

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF INDIANA  
TERRE HAUTE DIVISION

THE SIERRA CLUB, THE CHEMICAL )  
WEAPONS WORKING GROUP, CITIZENS )  
AGAINST INCINERATION AT NEWPORT )  
(CAIN), COMMUNITY IN-POWER )  
DEVELOPMENT ASSOCIATION (CIDA) )  
SARA MORGAN, LEONARD AKERS, )  
HILTON KELLEY, MOYA GREEN, and )  
ANISHA SWALLOW, )  
Plaintiffs, )

vs. )

2:07-cv-0101-LJM-WGH

DR. ROBERT M GATES, Secretary of )  
Defense, PETE GREEN, Secretary of the Army, )  
UNITED STATES DEPARTMENT OF )  
DEFENSE, UNITED STATES DEPARTMENT )  
OF THE ARMY, and VEOLIA )  
ENVIRONMENTAL SERVICES, INC., )  
Defendants. )

**ORDER**

This cause is now before the Court on Plaintiffs’, the Sierra Club, the Chemical Weapons Working Group (“CWWG”), Citizens Against Incineration at Newport (“CAIN”), Community In-Power Development Association (“CIDA”), Sara Morgan, Leonard Akers, Hilton Kelley, Moya Green, and Anisha Swallow (collectively, “Plaintiffs”), Motion for Partial Summary Judgment on National Environmental Policy Act (“NEPA”) and Defense Authorization Act (“DAA”) Claims (Docket No. 69); Defendants’, Dr. Robert M. Gates, Secretary of Defense, Pete Green, Secretary of the Army, United States Department of Defense, United States Department of the Army (“Army”)

(these defendants, collectively, “the Government”), and Veolia Environmental Services, Inc.<sup>1</sup> (“Veolia”) (all defendants, collectively, “Defendants”), Cross-Motion for Partial Summary Judgment (Docket No. 75); Veolia’s Motion for Summary Judgment as to Plaintiffs’ Resource Conservation and Recovery Act (“RCRA”) Claims (Counts 1, 6-9) (Docket No. 85); and the Government’s Motion for Summary Judgment on Counts 1, 6, 7, 8 and 9 (Docket No. 87).

In this suit, Plaintiffs seek to stop the Government from continuing shipments of the product of the hydrolysis of chemical warfare agent VX (“CVXH” or “hydrolysate”) from the chemical weapons depot in Newport, Indiana (“NECD”), to Veolia’s incineration facility in Port Arthur, Texas, and to stop Veolia from incinerating CVXH in Port Arthur. Plaintiffs assert claims under RCRA, 42 U.S.C. § 6972(a), and DAA, 50 U.S.C. § 1512 *et. seq.*, and under Indiana and Texas State laws against all Defendants, and assert claims under NEPA, against the Government.

For the reasons stated herein, Plaintiffs’ Motion for Partial Summary Judgment is **DENIED**; Defendants’ Cross-Motion for Summary Judgment on Plaintiffs’ NEPA claims is **GRANTED**; Veolia’s Motion for Summary Judgment on Plaintiffs’ RCRA Claims is **GRANTED**; and the Government’s Motion for Summary Judgment on Counts 1, 6, 7, 8 and 9 is **GRANTED**.

### **I. PLAINTIFFS’ NEPA & DAA CLAIMS**

The Court notes that in an order dated August 8, 2008, this Court granted the Government’s Motion to Limit Judicial Review of Plaintiffs’ NEPA and DAA claims to the administrative record and permitted the Government to file an oversized brief to summarize the administrative record in

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<sup>1</sup>The Court notes that Veolia has notified the Court that the proper defendant for purposes of Plaintiffs’ claims is Veolia ES Technical Solutions, LLC. Neither entity disputes that it had an opportunity to be heard on the issues related to the matters addressed in this Order.

response to Plaintiffs' statement of material facts. However, to facilitate an understanding of the process involved at NECD, the Court incorporates some facts established during the Hearing on Plaintiffs' Motion for Preliminary Injunction held before this Court on July 16-18, 2007.

**A. THE GOVERNMENT'S CHEMICAL WEAPONS DESTRUCTION PROGRAM & THE CONTENT OF THE ADMINISTRATIVE RECORD REGARDING THE GOVERNMENT'S PLAN FOR DESTRUCTION OF VX STORED AT NECD**

Generally, the disposal of the Government's stockpile of chemical weapons is governed by Congressional mandate, *see* 50 U.S.C. § 1521, and by the Chemical Weapons Convention ("CWC"), an international treaty entered into by the Government in 1993. *See* Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and their Destruction, Aug. 8, 1994, art. IV, para. 6, 32 I.L.M. 800 (entered into force Apr. 29, 1997) ("Convention"). The Organisation for the Prevention of Chemical Weapons, the international organization that implements the CWC, has set a deadline of April 29, 2012, for destruction of chemical weapons. Gov't PI Ex. 6, Lyle Decl. ¶ 4.

The Army originally stored approximately 1,269 tons of VX at NECD.<sup>2</sup> Gov't PI Ex. 7, Brubaker Decl. ¶ 4. VX is an organophosphate that is an odorless, tasteless liquid with an appearance similar to motor oil. Gov't PI Ex. 3, Kavanagh Decl. ¶ 5. VX can become an aerosol of very small droplets through explosion or become a vapor through ignition. *Id.* It is more dense than water and evaporates 2,000 times more slowly than water. *Id.* The VX at NECD is stored in steel one-ton containers. *Id.*

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<sup>2</sup>NECD is designated for closure by September 2011 under the 2005 Base Realignment and Closure Act ("BRAC"). Gov't PI Ex. 5, Kutz Decl. ¶ 3.

On February 26, 1988, the Government published its notice of the Record of Decision (“ROD”) regarding the Final Programmatic Environmental Impact Statement (“FPEIS”) for its Chemical Stockpile Disposal Program. 53 Fed. Reg. 5816-02 (Feb. 26, 1988). The notice stated that the Army had selected the on-site disposal alternative for all eight chemical storage sites out of the following alternatives: (1) on-site destruction at each storage site; (2) regional destruction, at Anniston Army Depot for the Eastern storage installations, and Tooele Army Depot for the Western storage installations; (3) national destruction at Tooele Army Depot; (4) continued storage at all storage sites. *Id.* The notice also stated that

[a] site-specific [NEPA] review, which will include the preparation of an Environmental Impact Statement (EIS) or Environmental Assessment (EA), will be conducted for each of the eight chemical storage installations. In addition, the Army is obligated to obtain [RCRA] and Clean Air Act [(“CAA”)] permits from each of the affected states and the Environmental Protection Agency [(“EPA”)].

*Id.*

In 1994, the National Research Council (“NRC”) published a report (the “NRC report”) entitled “Recommendations for the Disposal of Chemical Agents and Munitions,” in conjunction with the Committee on Review and Evaluation of the Army Chemical Stockpile Disposal Program, the Board on Army Science and Technology, and the Commission on Engineering and Technical Systems. Admin. R. Doc. No. 41. Essentially, the NRC report approved the Army’s plan to date, but encouraged the Army to keep the public abreast of new developments as site-specific risk assessments became available. *Id.* at 120-31. The report makes very few site-specific recommendations. *See, generally, id.*

Apparently, in June 1994, Congress appropriated additional funds for the Army to aggressively consider development of alternatives to the chosen baseline process, incineration, as

the means of agent destruction at bulk-only storage sites, including Aberdeen, Maryland, and NECD. S. Rep. 103-321, at 351 (July 29, 1994).

In December 1998, the Government published its Final Environmental Impact Statement (the “1998 FEIS”) to pilot test its neutralization plan for the VX at NECD.<sup>3</sup> Admin. R. Doc. No. 1. The Army evaluated only two alternatives: no-action and the proposed process. *Id.* § 2. As described by the 1998 FEIS, the plan recommended by the Army was to neutralize the VX at a Newport Chemical Agent Disposal Facility (“NECDF”), to be built adjacent to NECD, using a caustic neutralization of the VX to form a caustic VX hydrolysate or CVXH, followed by on-site Super Critical Water Oxidation (“SCWO”) treatment to eliminate organic compounds in the CVXH. *Id.* § 2.5.

In February and April 1999, the Edgewood Chemical Biological Center published two reports on the residual VX concentration in various aspects of the CVXH produced on lab scale models of the process to be used at NECDF. *Id.* Doc. Nos. 38 & 37. The February 1999 report was entitled: Quantitative Analysis of Residual VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Separated Organic and Aqueous Phases (the “CVXH Separate Phase Study”). *Id.* Doc. No. 38. The CVXH Separate Phase Study summarized the methods development and validation efforts for the quantization of VX in caustic neutralization solutions. *Id.* at iii. In this study, the scientists calculated a “method limit of detection” and a “method limit of quantitation [sic]” for the organic phase and the aqueous phase of the CVXH produced by the hydrolysis process planned for NECDF. *Id.* This Study reported that the overall

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<sup>3</sup>This paragraph begins the Court’s findings with respect to the administrative record.

method limit of detection in the organic phase was 57 parts per billion (“ppb”) VX and the overall method limit of detection in the aqueous phase was 1 ppb VX. *Id.*

The second study was entitled: Quantitative Analysis of Residual VX in Caustic Neutralization Solutions by Solid Phase Extraction and GC/MSD: Analysis of Hydrolysate as Unseparated Phases (the “CVXH Unseparated Phases Study”). *Id.* Doc. No. 37. The CVXH Unseparated Phases Study summarized the methods development and validation efforts for the quantization of VX in unseparated CVXH. *Id.* at iii. This Study reported that the overall method limit of detection was determined to be 4 ppb VX for the unseparated CVXH. *Id.*

In 2000 the National Research Center (“NRC”) published a study (the “2000 NRC study”) in which it evaluated the Army’s plan to use chemical hydrolysis followed by SCWO to neutralize VX at NECD. *Id.* Doc. No. 7. The study recommended that the Army evaluate off-site waste management of CVXH for cost and scheduling benefits, and as a contingency plan in case of start-up problems with SCWO. *Id.* at 1.

In December 2001, the NRC published a report (the “2001 NRC report”) of an ad hoc committee’s review of the proposed process changes at NECDF for expedited disposal of the VX stockpile at NECD. *Id.* Doc. No. 27. The proposed changes compared neutralization of VX in the ton containers in which it was stored, followed by disposal of the containers at a commercial post-treatment facility or treatment, storage, and disposal facility (“TSDF”), with neutralization of VX using caustic solution in stirred tank reactors, followed by disposal of CVXH at an off-site TSDF. *Id.* at 2-3. The 2001 NRC report recommended that the Army pursue the stirred-tank reactor concept for expedited destruction of the VX at NECD. *Id.* at 5.

In part in response to the NRC studies, and in other part in response to the terrorist attacks of September 11, 2001,<sup>4</sup> in July 2002, the Army published a “Final Environmental Assessment” (the “2002 FEA”) regarding the VX destruction process proposed for the VX store at NECD. *Id.* Doc. No. 3. The 2002 FEA compared a “no-action” alternative<sup>5</sup> to disposal of CVXH at an off-site TSDF. *Id.* § 1. The 2002 FEA made no site-specific findings with respect to a TSDF, suggesting that such analysis would be performed later after a TSDF was chosen. *Id.* The Army stated in the 2002 FEA that CVXH would be classified as a hazardous waste under Indiana regulations unless the SCWO treatment option was employed, in which case the effluent would be delisted and classified as nonhazardous. *Id.* (citing Appendix B). The 2002 FEA stated that it

primarily addresses impacts that could occur in the vicinity of NECD. It is recognized that some impacts that would be avoided or reduced at NECD could be transferred to a receiving TSDF. However, the permitted off-site TSDF selected for treatment and disposal of NECDF waste streams would be audited to ensure that the facility is safely treating the hydrolysate in accordance with applicable federal, state, and local regulations and the TSDF’s environmental operating permits. These regulations and permits would ensure that disposal of the liquid effluents from the NECDF would be conducted in a safe and environmentally acceptable manner.

*Id.* § 1.2.

The 2002 FEA-recommended process included neutralization of the VX at NECDF followed by off-site treatment of CVXH at a RCRA-permitted TSDF for disposal. *Id.* § 4.

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<sup>4</sup>The Army stated that the Presidential Proclamation of a National Emergency on September 14, 2001, in light of the “continuing and immediate threat of further terrorist attacks on the United States . . . the Army determined that it is necessary for the stockpile of VX as NECD to be destroyed expeditiously and in a manner that does not pose a threat to public health and the environment.” Admin. R. Doc. No. 3, § 1.

<sup>5</sup>The “no-action” alternative cited was the use of the hydrolysis process and storage of the CVXH at NECD until problems encountered in scale-up of the SCWO process could be rectified. *Id.* Doc. No. 3, § 1.

On May 21, 2002, the Army held an informational public meeting in Newport, Indiana, regarding the findings published in the 2002 FEA. *Id.* § 5. The 2002 FEA was presented and reviewed by various federal, state, and local elected officials and regulators, as well as various federal agencies. *Id.*

In conjunction with the 2002 FEA, the Army also issued a Final Finding of No Significant Impact (the “2002 FONSI”), which issued on October 28, 2002. *Id.* Doc. No. 4. The 2002 FONSI stated that the Army had received written comments on its proposal from a forty-five-day period that started on August 28, 2002, and ended on October 12, 2002. *Id.* at 3. The 2002 FONSI stated, in relevant part:

The only substantive comment on the proposed alternative was the objection to the use of an off-site incinerator or deep well injection TSDF. This comment was received verbally at the public meeting and in a petition signed by [fifty-two] area residents (attached as Appendix B). Since the [2002 FEA] and the FONSI do not deal directly with the type of technology to be used at the commercial TSDF, the Army will consider these comments during the selection of the TSDF. The comments received did not alter the Army’s proposed path that was put forward in the conclusion of the [2002 FEA] and the Draft FONSI.

*Id.*

Between October 2002, and April 2007, the Army considered several aspects of the plan proposed in the 2002 FEA and the 2002 FONSI. *See* Admin. R. Doc. Nos. 33, 36, 24, 16, 20, 15, 21, 13, 43, 8, & 34. For example, in December 2003, the U.S. Army Chemical Materials Agency (the “CMA”) issued a study (“2003 Transportation Analysis”) that evaluated the potential impacts to the human population and environmental resources along two routes from NECD to a specific TSDF, the DuPont Environmental Treatment facility in Stillwater, New Jersey (“DuPont”), which is the largest commercial and industrial waste water treatment plant in the world. *Id.* Doc. No. 16.



The 2003 Transportation Analysis included a characterization of CVXH, with a comparison of the waste water to the Indiana Department of Environmental Management (“IDEM”) standard for the maximum allowable VX concentration level, and the United States Department of Transportation (“DOT”) classification of CVXH as a hazardous material because of corrosivity and, possibly, flammability. *Id.* at 2-3. These ratings were premised on a VX loading of 33% in the reactive mixture before hydrolysis. *Id.* at 2-3. The 2003 Transportation Analysis also described the packaging and shipping standards to be used by the Army for transport of CVXH to the selected TSDF. *Id.* at 4.

With respect to the possible routes and their characteristics, the report stated:

The Army has identified the DuPont Environmental Treatment facility in Deepwater, New Jersey, as a TSDF capable of treating and disposing of the NECDF [CVXH]. Because of the large highway distance between this facility and the NECDF, the Deepwater location has been selected for use in this transportation analysis for the purpose of providing an upper bound on the distances and travel times that would be needed during the off-site shipping campaign. Any other facility selected by the Army to treat or dispose of the Newport [CVXH] would likely be closer to the NECDF, and the shipping routes to this other facility would therefore be shorter and would likely pass near fewer people and fewer environmental resources than the two Deepwater routes used for analysis in this report.

*Id.* at 5. The report then analyzed the environmental impacts for two different routes from Newport, Indiana, to Deepwater, New Jersey. *Id.* at 5-18. The only risk assessed by the report is the risk related to accidents along each of two routes. *Id.* at 12.

In addition, the 2003 Transportation Analysis discussed the TSDF requirements. *Id.* at 18-21. This portion of the report addressed the environmental impact of processing CVXH in a biological degradation process. *Id.* at 18. The report stated: “The DuPont Environmental Treatment facility in Deepwater, New Jersey, currently has all [applicable licenses and permits, as required by federal,

state, and local regulatory authorities] as related to the receipt, treatment, and disposal of the liquid process effluent from the NECDF.” *Id.* This section of the 2003 Transportation Analysis also addressed environmental justice concerns in the community surrounding the Deepwater, New Jersey, facility. *Id.* at 18-20.

The conclusion of the 2003 Transportation Analysis is broader than the specifics of its analysis:

The U.S. Army’s intent to ship the NECDF [CVXH] to a permitted TSDF does not pose any unique transportation safety concerns or unacceptable environmental impacts relative to those associated with routine commercial and trade industry hazardous waste due to its corrosive nature, which is similar to that of liquid household drain cleaner. The proposed off-site treatment and transport of process effluent is not likely to produce any significant impacts to human health or the environment.

*Id.* at 21.

