclusions of law set forth above. *See, e.g.*, *Allan v. Islamic Republic of Iran*, Civil Case No. 17-338 (RJL), 2019 WL 2185037, at *6 (D.D.C. May 21, 2019) ("[M]ost courts conduct the analysis together, since evidence sufficient to establish jurisdictional causation will almost always establish a theory of 'personal injury' necessary to prevail under § 1605 A(c) [sic]."); *Foley v. Syrian Arab Republic*, 249 F. Supp. 3d 186, 205 (D.D.C. 2017) (Kollar-Kotelly, J.) (discussing overlapping aspects of jurisdiction and liability). Importantly also, Section 1605A(c) creates vicarious liability "for the acts of [Iran's] officials, employees, or agents," in this case, IRGC-QF and its leadership, Hezbollah, and Iraqi proxies.

The bellwether Plaintiffs who were members of the U.S. military when they were injured have proven their cause of action against Iran: Mr. Bartlett, Mr. Canine, Mr. Haines, Mr. Levi, Mr. Wallace, and Mr. Williamson. Iran's liability is also established as to the bellwether Plaintiffs who represent individuals killed in the bellwether attacks: Cynthia Delgado, on behalf of Mr. Delgado's estate; Charlotte Freeman, on behalf of Mr. Freeman's estate; Kelli Hake, on behalf of Mr. Hake's estate; and Shannon Millican, on behalf of Mr. Millican's estate. Am. Compl., ECF No. 8, ¶¶ 482, 487, 833, 841. Again, the Court makes no finding at this time as to Mr. Kirby and Mr. Thornsberry, for whom Plaintiffs have not directed the Court to any evidence. Nor does the Court make any finding now as to Mr. Washburn. Although he was a U.S. servicemember during

the Karbala attack, Plaintiffs have not pointed to evidence that Mr. Washburn sustained an injury as a result of that attack.

B. Personal Jurisdiction

Although a personal jurisdiction defense can be waived in certain circumstances, the Court has "an independent obligation . . . to satisfy itself of its personal jurisdiction before entering a default judgment against a missing party." *Kaplan v. Cent. Bank of Islamic Republic of Iran*, 896 F.3d 501, 511 (D.C. Cir. 2018) (citing *Mwani*, 417 F.3d at 6; 10A Charles Alan Wright et al., Federal Practice and Procedure § 2682 (3d ed. 1998)).

"Personal jurisdiction over a foreign state shall exist as to every claim for relief over which the district courts have jurisdiction under subsection (a) where service has been made under section 1608 of this title." 28 U.S.C. § 1330(b). "In other words, 'under the FSIA, subject matter jurisdiction plus service of process equals personal jurisdiction.'" *GSS Grp. Ltd v. Nat'l Port Auth.*, 680 F.3d 805, 811 (D.C. Cir. 2012) (quoting *Price*, 294 F.3d at 95).

The Court has already concluded that it has subject-matter jurisdiction over the claims in this case. Moreover, service has been made under Section 1608(a)(3), as described above and in the Court's [31] Memorandum Opinion and Order. The Court incorporates the analysis in that Memorandum Opinion and Order here and accordingly concludes that the Court has personal jurisdiction over Iran. There are no due process concerns raised by the Court's exercise of personal jurisdiction over Iran because "foreign states are not 'persons' protected by the Fifth Amendment." *Price*, 294 F.3d at 96.

C. Damages

Iran is liable for the bellwether attacks, and damages can be awarded. 28 U.S.C. § 1605A(c) ("[D]amages may include economic damages, solatium, pain and suffering, and

punitive damages."). But determining the appropriate damages in this case will require further proceedings. Although the Phase I bellwether proceedings focused primarily on liability, the Court did receive selective evidence that bears on damages. Most of the damages evidence concerned EFP attacks, while a limited amount pertained to the Karbala attack. After reviewing the sources of this evidence, the Court shall address, at a high-level, the major types of injuries caused by EFPs before turning to Plaintiffs' proposed damages framework. This limited discussion of damages shall conclude with initial guidance for Phase II bellwether proceedings before a special master.

