



March 15, 2010

Department of Homeland Security
National Protection and Programs Directorate
Office of Infrastructure Protection
Infrastructure Security Compliance Division
Mail Stop 8100
Washington, D.C. 20528

**RE: Applicability of CFATS to Gasoline Terminals, Request for
Comments (75 Fed. Reg. 2,445); DHS 2009-0141**

The International Liquid Terminals Association (“ILTA”), on behalf of its affected members, is pleased to respond to the Request for Comments (the “Request”) published by the Department of Homeland Security (“DHS”) in the *Federal Register* on January 15, 2010. *See* 75 Fed. Reg. 2,445.

DHS invited public comment on “issues related to certain regulatory provisions in the Chemical Facility Anti-Terrorism Standards [“CFATS”] that apply to facilities that store gasoline in aboveground storage tanks.” *Id.* In Section III of the Request, DHS referenced ILTA’s May 13, 2009 “petition to DHS under the Administrative Procedure Act requesting that DHS exempt gasoline from CFATS and remove all references to gasoline terminals from § 27.203(b)(1)(v) and the CFATS flammable mixtures rule (§ 27.204(a)(2)).” *Id.* at 2,446-47. DHS then stated that “[t]hrough this notice, DHS invites comments on certain technical issues related to the applicability of CFATS to gasoline terminals.” *Id.* at 2,447.

ILTA reiterates that this regulation is inappropriate for fuel facilities because gasoline and diesel fuel do not present the same level of risk as those genuinely dangerous chemicals for which this regulation was originally conceived and developed.

Although the Request was published in the *Federal Register’s* “Proposed Rules” section, ILTA notes that it was neither styled as a proposed rule nor was it a direct response to ILTA’s petition, which is still pending before DHS.

Among other things, ILTA's petition¹ contends that DHS violated the "logical outgrowth test" when it included provisions on Release-Flammable mixtures in the final version of Appendix A on November 20, 2007 ("Final Appendix A"). Thus, ILTA welcomes the Request's explicit invitation to provide comments "on the inclusion of 6 CFR 27.203(b)(1)(v) (counting of Release-COI in gasoline, diesel, kerosene, or jet fuel in aboveground storage tanks) and 6 CFR 27.204(a)(2) (the flammable mixtures rule), as they apply to gasoline terminals." *Id.* at 2,448.

ILTA understands that DHS intends to respond to the petition following its review of the comments received in response to the Request.² Although DHS is requesting comments, it is not reopening Final Appendix A for notice-and-comment. This generic Request will not alone serve

¹ *Extract from ILTA's May 13, 2009 petition:* [P]ursuant to 5 U.S.C. § 554(e), ILTA hereby petitions DHS (and requests a prompt response under 5 U.S.C. § 555(e)) for a declaratory order terminating this controversy and removing uncertainty by declaring gasoline, as a mixture with [a National Fire Protection Association] flammability hazard rating of 3, exempt from CFATS. Accordingly, as a permanent clarifying change to the Code of Federal Regulations, ILTA proposes the following revisions to Appendix A to 6 CFR Part 27:

In section 27.203, revise the beginning of subparagraph clause (b)(1)(v) to delete references to fuels with flammability hazard ratings of 1, 2, and 3, so it reads as follows:

In fuels that have a flammability hazard rating of 4, as determined by using

In section 27.204, revise the first two sentences of subparagraph (a)(2) to delete the cross reference to § 27.203(b)(1)(v), so it reads as follows:

If a release-flammable chemical of interest is present in a mixture in a concentration equal to or greater than one percent (1%) by weight of the mixture, and the mixture has a National Fire Protection Association (NFPA) flammability hazard rating of 4, the facility shall count the entire amount of the mixture toward the STQ. If a release-flammable chemical of interest is present in a mixture in a concentration equal to or greater than one percent (1%) by weight of the mixture, and the mixture has a National Fire Protection Association (NFPA) flammability hazard rating of 1, 2, or 3, the facility need not count the mixture toward the STQ.

In addition, ILTA proposes corresponding revisions to the preamble to the final version of Appendix A as follows:

First, by revising the paragraph in the second column of 72 Fed. Reg. 65,399, beginning with "Second," to read as follows:

Second, facilities must also include chemicals of interest in fuels when stored in above-ground tank farms, including tank farms that are part of pipeline systems. See § 27.203(b)(1)(v). This includes fuels with a National Fire Protection Association (NFPA) flammability hazard rating of 4. Fuels with an NFPA flammability rating of 1, 2, or 3 are excluded from DHS's flammable mixtures provisions. EPA excludes these fuels by virtue of the provisions in its mixtures rule for regulated flammable substances.