The administrative record also contains an Evaluation of Issues Identified in the Independent Assessment of Hydrolysate Treatment and Disposal in Dayton, Ohio (“Dayton Issues Report”), dated December 2003, written by Science Application International Corporation (“SAID”). *Id.* Doc. No. 20. The independent analysis was done to provide advice to Montgomery County, Ohio, officials regarding the proposal to treat CVXH at Perma-Fix of Dayton (“PFD”), a TSDF. *Id.* at 1. The Dayton Issues Report addressed the issues raised by the independent analysis in an effort to provide a counter argument to the key concerns and recommendations contained in the independent analysis. *Id.* In response to the question of implementing the proposed process at PFD under full-scale operations, the Dayton Issues Report suggested that

[t]reatment of [CVXH] at any TSDF would first involve a comprehensive treatability study to determine the optimum operating conditions for this waste type, which is common commercial practice. . . . The overall intention of the project would be to

integrate controlled startup of hydrolysate treatment at the TSDF with the scheduled slow ramp-up of agent destruction at NECDF. The Army and Parsons believe treatment of hydrolysate at a TSDF is amenable to full-scale implementation, although a closely monitored phased startup of the TSDF treatment of hydrolysate is warranted.

*Id.* at 7.

A third party, Mitretek Systems, Center for Science and Technology, also reviewed the independent analysis performed at PFD as well as the Government's response to the analysis, then issued a report of its findings in March 2004 (the "Mitretek Report"). *Id.* Doc. No. 21. Generally, the Mitretek Report concurred with the Government's assessment of the classification of CVXH, which recommended that "[a]ny TSDF selected to treat Newport [CVXH] should conduct a treatability study appropriate for their specific process, and recommend[ed] that the Government continue to correct all misinformation concerning CVXH in the public domain." *Id.* at 7-2 to 7-3.

Also in March 2004, DuPont issued its own treatment, transportation safety assessment, and risk management plan of the Government's proposal to treat CVXH at its facility in Deepwater, New Jersey (the "DuPont 2004 Assessment"). *Id.* Doc. No. 15. Based on a treatability study, the DuPont 2004 Assessment concluded that DuPont's Deepwater, New Jersey, facility could effectively treat CVXH generated at NECDF. *Id.* at 59. It also suggested a preferred transportation route given the nature of CVXH and using "existing methodologies developed or used by various government agencies . . . ." *Id.* at 1-4.

In December 2004 and January 2005, the Government started to evaluate a proposal by Parsons Infrastructure and Technology Group, Inc. ("Parsons"), the Army's contractor at NECDF, to treat CVXH off site using SCWO. Supp. Admin. R. Doc. Nos. 1-7a. Generally, this proposal was considered a contingency if DuPont was unable to get a permit to treat CVXH at its Deepwater, New

Jersey, facility. *Id.* Doc. Nos. 1, 1a & 2. Parsons' proposal involved three potential, yet unproven, technologies that might be considered if the Center for Disease Control ("CDC") and Environmental Protection Agency ("EPA") did not approve off-site shipment of CVXH. *Id.* Doc. No. 3a. Eventually, Parsons narrowed the proposal to on-site neutralization followed by a privatized SCWO treatment. *Id.* Doc. Nos. 15a & 17. The proposal suggested that Parsons would own and operate the SCWO facility on land near, but outside of, NECDF. *Id.*

By April 2005, the Government had identified several problems with Parsons' SCWO proposal. *Id.* Doc. Nos. 15, 15a, 16, 17. In late May 2005, the Government decided to reject Parson's privatized SCWO approach because it was not definitive or comprehensive, and because on-site capability would be easier for the government to pursue. *Id.* Doc. Nos. 16-18. By August 2005, the Government had put a hold on any work directed toward on-site SCWO capability pending the release of a CDC report regarding the plan to ship CVXH off site. *Id.* 19-21.

Also in April 2005, the Army filed a Record of Environmental Consideration ("REC") (this REC in particular, the "April 2005 REC") in which the Parsons Infrastructure and Technology Group ("Parsons") announced that it would start neutralization of the VX at NECDF. Admin. Rec. Doc. No. 43. According to the April 2005 REC, the hydrolysate generated from the process would be stored on-site until a suitable arrangement could be made for treatment at a TSDF. *Id.* The April 2005 REC also stated that the start-up was covered by the 2002 FEA and the 2002 FONSI, and was not considered "regionally significant" under 40 CFR 51.853(l). *Id.*

Further, that same month, April 2005, the CDC, issued its Review of the U.S. Army Proposal for Off-Site Treatment and Disposal of Caustic VX Hydrolysate from the Newport Chemical Agent Disposal Facility ("2005 CDC Report"). *Id.* Doc. No. 8. The 2005 CDC Report states the following:

CDC's review of the CVXH disposal plan examined several critical issues, including (1) potential health hazards associated with the waste produced at NECDF, (2) potential risks associated with transportation of the material from Indiana to New Jersey, (3) ability of the DuPont facility to adequately treat the CVXH in addition to the ability of NECDF to produce caustic VX hydrolysate meeting clearance criteria, and (4) potential ecologic [sic] impact associated with discharge of the DuPont-treated material into the Delaware River. Because CDC did not have the expertise to review DuPont's ecologic report, CDC requested assistance from [EPA], Region II.

*Id.* at 1. The 2005 CDC Report summarized its conclusions, in relevant part, as follows:

[W]hile the CDC found that the Army/DuPont proposal was sufficient to address critical issues in the areas of potential human toxicity, transportation, and treatment of CVXH (generated from recommended VX loading and stabilizer), EPA concluded that the information regarding the ecologic [sic] risk of treated CVXH discharge into the Delaware River was inadequate.

Consequently, CDC cannot recommend proceeding with the treatment and disposal at the DuPont SET facility until EPA's noted deficiencies are addressed.

*Id.* at 2. According to the 2005 CDC Report's summary, the EPA's concern was the adequacy of the risk assessment to the aquatic ecology from the discharge of treated CVXH into the Delaware River.

*Id.* Apparently this concern stemmed, in part, from the fact "that the 20 ppb clearance criterion for VC in [] CVXH is based 'solely on the protection of humans from a drinking water source and may not be protective of aquatic organisms through ingestion or dermal exposure.'" *Id.*

The 2005 CDC Report included as attachments certain documents upon which it relied in reaching its conclusions. *See id.* Attachs. 2-5. Of note, in preparing the 2005 CDC Report, the CDC relied upon the following three assessments: (1) Review of the Toxicology and Health Hazard Considerations for Safe Management of Newport (Indiana) Caustic VX Hydrolysate, by Agency for Toxic Substances and Disease Registry in collaboration with the CDC, November 3, 2004; (2) Review of the Transportation and Risk Management Provisions for Caustic VX Hydrolysate, by the

CDC in collaboration with the DOT, November 3, 2004; (3) Assessment of the Treatability of Caustic VX Hydrolysate at the DuPont Secure Environmental Treatment Facility, by Carmagen Engineering, Inc., in consultation with the CDC, November 3, 2004. *Id.* Attach. 2-4.

Based on its review of the relevant issues, the 2005 CDC Report concluded:

The potential human toxicity of the untreated CVXH predominantly is associated with its corrosive and caustic properties and not nerve agent effects, although low levels of VX and EA 2192 may be present in CVXH. The transportation plan meets DOT regulations, and precautions in the plan are adequate to protect the public and personnel. The database supports the position that CVCH produced with DIC-stabilized VX at the 8% VX agent loading level should meet the Army clearance criteria for VX and EA 2192. Loadings greater than 8% of DIC stabilized VX or any treatment of VX stabilized with DCC is not recommended until the treatment effectiveness is demonstrated and confirmed. Therefore, based on information provided for this review, only a portion of the Newport VX stockpile can be processed to meet clearance criteria. The technical review of the DuPont SET indicated it is a viable process and should be capable of treating the CVXH. EPA's ecologic [sic] analysis indicates the DuPont assessment does not contain information adequate to determine the ecologic [sic] risk from the discharge of treated CVXH to the Delaware River is acceptable. Consequently, CDC cannot recommend proceeding with the treatment and disposal at the DuPont SET facility until EPA's noted deficiencies are addressed.

*Id.* at 14.

Also in the administrative record is a report prepared by Science Applications International Corporation ("SAIC") for the Accelerated Aberdeen Chemical Agent Disposal Facility, CMA, on July 13, 2005, that evaluates the processing of Aberdeen Chemical Agent Disposal Facility ("ABCDF") mustard-agent-contaminated secondary waste by incineration at permitted commercial TSDFs. *Id.* Doc. No. 17. The report, entitled "Justification for Use of Commercial Incinerators for Disposition of Secondary Waste Generated at the Aberdeen Chemical Agent Disposal Facility" ("ABCDF Report"), used the EPA evaluation method to conclude that the mustard-agent secondary waste from ABCDF could occur in at least as safe a manner as in the Army's demilitarization facility

incinerators at a TSDf in Sauget, Illinois, or at a TSDf in Port Arthur, Texas. *Id.* at 18. The report did not make any conclusions with respect to VX-contaminated secondary waste, although it did mention the incinerability index for VX pursuant to EPA guidelines, citing a study dated January 3, 2003, conducted by the University of Dayton entitled, “Modeling of the Incinerability of Chemical Agents GB and VX.” *Id.* at 6-7. In general, the ABCDF Report stated that “chemical agents are much easier to incinerate than the Class 1 organic compounds normally used to demonstrate the [destruction and removal efficiency (“DRE”).” *Id.*

A draft of an Information Paper dated August 15, 2005, entitled, “Overview of Non-Stockpile Neutral Treatment Technology Assessments,” prepared by SAIC, also is in the administrative record. *Id.* Doc. No. 23.

On October 31, 2005, DuPont issued a report entitled, “The Fate of VX, EMPA, MPA, and Other Constituents in Newport Caustic Hydrolysate” (“2005 DuPont Report”), to address concerns of various government agencies and the public regarding the treatment of CVXH at DuPont’s Deepwater, New Jersey, facility. *Id.* Doc. No. 18, at 3. DuPont used a systems approach called Layers of Protection Analysis (“LOPA”), to conclude that CVXH safely could be transported to and treated by DuPont’s facility. *Id.* at 26-27.

By letter dated February 16, 2006, the EPA notified the director of NCEH/ASTDR “that based on extensive analysis of the information provided [by] and numerous discussions with DuPont, Army CMA and CDC staff, EPA believes that all of our previously identified ecological concerns have been resolved.” *Id.* Doc. No. 22. The letter specifically stated that

EPA anticipates the enclos[ed detailed discussion of its concerns and the DuPont and Army responses to them,] will be incorporated as an integral part of CDC’s report to Congress. It is important to note that our evaluation of project information was

premised on assurances by the CMA that the hydrolysate being shipped to DuPont will not contain detectable levels of VX and EA2192 (a toxic breakdown product that occurs during the treatment process) and will not be flammable.

*Id.* at 1.

In its July 2006 report to Congress (the “2006 CDC Report”), the CDC concluded that “all issues identified during the Phase I report have been addressed.” *Id.* Doc. No. 9, at 35. However, the 2006 CDC Report made the following recommendations:

- NECDF should continue to collect performance data on representative sampling, and provide them to CDC for review, to maintain statistical confidence that representative hydrolysate samples are being collected consistently over time and from varying hydrolysate batches.
- Considering the potential need to re-characterize the CVXH, NECDF needs to develop an effective means to adequately sample the storage containers. CDC believes there is a need to determine what impact, if any, long-term storage will have on the material’s characteristics and its conformance to the clearance criteria. In addition, DuPont will likely require new samples and analysis if storage of greater than one year occurs.
- EPA recommends that bioassessment studies be conducted in-stream by DuPont to establish baseline in-stream benthic macroinvertebrate and fish community structure in the vicinity, including downstream of the DuPont discharge, before CVXH processing begins.

*Id.* at 35 (highlighted box text).

On April 4, 2007, the Army issued another REC (“April 2007 REC”). *Id.* Doc. No. 5. The April 2007 REC stated, in relevant part, the following:

**Proposed Action**

The proposed action is to ship caustic waste water derived from the destruction of nerve agent VX at the Newport Chemical Agent Disposal Facility (NECDF). This action constitutes a normal/routine movement of hazardous waste to a permitted commercial Treatment, Storage and Disposal Facility (TSDF) as recognized by the Resource Conservation and Recovery Act (RCRA).



The proposed action qualifies for CX (h) 4 as published in Appendix B of 32 CFR Part 651 (AR 200-2) *Environmental Analysis of Army Actions*: Hazardous materials/hazardous waste management and operations; Routine management, to include transportation, distribution, use, storage, medical waste, radiological and special hazards (for example, asbestos, PCBs, lead-based paint, or unexploded ordinance), and/or hazardous waste that complies with Environmental Protection Agency (EPA), Army or other agency requirements.

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### **Reason for Using a Record of Environmental Consideration**

The proposed action qualifies for CX (h) 4 in Appendix B of AR 200-2 (32 CFR Part 651) *Environmental Analysis of Army Actions*. The proposed action satisfies the following screening criteria outlined in AR 200-2:

(1) The proposed action is to ship caustic waste water derived from the destruction of nerve agent VX at NECDF to a permitted, commercial TSDF. Originally all of the caustic waste water generated from the neutralization process was to be destroyed on site. However, because of the terrorist attacks of September 11, 2001, and because of the continuing and immediate threat of further attacks on the United States, President Bush declared a national emergency by Proclamation 7463 on September 14, 2001. In light of the national emergency, the Army determined that it is necessary for the stockpile of VX at NECDF to be destroyed expeditiously and in a manner that does not pose a threat to public health and the environment. Action was required to reduce the time for destroying the NECDF stockpile of agent VX. Accelerated destruction of the VX stockpile at NECDF contributes to improve[d] public safety by quickly removing the risks of continued storage of VX. A decision by the Army to delay disposal of the caustic waste water in order to continue to test and evaluate an on-site disposal process would add to cost and delay completion of disposal. Operations began in May 2005 thus reducing the risk of continued agent storage. The intended action is thus being accomplished. Therefore there is no segmentation.

(2) No exceptional circumstances exist with regard to the transport of caustic waste water. While there may be some public groups opposed to this type of action, the Army considered the following in determining that there is no substantial dispute as to the size, nature or effect of the proposed action. The NECDF hydrolysate is caustic and a DOT Class 8 (corrosive) shipping hazard due to the 4 percent sodium hydroxide it contains. This is what defines it as a hazardous waste. The disposal of the NECDF hydrolysate is a routine disposal of waste similar in characteristics to sodium hydroxide. There is no difference between the transportation and subsequent disposal of this

hydrolysate and sodium hydroxide. Sodium hydroxide is usually transported as a liquid. Its industrial strength is typically 50 percent. The liquid sodium hydroxide shipped into the NECDF for use in the neutralization process is in a 50 percent solution. The caustic waste water shipped from the NECDF is far less corrosive than the standard 50 percent solution commonly used by industries and routinely shipped on United States highways everyday.

According to the *National Biennial RCRA Hazardous Waste Report: Based on 2003 Data*, approximately 8.3 million tons of the 30 million tons of hazardous waste generated in the United States during 2003 is considered corrosive. The approximately 18,400 tons of caustic waste water generated at the NECDF would be less than or equal to 0.06 percent of the hazardous waste generated in the United States in 2003, and less than or equal to 0.22 percent of the total amount of corrosive hazardous waste generated that year. According to the 2002 Commodity Flow Survey released by the U.S. Census Bureau, U.S. Department of Commerce and the Bureau of Transportation Statistics, about 90 million tons of the more than 2.1 billion tons of hazardous materials transported in the United States was hazard Class 8 (corrosive). The NECDF shipment of hydrolysate will increase the shipment of hazard Class 8 (corrosive) materials in the United States by 0.02 percent.

(3) The U.S. Army routinely ships hazardous waste off site to permitted, commercial TSDFs. In the Department of Defense's Fiscal Year 2006 Annual Report to Congress, the Army reported transporting 24,000,000 pounds of hazardous waste to TSDFs. Six million gallons of hydrolysate derived from the destruction of mustard agent at the Aberdeen Chemical Agent Disposal Facility was shipped off site to a commercial TSDF in more than 1300 trucks without any spills or accidents. The waste water was shipped as routine waste. A Record of Environmental Consideration was prepared citing CX (h) 4 in Appendix B of AR 200-2 (32 CFR Part 651) *Environmental Analysis of Army Actions*.

Initially, the Army sought to transport the NECDF hydrolysate to a Dayton, OH[,] TSDF. This facility could not obtain the necessary permits to dispose of the waste water that were determined necessary in the NECDF 2002 EA. There were also environmental justice concerns regarding minority and impoverished populations surrounding the Dayton, OH[,] facility. The Army then considered transporting the NECDF hydrolysate to a Deepwater, NJ[,] facility for destruction. Due in part to concerns from the local communities about the potential impact of the liquid effluent from the biotreatment facility into the Delaware River the CDC and the EPA prepared a report, "*Review of the U.S. Army Proposal for Off-Site Treatment and Disposal of Caustic VX [H]ydrolysate from NECDF.*" The Army began analyzing this potentially

significant new information to determine if it needed to supplement the NECDF 2002 EA. The Army's experience and environmental analysis with the destruction of VX and derived waste has been using incineration. The proposal to use DuPont involved the use of a biotreatment facility and raised concerns regarding the Delaware River and the discharge of effluent into the estuary. The analysis was discontinued when the Deepwater, NJ[,] facility announced it would not be able to obtain the necessary permits to accept the hydrolysate, and would therefore not participate in the proposal.