1. Damages Evidence

Surviving Plaintiffs in five of the bellwether EFP attacks testified about their injuries and extensive treatment thereafter. As for the March 23, 2008, attack on a Bradley, the Court heard testimony from Rusty Mason and Kelli Hake that recognized the deaths of George Delgado, Andrew J. Habsieger, and Christopher M. Hake. The Court did not receive medical records during this Phase I but expects Plaintiffs to submit them during Phase II.

Each of Plaintiffs' medical experts highlighted a unique aspect of injuries caused by EFPs. At the risk of some repetition, the Court observes a few details about these experts to illustrate their separate, but often-overlapping areas of expertise. Dr. Romney Andersen handled approximately 200 orthopedic surgical cases at the 10th Combat Support Hospital in Baghdad, and another 7,000 at Walter Reed. Andersen T2-88:15-21, 90:6-13; *see also id.* at 88:24-89:3 (defining "surgical case" as "one patient going to the operating room on a particular day," which could involve multiple procedures). Dr. Russell Gore draws on his military flight surgeon experience to treat veterans with TBI and related issues, such as PTSD, through programs he leads at the Shepherd Center. Gore Rep. at 1-2 & Ex. A at 4-5; Gore T4-7:4-18. Dr. Charles Marmar contributed to the development and revision of PTSD diagnostic criteria in the American

Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders ("DSM") and now leads a veterans clinic focused on PTSD, as well as TBI, at NYU Langone Medical Center. Marmar T3-75:23-76:20; Marmar Rep. at 2-3. During combat support missions with the U.S. Army Special Forces in Iraq, Dr. Shean Phelps "would fly in the fourth aircraft on every strike every other night," so that he could treat injured soldiers in the battlespace. Phelps T5-127:14-25. And he also removed victims of EFP blasts from vehicles "[n]umerous times" to facilitate medical care. *Id.* at 128:5-18. The Court generally credits the testimony of Plaintiffs' medical experts based on their training, their experience with the respective injuries they discussed, and their ability to articulate with precision the connection between EFP strikes and the respective injuries. The Court shall also refer as needed to the experts' reports.

As for Karbala, Michael Pregent's expert report and testimony focused on liability, with relatively minimal discussion of bellwether Plaintiffs' injuries. Although he described the death of Mr. Freeman and Mr. Millican, other bellwether Plaintiffs injured, or allegedly injured, in the attack were barely mentioned, if at all. The Court did not hear testimony from either the surviving bellwether Plaintiffs or representatives of the estates of those who perished. The Court expects that the necessary testimony and medical records will be presented to a special master.

2. Unique Effects of EFPs

Much of the human cost of EFPs stems from the *sui generis* damage they inflict on military vehicles. Whereas earlier in this Opinion, the Court examined that damage from a liability perspective, here medical expert testimony shows how an EFP strike causes certain injuries. Part of the "fairly unprecedented" challenge of EFP strikes is the frequently resulting "polytrauma," that is, "multiple traumatic injuries to a wide range of body organs and systems." Phelps T5-116:18-23, 117:15-21; Phelps Rep. at 24-25. Although the injuries are as varied as the weapon is

dangerous, the Court shall focus on the injuries that are most uniquely associated with EFPs and about which the Court heard testimony. Other injuries to bellwether and non-bellwether Plaintiffs will be addressed as needed by special master(s) and the Court.