Second, by revising the third-from-the-last sentence of the discussion of "c. Minimum Concentration (Mixtures)" that appears above the subheading "2. Release-Explosives" in the third column of 72 Fed. Reg. 65,402 by deleting the words "the entire weight of," to read as follows:

If a release-flammable chemical of interest is present in a mixture in a concentration equal to or greater than one percent (1%) by weight of the mixture, and the mixture has an NFPA flammability hazard rating lower than 4 (i.e., NFPA flammability hazard rating of 1, 2 or 3), the facility need not count the mixture toward the STQ.

² In a letter dated January 15, 2010, to Steven Roberts, ILTA's attorney, DHS stated "[p]lease be advised that today DHS published the attached *Federal Register* Request for Comments inviting comments on issues raised in the ILTA petition and, thus, will respond fully to the petition after we consider the public comments."

as a “cure” for the DHS violation of the “logical outgrowth test.” For that to occur, DHS would have to treat the Request as a supplementary notice of proposed rulemaking and respond to every significant comment made. *See ACLU v. FCC*, 823 F.2d 1554, 1581 (D.C. Cir. 1987) (“Notice and comment rulemaking procedures obligate the [Federal Communications Commission] to respond to *all* significant comments, for the opportunity to comment is meaningless unless the agency responds to significant points raised by the public.”) (emphasis added)(internal quotation marks omitted). If DHS considers and responds to *all* of the significant arguments and data submitted by commenters to this Request – and by ILTA in its petition – then that would be procedurally satisfactory. ILTA does not deem it necessary to restate the issues identified in its petition. Instead, the comments in this response focus on the Request and the *new* issues that it has introduced.³

I. INTRODUCTION

Congress authorized DHS to implement regulations to enhance security at chemical facilities that present “*high levels* of security risk.”⁴ As the regulatory agency charged by Congress, DHS has formulated a list of Chemicals of Interest (“COI”) based on the potential to create significant human life or health consequences if released, stolen, diverted, or sabotaged. 75 Fed. Reg. 2,445. By deciding to include gasoline terminals among those facilities presenting “*high levels* of security risk,” DHS has significantly erred. At a minimum, it has overstated the worst-case plausible impact of a deliberate terrorist attack against a gasoline terminal, especially as it relates to significant off-site consequences.

In particular, DHS has referenced the accidental release at the Buncefield Oil Storage Depot in Hertfordshire, England on December 11, 2005, as its sole articulated basis for regulating gasoline. At Buncefield, the failure of multiple high-level alarm systems, inattentive operators, and inadequate volume management combined to produce a protracted tank overfill, causing the rapid formation of gasoline vapors as the product escaped through a series of vents along the roofline of the tank.

The Buncefield Major Incident Investigation Report made clear that the design and construction of this particular tank was also a significant contributing factor to the resulting formation of a vapor cloud. The tank was fitted with a deflector plate which reportedly caused the fuel to “fragment[] into droplets that cascaded through the air.”⁵ Furthermore, fuel that dispersed down the tank wall “hit a wind girder...and detached from the tank wall, creating a second cascade of droplets. These conditions would promote the evaporation of the lighter components of

³Although DHS included the ILTA petition as part of the public docket and made it available via www.regulations.gov, DHS did not post the accompanying Exhibits to the petition that provide important supplemental material and context. Accordingly, on February 22, 2010, under separate cover, ILTA posted the Exhibits to the public docket. On February 24, 2010, DHS withdrew the Exhibits from the public docket. DHS claims that the Exhibits contain sensitive information.

⁴ Homeland Security Appropriations Act of 2007, § 550, Pub. L. 109-295, Oct. 2006 (emphasis added).

⁵ BUNCEFIELD MAJOR INCIDENT INVESTIGATION REPORT 12 (2006), <http://www.buncefieldinvestigation.gov.uk/reports/initialreport.pdf>.

petrol...and the formation of a rich fuel/air mixture.” *Id.* This tank design is not consistently used in the United States.

The Buncefield overflow mechanism, combined with cool temperatures, an inversion layer, and facility congestion, enabled the formation of a dispersed vapor cloud within gasoline’s narrow flammable range. This aggregation of rare circumstances is unique, allowing for an explosion of such severity as to cause significant off-site damage. Fortunately, there were no fatalities.