The TSDFs being considered operate a fully-permitted incinerator capable of destroying the NECDF caustic waste water and will not have to modify [their] permits in order to accept and destroy the NECDF caustic waste water. There will not be any liquid discharge from the incineration process at the TSDFs being considered. To date the Army's Chemical Material Agency (CMA) has safely incinerated over 2000 tons of nerve agent VX. In addition to VX, CMA has routinely incinerated large quantities of VX decontamination solution generated from decontaminated VX contaminated buildings, structures and equipment [sic].

*Id.* at 1-4. The April 2007 REC then referred to several umbrella NEPA documents in support of its decision including a July 1986 Draft Programmatic Environmental Impact Statement ("July 1986 DPEIS"), a January 1988 Final Programmatic Environmental Impact Statement ("January 1988 FPEIS"), the February 26, 1988, ROD, the April 1998 draft Environmental Impact Statement for NECDF ("1998 DEIS"), the December 1998 FEIS, and the February 1999 ROD. *Id.* at 5. In addition, the April 2007 REC stated:

In July 2002, the Army published an environmental assessment titled "*Accelerated Neutralization of Chemical Agent and Off Site Shipment of Liquid Process Effluents at the Newport Chemical Agent Disposal Facility*". [sic] This document was prepared to supplement the final FEIS. It considered in detail the potential environmental consequences of advances in accelerating the neutralization process and in the secondary treatment and/or transport and off site disposal of the caustic waste water/hydrolysate. A Finding of No Significant Impact was issued in October 2002.

*Id.* at 5-6. The April 2007 REC also cited the RCRA permit at NECD, the July 2006 CDC Report on the Army's proposal for off-site treatment of CVXH, the DuPont 2004 Assessment, and the NRC study. *Id.* at 6.

The author of the April 2007 REC concluded:

I have determined in accordance with Army Regulation 200-2, Environmental Effects of Army Actions, and Title 40 Code of Federal Regulations, Part 1502.9(c), the Army's plan to ship caustic waste water from the facility at Newport to a TSDF, will create no significant environmental impacts. There is no new information or circumstances that would require supplementation of previous NEPA documents.

*Id.* at 6. The April 2007 REC was signed by Jeffery Brubaker ("Brubaker"), Site Project Manager, NECDF, and Lieutenant Colonel, Brian M. Lynch ("LTC Lynch"), Commander, NECD. *Id.*

Brubaker testified at the Preliminary Injunction Hearing that he reviewed and approved the April 2007 REC; however, other government staff prepared the document. Hr'g Tr. at 102.

On April 9, 2007, LTC Lynch sent a letter (the "NECDF 2007 letter") in response to a December 12, 2006, letter from IDEM concerning the transportation of CVXH from NECDF. Admin. R. Doc. No. 6. The NECDF 2007 letter, and its attachments, incorporated information provided to both IDEM and the Indiana Department of Homeland Security ("IDHS"), over the prior several months. *Id.* "In addition, a Transport Safety Plan, April 4, 2007, for the possibility of off-site hydrolysate transport ha[d] been prepared to fulfill the requirements of [Indiana Code §] 13-22-7.5 and [that] plan [was] also attached." *Id.*, Attach. 2, Apr. 4, 2007, Trans. Safety Plan & Risk Eval. for Shipment of NECDF Caustic Hydrolysate.<sup>6</sup> The main attachment to the NECDF 2007 letter was

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<sup>6</sup>The Court notes that the attachments to the April 2007 letter specifically state that data contained in the documents "shall not be disclosed, used or duplicated in-whole or in-part for any purpose." Admin. R. Doc. No. 6, Attachs. at footer (stating "[t]his document contains information that is EXEMPT FROM MANDATORY DISCLOSURE under the Freedom of Information Act (FOIA). Exemption 4 applies. (5 U.S.C. 552)").

a memorandum of sorts addressed to LTC Lynch that spoke to IDEM's transportation concerns, including the pertinent properties of CVXH. *Id.*, Attach. 1.

There are two e-mail messages in the administrative record dated April 17, 2007, that purport to reflect the amount of waste shipped from Indiana to Texas for certain years during the period between 1991 and 2005. *Id.* Doc. Nos. 29 & 30.

Also in the administrative record and, apparently, generated from IDEM's website on April 20, 2007, is IDEM's Permit Guide for generating hazardous waste and shipping it off site. *Id.* Doc. No. 28.

On May 18, 2007,<sup>7</sup> the CMA published its "Transport Safety Plan and Risk Evaluation for Shipment of NECDF Caustic Hydrolysate" ("Army TSP"). *Id.* Doc. No. 39. It is the first time the Army disclosed, in the public portion of the administrative record, that it planned to ship CVXH from NECDF to Veolia's facility in Port Arthur, Texas. *Id.* at 1. The plan specifically stated that "[p]rocedures and information in this plan demonstrate NECDF's compliance with Indiana Code [§] 13-22-7.5, Transportation of Chemical Munitions, which applies to the shipment of Newport caustic hydrolysate (NCH) to an off-site commercial treatment, storage, disposal facility (TSDF)." *Id.* The TSP recommended a single route from Newport, Indiana, to Port Arthur, Texas. *Id.* at 8. It specifically identified the dangers to land, air, and water if an accident were to occur during transit. *Id.* at 7-9. It also assessed the risks associated with, and ways to prevent, a minor leak from valve assemblies on the containers used for transport. *Id.* at 11. The Army TSP also included a Material Safety Data Sheet ("MSDS") for CVXH. *Id.* App. B. The MSDS reported that "[t]esting established

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<sup>7</sup>The Court notes that the instant law suit was filed on May 8, 2007, seeking injunctive relief.

that this hydrolysate was not a Department of Transportation (DOT) Class 6.1 (Poison) toxic per 49 CFR but it was corrosive and capable of destroying skin and producing tissue injury.” *Id.* The MSDS also disclosed the “non-detect” limits for VX and EA2192 in CVXH. *Id.*

On June 8, 2007, Veolia submitted its own TSP (the “Veolia TSP”). *Id.* Doc. No. 40. The Veolia TSP stated that it “was written to comply with Indiana Code [§] 13-22-7.5, and all applicable USDOT requirements.” *Id.* at 4. The plan accounted for environmental contamination risks associated with an accident or a leak. *Id.* 9-15.

On June 18, 2007, the Army issued another REC (“June 2007 REC”). *Id.* Doc. No. 42. The June 2007 REC purported to address the issues raised by a letter dated April 18, 2007 (“Plaintiffs’ April 2007 letter”), sent to the NECD commander, and IDEM, from Mr. Mick Harrison, Esq., who represents Plaintiffs in this suit. *Id.* at 2. In short, the Plaintiffs’ April 2007 letter raised questions about information Plaintiffs had learned about detection of VX and/or EA2192 in CVXH at NECDF at concentrations higher than the method detection limits referenced in all of the Army’s prior release data. *Id.* The Plaintiffs’ April 2007 letter requested that the Army stop further shipments of CVXH until the allegedly new risks of harm to human health and the environment could be properly evaluated. *Id.*

The June 2007 REC specifically addressed the concerns raised in the Plaintiffs’ April 2007 letter as follows:

. . . IDEM has regulatory oversight of the U.S. Army’s activities at NECD. . . . IDEM responded to Mr. Harrison’s letter on April 20, 2007[,] that hydrolysate has been properly characterized at the point of generation, as is required. Each batch of hydrolysate for which IDEM has conducted analytical review has been verified as non-detect for VX, using acceptable methodologies and meets all applicable state and federal requirements. Furthermore, hydrolysate contains an excess of sodium hydroxide, as a conservative safeguard[,] to destroy any trace amounts of VX that

might be present in either the aqueous or organic layers of hydrolysate during storage.

On April 24, 2007[,] the U.S. Army Chemical Materials Agency (CMA) sent the Science Application International Corporation Program Manager supporting the US [sic] Army CMA to NECDF to review the sampling records and data of ISO containers used for storage and [to] inquire into the allegations that VX and EA2192 had been detected in hydrolysate. From the outset, it should be noted that all batches of hydrolysate from the reactors must clear the requirements for non-detect for VX and EA2192 at less than the MDL which must be less than 20 ppb or 1 ppm, respectively. Hydrolysate that does not meet these criteria is sent back to the reactor for further processing, resampling, and reanalysis for clearance prior to storage. No batch of hydrolysate has been sent to storage without the sample analysis meeting these clearance criteria. Review of sampling records did not identify any post-clearance data at or above 50 ppb VX in hydrolysate.

In addition, the Government NECDF Field Office staff reviewed all of the records of sampling for any spills and leaking containers. Out of a total of 202 containers, there have only been nine that had leaks. In fact, these were not actual leaks, but instead the containers involved had seepage from the valve area. Eight of those containers were drained and the contents transferred to another container. For the final occurrence, the valve was fixed. Several different ISO container suppliers have been used at NECDF, but none of the seepages were [sic] attributable to Eurotainers; NECDF has switched to the use of that vendor as the sole source supplier for all future ISO containers to be filled.

There were only two readings in the records for material that was not rejected and reprocessed. Only two readings above the VX and EA2192 MDL were determined to exist in the records: (1) the first was for VX in rinsate collected after a spill of material in the loading arm, and (2) the second was for EA2192 in liquid collected from a seeping ISO container valve.

In the first case, the spill material was cleaned up per established procedures with the final rinse sample collected. Analysis of this sample showed a VX concentrate of 27 ppb. However, there was no ethyl methylphosphonic acid (EMPA) or methylphosphonic acid (MPA) detected in the sample. This result is not consistent with VX in hydrolysate because, for VX to really be present, EMPA and MPA would also have to be present. There is no explanation for the presence of VX in the absence of these higher concentration byproducts of VX destruction (i.e. EMPA and MPA). So, the VX response observed must be an interferent. The gas chromatograph-flame photometric detection method used for waste screening is sensitive to VX but is not specific to this compound and therefore provides a worst-case analysis. The detector will respond to other substances containing phosphorous that elute from the gas chromatograph at the VX retention time. If VX is present it

will be detected. However, due to the non-selective nature of the instrument, interferences with this method are possible. If interferences are present they will cause an apparent VX instrument response, which was the likely cause with this reading. It should be noted that analysis of VX in hydrolysate for clearance to ISO container storage is accomplished using a more VX-specific analytical technique involving a gas chromatograph-ion trap mass spectrometer.

For the second case involving the seepage from the ISO container valve, the results in the record indicate an analytical impossibility of a high EA2192 reading with very low EMPA, MPA and N,N-diisopropylaminoethane thiol (thiolamine). These characteristics of the material in the record indicate that the material analyzed was not hydrolysate. Subsequent analysis of the hydrolysate sampled from the ISO containers storing the hydrolysate that spilled in the loading arm and the hydrolysate from the seeping ISO container demonstrated non-detect for VX and EA2192. In reviewing all the data, there have been no readings of VX or EA2192 exceeding the clearance criteria with regard to any hydrolysate stored in the ISO containers, much less any certified for shipment.

To validate previously generated data which confirms no hydrolysate has been transferred to ISO containers that does not meet the non-detect clearance criteria, six ISO containers were sampled and analyzed for VX and EA2192 the week of May 28, 2007. The Project Manager for Chemical Stockpile Elimination identified three ISO containers to be sampled: (1) The oldest stored container in the Hydrolysate Intermodal Container Storage Yard (HICSY), generated in February 2006 ([h]ydrolysate produced prior to Feb 06 [sic] is stored inside the Chemical Limited Area of the NECDF); (2) The ISO container that now contains the hydrolysate from the ISO container that was involved in the loading arm incident in May 2006; and (3) The ISO container that now contains the hydrolysate that was transferred from the leaking valve generated in July 2006. To validate that a random set of ISO containers would also yield similar results, [the Indiana Department of Environmental Management's ("IDEM's")], Mr. Tom Linson, was asked to select three ISO containers for sampling. Mr. Linson asked that two containers greater than a year old be sampled and one container that was six months old be sampled. Using these criteria, ISO containers generated in March, April and December 2006 were selected for sampling. A procedure for sampling the ISO containers using a Composite Liquid Waste Sampler (COLIWASA) tube was developed and validated. All six ISO containers were sampled and tested for VX and EA2192 and all were non-detect for these compounds thereby validating the previous clearance records. These data substantiate the fact that in excess caustic[,] VX can not and does not form in the ISO containers over time. These findings are also supported, as previously documented, by the National Research Council and program office files.



The possibility of theft of hydrolysate and subsequent reformation of VX was not considered previously, because this scenario is too remote. The [CWC] and implementing regulations address this possibility by limiting the amount of precursor chemicals that can be transported. The CWC contains restrictions for the export or import of certain scheduled chemicals. These are referred to as schedule 2 chemicals. These requirements have been implemented in the Export Administration Regulations (EAR) and the CWC Regulations. Certain mixtures are also controlled, in part, to prevent such mixtures from being used as a precursor to the formulation of prohibited agent. EMPA, MPA, and thiolamine are CWC treat-defined schedule 2 compounds that may be found in hydrolysate. It is conceivable that these compounds, if extracted from hydrolysate, could be used to produce agent. This is not a reversal of the destruction process. It would take a chemical manufacturing process to accomplish agent production from these chemicals. This would be a very impractical way to produce agent. To preclude this possibility, the CWC observers track these hydrolysate schedule [2] compounds through the transportation and destruction process. The EAR exempts mixtures containing schedule 2 chemicals if the concentration of each schedule 2 chemical in a mixture is 30 percent or less by weight. As described in the [MSDS], the hydrolysate contains concentrations less than 30 percent by weight of EMPA, MPA and thiolamine. Accordingly, even if hydrolysate were to fall into the hands of terrorists, there is not a sufficient quantity of waste that could be converted into VX.

*Id.* at 2-5.

The June 2007 REC used the same rationale as the April 2007 REC for not performing an EIS or EA. *Id.* at 5-6. Specifically, the Army cited the classification of CVXH as a hazardous waste and its own screening criteria for manufacture and transportation of such wastes. *Id.* at 5 (citing “CX (h) 4 in Appendix B of 32 CFR Part 651 (AR 200-2)”). The June 2007 REC also cited to several studies in which “[t]he Army ha[d] determined . . . that the VX will not reform, and [it] maintains the wastewater in a reactive matrix consisting of 4% sodium hydroxide that would destroy any VX . . . .” *Id.* at 6 (citations to reports omitted).

The administrative record also contains three undated documents generated by the CMA. *Id.* Doc. Nos. 10-12. The first document is entitled “Newport Chemical Agent Disposal Facility: *Caustic hydrolysate (caustic wastewater) facts*,” (the “CMA CVXH facts document”). *Id.* Doc. No.

10. This document explained the characteristics of the CVXH produced at NECDF, and the toxicity of the combined compounds (“EA-22192, [sic] EMPA, MPA and thiolamine”). *Id.* With respect to toxicity, the document stated:

The dermal and oral toxicity of caustic wastewater was evaluated in February 1999. This testing established that hydrolysate qualified as a corrosive capable of damaging skin and producing gastrointestinal injury, as would be expected from similar caustic solutions. Splash protection and respiratory protection from caustic vapors is needed when handling hydrolysate.

*Id.* The CMA CVXH facts document stated that “[t]he Army is exploring all possibilities for hydrolysate treatment, including on- and off-site options.” *Id.*

The second document is entitled “Analyzing caustic hydrolysate,” (“CMA Analyzing CVXH document”). *Id.* Doc. No. 11. This document described how chemical neutralization at NECDF works, explained the method detection limit criteria for removal of CVXH from NECDF, and explained the Army’s methodology for setting the method detection limit criteria. *Id.* The CMA Analyzing CVXH document concluded:

The analytical instruments used at NECDF are capable of detecting VX in liquid wastewater far below the 80 ppb [U.S. Army Center for Health Promotion and Prevention Medicine limit] determined to be safe. In the case of detecting for VX in the hydrolysate, the extremely sensitive instruments can detect if agent is or is not present above the MDL of 20 ppb. After achieving a non-detect for agent, the destruction process is complete.

*Id.*

The third undated document is entitled “Hydrolysate Transportation Facts, *U.S. Army Chemical Materials Agency (CMA) and Hydrolysate*,” (the “CMA CVXH Transportation Facts sheet”). *Id.* Doc. No. 12. The CMA CVXH Transportation Facts sheet stated that the corrosive nature of the CVXH did not represent a new and unusual transportation risk. *Id.* The information

sheet specifically compared shipment of CVXH to that of sodium hydroxide and provided data about the Army's proposed transportation of CVXH from NECDF to DuPont's facility in New Jersey. *Id.* In addition, the CMA CVXH Transportation Facts sheet cited the 2005 CDC Report, which stated that "[t]he Army's proposed transportation plan meets DOT regulations," and that "[p]recautions in the plan are adequate to protect the public, workers and the environment." *Id.* The information sheet concluded:

[T]he safety standards and records of hazardous materials shipping demonstrate that the Army's proposal to ship caustic wastewater from Indiana to New Jersey is reasonable as well as scientifically sound.

CMA is committed to the safe off-site shipment and treatment of the caustic wastewater from the Newport site. Off-site shipment is legal, safe, cost-effective and efficient. It meets the existing treaty, federal and state laws [sic] and regulations.

*Id.*

Plaintiffs have made factual averments that are outside of the administrative record. The Court addresses those averments in the discussion portion of its analysis.

## **B. NEPA & DAA STANDARD OF REVIEW**

NEPA is designed "to 'prevent or eliminate damage to the environment and biosphere' by focusing Government and public attention on the environmental effects of proposed agency action." *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 371 (1989) (quoting 42 U.S.C. § 4321). NEPA requires that an agency disseminate information about its proposed action such that the public and other government agencies may react to the effects of the proposed action in a meaningful time frame. *Id.* (citing *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)).