Since the Vietnam War and earlier conflicts, advances in weaponry and medical research have led to increasing diagnoses of traumatic brain injury in war zones such as Afghanistan and Iraq, where it was the "signature injury." *E.g.*, Gore Rep. at 4-5, 7, 63-64; Marmar T3-117:15-118:11. Much of the blame rests with EFPs. Moving at tremendous speed, an EFP slug concentrates an exceptional amount of energy on a very small portion of an armored vehicle. *E.g.*, Phelps T5-136:18-137:21; Gore Rep. at 12-13. The "uniquely focused" blast wave that strikes the vehicle is further reflected inside. Gore Rep. 7-14 (discussing pressures created by a "blast event" and distinguishing IED blasts). Dr. Gore likened the effects of an EFP blast wave to firing "a ping pong ball into a box at a high velocity," where "you would see that the ping pong ball is going to bounce around off of all the different surfaces within the box." Gore T4-29:25-30:3. In fact, multiple ping pong balls would be at play, because multiple waves reflect from the interior surfaces of the vehicle. *See* Gore T4-30:3-9, 31:1-25 (discussing study of blast effects similar to those of EFPs). As Dr. Gore observed, "every occupant [of a vehicle struck by an EFP] is at risk. Depending on the entry point, even those who are survivors and have less catastrophic external and visible injuries were exposed to this complex blast wave." Gore T4-33:5-34:4. EFP blast waves cause "particularly devastating cases of TBI" compared with those caused by IEDs, for example, because EFPs generally "deposit more kinetic energy," "direct[ ] all of [their] energy" in a more "concentrate[d]" fashion, occur "much closer in proximity" to survivors, "creat[e] multiple wave reflections," and involve high-energy explosives. Gore Rep. at 5, 13-15 (emphasis omitted).

The unique properties of an EFP also cause distinctive external injuries. Victims of other kinds of blasts may be fatally "blown apart." Phelps T5-158:1-4. Whereas EFP victims are more likely to be severed in a way that may be survivable, depending on the site of injury. *See* Phelps T5-157:21-25, 158:5-17; Andersen Rep. at 5. However, injuries may be particularly extensive due in part to the "brisance," or "shattering" capabilities, of an EFP slug. Phelps Rep. at 14-16 ("Both the EFP slug itself and the effects of the weapon's inherent brisance can, when detonated in close proximity to a victim, crush soft tissue and bone (primary blast effects) . . . .") (internal quotation marks omitted); *see also* Andersen Rep. at 4 (further attributing injuries to brisance). Of the various orthopedic injuries that EFP victims may experience, amputation was the focus at trial. *Cf., e.g.*, Andersen T2-108:4-119:15 (discussing, e.g., severe fractures, spinal cord injuries, and infection).

In one form of traumatic amputation, the slug "very often completely separat[es] or tear[s] [a] limb from the service member while cauterizing the wound (at least temporarily) due to intense thermal radiation imparted by the liquefied, missile-like slug projectile." Phelps Rep. at 13 (comparing slug to "a super-heated, hyper-velocity guillotine blade"); *see also* Andersen T2-94:10-12 (attributing "immediate traumatic amputation at the site" to either blast wave or fragment). The victim may also be struck by shrapnel from the weapon, the punctured vehicle, or objects within the vehicle, which may likewise traumatically amputate extremities. Phelps Rep. at 8, 13 (discussing these "[s]econdary blast effect[s]"); Andersen T2-100:5-12 (suggesting that radios and flashlights in vehicle can become projectiles). Dr. Phelps likened the vehicle's interior during an EFP strike to a "Cuisinart," in which "pieces of metal [are] splicing through everyone and everything, human [and] equipment." Phelps T5-150:20-151:7. A series of medical procedures can save some limbs that are damaged but not traumatically amputated, while others

must be surgically removed, sometimes at the patient's request "in an effort to remove the pain generator and/or to gain function" in the residual limb. Andersen Rep. at 6-7.