Nearly four years later, on October 23, 2009, a similar incident occurred at a Caribbean Petroleum Corporation storage facility near San Juan, Puerto Rico. Again, the failure of high-level alarm and shut-down mechanisms, combined with operator error and poor management of transfer volumes, resulted in the overfill of a gasoline storage tank. Similar atmospheric conditions and possible congestion enabled the eventual formation of a vapor cloud. More than one hour after the overflow began, the introduction of a spark caused an explosion. The most severe damage resulted from the blast itself, which immediately involved 11 storage tanks but caused no injuries. Limited off-site damage included broken windows in several vehicles and damage to a portion of a nearby perimeter roadway. As with Buncefield, no fatalities occurred.⁶

While extraordinarily rare, these two events demonstrate how human error can align with numerous, low-probability conditions to result in the formation of a fuel-air mixture and deferred ignition of a gasoline vapor cloud. Empirical data and practical experience indicate that in the United States, if terminal operators meet existing regulatory standards for safety and environmental protection, this negates even the possibility of a similar series of cascading failures despite their unfortunate occurrences in England and Puerto Rico.

II. SECURITY RISKS ARE DIFFERENT FROM SAFETY AND ENVIRONMENTAL RISKS

In the White Paper entitled “Risks Associated with Gasoline Storage Sites” (“White Paper”), provided to DHS on October 3, 2008, petroleum trade associations explained the appropriateness of the exclusion of gasoline from the Risk Management Plan (“RMP”) as promulgated by the Environmental Protection Agency (“EPA”). In response, DHS stated “[w]hile the potential consequences from an accidental release may provide some insight into the potential consequences from an intentional terrorist attack, we cannot assume that the same approach used for an accidental release will apply, without variation, to an intentional terrorist attack.” Letter from Sue Armstrong, Acting Director, Infrastructure Security Compliance Division, to Robin Rorick, Director, Marine and Security, American Petroleum Institute (December 10, 2008).

ILTA agrees with this statement. In fact, ILTA and the regulated community contend that it is not feasible for terrorists to replicate the complex set of conditions that allowed the Buncefield and Puerto Rico incidents to occur in the first instance. Nonetheless, DHS continues to portray

⁶ Communications with Chauncey Naylor, Vice President of Emergency Services for Williams Fire and Hazard Control and on-site responder to the Puerto Rico incident, <http://www.williamsfire.com>.

gasoline terminals as “ticking time-bombs” that might readily produce significant off-site consequences if they are subjected to a terrorist attack.

DHS has failed to provide a rational basis for this position. Beyond restating the axiom that security risks are different than safety risks, DHS has provided no meaningful analysis. It is not enough to merely state:

DHS understands that the formation of a gasoline vapor cloud with the potential to cause significant harm to human life and health requires that a number of natural and man-made circumstances combine in a certain way, and that accidental gasoline vapor cloud explosions are therefore uncommon. DHS has *determined*, however, that those necessary conditions are more likely to exist in the event of an intentional terrorist incident than in the context of an accident, and thus, that it is *reasonable* and within the Secretary’s discretion under Section 550 to apply the modified [Vapor Cloud Explosion] model to gasoline terminals. *See generally* 72 FR 65399.

75 Fed. Reg. 2,447 (emphasis added).

DHS postulates that “...a terrorist could attempt to cause gasoline to leak or overflow from the targeted tank(s) in such a way as to make formation of a vapor cloud more likely than it would be in an accident like the Buncefield explosion.” *Id.* However, not one of the DHS attack scenarios required for Release-Flammable COIs, as established by the CFATS Security Vulnerability Assessment (“SVA”), envisions such an attempt.

Similarly, the conclusion “...that a terrorist seeking to cause such an explosion could target a facility where the necessary physical conditions exist (or are likely to occur at some point in time)” is unrealistic. DHS has neither articulated the specific elements of these “physical conditions” nor, by extension, solicited such information from *any* of the 405 gasoline terminals preliminarily determined to present a high-level of security risk. The SVA clearly does not capture the necessary data to enable DHS to make such a determination, and DHS did not consult with industry experts and terminal operators when developing its program to determine how best to evaluate the prevalence of such conditions.

Industry, however, has provided DHS with scientific and technical arguments to support its position that gasoline should be excluded from CFATS. The arguments are presented in several sources, including: (1) the White Paper; (2) a letter from Williams Fire and Hazard Control, dated May 5, 2009; (3) a report from AcuTech Group Inc., dated May 12, 2009; and (4) a report from Baker Engineering and Risk Consultants, Inc., dated May 12, 2009. The burden of persuasion remains with DHS to refute the substantive arguments set forth in these documents and to present a rational basis for concluding that gasoline should be included in CFATS.

III. DHS REFERENCES TO PUBLIC COMMENTS REGARDING COI MIXTURES

In the Request, DHS states that “[i]n response to comments requesting that DHS clarify whether and how facilities should count COI in mixtures...[Final Appendix A] also added § 27.204....In particular, § 27.204(a)(2)...clarified how to calculate the quantity of Release-Flammable COI contained in chemical mixtures, including gasoline and the other fuels specified in 27.203(b)(1)(v)....” *Id.* at 2,446 (emphasis added)(footnote omitted).