[A]lthough “it would make sense to hold NEPA inapplicable at some point in the life of the project, because the agency would no longer have a meaningful opportunity to *weigh* the benefits of the project versus the detrimental effects on the environment,” up to that point, “NEPA cases have generally required agencies to file environmental impact statements when the remaining governmental action would be environmentally ‘significant.’”

*Id.* at 371-72 (quoting *TVA v. Hill*, 437 U.S. 153, 188 n.34 (1978)).

The regulations that implement NEPA, written by the Council on Environmental Quality (“CEQ”), require a supplement to an EIS or an EA if there “are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.”

40 C.F.R. § 1502.9(c). Similarly, the corresponding Army regulation that implements NEPA states:

(1) Supplemental NEPA documentation is required when:

(i) The Army makes substantial changes in the proposed action that are relevant to environmental concerns; or

(ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impact.

(2) This review requires that the proponent merely initiate another “hard look” to ascertain the adequacy of the previous analyses and documentation in light of the conditions listed in paragraph (g)(1) of this section. If this review indicates no need for new or supplemental documentation, a REC can be produced in accordance with this part. Proponents are required to periodically review relevant existing NEPA analyses to ascertain the need for supplemental documentation and document this review in a REC format.

32 C.F.R. § 651.5. An agency must apply these standards using a “rule of reason” approach. *See Marsh*, 490 U.S. at 373. “Application of the ‘rule of reason’ . . . turns on the value of the new information to the still pending decisionmaking [sic] process.” *Id.* at 374.

There are actions that are categorically excluded from the EIS process. *See* 40 C.F.R. § 1508.9; 23 C.F.R. § 771.115; *Ind. Forest Alliance, Inc. v. U.S. Forest Serv.*, 325 F.3d 851, 856 (7<sup>th</sup> Cir. 2003). The Army defines these so-called “categorical exclusions” as

actions that normally do not require an EA or an EIS. The Army has determined that they do not individually or cumulatively have a substantial effect on the human environment. Qualification for a [categorical exclusion] is further described in Subpart D and Appendix B of this part. In accordance with § 651.29, actions that degrade the existing environment or are environmentally controversial or adversely affect environmentally sensitive resources will require an EA.

32 C.F.R. § 651.5. Further, the Army includes in its list of categorical exclusions certain hazardous materials/hazardous waste management operations. 32 C.F.R. § 651.28. Specifically, the Army lists as a categorical exclusion the following:

Routine management, to include transportation, distribution, use, storage, treatment, and disposal of solid waste, medical waste, radiological and special hazards (for example, asbestos, PCBs, lead-based paint, or unexploded ordinance), and/or hazardous waste that complies with EPA, Army, or other regulatory agency requirements. This [categorical exclusion] is not applicable to new construction of facilities for such management purposes.

*Id.* § 651.28(h)(4).

The Court’s review of the Government’s decision-making process under either NEPA or the DAA is limited by the Administrative Procedures Act (the “APA”). 5 U.S.C. §§ 702, 704. Under the APA, the Court may “set aside agency action only if it is ‘arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law.’” *Highway J Citizens Group v. Mineta*, 349 F.3d 938, 952 (7<sup>th</sup> Cir. 2003) (quoting 5 U.S.C. § 706(2)(A)). The Court must only ask “whether the decision was based on consideration of the relevant factors and whether there has been a clear error of judgment.” *Marsh*, 490 U.S. at 478. The Court must give deference to an agency’s factual findings when it decided whether or not the environmental impacts of its actions were significant.

*Id.* In other words, the Court may not “substitute its own judgment for that of the agency as to the environmental consequences of its actions.” *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). The Seventh Circuit has stated that “[t]he only role’ for a court in applying the arbitrary and capricious standard in the NEPA context ‘is to [e]nsure that the agency has taken a “hard look” at environmental consequences.’” *Highway J Citizens Group*, 349 F.3d at 953 (quoting *Kleppe*, 427 U.S. at 410 n.21).

Under the APA a Court’s review is generally limited to the administrative record before the agency when it made its decision. *See Camp v. Pitts*, 411 U.S. 138, 142 (1973). However, if the agency record fails to explain the administrative action such that judicial review is frustrated, the Court may “obtain from the agency, either through affidavits or testimony, such additional explanation of the reasons for the agency decision as may prove necessary.” *Id.* at 142-43.

## C. ANALYSIS

### 1. **Count 10: Whether the Government Violated the DAA by the Interstate Transport of VX & VX Precursor Compounds**

In Count 10 of their Complaint, Plaintiffs contend that the Government violated the DAA by transporting VX and VX precursor compounds across state boundaries when it transported CVXH from NECDF in Newport, Indiana, to Veolia in Port Arthur, Texas. Specifically, Plaintiffs assert that CVXH contains VX and VX precursor compounds at measurable levels; therefore, the Government is transporting chemical munitions as that term is understood in the DAA and the CWC. The Government denies that it violated the dictates of the DAA in any way.

The DAA states that the Government may not transport

any chemical munition that constitutes part of the chemical weapons stockpile out of the State in which that munition is located on October 5, 1994, and in the case of any such chemical munition not located in a State on October 5, 1994, may not transport any such munition into a State.

50 U.S.C. § 1512a(a). Furthermore, the DAA requires that the Government destroy its stockpile of lethal chemical agents and munitions that existed on November 8, 1985, in “adequate and safe facilities designed solely for the destruction of lethal chemical agents and munitions.” *Id.* § 1521(c)(1)(B). Moreover, “[f]acilities constructed to carry out this [destruction] may not be used for a purpose other than the destruction of the stockpile of lethal chemical agents and munitions that exist[ed] on November 8, 1985.” *Id.* § 1521(c)(3)(A). The DAA defines “lethal chemical agent and munition” as “a chemical agent or munition that is designed to cause death, through its chemical properties, to human beings in field concentrations.” *Id.* § 1521(j)(2). Moreover, the Act defines “destruction . . . with respect to chemical munitions or agents” as either “(A) the demolition of such munitions or agents by incineration or by any other means; or (B) the dismantling or other disposal of such munitions or agents so as to make them useless for military purposes and harmless to human beings under normal circumstances.” *Id.* § 1521(j)(3). Put another way, “On or after October 7, 1970, no chemical or biological warfare agent shall be disposed of within or outside the United States unless such agent has been detoxified or made harmless to man and his environment unless immediate disposal is clearly necessary, in an emergency, to safeguard human life.” *Id.* § 1518.

The Court agrees with the Government that its transport of CVXH from Newport, Indiana, to Port Arthur, Texas, did not violate 50 U.S.C. § 1512(a) because CVXH is not a munition. A munition is a “material used in war for defense or attack . . . .” WEBSTER’S THIRD NEW INT’L

DICTIONARY 1488 (Merriam-Webster Inc. 1981). This definition is consistent with the use of the term “munitions” in other defense-related statutes and case law interpreting defense-related statutes. *See, e.g.*, 22 U.S.C. § 2778 (defining “Munitions List” to include “defense articles”); *United States v. Rosenberg*, 150 F.2d 788, 790 (2d Cir. 1945) (equating “munitions” with “supplies of war”); *In re Charge to Grand Jury*, 4 Blatchf. 518, 30 F. Cas. 1032, 1034 (C.C.N.Y. 1861) (defining the “giving aid . . . to our enemies” portion of 18 U.S.C. § 2381 for the crime of treason in part by “furnishing them with arms or munitions of war”). The administrative record reflects that CVXH is not a material used in war for defense or attack, rather it is a caustic hydrolysate. Admin. R. Doc. No. 8, at 14. Moreover, the record reflects that hydrolysate acts like corrosive not like either VX or precursors to VX. *Id.* Doc. No. 39, at 7-11 & App. B.

Likewise, the Court agrees with the Government that its transport of CVXH from Newport, Indiana, to Port Arthur, Texas, does not violate 50 U.S.C. § 1521 because VX is destroyed at NECDF, a facility designed for such purpose, and turned into CVXH. CVXH is useless as a weapon at the time of transport and is harmless to human beings under normal circumstances. As reflected in the administrative record, CVXH is the wastewater byproduct of the destruction of VX in the hydrolysis process. *Id.* Doc. Nos. 1, 8, 39. The Government has studied the properties of CVXH and has found them to satisfy the criteria for hazardous waste, which is commonly transported and harmless to human beings under normal circumstances. *Id.* Doc. Nos. 3, 16. Plaintiffs’ allegation that Veolia’s incineration of CVXH must also meet the requirements of § 1521(c) are without merit because, according to the administrative record, the VX is detoxified at NECDF using the hydrolysis process. *Id.* Doc. No. 3.



For the same reasons, the Government's transport of CVXH from Newport, Indiana, to Port Arthur, Texas, is not regulated by 50 U.S.C. § 1518. CVXH is not a chemical or biological warfare agent; it is a wastewater byproduct of the destruction of VX via the hydrolysis process. *Id.*

The requirements of the CWC do not help Plaintiffs' claim. Under the CWC, a "chemical weapon" may include "toxic chemicals and their precursors, except where intended for purposes not prohibited under the Convention." Convention, Art. II(1)(a). Nothing in CVXH is intended for purposes prohibited under the CWC, namely the production or use of a chemical weapon. Rather, CVXH is the resultant waste product of the hydrolysis of VX. Admin. R. Doc. Nos. 3, 8. Although the United States cannot claim credit for destruction of VX under the CWC until it is converted to a "form unsuitable for production of chemical weapons" and the Government has stated that it will not take credit for the destruction of VX until the CVXH is incinerated, this requirement of the CWC has no bearing upon whether or not the Government has violated the DAA by shipping CVXH from Indiana to Texas. The Government's statutory obligations under the DAA are different. Moreover, the relevant part of CWC is the requirement that a nation dispose of its chemical weapons in compliance with applicable laws and in a manner that protects the public and the environment. Convention, Art. IV § 10. As discussed above, the Government complied with the applicable laws, namely the DAA, by the hydrolysis of VX at NECDF, the categorical exclusion of CVXH as a hazardous waste, and the properties of the CVXH as a material unsuitable for use as a weapon at the time of transport.

In short, the Court cannot agree with Plaintiffs that the Government's plan for the destruction of VX at NECD, the shipment of CVXH to Texas, and the incineration of the CVXH at Veolia arbitrarily or capriciously ignored the dictates of the DAA. Therefore, Plaintiffs' Motion for Partial

Summary Judgment as to their claim under the DAA is **DENIED** and Defendants' Cross Motion for Summary Judgment on that claim is **GRANTED**.

## **2. Count 3: Decision to Ship Off Site versus On-Site SCWO**

Plaintiffs claim that the Government violated its obligations under NEPA when it failed to supplement the 1998 FEIS and 2002 FEA, and when it failed to provide for public participation, because significant new information regarding reasonable alternatives to its proposed actions became available. More specifically, Plaintiffs assert that the Government's secondary decision to ship CVXH off-site for disposal and to use Veolia as the final disposal site in light of new information it received in late 2004 or early 2005 from Parsons regarding the availability of SCWO, either on-site or in-state, violated NEPA's requirement to supplement the early 1998 FEIS and the later 2002 FEA. In other words, by failing to supplement either document when it learned of Parsons' proposal, it failed to take the required "hard look" at the environmental impact of its decision to ship CVXH off-site.

The Government contends that it did not need to supplement the 1998 FEIS and the 2002 FEA or provide for a public comment period to account for Parsons' proposed SCWO treatment options near or at NECDF because the Army never changed its proposal to ship CVXH off-site and the environmental impact of this option had already been considered in the prior NEPA documents. Moreover, the Government avers that the SCWO option had already been considered in its NEPA analysis; therefore, Parsons' new proposal was just a variation of a theme that already had been considered. Furthermore, the Government argues that it properly characterized CVXH as a

hazardous waste; therefore, it properly excluded from a NEPA analysis the shipment of that waste off site for eventual disposal at a permitted TSD facility like Veolia.

The Court agrees with the Government that it did not need to supplement its 1998 FEIS or the 2002 FEA, or provide an additional comment period when Parsons approached it with alternative SCWO processes for treatment of CVXH at or near NECDF in December 2004 and January 2005. The administrative record reflects that the original NEPA documents considered the on-site treatment of CVXH versus shipment of CVXH off-site to a permitted TSD facility. Admin. Rec. Doc. Nos. 1, 3, 27. In fact, the process considered in the analysis was SCWO. *Id.* Doc. No. 3. The 2002 FEA abandoned the SCWO process option in favor of shipment of CVXH to a permitted TSD facility because of difficulties with the SCWO process. *Id.* at § 1. The supplemental administrative record documents merely confirm that the SCWO process had many unresolved issues and there is nothing new in the administrative record as a whole to trigger the Government's further environmental review of the Parsons proposal.

Moreover, there was nothing new in the Parsons proposal that warranted public disclosure. Rather, the supplemental administrative record reflects the Government's decision to proceed with its plan to send CVXH off-site to a permitted TSD facility, unless the CDC did not approve this plan. Supp. Admin. R. Doc. Nos. 1, 1a & 2. Nothing in the supplemental administrative record reflects the Government's desire to move forward with any of Parsons' proposal. The documents actually reflect a rejection of the proposal because it was not comprehensive and it would be difficult to get appropriate approvals for the relevant expenditures. *Id.* Doc. Nos. 16, 21. Furthermore, the SCWO process had already been considered by the Government in its earlier NEPA analysis. Admin. R. Doc. Nos. 1, 3. The administrative record reflects that the Government rejected an on-site SCWO

process over a plan to ship CVXH off-site to a permitted TSDF for ultimate disposal. *Id.* Doc. No. 3. There was no reason to disclose the Parsons proposal in light of these findings that were already publically disclosed and merely awaiting CDC approval. The plan proposed in the 2002 FEA was the one that the Government implemented when it began shipments of CVXH to Veolia.

The Court also finds unpersuasive Plaintiffs' argument that the Government's secondary decision to switch the TSDF from DuPont's Deepwater, New Jersey, facility to Veolia's Port Arthur, Texas, facility required a supplemental EIS and EA, along with a public comment period. As the Court discussed at length in its analysis of Plaintiffs' NEPA claims at the preliminary injunction phase of this law suit, the administrative record reflects that the Government took the necessary "hard look" at the nature of the CVXH and correctly determined that it was a hazardous waste. *See Sierra Club v. Gates*, 199 F. Supp. 2d 1101, 1128-31 (S.D. Ind. 2007) (citing Admin. R. Doc. Nos. 37, 38, 42). As such, CVXH is categorically excluded from the type of material for which NEPA required the Government to supplement its 1998 FEIS or its 2002 FEA when it decided to ship the hydrolysate to Veolia rather than to DuPont. 40 C.F.R. § 1508.9; 23 C.F.R. § 771.115; 32 C.F.R. § 651.5; 32 C.F.R. § 651.28(h)(4). In addition, the administrative record reflects that the Government and Veolia took necessary steps to ensure that the environmental and human health hazards associated with transport of CVXH from Newport, Indiana, to Port Arthur, Texas, were minimized. *Id.* Doc. Nos. 6, 15, 16, 39, 40. Further, the Government disclosed its plan to the public and addressed their concerns through two REC's issued April 4, 2007 and June 18, 2007. *Id.* Doc. Nos. 5, 42.

For these reasons, the Court concludes that Plaintiffs' Motion for Partial Summary Judgment on Count 3 of their Complaint must be **DENIED**; Defendants' Cross Motion for Summary Judgment on Count 3 of Plaintiffs' Complaint is **GRANTED**.

### **3. Count 2: Increased VOC Emissions & Other Processing Issues**

In Count 2 of their Complaint, Plaintiffs contend that the Government violated NEPA when it failed to update its 1998 FEIS and its 2002 FEA in light of certain processing facts and/or problems that arose during the start-up phase of hydrolysis of the VX at NECDF. Namely, Plaintiffs assert that the Government should have supplemented its NEPA analysis in light of at least two sets of process surprises: (a) when it discovered that the VOC emissions from the processing facility were higher than the expected level and required a new permit; and (b) when it discovered that there might be higher levels of VX in the CVXH because of process configurations and/or storage configurations. Plaintiffs assert that both of these issues were significant environmental concerns that should have prompted the Government to supplement its NEPA analysis and to reconsider its decision to ship CVXH off-site rather than treat it on-site with SCWO. In other words, the Government violated NEPA when it failed to supplement the 1998 FEIS and the 2002 FEA in light of significant process changes and the subsequent environmental impact of those changes on its decision to neutralize VX through hydrolysis and to ship the resulting CVXH hazardous waste to a properly permitted TSDF.

The Court addressed at length in its Order on Plaintiffs' Motion for Preliminary Injunction this aspect of Plaintiffs' Complaint. *Sierra Club v. Gates*, 499 F. Supp. 2d 1101, 1128-31 (S.D. Ind. 2007). The Court hereby incorporates by reference the entirety of that discussion. To the extent that

the Court relied upon evidence outside the administrative record to make its earlier decision, the Court deems admitted for purposes of the instant motion those parts of the transcript from the hearing on Plaintiffs' Motion for Preliminary Injunction to which the Court's prior opinion refers. The Court notes that, in large part, Plaintiffs' argument that the Government's failures with respect to the processing issues it encountered at NECDF amounts to a substitution of Plaintiffs' judgment that on-site SCWO processing is more environmentally sound than the Government's chosen course of action. This is not the issue. The question is whether the Government's decision considered "the relevant factors and whether there has been a clear error of judgment." *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 378 (1989).