Whether the amputation is immediate or eventual, the lingering pain is often substantial and varied. As Dr. Andersen explained, the victim may suffer where the muscles and small nerves of the limb were cut ("residual limb" pain), and also may experience a "debilitating, burning" sensation from the large nerves that would have controlled the missing extremity ("phantom limb" pain). Andersen T2-106:5-23; *see also* Andersen Rep. at 7 (discussing frequency of both types). It is generally difficult for blast amputees to adapt to prosthetics, in part because of wear-and-tear on a skin graft commonly serving as the point of contact, and in part because the injuries often extend to residual parts of the amputated limb and other limbs. Andersen T2-104:17-25, 105:8-106:4.

Difficulties removing injured soldiers from their vehicles may worsen their EFP injuries and further threaten their survival. Medical professionals refer to the "golden hour" after a traumatic injury—particularly the "platinum ten" minutes in the military setting—for intervening in time to dramatically improve a victim's survival rate. Phelps T5-140:13-141:16. But the haste is hindered when the damaged vehicle's door cannot be opened, or when limbs are caught in the vehicle. *Id.* at 148:11-150:9. Moreover, simply moving the wounded individual can break the temporary cauterization of his wounds by the slug itself and trigger profuse blood loss. *See id.* at 162:15-21; Phelps Rep. at 13.

Complications from EFP injuries carry their own health risks. Injured servicemembers may, for instance, lose so much blood that they develop hypotension, which starves the brain of sufficient blood, threatening their consciousness and ultimately risking "cardiorespiratory collapse." Phelps Rep. at 20. Later, chronic pain that is "[i]nadequately managed" can harm the

cardiovascular, nervous, and gastrointestinal systems, among others, as well as the patient's psychological state. *Id.* at 55-57.

Survivors of EFP strikes often develop a variety of psychological issues, such as PTSD and depression. *E.g.*, Marmar T3-105:18-25. Dr. Marmar has described PTSD as follows:

> PTSD is a trauma and stress-related disorder, defined by the co-occurrence of re-experiencing, avoidance, negative beliefs and hyperarousal symptoms in survivors of extreme stress exposure. PTSD is a common outcome of multiple kinds of traumatic events, including high levels of combat exposure with personal life threat and witnessing of death and severe injury. Unlike other mental disorders, the diagnosis of PTSD depends on relating current symptoms with triggering traumatic life experiences.

Marmar Rep. at 3 (citation omitted). PTSD can manifest in those suffering from TBI, "which may actually cause PTSD due to injury to brain networks." Gore Rep. at 50-54; *see also* Marmar T3-118:12-14 (acknowledging common co-occurrence); Gore T4-22:22-24:7 (recognizing some lingering questions about causality). Psychological issues arising from EFP attacks are often compounded by a soldier's removal from his unit for treatment due to the extent of physical injuries caused by EFPs. Phelps T5-155:15-157:11. Frequently the families of soldiers with PTSD develop psychological issues as well. *See* Marmar Rep. at 16 (studies of Vietnam veterans' families and Afghanistan/Iraq servicemembers' spouses); Marmar T3-124:23-126:14.

3. Damages Framework

Plaintiffs invoke a damages framework commonly applied in other FSIA cases in this Circuit. Pls.' Br. at 2, 111-14 (citing, e.g., *Valore v. Islamic Republic of Iran*, 700 F. Supp. 2d 52 (D.D.C. 2010); *Peterson v. Islamic Republic of Iran*, 515 F. Supp. 2d 25 (D.D.C. 2007), *abrogated on other grounds*, *Mohammadi v. Islamic Republic of Iran*, 782 F.3d 9 (D.C. Cir. 2015)). But they argue that this framework should be adjusted for EFP strikes. First, the medical community now has a better understanding of TBIs and other EFP-related injuries, and often better evidence of

them, than existed in prior cases arising from other weapons. *Id.* Second, better treatment of such injuries on the battlefield has resulted in longer lifespans but continued suffering from the wounds and treatment regimens. *Id.* at 114. And third, at least as of their filing, Plaintiffs purport that no other court has "assess[ed] the unique confluence of injuries caused by EFPs." *Id.* The six categories that Plaintiffs propose would account, in particular, for various gradations of TBI and accompanying injuries that they claim are not adequately accounted for by damages frameworks in other, similar cases. *See id.* at 113-14. Yet, the Court will not adopt this framework now, for several reasons.

It would be appropriate to establish a TBI-oriented framework only if the Court had the facts to support such a framework. The Court's findings about specific attacks have, thus far, been limited to the seven bellwether attacks. Of the military servicemembers killed or injured in those attacks, only Mr. Bartlett specifically testified to having TBI. Bartlett T2-63:14-16. Even for Mr. Bartlett, however, the Court did not hear any testimony identifying the severity of his TBI,[37] or attempting to distinguish consequences of his TBI from those that may be attributable to his PTSD. *See* Bartlett T2-63:9-13, 63:17-64:9 (responding to question that conflates the effects of TBI and PTSD). Presumably Mr. Bartlett's medical records—and the records of any other bellwether (and non-bellwether) servicemembers who suffered TBI—would include a diagnosis of the severity of that injury, as well as further details about its effects on their lives. Yet, Plaintiffs have refrained from putting those records into evidence until Phase II damages proceedings before a special master. Further evidence of TBIs in specific servicemembers would make clear whether Plaintiffs' proposal is justified in this case.

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[37] Although the medical experts introduced some criteria that could guide a diagnosis of the severity of Mr. Bartlett's TBI, the Court is not prepared to apply those criteria at this time without more information. *See, e.g.*, Marmar Rep. at 13 (differentiating between TBI diagnoses).

Even if the Court were to conclude that a TBI-oriented framework should be adopted, the Court lacks the evidentiary basis right now to determine whether all or some number of the categories that Plaintiffs propose are necessary and appropriate. It is quite possible that Plaintiffs' injuries would fit into a smaller number of categories. Moreover, the Court is not persuaded at this time to establish damages ranges upfront; the fact that baselines are subject to departure does not necessitate predetermining the extent of those departures.

Absent further evidence, it is not clear whether Plaintiffs are proposing appropriate valuations for their categories of injury. At least some of the baselines and/or ranges that Plaintiffs have assigned to their proposed categories seem to exceed the present case law support. Plaintiffs' highest category, for instance, would have a $30 million baseline, with a range of $25-$50 million, for victims of "[m]oderate/severe TBI (with severe shrapnel/fractures/orthopedic injuries/polytrauma/traumatic amputations)." Pls.' Br. at 166. At this ethereal level of damages, Plaintiffs string together cases in which the victims experienced different subsets of these injuries, but evidently no one experienced all of them. *See id.* In *Blais v. Islamic Republic of Iran*, the one case that Plaintiffs specifically invoke, Judge Royce Lamberth awarded $20 million for "pain and mental anguish" to a victim of the Khobar Towers bombing in 1996 at a U.S. military base in Saudi Arabia. 459 F. Supp. 2d at 58-59.[38] Enduring about five weeks in either a coma or a vegetative state, that victim had sustained "severe brain trauma," "deprivation of oxygen," and "an extensive scalp laceration and numerous other lacerations to his lower extremities," among his other medical issues. *Id.* at 49-50. The plaintiff's rocky road forward was pockmarked by, among

[38] This total excludes the award for the victim's lost earnings and benefits, as Plaintiffs do not discuss that aspect of damages at this time. *See Blais*, 459 F. Supp. 2d at 58 (approximately $1.8 million in economic losses); Pls.' Br. at 111 n.40 (suggesting that "damages for solatium or economic losses . . . do not . . . warrant any new analysis by this Court").

many other things, "significant depression, several suicide attempts in the early years after his injury, post-traumatic stress disorder, and survivor's guilt." *Id.* at 50-51.