In summary, the Court concludes that the Government considered all the relevant factors in its 1998 FEIS and 2002 FEA and that later changes to the process for hydrolyzing VX were not a significant change for which the Government needed to supplement those documents. Moreover, the Court concludes that the Government properly considered all of the evidence regarding the possibility that VX would reform in hydrolysate, the existence of VX or its precursors in the hydrolysate, and the risks of shipping CVXH in the relevant NEPA analysis and subsequently performed transportation safety analyses. Admin. R. Doc. Nos. 5, 39, 40, 42. In addition, the Government considered all the possibilities that the VX concentration would differ in the organic layer versus a reactive mixture. Admin. R. Doc. Nos. 37 & 38. Furthermore, the April 2007 REC and the June 2007 REC addressed the Government's analysis of the incidents giving rise to Plaintiffs' concerns about concentration levels. *Id.* Doc. Nos. 5, 42. Similarly, the 2006 CDC Report reflects that the CDC's comfort level with operations at NECDF even after consideration of some of the same problems that Plaintiffs complain of here. *Id.* Doc. No. 9. The CDC concluded

that the modifications of the process at NECDF corrected the initial start-up problems encountered by the Government. *Id.* at 10-11. Given these facts and the fact that the administrative record reflects that no CVXH has been released for shipment if its VX or EA2192 concentrations were at or above their respective method detection limits, *id.* Doc. No. 5, the Court can only conclude that the Government did not err when it chose not to supplement the 1998 FEIS or the 2002 FEA or even the 2002 FONSI because of changes to the hydrolysis process or because of processing problems that arose during start-up or subsequent phases of the destruction of VX at NECDF.

For these reasons, the Court **DENIES** Plaintiffs' Motion for Partial Summary Judgment on Count 2 of its Complaint; the Court **GRANTS** Defendants' Cross Motion for Summary Judgment on Count 2 of Plaintiffs' Complaint.

#### **4. Count 5: Environmental Justice Act Considerations for the Veolia TSDf Option**

Count 5 of Plaintiffs' Complaint alleges that the Government violated NEPA when it failed to take a close look at the environmental justice concerns associated with its decision to use Veolia's incinerator at Port Arthur, Texas, to dispose of CVXH. According to Plaintiffs, the 2002 FEA left open the environmental justice issue for further consideration once a TSDf had been selected. Coupled with the Government's knowledge of what Plaintiffs term as the increased risk that CVXH contained higher than expected levels of VX after it had issues with increased VOC emissions and processing issues at NECDF, the lack of any analysis of environmental justice considerations for the Port Arthur, Texas, area violates NEPA's requirements.

The Government argues that its shipment of hydrolysate to Port Arthur, Texas, under a categorical exclusion eliminated the need to perform any environmental justice analysis.

The Court concludes that the Government did not violate NEPA when it made no independent analysis of environmental justice considerations for Port Arthur, Texas. The Government properly identified CVXH as a caustic hazardous waste.<sup>8</sup> Admin. Rec. Doc. Nos. 1, 8, 16, 39; *see also* Prelim. Inj. Hr'g Tr. at 524, 531, 579-83, 595 (hereinafter "PI Hr'g Tr."). *See also* *Sierra Club*, 499 F. Supp. 2d at 1131-36. As such, pursuant to 40 C.F.R. § 1508.9, 23 C.F.R. § 771.115, and 32 C.F.R. §§ 651.5 and 651.28, shipment of CVXH was categorically excluded from those actions that require either an EIS or an EA. As a result, the Government did not need to supplement either the 2002 FEA or the 2002 FONSI. *Accord Utah Envtl. Cong. v. Russell*, 518 F.3d 817, 820-21 (10<sup>th</sup> Cir. 2008) (stating that "[t]o satisfy NEPA's process requirement, 'the [Government] must prepare one of the following: (1) an environmental impact statement (EIS), (2) an environmental assessment (EA), or (3) a categorical exclusion'" (quoting *Utah Envtl. Cong. v. Bosworth*, 443 F.3d 732, 736 (10<sup>th</sup> Cir. 2006))).

For these reasons, the Court concludes that Plaintiffs' Motion for Partial Summary Judgment on Count 5 of their Complaint must be **DENIED**; Defendants' Cross Motion for Summary Judgment on Count 5 of Plaintiffs' Complaint must be **GRANTED**.

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<sup>8</sup>In the Court's order on Plaintiffs' Motion for Preliminary Injunction, it went through a detailed analysis of the administrative record and the evidence presented at the hearing regarding the Government's need to supplement the 2002 FEA and/or the 2002 FONSI in light of its decision to choose Veolia's incinerator for final disposal of CVXH over DuPont's Deepwater, New Jersey, facility. *Sierra Club*, 499 F. Supp. 2d at 1131-36. The Court hereby incorporates that analysis by reference herein in its entirety.



## **5. Count 4: Assessment of Terrorist Risks**

In Count 4 of their Complaint, Plaintiffs' allege that the Government violated NEPA when it failed to supplement either the 1998 FEIS or the 2002 FEA with an analysis of the increased terrorism risk associated with shipping CVXH from Newport, Indiana, to Port Arthur, Texas, in light of the increased risk that higher concentrations of VX and/or EA2192 existed in the CVXH. Plaintiffs contend that the Government never assessed whether terrorism risks would be lessened by treatment of CVXH on-site rather than shipment of it across state lines.

Plaintiffs' allegations in Count 4 are without merit. As discussed above and at length in the Court's order on Plaintiffs' Motion for Preliminary Injunction, the Government properly addressed the issues raised in the start-up phase of the hydrolysis process that prompted Plaintiffs' concerns. *See, e.g.*, Admin. R. Doc. Nos. 5, 42. In addition, the only evidence in the administrative record is that no CVXH is cleared for shipment unless the concentrations of VX or EA2192 are below their respective method detection limits. *Id.* Doc. No. 5. Further, the Court already has concluded that the Government properly classified CVXH as a caustic hazardous waste, which is a categorical exclusion that does not require either an EIS or an EA. Therefore, there was no reason for the Government to supplement its 2002 FEA.

In addition, in the 2002 FEA the Government assessed the risk of terrorism when it evaluated whether to ship CVXH off-site to a permitted TSDF or to store CVXH long-term at NECD. Admin. R. Doc. Nos. 3, ¶¶ 3-4; & 27. Moreover, after the 2002 FEA, the Government considered several analyses regarding the risks associated with transport of CVXH to a TSDF. *Id.* Doc. Nos. 8, 9, 15, 16, 24, 33, 34, 39, 40, 42. The 2005 CDC Report, performed by the CDC and EPA, concluded: "The precautions in the transportation plan are adequate to protect the public" and the "transportation

plan meets [DOT] regulations, and precautions in the plan are adequate to protect the public, personnel, and [the] environment.” *Id.* Doc. No. 8, at 1. *See also id.* Doc. No. 9, at 35 (2006 CDC Report concluding that “all issues identified during the Phase I report have been addressed”); *id.* Doc. Nos. 5, 42 (April 2007 REC and June 2007 REC both post-Plaintiffs’ letter expressing these concerns and discussing test results that confirmed cleared characteristics of stored CVXH). Because there was no change in the make up of the CVXH post-start-up issues, there was no reason for the Government to re-perform its prior NEPA analysis regarding terrorism risks.

For these reasons, the Court **DENIES** Plaintiffs’ Motion for Partial Summary Judgment on Count 4 of their Complaint; the Court **GRANTS** Defendants’ Motion for Summary Judgment on Count 4 of Plaintiffs’ Complaint.

## **II. PLAINTIFFS’ RCRA & STATE LAW CLAIMS**

Defendants have moved for summary judgment on Plaintiffs’ claims under RCRA. All of Plaintiffs’ RCRA and corresponding state law claims are based on the premise that CVXH contains VX and/or EA2192 at concentrations above their respective method detection limits. In Count 1, Plaintiffs contend that the Government’s shipment of CVXH presents an imminent and substantial endangerment under RCRA based on the “threat of release of VX or EA 2192 in an accident or during incineration.” Compl. ¶¶ 21-100. Similarly, in Counts 6, 7, and 8, Plaintiffs allege violations of various Indiana, Texas, and federal laws governing the transportation of hazardous waste because of the Defendants’ failure to properly characterize the concentration levels of VX or EA2192 in CVXH. *Id.* ¶¶ 221-34. In Count 9, Plaintiffs assert that Defendants violated various Indiana, Texas, and federal laws when it incinerated CVXH at Port Arthur, Texas, without proper analysis of the VX

or EA2192 levels and without proper capability to detect VX or EA2192 in the stack gases emitted from Veolia's incinerator. *Id.* ¶¶ 235-47.

The facts set forth for the Court's analysis of Plaintiffs' claims under NEPA are relevant here and the Court hereby incorporates those by reference for purposes of its analysis of Counts 1, 6, 7, 8, and 9, of Plaintiffs' Complaint. Furthermore, the Government has admitted for purposes of this motion certain additional facts proffered by Plaintiffs; namely, Plaintiffs' Statement of Material Facts in Dispute ¶¶ 2, 5, 6, 8, 10, 12-16, 18, 27-33, 42-44, 49-51. The Government has objected on the basis of hearsay Plaintiffs' remaining Statement of Material Facts in Dispute ¶¶ 17, 20-22, 25, 26, 34, 35, 37, 40, 45, and 46. The Court has concluded that Plaintiffs' Statement of Material Facts in Dispute ¶¶ 17, 20, in part 26, 34, 35, 40, in part 45, and 46, are hearsay and are inadmissible. The remaining factual assertions in dispute, 21, 22, 25, in part 26, 37, and, in part 45, are admissible to show what the Government knew at a particular time. With those provisos in mind, additional relevant facts are set forth here:

## **A. ADDITIONAL BACKGROUND FACTS<sup>9</sup>**

### **1. The Neutralization Process at NECDF**

VX is a chemical nerve agent and one of the most toxic chemical warfare agents ever synthesized. Sommer Decl. ¶ 8. Prior to commencement of neutralization activities in May 2005,

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<sup>9</sup>In large part these facts were taken from the Court's Order on Plaintiffs' Motion for Preliminary Injunction and the exhibits referenced were admitted for the Court's consideration at that time or the testimony referenced was given during the hearing on Plaintiffs' motion. Facts added in this Order cite to materials presented to the Court in connection with Defendants' Motion for Summary Judgment on Plaintiffs' Claims 1, and 6-9, or in connection with Plaintiffs' Motion for Partial Summary Judgment.

the Army stored 1,269 tons of VX in one-ton steel containers at NECD. Brubaker 2d Decl. ¶¶ 3, 4; Kavanagh Decl. ¶¶ 5-6. A stabilizer known as carbondiimide also is in the containers. Kavanagh Decl. ¶ 6. The neutralization process of VX requires transfer of the one-ton containers from NECD to NECDF. Lyle Decl. ¶ 6. Once at NECDF, the VX is transferred from the one-ton containers to holding tanks. *Id.*

From the holding tanks, the VX is injected into a 1,000-gallon reactor that contains a mixture of sodium hydroxide (“NaOH”) and water; the mixture has been heated to approximately 194 °F. *Id.*; Kavanagh Decl. ¶ 7; PI Hr’g Tr. at 160-61. The VX and the NaOH mixture is agitated for at least 150 minutes. Lyle Decl. ¶ 6. During this process, the VX reacts with the hot NaOH. Kavanagh Decl. ¶¶ 7-8. The resulting product is the solution called caustic VX hydrolysate or CVXH, which consists of water (70-85%), with an organic layer on top; reaction products including ethyl methyl phosphonic acid (“EMPA”), methyl phosphonic acid (“MPA”), thiolamine and ethanol (11-26%); and NaOH (4%). *Id.* ¶ 8; PI Hr’g Tr. at 161-62. EMPA and MPA are regulated under the CWC. Admin. R. Doc. No. 3, App. B, at B-2; Supp. Admin. R. Doc. No. 3a, at 2. In the 2005 CDC report, the CDC concluded that there was insufficient toxicity data on EMPA and MPA. Admin. R. Doc. No. 8, Attach. 2, at 1. The CVXH, in total, is highly corrosive. *Id.* Dermal or eye contact, or inhalation, could result in severe, possibly irreversible, damage. *Id.*

The hydrolysis process also creates a highly stable, toxic byproduct called EA2192. Kavanagh Decl. ¶ 8; Sommer Decl. ¶¶ 17, 19; Admin R. Doc. No. 8, Attach. 4, at 25. According to the 2005 CDC report, EA2192 has toxicity about the same as that of VX. Admin. R. Doc. No. 8, Attach. 2, at 5.

The remaining concentration of NaOH ranges from 3% to 5%, and is necessary, according to the Government experts, to establish the conditions necessary to prevent VX from forming in CVXH over time. Kavanagh Decl. ¶ 8. However, all discussions of the pH of the organic phase of the CVXH are irrelevant because organic liquids do not have a pH. Sommer Decl. ¶ 31.

The organic layer of the CVXH is about 1% by volume of the total CVXH. Kavanagh Decl. ¶ 9. However, the 2005 CDC Report reflects an organic layer of 3% to 5% by volume at a 33% VX loading rate. Admin. R. Doc. No. 8. The VX in the 33% VX loading rate organic layer was approximately twenty times the concentration in the bulk hydrolysate, or greater than 20 ppb. *Id.*

Before CVXH leaves the reactor building, an on-site lab analyzes the material to confirm the destruction of the VX. Kavanagh Decl. ¶ 9. The lab analysis must confirm that the following “clearance criteria” are met:

- (1) the CVXH is non-detect for VX, with a method detection limit of less than 20 ppb originally, but now a 9.3 ppb limit;
- (2) the CVXH is non-detect for EA2192, a byproduct of the VX hydrolysis process, with a method detection limit less than or equal to 1 part per million (“ppm”) originally, but now a 200 ppb limit; and
- (3) the CVXH must have a flash point equal to or greater than 140 °F to ensure that it is not flammable.

*Id.* ¶¶ 9, 10; PI Hr’g Tr. at 50 & 62. If any of the above criteria is not met, that batch of CVXH is returned to the reactor to repeat the neutralization process until it passes all three tests. Kavanagh Decl. ¶¶ 9, 23; PI Hr’g Tr. at 108-09.

Dr. William Gerard Kavanagh<sup>10</sup> (“Dr. Kavanagh”), one of the Government’s experts, opined that the instruments used at NECDF to analyze CVXH are capable of detecting the relevant compounds at extremely low levels using standard analytical chemistry techniques. *Id.* ¶¶ 9, 15. Moreover, Dr. Kavanagh opines that the Army’s analytical chemistry quality controls demonstrate that the instruments, methods, and analyses are performing as defined in the Standard Operating Procedures (“SOP”). *Id.* ¶¶ 15-22. According to Dr. Kavanagh, the measurement techniques used at NECDF to “clear” the CVXH are reliable and accurate. *Id.* ¶¶ 15-22.

There was some disagreement, however, among the experts on the reliability of the analytical method. At the preliminary injunction hearing, Dr. Robert L. Irvine (“Dr. Irvine”), testified on behalf of both Plaintiffs and Defendants. He has a bachelor’s degree in chemical engineering and a masters degree in environmental engineering from Tufts University, and a Ph.D. in chemical engineering from Rice University. PI Hr’g Tr. at 470-533. Dr. Irvine is a retired emeritus professor from the University of Notre Dame and is the chief scientist for Parsons at NECDF. *Id.* at 471. In his role at NECDF, Dr. Irvine evaluates and comments upon technical issues that arise at the facility. *Id.* at 471-72. Dr. Irvine has reviewed the analytical data for all cleared batches of CVXH produced at NECDF and recalled seeing concentration values for VX in the range of 4 ppb up to and including 13.9 ppb. *Id.* at 473-74.

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<sup>10</sup>Dr. Kavanagh has a B.S. in chemistry from Providence College, a master’s degree in chemistry, with a focus on organic chemistry, from Niagra University, and a Ph.D. in chemistry, biochemistry from Kent State University. PI Hr’g Tr. at 571. Since 1970 Dr. Kavanagh has been involved in the Government’s nerve agent program as an analytical scientist. *Id.* at 571-72. Today he considers himself “a senior analytical chemist with expertise in the methods that have been applied to include [sic] lipacoma chromatography, gas chromatography, mass spectroscopy, claim photonitric defection and associated methods for [certain] an[a]lytes . . . .” *Id.* at 572.

In January or February 2007, Dr. Irvine and his staff prepared a report for Parsons entitled “Review of the Modified Method for Analysis of VX and Hydrolysate” (“Irvine report”), which was finalized on April 10, 2007. *Id.* at 477-78. *See also* Pl.’s PI Hr’g Ex. 13. Dr. Irvine testified that at the time he and his staff published the Irvine report it reflected the scientific opinion and consensus of him and his staff. PI Hr’g Tr. at 480. The report opines that the “modified method” the Army sought to introduce into the analytical lab for testing CVXH for VX and EA2192 was not appropriate for NECDF. Pls.’ PI Hr’g Ex. 13, at 1 & Table ES-1, at 3. After eleven months of testing the modified method, Dr. Irvine thought the modified method had the following critical problems: “the modified method . . . failed to perform accurately within the [CVXH] matrix, as evidenced by low spike recoveries . . . [a]s such, the modified method shows an increased potential for underestimated VX levels and false negatives but no potential for reduction in false positives attributed to the current method;” “the modified method . . . demonstrated poor precision compared to the current method . . . [that] could result in [a CVXH] VX concentration limit of 3 ppb as per the [CDC’s] recommendation that any new method have a decision point [or MDL] established at such a level such that there is a 95+% confidence that a sample reading less than this decision point contains less than 20 ppb;” the modified method procedures were flawed, which could lead to errors in MDL determinations and ultimately add time to the analytical process; the modified method would also further remove the quality assurance (“QA”) criteria away from EPA standards, and sharply lower the MDL necessary to meet the CDC’s recommendation that there be a 95% confidence that the VX concentration in CVXH is less than 20 ppb if its measured concentration of VX is less than the MDL. *Id.* at 1-3. *See also* PI Hr’g Tr. at 482-502, Irvine-Direct (discussing the content of the Irvine report).

Nevertheless, Dr. Irvine testified at the preliminary injunction hearing that the issues raised in his report were addressed to his satisfaction in the sense that the CDC had reviewed the data he had and had reviewed his report but concluded that the modified method, or the method of standard additions, was an appropriate method. PI Hr'g Tr. at 524.

Dr. Michael Anthony Sommer, II<sup>11</sup> (“Dr. Sommer”), an environmental, analytical and forensic chemist, testified at the hearing that the modified method, or the method of standard additions, would not be a valid and reliable indication of the true concentration of VX in CVXH. *Id.* at 323. It is Dr. Sommer’s opinion that because the methods used by the Army to test for VX in CVXH are not EPA methods, they are “thoroughly not appropriate for this kind of determination.” *Id.* at 332-33. In making his assessment of the tests used by NECDF to clear CVXH, Dr. Sommer testified that he “reviewed the analytical data, and the definition of the test methods that were utilized for documents that preceded the [Irvine report].” *Id.* at 334. In addition, in forming his opinion about the analytical methods at NECDF, Dr. Sommer reviewed documents that specified how the analytical methods operate and the quality assurance and quality controls for each method used at NECDF. *Id.* at 334-35.

Colonel Jesse L. Barber (“Colonel Barber”), Project Manager for the Government’s chemical stockpile elimination program, testified at the hearing that he made the decision to move to the modified method after consultation with the CDC, his scientific staff, and the support staff at NECDF. *Id.* at 87-88; 97-98. Colonel Barber testified that the CDC recommended that NECDF

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<sup>11</sup>Dr. Sommer has bachelor of science, a master’s, and a Ph.D. in analytical geochemistry. Hr’g Tr. at 314. Since he obtained his Ph.D., Dr. Sommer has developed mass spectrometric and gas chromatographic techniques. *Id.* at 314-15. He has testified as an expert on the test methodologies used by the EPA in environmental exposure cases. *Id.* at 315-16.



implement the modified method. *Id.* at 88. In doing so, the CDC had reviewed all of the data collected by NECDF using the new method over a four-phase process. *Id.* at 86-88. Colonel Barber testified that Dr. Irvine participated in the final meeting regarding whether or not NECDF would switch to the modified method and Colonel Barber stated that it was his opinion that Dr. Irvine's concerns had been appropriately addressed by the end of the meeting. *Id.* at 97-98.

The Army currently estimates that approximately 1.5 million to 1.6 million gallons of CVXH will be produced during the VX neutralization process at NECDF. Brubaker 2d Decl. ¶ 4.

Once CVXH has been "cleared," it is transferred to a holding tank and then placed in special intermodal containers, known as ISOs, which are approved by the DOT. Kavanagh Decl. ¶¶9-11. An ISO is a storage vessel with a liquid capacity of approximately 4,000 gallons. *Id.* ¶ 11.

The Army inspects the ISOs that contain CVXH daily to identify any leaks. Brubaker 2d Decl. ¶ 5. Those inspections resulted in the identification of eleven ISOs with evidence of minor leaks (weeping) from the bottom discharge valve. Brubaker 2d Decl. ¶ 5. Only one minor leak has occurred since June 2007. *Id.* The CVXH from the eleven containers that had minor leaks was transferred to other containers or, in one instance, the valve was repaired. *Id.* ¶ 5x.

ISOs from three of the four container vendors have experienced leaks. *Id.* ¶ 5. The Army ships CVXH only in ISOs manufactured by the vendor whose containers have experienced no leaks, or in newly constructed containers. *Id.*

CVXH in its "cleared" form is classified for purposes of RCRA as a "corrosive hazardous waste." Brubaker 2d Decl. ¶ 6. Transport of such waste is regulated by the U.S. DOT, IDEM, and EPA through RCRA. O'Donnell Decl. ¶ 5. The shipment manifests for CVXH identify it as derived from the treatment of VX (I001) and as a corrosive waste (D002). Brubaker 2d Decl. ¶ 6. The

material is “corrosive” because it contains approximately 4% NaOH and has a pH greater than 13. *Id.* CVXH does not fall within the definition of any other characteristic waste. *Id.* CVXH gives off a strong odor because of the thiolamine content. Kavanagh Decl. ¶ 8. However, the health risks associated with it are directly related to its caustic and corrosive characteristics, not to its odor or any airborne effect. Kerger Decl. ¶ 8. The “cleared” CVXH is not explosive, flammable, or gaseous, and has a low vapor pressure and volatility. Bigler Decl. ¶ 15.

In addition, the Army prepared a waste characterization of CVXH that reflects its constituents and is set forth in a Wastestream Information Profile (“WIP”). O’Donnell 2d Decl. ¶ 4 & Attach. A. The Army provided the WIP for CVXH to Veoli and to NECD. O’Donnell Decl. ¶ 4; Brubaker 2d Decl. ¶ 7.

Prior to commencement of shipments of CVXH to Port Arthur, Texas, the Army prepared its TSP, which included an evaluation of potential transportation risks. Barber 2d Decl. ¶ 5. The Army filed the TSP with IDEM, the Indiana State Police Department, and the Indiana emergency management agency. *Id.* In addition, prior to commencement of shipments of CVXH to Port Arthur, Texas, the Army coordinated the transport of CVXH with the appropriate representatives from the states through which the CVXH would be transported. *Id.* ¶¶ 4, 5. However, in August 2007, the Government stated at a public meeting that it would not publicly disclose details of the routes and schedules for shipments of CVXH to Texas due to continuing concerns about the risks of terrorism. Morgan Decl. ¶ 14.

Veolia and its contractor, Tri-State Motors, followed the TSP for all shipments of CVXH. Richter Decl. ¶¶ 3-6; Bigler Decl. ¶¶ 8-9.

## **2. Scientific Studies Regarding Formation or Reformation of VX in CVXH**

In a study apparently performed “some time ago,” PI Hr’g Tr. at 503, Irvine-Direct, (the “Brickhouse study”), scientists reported that “[i]n the presence of EMPA and 2-diisoproylaminoethanethiol (VX thiol), [dicyclohexylcarbodiimide, or] DCC[,] promotes the formation of VX under ambient conditions.” Pls.’ PI Hr’g Ex. 10, at 617. DCC is a stabilizer for VX and had, at the time, “been observed to survive intact in the organic layer formed during the caustic hydrolysis of stabilized VX.” *Id.*

In addition, on June 3, 2004, the CMA issued a report entitled, “Reformation of VX in Hydrolysate, Preliminary Report” (“CMA VX-reformation report”), in which the CMA concluded:

While considered theoretically possible, VX does not reform in 8 or 16% DIC Hydrolysate maintained under [certain conditions].

It is suggested that VX reformation does not occur, under the conditions of reduced pH and increased organic layer, due to the excessive amount of activation energy required. It is also possible that the amount of VX present under equilibrium test conditions was so small that the changes in the equilibrium conditions that caused reformation resulted in an increase in VX that is too small to be measured.

Pls.’ PI Hr’g Ex. 9, at 6. *See also id.* at 16 (concluding, in part, that “[a]dditional organic layer . . . is not associated with VX reformation”). However, in Table 8, the CMA scientists reported that in the organic layer alone, at certain certain pH and DCC stabilizer levels, test results indicated the concentration of VX to be greater than 600 ppb. *Id.* at 16.

At the preliminary injunction hearing, Dr. Sommer testified that, based on his review of the Brickhouse study, the 2000 NRC study, a June 7, 2004, Trip Report prepared by a CDC environmental engineer and an industrial hygienist, and the CMA VX-reformation report, it is

possible that VX will form or re-form in CVXH under some conditions. PI Hr'g Tr. at 320-21, 330-31, 336-45; Pls.' PI Hr'g Exs. 4 & 9.

Also at the preliminary injunction hearing, Dr. Irvine testified that the Brickhouse study tested whether MPA, VX-thiol and DCC in a matrix would form VX. PI Hr'g Tr. at 506 (testifying about the discussion in the Brickhouse study at page 618). The Brickhouse study showed that initially VX would not form. However, after addition of a sodium compound to raise the pH to 14, the researchers observed VX formation. *Id.* Dr. Irvine also testified that the reactive chemicals in the Brickhouse study were in an organic solvent, whereas the reactive chemicals in CVXH are in caustic water or in separate organic phases that are different from the organic solvent in the Brickhouse study. *Id.* at 523. Dr. Irvine testified that he “learn[ed] a lot from this study,” regarding “how the stabilizer either works or is supposed to work,” “[b]ut there are marked differences between reality . . . and what’s in [the Brickhouse study].” *Id.* See also *id.* at 529.

Dr. Irvine also testified about the CMA VX-reformation report. *Id.* at 507-14, 18-22. Dr. Irvine testified that he had some role in production of that report. *Id.* at 507. With respect to the data contained in Table 8, Dr. Irvine testified that he questioned the validity of the results because of the spike recovery rates listed in the table. *Id.* at 508. Dr. Irvine testified that the “report clearly demonstrates that there’s no expected reformation in hydrolysate under normal conditions. . . . For normal hydrolysate conditions, which is reported in the previous [fifteen] pages, there’s no obvious reformation of VX at all.” *Id.* at 518-19.

Dr. Kavanagh testified about the Brickhouse report at length. *Id.* at 585-91. In essence, Dr. Kavanagh opined that the Brickhouse results were expected because, in that experiment, the researchers put the reactive chemicals in an organic solvent. *Id.* at 586-87. However, VX will not

form in a water matrix such as CVXH because the intermediate chemical necessary for formation of VX, pyrophosphate “doesn’t exist in the presence of water.” *Id.* at 590. At the Preliminary Injunction Hearing, in response to Plaintiffs’ counsel’s question regarding whether a chemist or knowledgeable person who came into possession of a container of CVXH, who had access to certain chemicals and a lab or other similarly-functional facility, could cause VX to reform from the CVXH, Dr. Kavanaugh responded yes. *Id.* at 605.

Dr. Kavanaugh, Dr. Kerger, and Dr. Irvine concur, however, that there is no evidence to support a theory that VX re-forms in CVXH produced at NECDF while the CVXH is stored in ISO containers, or during shipment. Kavanaugh Decl. ¶¶ 30-32; Kerger Decl. ¶¶ 9-10; Linson Decl. ¶¶ 20-21; PI Hr’g Tr. at 518-19, 523, 586-91, 606-09.

### **3. Re-Sampling of ISOs**

In part in response to inquiries by Plaintiffs’ counsel, during the week of May 28, 2007, six ISO containers were sampled and analyzed for VX and EA2192. Kavanaugh Decl. ¶ 25. The six ISO containers sampled included: (1) the oldest container in the hydrolysate ISO container storage yard, which contained CVXH generated in February 2006; (2) the ISO container that contained CVXH placed into storage immediately preceding a spill incident at the loading arm in May 2006; (3) the ISO container storing the CVXH previously held in another container that experienced a minor valve leak in July 2006; (4) three ISOs randomly selected according to criteria provided by IDEM that contained CVXH generated in March, April, and December 2006. *Id.*

A long cylindrical tube, known as a COLIWASA tube,<sup>12</sup> was inserted into the six ISOs selected for sampling and a column of CVXH was drawn for analysis. *Id.* ¶¶ 26-27. Those samples were analyzed for VX and EA2192. *Id.* ¶ 28. The results of the test showed that all six ISOs were non-detect for VX and EA2192 at method detection limits. *Id.* ¶ 31. No other ISO containers have been tested. Kavanah Decl. ¶ 25.

#### **4. Production Incidents at NECDF**

As referenced in the June 2007 REC, there were several incidents at NECDF that caused Plaintiffs to become concerned about the proper characterization of CVXH, the transportation thereof from Newport, Indiana, to Port Arthur, Texas, and the subsequent incineration of CVXH at Veolia: (1) the detection of EA2192, at a concentration of 500 ppb or, possibly, as high as 1 ppm, in liquid collected from a leaking valve of an ISO container storing CVXH; and (2) the detection of VX, at a concentration of 27 ppb, in rinsate collected after a spill of material from a loading arm in the processing area. Admin. R. Doc. No. 42, at 3.

With respect to the detection of EA2192 at a concentration of 500 ppb or, possibly, as high as 1ppm, the material tested had been obtained from a plastic bag that had been used to cover a leaking valve of an ISO. PI Hr'g Tr. at 581-82, Kavanagh-Direct. The lab at NECDF tested the liquid that had been collected for the five major constituents that are looked for in each waste clean-up sample. *Id.* at 174, Brubaker-Cross. NECDF Site Project Manager Brubaker recalled that

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<sup>12</sup>The Government was aware when it used this sampling technique that one of its contractors thought that the COLIWASA process may not capture some chunks of the organic layer or some organic layer material that tended to cling to the sides of the ISOs. Pls.' Summ. J. Ex. 2, at 11 of 11.

EA2192 was however, the EMPA, MPA and thiolamine concentrations were not in proportion to that of the EA2192 that they should have been had the material tested been CVXH. *Id.* Dr. Kavanagh testified that two analyses were done on the sample, the first showed an EA2192 concentration of 500 ppb, the second showed a reading of 1 ppm. *Id.* at 582, Kavanagh-Direct. Because the two analytical results were so different, Kavanagh suspected some analytical error. *Id.* In addition, as testified to by Brubaker, if there were actually that much EA2192 in the sample, there would also be higher concentrations of EMPA, MPA, and thiolamine, but there were not. *Id.* The CVXH that had been stored in the leaking ISO had been transferred to another ISO. *Id.* at 582-83. NECDF tested the CVXH in that second ISO to be sure that the constituents had not changed since the batch had been cleared. *Id.* That CVXH was found to be non-detect for EA2192. *Id.* at 583.

With respect to the detection of VX at a concentration of 27 ppb, Brubaker testified that a spill occurred from the loading arm prior to loading cleared CVXH into an ISO. *Id.* at 116-17, Brubaker-Direct. The high concentration result was obtained after the clean up procedure had been followed. *Id.* at 117. Brubaker testified that the conclusion was that the 27 ppb VX reading was a false positive from an interferent. *Id.* at 119-20. Similarly, Dr. Kavanagh testified that with a VX reading of 27 ppb, a scientist would expect to find proportionate quantities of EA2192, EMPA, MPA, and thiolamine. *Id.* at 578, Kavanagh-Direct. However, the test results showed none of those constituents present. *Id.* The ISO container involved in this incident was also re-checked and found to be non-detect for VX and EA2192. *Id.* at 578-79.

Another problem that prompted Plaintiffs' concern regarding the proper characterization of CVXH was the report that CVXH had been transferred prematurely from the reactor area to a holding tank usually reserved for cleared CVXH. PI Hr'g Tr. at 64-66, Barber-Direct. Colonel

Barber testified that this had occurred three times. *Id.* at 64-65. Brubaker testified that he recalled this problem occurring twice. *Id.* at 109, Brubaker-Direct. Brubaker considered the problem an operator error and an accident rather than an intentional act. *Id.* Brubaker recalled that those two batches tested high for either VX or EA2192 and were reprocessed and eventually cleared. *Id.* at 109-10. The SOP was changed to prevent this type of problem in the future; specifically, a quality assurance (“QA”) stamp on the data package is required before CVXH can be transferred to a holding tank prior to storage in an ISO. *Id.* at 613-14, Kavanah-Cross.

Brubaker also testified regarding a test result that had shown a VX concentration of 19 ppm in the solids. *Id.* at 170, Brubaker-Direct. *See also* Pls.’ PI Hr’g Ex. 3. Brubaker testified that the material had been collected during a maintenance activity at NECDF. PI Hr’g Tr. at 171. Brubaker stated that no solids are shipped from NECDF to Veolia. *Id.*

In mid-May 2005 until December 2005, the Government was made aware of the potential for higher concentrations of VX in the CVXH through failure of the new agent injection ball valve. Pls.’ Summ. J. Ex. 2, at 1, 5-7 of 11. Also during this time, apparently in September 2005, the Government was made aware of a question about the results of analyses of cleared CVXH because of an analysis of sludge from some part of the process that showed higher concentrations of VX. *Id.* at 3 of 11. It is unclear whether this information is the same as the “solids” information testified to by Colonel Barber at the Preliminary Injunction Hearing. However, Brubaker asserts that the valve at issue was replaced and that NECDF either reprocessed or re-sampled batches to ensure that the CVXH did not contain VX or EA2192 above their respective method detection limits. Brubaker 2d Decl. ¶¶ 5-8.