Even a set of injuries that severe, however, evidently falls below the bottom, $25 million end of the range that Plaintiffs propose for this category. Rather, they rely, without specific citation, on cases in other categories involving awards of $5-$7.5 million for "serious (non-polytraumatic) orthopedic injuries," and $7-$10 million for "traumatic amputation," to bring them within range. Pls.' Br. at 166. But applying either or both of these bootstraps to the *Blais* figure would bring Plaintiffs only to $25-$37.5 million, a full $12.5-$25 million short of the top end of the range. Although Plaintiffs have not performed this breakdown, they appear to attribute some of the discrepancy to the anticipated costs of "significant long-term 24 hour, 7 days a week care and assistance." *Id.* The Court does not doubt that such costs would be substantial. Yet, neither testimony nor medical records nor any kind of cost information supporting such extremely high awards are currently in evidence.

Only upon examination of Plaintiffs' medical records and other evidence will it become clearer whether Plaintiffs' proposed upward departures from precedent, non-binding as it is, are warranted based on the nature of TBI and accompanying injuries, as well as the distinctive attributes of EFP strikes.

4. Special Master

Special masters are permitted to "hear damage claims" for liability within the terrorism exception to the FSIA. 28 U.S.C. § 1605A(e). Although the specific details of special master proceedings are beyond the scope of this Memorandum Opinion, the Court shall set forth initial guidance.

In Phase II bellwether proceedings, the special master should receive damages evidence consisting at least of medical records and further testimony. For those Plaintiffs who already testified about their injuries or, with respect to Ms. Hake, her husband's death, the special master should avoid causing further hardship by taking additional testimony from them. Rather, the special master should rely on the findings in this Memorandum Opinion, the anticipated medical records, and, as needed, further testimony from experts or other fact witnesses. The medical records may demonstrate other injuries in addition to those about which the Court heard testimony. *See, e.g.*, Am. Compl., ECF No. 8, ¶ 961 (alleging that Mr. Williamson "suffered memory loss since the [May 9, 2008,] attack and has difficulty recalling information"). Fact witnesses may include Karbala bellwether Plaintiffs, as well as estate representatives and family members of those injured or killed in all seven of the bellwether attacks.

After making determinations, the special master should submit a report and recommendation to the Court. That recommendation should include whether this Court should adopt baselines and/or ranges for the damages, and how those benchmarks should be valued. At Plaintiffs' suggestion, the Court intends to defer Plaintiffs' request for punitive damages until after the special master determines compensatory awards. *See* Pls.' Br. at 5 n.4. Plaintiffs shall have an opportunity to brief punitive damages at that time. *Id.*

After the Court rules on Phase I damages, then the Court anticipates facilitating proceedings for non-bellwether attacks, which may involve multiple special masters.

V. CONCLUSION

For the foregoing reasons, in an exercise of its discretion the Court shall **GRANT** default judgment against Defendant Islamic Republic of Iran as to the claims of Plaintiffs injured in the bellwether attacks and the claims of Plaintiffs representing individuals killed by the bellwether

attacks, with the exception of the claims of Evan Kirby, Marvin Thornsberry, and Johnny Washburn. The Court requires further information to establish Iran's liability to Mr. Kirby, Mr. Thornsberry, and Mr. Washburn, as well as to Plaintiff family members of all those who were injured or killed in the bellwether attacks.

At the appropriate time, the Court expects to refer the bellwether attacks for Phase II damages and any other appropriate determinations by a special master, who shall issue a report and recommendation to the Court. Phase II proceedings shall concern damages for Plaintiffs whose claims were established in this decision, and, assuming arguendo that liability is established, for Mr. Kirby, Mr. Thornsberry, Mr. Washburn, and Plaintiff family members of all those who were injured or killed in the bellwether attacks. Once the Court issues its decision regarding the special master's report and recommendation, the Court shall issue further instructions for liability and damages proceedings concerning non-bellwether attacks.

An appropriate Order accompanies this Memorandum Opinion.

Dated: August 26, 2019

/s/
COLLEEN KOLLAR-KOTELLY
United States District Judge