Finally, Colonel Barber testified at the Preliminary Injunction Hearing that the first twenty-four batches of CVXH produced at NECDF were flammable. PI Hr’g Tr. at 83, Barber-Direct. At that time there was no clearance criteria for flammability because all of the earlier testing data had shown that CVXH was not flammable. *Id.* When NECDF discovered this problem, the operation was paused to address it. *Id.* It was explained at the Preliminary Injunction Hearing that the hydrolysis process creates volatile organic compounds (“VOCs”) that caused the initial batches of CVXH to test as flammable materials. *Id.* at 83-84, 140-41. Because the Government had said it would not ship CVXH that was flammable, it added a step to the hydrolysis process during which the volatile materials are vented through NECDF’s existing carbon filter bank in its gas emissions stack. *Id.* at 84-85, 98. The carbon or charcoal filters are used to screen the air coming from the work and processing areas at NECDF before the air is released into the environment to prevent the release of toxic chemicals. *Id.* at 84-85; Admin. R. Doc. No. 1, at 2-12, 2-6.

On or about February 9, 2006, the Government was aware that its decision to vent the process gas through the carbon filters may increase the amount of VOCs emitted and require changes to the NECDF air permit. Pls.’ Summ. J. Ex. 1, at 6 of 15. The Government knew for a fact that the permit would need changed, from 0.01 tons per year to 15 tons per year, on or about February 25, 2005. *Id.* at 6-7, 14 of 15. The venting process has caused NECDF to change out the carbon filters more frequently than originally intended. PI Hr’g Tr. at 100; *id.* at 217-18.

VOC and “interferent”<sup>13</sup> chemical breakthrough of the carbon filters and emissions into the air from the NECDF stack, including the release of “interferents,” such as ethylisothiocyanate, have

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<sup>13</sup>An “interferent” is an organic chemical other than VX that causes the minicam agent VX air monitors to alarm. Pls.’ Mot. for Partial Summ. J. Ex. 1, at 6, 11, 15.

occurred at NECDF during NECDF's post-2002 FEA operations as the result of the venting of VOCs and organic chemical vapors from the reactor through the carbon filters. Pls.' Mot. for Partial Summ. J. Ex. 1, at 6, 11, 15.

However, the increased venting has not caused NECDF to exceed its new CAA permit levels of VOC emissions. *Id.* at 221, Rowden-Direct.

The CDC has expressed concern to the Government that the VOCs it vents through the carbon filters may reduce the Government's ability to monitor and detect VX and reduce the ability of the carbon filters to capture or filter any VX that is in the air vented to them. *Id.* at 85, 139-42, 221; Pls.' PI Hr'g Ex. 1, at Bates No. 484.

Furthermore, there was no public notice of, review of, or comments received about the VOC venting issue. Morgan Decl. ¶ 13. Similarly, there was very little information in the administrative record regarding this issue. PI Hr'g Tr. at 22, 44-45, 143; Admin. R. Doc. No. 1, at 2-12, 2-6.

##### **5. Incineration at the Veolia Facility in Port Arthur, Texas**

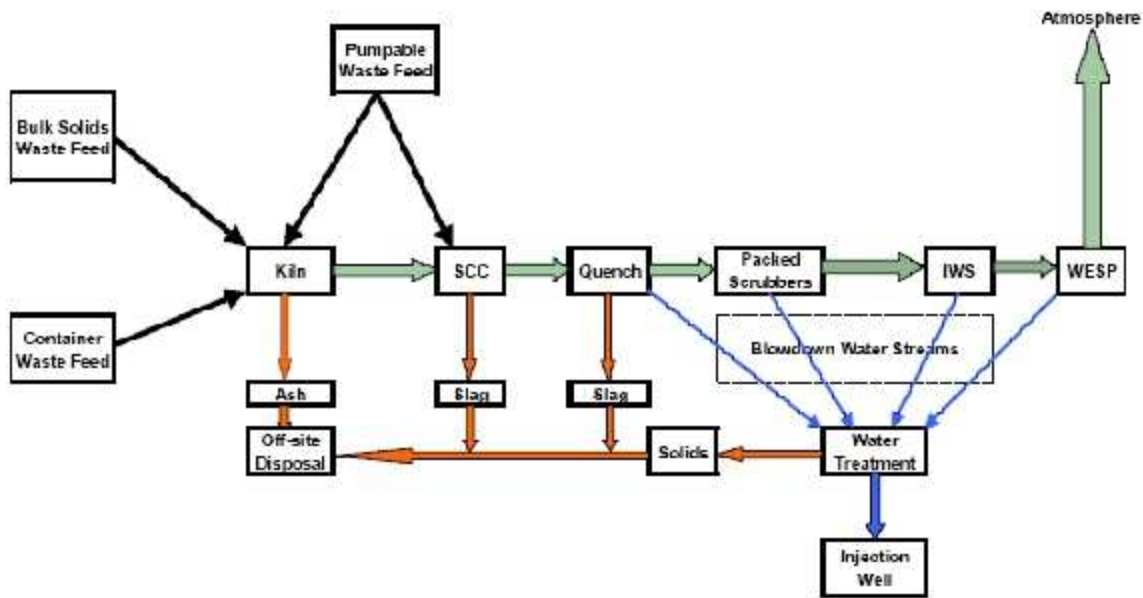
Veolia's Port Arthur, Texas, incinerator was re-permitted under the Clean Air Act ("CAA") and RCRA by the Texas Commission on Environmental Quality ("TCEQ") and the U.S. EPA, in August 2004. Magee Decl. ¶ 10. This process accounted for the fact that certain uncharacterized constituents exist in all combustion emissions at trace concentrations too low to measure. *Id.* ¶ 29. The facility was designed to treat, store, and dispose of solid, semi-solid, and liquid hazardous and PCB wastes. *Id.* ¶ 10.

According to Veolia’s expert, Dr. Richard S. Magee<sup>14</sup> (“Dr. Magee”), the facility was required to, and did, demonstrate compliance with Maximum Achievable Control Technology (“MACT”) standards developed by the EPA for the hazardous waste industry. *Id.* ¶ 11. MACT standards require incinerator owner/operators to meet emission limits, install emission control technologies, monitor emissions and operating parameters, and follow specified work practices. *Id.* In addition, TCEQ undertook a site-specific health risk assessment for the Veolia facility prior to renewing its permit in 2004. *Id.* This assessment ensured that emissions from the Veolia facility would not pose a danger to human health or the environment in the Port Arthur or the greater Jefferson County area. *Id.*

Although a more detailed diagram of the Veolia incinerator was introduced into evidence at the preliminary injunction hearing, *see* Def.’s PI Hr’g Ex. M, the diagram below gives an overview

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<sup>14</sup>Dr. Magee has bachelor of science, master’s, and Sc.D. degrees from Stevens Institute of Technology, in engineering with an emphasis in mechanical engineering. Magee Decl., Attach. 1. Currently, he is a research professor in the Center for Environmental Systems at Stevens Institute of Technology. *Id.* Dr. Magee also serves as technical director for the New Jersey Corporation for Advanced Technology, a not-for-profit public/private partnership designed to develop, verify, and commercialize emerging, innovative environmental and energy technologies. *Id.*



of the incineration process at Veolia. Veolia’s Corrected Br. in Opp’n to Pls.’ Mot. for PI at 24.

Once CVXH arrives at the Veolia facility, it is pumped into a storage tank, and from there, into two smaller carbon steel tanks for holding immediately prior to incineration. Magee Decl. ¶ 16. The CVXH is mixed with a proprietary water/reagent slurry prior to treatment in the incinerator and the pH of the hydrolysate-water/reagent mixture is checked. *Id.* To date, in all cases, the pH has remained above 12.5. *Id.* This mixture is then pumped into the incinerator. *Id.* Veolia operates the incinerator at a temperature of approximately 2,000 °F. *Id.* ¶ 19.

Because VX and CVXH have low thermal stability, or a low ability to resist chemical bond cleavage and decomposition upon exposure to elevated temperatures, it is easily destructed in an incinerator. *Id.* ¶ 17. Materials that resist such destruction, materials such as 1,2-dichlorobenzene, are rated “Class 1” organic materials. *Id.* Materials like VX and CVXH are Class 5 organic materials because they are much more readily destroyed by heat. *Id.*

For materials like 1,2-dichlorobenzene, tests at Veolia show that the Destruction and Removal Efficiency (“DRE”) of the Veolia incinerator is 99.99999%. *Id.* ¶ 17. Dr. Magee opines that “it is reasonable to expect that the Veolia facility achieves a correspondingly greater DRE – on the order of 99.9999999% or greater – with respect to a Class 5 material like VX or [CVXH].” *Id.* *See also* Hr’g Tr. at 380-92 (Magee-Direct).

The Veolia incinerator does not have chemical agent air monitors and the hazardous waste permit issued for the Port Arthur facility does not provide for VX air monitoring. PI Hr’g Tr. at 254. The Army, however, has such monitors on its incinerators for VX. *Id.* at 255.

According to Dr. Magee, the Army has incinerated pure or nearly-pure VX for nearly fifteen years. Magee Decl. ¶ 18. In trial burns at these incinerators, destruction of VX is confirmed. *Id.* *See also* Hr’g Tr. at 390-92. Moreover, after destruction of nearly 2,000 tons of VX via incineration, the Army has never detected VX in the incinerator stack gas effluent. Magee Decl. ¶ 18. It is Dr. Magee’s opinion that even if there is VX or EA2192 in CVXH, it is at such a low concentration that VX in the incineration emissions at Veolia would be too low to measure. *Id.*

Likewise, Dr. Magee opines that given the trial burn data at the Veolia plant, Plaintiffs’ allegation that incineration of VX would produce increased levels of dioxin, fine particulate matter, carbon monoxide, hydrogen chloride, carbon dioxide, oxygen, and/or sulfur dioxide are completely unfounded. *Id.* ¶¶ 25, 21, 22. In Dr. Magee’s opinion, “[t]here is no scientific basis to justify continuous emissions monitoring of VX in stack emissions or in the ambient air at Veolia.” *Id.* ¶ 22.

Furthermore, allegations that the nature of the emissions would change depending upon the form of the VX incinerated are without merit according to Dr. Magee because VX is completely

destroyed by incineration regardless of its physical state. *Id.* ¶ 26. In other words, the susceptibility of the VX molecule to thermal destruction does not change based on the molecule's physical state – solid, liquid, or gas. *Id.* ¶ 27. In addition, as mentioned above, the Army has incinerated pure VX for years and there has never been measurable VX in the emissions. *Id.* ¶ 18.

Finally, Dr. Magee opines that there is no need for an environmental impact study at the Veolia incinerator to assess whether this facility can safely incinerate CVXH. *Id.* ¶ 33. Dr. Magee agrees with the Government's experts that CVXH is just like any other caustic waste of this type for which Veolia was re-permitted by TCEQ and the EPA in 2004. *Id.* Moreover, there is no evidence that the emissions at Veolia are out of compliance with CAA regulations or contribute appreciably to ambient air pollution in southeast Texas. *Id.*

## **6. Status of Shipments Post-Preliminary Injunction Hearing**

The Government started shipments of CVXH from Newport, Indiana, to Port Arthur, Texas, on or about April 16, 2007. Pls.' Mot. for Partial Summ. J. Ex. 8; PI Hr'g Tr. at 92.

As of April 7, 2008, 312 ISO containers containing a total of 1,119,336 gallons of CVXH had been shipped to Veolia. Brubaker 2d Decl. ¶ 4. Only one ISO container is shipped at a time. Kavanagh Decl. ¶ 11. No CVXH spilled during shipments from NECDF to Port Arthur, Texas. Brubaker 2d Decl. ¶ 4. There have been no releases of CVXH to the environment during transport from NECDF to Port Arthur, Texas, and no one along the route from NECDF to Port Arthur, Texas, has been exposed to CVXH. *Id.* Furthermore, the trucks transporting CVXH have not been involved in a single accident and there have been no terrorist incidents involving the transport of hydrolysate. *Id.*

As of April 3, 2008, Veolia had incinerated approximately 1.1 gallons of CVXH without a single release of CVXH to the environment. Magee Decl. ¶¶ 5, 8.

IDEM continuously and closely monitors and regulates NECDF. Linson Decl. ¶ 28. IDEM's representatives do not believe that the shipment and incineration of CVXH poses an imminent and substantial risk to human health or the environment. *Id.* Likewise, the Indiana Department of Homeland Security ("IDHS") believes that transporting CVXH from Newport, Indiana, to Port Arthur, Texas, is safe and in the public interest. Bigler Decl. ¶¶ 6, 20. Moreover, IDHS does not believe that CVXH is a likely target for a terrorist attack.

## **B. SUMMARY JUDGMENT STANDARD**

To paraphrase the Supreme Court, summary judgment is not a disfavored procedural shortcut, but rather is an integral part of the federal rules as a whole, which are designed to secure the just, speedy, and inexpensive determination of every action. *Celotex Corp. v. Catrett*, 477 U.S. 317, 327 (1986). *See also United Ass'n of Black Landscapers v. City of Milwaukee*, 916 F.2d 1261, 1267-68 (7<sup>th</sup> Cir. 1990). Motions for summary judgment are governed by Federal Rule of Civil Procedure 56 (c) ("Rule 56(c)"), which provides in relevant part:

The judgment sought shall be rendered forthwith if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.

Once a party has made a properly-supported motion for summary judgment, the opposing party may not simply rest upon the pleadings but must instead submit evidentiary materials which "set forth specific facts showing that there is a genuine issue for trial." FED. R. CIV. P. 56(e). A

genuine issue of material fact exists whenever “there is sufficient evidence favoring the nonmoving party for a jury to return a verdict for that party.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986). See also *Nat’l Athletic Sportswear, Inc. v. Westfield Ins. Co.*, 528 F.3d 508, 512 (7<sup>th</sup> Cir. 2008). The nonmoving party bears the burden of demonstrating that such a genuine issue of material fact exists. See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586-87 (1986); *Nat’l Athletic Sportswear*, 528 F.3d at 512. It is not the duty of the Court to scour the record in search of evidence to defeat a motion for summary judgment; rather, the nonmoving party bears the responsibility of identifying the evidence upon which it relies. See *Springer v. Durflinger*, 518 F.3d 479, 484 (7<sup>th</sup> Cir. 2008) (stating that the non-movant must “do more than simply show that there is some metaphysical doubt as to the material facts.” (quoting *Waukesha Foundry, Inc. v. Indus. Eng’g, Inc.*, 91 F.3d 1002, 1007 (7<sup>th</sup> Cir. 1996))); *Ruffin-Thompkins v. Experian Info. Solutions, Inc.*, 422 F.3d 603, 610 (7<sup>th</sup> Cir. 2005).

In evaluating a motion for summary judgment, the Court draws all reasonable inferences from undisputed facts in favor of the nonmoving party and views the disputed evidence in the light most favorable to the nonmoving party. See *Springer*, 518 F.3d at 483-84; *Nat’l Athletic Sportswear*, 528 F.3d at 512. The mere existence of a factual dispute, by itself, is not sufficient to bar summary judgment. Only factual disputes that might affect the outcome of the suit in light of the substantive law will preclude summary judgment. See *Anderson*, 477 U.S. at 248; *Jenkins v. Bartlett*, 487 F.3d 482, 492 (7<sup>th</sup> Cir. 2007); *Anders v. Waste Mgmt. of Wis.*, 463 F.3d 670, 675 (7<sup>th</sup> Cir. 2006).



## C. DISCUSSION

### 1. Count 1: Imminent & Substantial Endangerment

In Count 1 of their Complaint, Plaintiffs assert that Defendants' handling, transportation, and disposal of CVXH may present an imminent and substantial endangerment to human health or the environment. Plaintiffs assert that they have presented evidence that creates a material question of fact that CVXH may contain VX and/or EA2192 in concentrations greater than the method detection limits for "cleared" CVXH; therefore, it presents a reasonable prospect of potentially serious harm. The transportation of such material, Plaintiffs continue, is at risk from terrorist hijacking, which could result in a release that would harm the environment and endanger humans. Furthermore, Plaintiffs assert that the probability that CVXH contains VX and/or EA2192 at concentrations higher than the method detection limits combined with the lack of VX monitors on the stacks at Veolia creates another reasonable prospect of potentially serious harm to the environment and human life. Defendants disagree with Plaintiffs' characterization of the reasonableness of any risk and assert that Plaintiffs' theories are mere speculation.

Count 1 of Plaintiffs' Complaint is brought pursuant to the citizen's suit provision of RCRA.

42 U.S.C. § 6972(a)(1)(B) provides:

any person may commence a civil action . . . against any person, including . . . any . . . transporter, or . . . owner or operator of a treatment, storage, or disposal facility, who . . . is contributing to the . . . handling, storage, treatment, transportation, or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment . . . .

The imminent and substantial endangerment requirement under this provision requires Plaintiffs to show that the transportation of CVXH presents a current threat of future harm. *See Albany Bank & Trust Co. v. Exxon Mobil Corp.*, 310 F.3d 969, 972 (7<sup>th</sup> Cir. 2002) (citing *Cox v. City of Dallas*, 256

F.3d 281, 299 (5<sup>th</sup> Cir. 2001)). *See also Meghrig v. KFC W., Inc.*, 516 U.S. 479, 485 (1996) (stating that “[a]n endangerment can only be ‘imminent’ if it ‘threaten[s] to occur immediately’” (quoting WEBSTER’S NEW INT’L DICTIONARY OF THE ENGLISH LANGUAGE 1245 (2d ed. 1934))). The Seventh Circuit has not directly addressed the question of what “substantial endangerment” means; however, most courts concur that the term means “potentially serious harm.” *Me. People’s Alliance & Natural Resources Defense Council v. Mallinckrodt, Inc.*, 471 F.3d 277, 296 (1<sup>st</sup> Cir. 2006). *See also Cox*, 256 F.3d at 300 (citing *Price v. U.S. Navy*, 39 F.3d 1011, 1019 (9<sup>th</sup> Cir. 1994)). The *Mallinckrodt* court also seemed to agree with the district court in that case that relief was not available if “the risk of harm is remote in time, completely speculative in nature, or de minimus in degree.” *Mallinckrodt*, 471 F.3d at 289 (quoting *Me. People’s Alliance & Natural Resources Defense Council v. Mallinckrodt, Inc.*, 211 F. Supp. 2d 237, 247 (D. Me. 2002) (quoting *United States v. Reilly Tar & Chem. Corp.*, 546 F. Supp. 1100, 1109 (D. Minn. 1982))). *See also Ca. Dep’t of Toxic Substances Control v. Interstate Non-Ferrous Corp.*, 298 F. Supp.2d 930, 980 (E.D. Cal. 2003); *Christie-Spencer Corp. v. Hausman Realty Co.*, 118 F. Supp. 2d 408, 418 (S.D.N.Y. 2000); *Vernon Village, Inc. v. Gottier*, 755 F. Supp. 1142, 1154 (D. Conn. 1990).

Applying this standard to the instant case, Plaintiffs have failed to meet their burden to show a genuine issue material fact that the shipment of CVXH to Veolia, and Veolia’s incineration thereof in Port Arthur, Texas, create the threat of a serious harm. Although Plaintiffs presented evidence that at one time there was some disagreement about the method for testing for VX and EA2192 in CVXH, there is no evidence that anyone with scientific expertise thinks or has data to show that cleared CVXH has concentration levels of VX or EA2192 that exceed their respective method detection limits. PI Hr’g Tr. at 470-533; Pls.’ PI Hr’g Ex. 13; Kavanagh Decl. ¶¶ 9, 15-22.

Furthermore, despite the theoretical possibility that VX could be reformed under certain circumstances, there is no evidence that it reforms spontaneously in the ISO containers or during transport of the ISO containers to Veolia. PI Hr'g Tr. at 523, 529; *id.* at 507-14, 518-23; *id.* at 585-91, 605-09; Kavanagh Decl. ¶¶ 30-32; Kerger Decl. ¶¶ 9-10; Linson Decl. ¶ 20-21. Plaintiffs present no evidence that the ISO containers tested by the Government after it received Plaintiffs' complaints had concentrations of either VX or EA2192 above their respective method detection limits. Even if the Court takes as true that all batches of CVXH contain actual VX in concentrations between 4 ppb and 13.9 ppb,<sup>15</sup> Plaintiffs provided no evidence from which a reasonable jury could conclude that the environment or humans are at risk from any exposure to VX at this level in the form it would take in CVXH. Dr. Kerger specifically testified that his conservative estimates of VX concentrations as high as 10,000 ppb and EA2192 concentrations as high as 1,000 ppb would be orders of magnitude below those at which adverse health effects would occur. Kerger Decl. ¶ 15; PI Hr'g Tr. at 555-61. This is consistent with the only evidence in the record as to the method by which VX is effective as a nerve agent: when it is aerosolized. Kavanagh Decl. ¶ 5.

Similarly, Plaintiffs have produced no facts to support their theory that shipment of CVXH in its cleared form presents a substantial risk that humans would be exposed to dangerous levels of either VX or EA2192 when it is shipped. Defendants' uncontroverted evidence is that the risk of exposure to any CVXH during transport is minimal. PI Hr'g Tr. at 523, 529. At the Preliminary

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<sup>15</sup>Dr. Irvine testified at the Preliminary Injunction Hearing that he had seen cleared batches of CVXH with this range of values for VX concentration. PI Hr'g Tr. at 473-74. However, as explained by Dr. Kavanagh, the method detection limit for a laboratory system is the point at which the analyst is 99% certain that the value obtained for the analysis is different from zero. Kavanagh Decl. ¶ 10. All of the values discussed by Dr. Irvine are below the maximum method detection limit value of 20 ppb. *Id.*

Injunction Hearing Dr. Kerger discussed his models and findings at length concluding that potential exposures would be orders of magnitude below levels at which adverse health effects would occur. PI Hr'g Tr. at 555-61. Furthermore, there is no evidence to contradict the relevant state authorities' approval of the transportation safety plans submitted by Defendants, plans specifically designed to minimize the risks associated with terrorists attacks and minimize the risk associated with transporting the caustic material. Admin. R. Doc. No. 6, Attach. 2; *id.* Doc. Nos. 39 & 40. Although these approvals alone would not be enough to defeat a citizen-suit RCRA challenge, coupled with Dr. Kerger's uncontested testimony they support only one conclusion: there is no RCRA violation stemming from the transport of CVXH from Newport, Indiana, to Port Arthur, Texas.

In addition, Plaintiffs present no evidence that the absence of air monitors at Veolia for VX and/or EA2192 creates a substantial risk of endangerment. Plaintiffs speculate that the potential for higher than method detection limit amounts of VX and EA2192 in CVXH creates the threat that the material burned by Veolia will have detectable amounts of VX or EA2192 in them. First, on the evidence presented, a reasonably jury could only conclude that CVXH shipped to Veolia does not contain VX or EA2192 above their respective method detection limits; therefore, there is de minimus risk that VX or EA2192 would ever vent from the incinerator. In addition, the only evidence in the record is that Veolia operates its incinerator pursuant to a RCRA permit, which does not require monitoring of VX or EA2192. PI Hr'g Tr. at 254. Furthermore, the Veolia process meets MACT standards for the hazardous waste industry. Magee Decl. ¶ 11. There is no dispute that VX and CVXH have low thermal stability and are easily destroyed in an incinerator such that the DRE value for those materials is on the order of 99.9999999%. *Id.* ¶ 7. This would make any monitoring of the air from Veolia's stack to be useless for measuring VX or EA2192 when the original concentrations

are below their method detection limits. *Id.* ¶¶ 18, 22; PI Hr’g Tr. at 390-92. In other words, the only reasonable conclusion is that Plaintiffs’ scenario for potentially threatening quantities of either VX or EA2192 in the stack gases at Veolia is de minimus at most, but orders of magnitude below the protective level for the general population at worst. Magee Decl. ¶¶ 18, 22; PI Hr’g Tr. at 426, 457.

Plaintiffs’ argument that the increased VOC loading at NECDF presents an imminent and substantial threat to humans or the environment is also without merit. The monitors at NECDF would warn of any breakthroughs of VX from the carbon filters. Rowden Dec. 20, 2007, Decl. ¶ 3. To ensure that breakthroughs do not occur, the Government replaces the carbon filters more frequently than it had originally planned to do. *Id.* There is no evidence that NECDF has experienced any breakthroughs that would create the threat of harm from VX emissions. Moreover there is no admissible evidence that such a breakthrough is possible or probable; conjecture is not enough to show an imminent risk of substantial harm.

In summary, Plaintiffs provide no evidence of a material issue of fact that Defendants’ production, storage, transport, and incineration of CVXH create an imminent and substantial endangerment to the environment. For these reasons, the Court **GRANTS** summary judgment in favor of Defendants on Plaintiffs’ Claim 1 pursuant to the citizen-suit provision of RCRA.

## **2. Counts 6, 7, 8 and 9 Brought Pursuant to 42 U.S.C. § 6972(a)(1)(A)**

In Counts 6, 7, 8 and 9 of their Complaint, Plaintiffs contend that Defendants are in violation of 42 U.S.C. § 6972(a)(1)(A), in various respects. That section provides:

Except as provided in subsection (b) or (c) of this section, any person may commence a civil action on his own behalf—

(1)(A) against any person (including (a) the United States, and (b) any other governmental instrumentality or agency, to the extent permitted by the [E]leventh [A]mendment to the Constitution) who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to this chapter . . . .

42 U.S.C. § 6972(a)(1)(A).

In Count 6, Plaintiffs assert that Defendants have violated Indiana Code § 13-22-7.5-2, which governs transportation of chemical munitions. However, in their response to Defendants' summary judgment motions Plaintiffs concede that this Indiana statute was enacted after the EPA approved Indiana's RCRA program; therefore, 42 U.S.C. § 6972(a)(1)(A) does not apply. Moreover, Plaintiffs have not complied with the citizen-suit provisions of Indiana law; therefore, the Court may not decide the claim under state law. Under the circumstances, Plaintiffs request that the Court dismiss Count 6 without prejudice; however, Defendants object to dismissal without prejudice absent a showing that voluntary dismissal is warranted.

Under Rule 41(a)(2) the Court may use its discretion to grant or deny Plaintiffs' motion. *See Tolle v. Carroll Touch, Inc.*, 23 F.3d 174, 177 (7<sup>th</sup> Cir. 1994). Plaintiffs bear the burden to establish that voluntary dismissal without prejudice is warranted. *Id.* (citing Fed. R. Civ. P. 41(a)(2)). Here, Plaintiffs provide no justification for dismissal without prejudice. Therefore, because Plaintiffs' concede that Claim 6 fails, the Court **GRANTS** Defendants' Motions for Summary Judgment on that claim.

In Count 7 of their Complaint, Plaintiffs allege that Defendants failed to adequately test and analyze CVXH prior to transport, disposal, or treatment as required by RCRA. *See* 40 C.F.R. §

264.13.<sup>16</sup> Specifically, Plaintiffs contend that Defendants violated 40 C.F.R. § 264.13 when the Government became aware that the concentration levels of VX and/or EA2192 might exceed the method detection limits, because of a three-way valve failure or because of hidden VX in a piping “dead leg,” and it did not retest the material until May 2007. Even when the Government retested, Plaintiffs complain that it only evaluated six ISO containers. The Government asserts that these process failures were corrected and that all batches of CVXH that were cleared for storage in the ISO containers passed the method detection limit criteria; therefore, no retesting was required.

The Court concludes that there is no material question of fact on this claim. First, much of Plaintiffs’ evidence on this issue is inadmissible as hearsay. Second, Plaintiffs present no evidence to contradict the Government’s data that all batches of CVXH that were cleared for storage in ISO containers had VX and EA2192 concentrations below their respective method detection limits. Moreover, the method chosen by the Government to test the ISO containers addressed Plaintiffs’ concern about the lack of mixing in the ISOs. The test results confirmed that cleared CVXH had VX

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<sup>16</sup>The relevant portions of 40 C.F.R. § 264.13 state:  
Sec. 264.13 General waste analysis. (a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under Sec. 264.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part [40 C.F.R. Part 264] and part 268 of this chapter.

\* \* \*

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated: (i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes . . . has changed; and (ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

and EA2192 concentrations below their respective method detection limits. The Court notes that the Government quickly addressed the problems it encountered during the early phases of processing of batches of CVXH and re-sampled those batches that might be questionable and reprocessed those batches that did not conform to its clearance criteria. Brubaker Dec. 19, 2007, Decl. ¶¶ 5-8. Nothing more is required by 40 C.F.R. § 264.13.

For these reasons, Defendants' Motions for Summary Judgment on Count 7 is **GRANTED**.

Count 8 of Plaintiffs' Complaint is directed to the waste manifest requirements of RCRA, 40 C.F.R. §§ 262.20<sup>17</sup> & 263.20<sup>18</sup>, and the State of Indiana, Indiana Code §§ 13-22-4-1<sup>19</sup> and 13-30-2-1(12)<sup>20</sup>. Citing generally to all of their allegations, Plaintiffs assert that Defendants violate all of these provisions because CVXH contains VX.

To the extent that the Court can assume from Plaintiffs' brief that they challenge Defendants' characterization of CVXH as a corrosive derived from the treatment of VX because of the potential for some concentration of VX and/or EA2192 to exist in the CVXH, the Court cannot agree that this creates a genuine issue of material fact. There is no dispute that CVXH falls under no other category of hazardous waste. In addition, there is no evidence that cleared CVXH contains VX or EA2192

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<sup>17</sup>Generally, 40 C.F.R. § 262.20 requires that a generator of hazardous waste that transports the waste must prepare a manifest using certain EPA forms.

<sup>18</sup>Generally, 40 C.F.R. § 263.20 requires a transporter to reject hazardous waste from a generator that has not provided a manifest signed in accordance with the requirements of another section of 40 C.F.R.

<sup>19</sup>Indiana Code § 13-22-4-1 adopts the EPA's Uniform Hazardous Waste Manifest form and requires that the generator include the waste codes for each hazardous waste in a shipment of such waste.

<sup>20</sup>Indiana Code § 13-30-2-1(12) prohibits the transportation of hazardous waste without a manifest.



above their respective method detection limits, which, by definition, would preclude listing those chemicals on the manifest. For these reasons, Defendants' Motions for Summary Judgment on Count 8 is **GRANTED**.

In Count 9 of their Complaint, Plaintiffs allege that Defendants violated RCRA and related state requirements that owners and operators of hazardous waste facilities take all necessary measures to prevent and minimize the releases of hazardous waste or its constituents. *See* 40 C.F.R. § 264.31<sup>21</sup>; 329 Ind. Admin. Code § 3.1-9-1. Specifically, Plaintiffs challenge the lack of VX monitors at Veolia, and the venting of VOCs at NECDF under this requirement. Plaintiffs assert that VX monitoring should be required at Veolia because without it, VX could be released into the atmosphere undetected and endanger human life or the environment. Similarly, Plaintiffs argue that the evidence shows that the Government is venting chemicals of unknown toxicity and, perhaps, undetected VX through its overloaded carbon filter beds in violation of the requirement that it design its facilities to prevent and minimize the release of hazardous waste into the environment.

Veolia asserts that it has systems in place to ensure that it is operating within its permit, which is all that is required of it to safely process CVXH according to 40 C.F.R. § 264.31. Similarly, the Government asserts that there is no evidence that the carbon filter system at NECDF cannot adequately protect humans or the environment from unexpected releases of hazardous materials.

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<sup>21</sup>This section states:

Design and operation of facility. Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

40 C.F.R. § 264.31.

The Court agrees with Defendants that Plaintiffs have failed to provide evidence of a material question of fact that the process at NECDF or Veolia's incineration of CVXH violated 40 C.F.R. § 264.31. Taking the argument against the Government's process at NECDF first, the only admissible testimony on this issue reveals that VOCs are emitted during the neutralization process, but they are within the terms and limits of the permit issued by the State of Indiana. PI Hr'g Tr. at 216-18; 84-85. In addition, to ensure that it was in compliance with its permits, NECDF performed a risk assessment during which it took samples and differentiated individual compounds in the emitted gas and looked for specific compounds such as VX, EA2192, EMPA and MPA. Rowden Dec. 20, 2007, Decl. ¶¶ 4-6; PI Hr'g Tr. at 218-19. NECDF has not detected any concentrations of substances of concern that were above levels that could impact public health or the environment. Rowden Dec. 20, 2007, Decl. ¶ 6. Moreover, NECDF monitors its carbon filters and replaces them frequently in order to minimize releases of any unknowns or unexpected compounds. PI Hr'g Tr. at 222-23, 580-81. Since the time that the Government changed its process, there have been no breakthrough emissions that would support Plaintiffs' theory that the hydrolysis process does not prevent the release of hazardous materials. Rowden Dec. 20, 2007, Decl. ¶¶ 6, 8. In other words, Plaintiffs have nothing but speculation about the efficacy of the air monitoring system at NECDF. Without specific citations to contrary evidence, there is no genuine issue of material fact on Count 9 with respect to the Government and the Government is entitled to summary judgment on that Count.

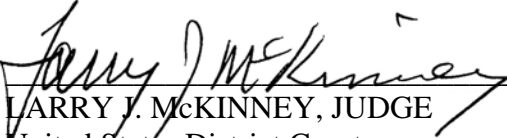
Next, with respect to Veolia, there is no genuine issue of material fact that the CVXH treated by Veolia is non-detect for VX and EA2192. In addition, there is no question that Veolia's incinerator has been permitted to treat corrosive hazardous waste by the relevant permitting agencies. Magee Decl. ¶¶ 10, 11, 18, 29, 33. Furthermore, there is uncontroverted testimony that Veolia's

incinerator would destroy any VX and/or EA2192 that was found in CVXH. *Id.* ¶ 17; PI Hr'g Tr. at 380-92. Veolia has monitors to ensure the incinerator's effectiveness and has systems to ensure that it operates within its permits. Magee Decl. ¶ 11. There is no evidence that these safeguards are insufficient to protect human life or the environment from unexpected releases from the incineration of CVXH. Under these facts, Plaintiffs have no evidence to show a violation of 40 C.F.R. § 264.31 at Veolia's facility in Port Arthur, Texas. For this reason, summary judgment in favor of Veolia on Plaintiffs' Count 9 is appropriate.

### **III. CONCLUSION**

For the reasons stated herein, the Court **DENIES** Plaintiffs' Motion for Partial Summary Judgment on Plaintiffs' NEPA and DAA Claims (Docket No. 69); **GRANTS** the Government's Cross-Motion for Partial Summary Judgment (Docket No. 75); **GRANTS** Veolia's Motion for Summary Judgment Against Plaintiffs' RCRA Claims (Docket No. 85); and **GRANTS** the Government's Motion for Summary Judgment on Counts 1, 6, 7, 8 and 9.

IT IS SO ORDERED this 22<sup>nd</sup> day of September, 2008.

  
LARRY J. MCKINNEY, JUDGE  
United States District Court  
Southern District of Indiana

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