These statements imply that DHS received substantive comments during the Appendix A notice-and-comment period indicating either that (1) fuels, such as gasoline, should prompt a high-risk determination; or (2) minimal amounts of a COI in any mixture should prompt a high-risk determination. The record, however, does not support this inference.

In the preamble to Final Appendix A, DHS states:

Several individuals, entities, and organizations believed that the proposed appendix was unclear about applicability of [Screening Threshold Quantities (“STQs”)] to mixtures and solutions. Commenters argued that the concentration of a COI is the most important factor affecting potential harm. Commenters asserted that when a COI is listed in Appendix A without a percent concentration, then the STQ should apply to the weight of the pure substance, not to the weight of a mixture or solution. Alternatively, commenters suggested that DHS should establish minimum concentrations for all COI. Some commenters noted that the properties of a mixture might be significantly different from the properties of the listed COI that caused the mixture to be considered a health or security risk. One commenter suggested that DHS should exclude mixtures from the list, since most chemical mixtures do not share the same risk profile as their pure compound counterpart (e.g., acetone, cyanides, fertilizers, and gas mixtures).

72 Fed. Reg. 65,416

In its petition, ILTA identified no fewer than 10 commenters who believed that Appendix A only applied to pure chemicals. *See* ILTA Petition at 16-17. The comments neither address fuels generally (or gasoline, specifically) nor do they support expanding the definition of “mixtures” to substances that contain *de minimus* amounts of a COI. To the contrary, the comments indicate that the concentration or percentage of a COI in a mixture is highly relevant. ILTA found no comments requesting the “clarification” pertaining to gasoline referred to by DHS.

Furthermore, the comments caution against mischaracterizing a mixture by erroneously attributing the properties of its constituent parts to the mixture itself. Indeed, footnote 3 of the Request correctly states that “[t]here is no single chemical composition for the mixture typically called ‘gasoline....’” 75 Fed. Reg. 2,446.

Any specific formulation of gasoline will behave as a uniform mixture, rather than as a select percentage of its constituent parts, such as pentane or butane. It is inappropriate, therefore, to

justify the inclusion of the mixture “gasoline” in CFATS based on the presence of a COI (e.g., pentane or butane). This is especially true considering that COIs such as pentane or butane often comprise *far less* than 10% of the mixture in “gasoline.” Thus, the statement that “[a]ll formulations of gasoline...contain a significant percentage of certain release-flammable chemicals (e.g., pentane, butane)...” is misleading. *Id.* at n.3.

These concerns are *particularly acute* in light of DHS’s recent statements. On February 22, 2010, Sue Armstrong, Acting Deputy Assistant Secretary for Infrastructure Protection, stated during a webinar entitled *CFATS: An Update* that “gasoline is not what we are regulating. It is the butane and pentane contained in the gasoline.”

IV. ILTA’S RESPONSES TO THE SPECIFIC QUESTIONS POSED BY DHS

The Request seeks comment on three principal issues:

- (a) Comments on the inclusion of 6 CFR § 27.203(b)(1)(v) (counting of Release COI in gasoline, diesel, kerosene, or jet fuel in aboveground storage tanks) and 6 CFR § 27.204(a)(2) (the flammable mixtures rule), as they apply to gasoline terminals.
- (b) Comments on the applicability of the modified Vapor Cloud Explosion (“VCE”) model to gasoline terminals, including: whether the reduction of the vapor yield for gasoline from ten percent (as in EPA’s VCE model) to one percent reasonably reflects the potential consequences for a vapor cloud explosion from gasoline (as compared to other liquid flammable chemicals); and whether a different yield factor adjustment might better reflect the potential consequences for a vapor cloud explosion from gasoline.
- (c) Comments on whether a reasonable model exists or should be developed for future use that would allow DHS to estimate the plausible worst-case consequences of an uncontained pool fire resulting from a successful attack on gasoline terminals.

See id. at 2,448.

ILTA responds to each issue below:

A. Including 6 CFR § 27.203(b)(1)(v) and 6 CFR § 27.204(a)(2), as They Apply to Gasoline Terminals, is Arbitrary, Capricious, and Without Merit

ILTA has substantially addressed this specific issue in its petition but restates and modifies its comments, as appropriate, in response to the Request. Until DHS added the new provision 6 CFR § 27.203(b)(1)(v) in Final Appendix A, DHS relied heavily on EPA’s RMP rules. In its advance notice of proposed rulemaking in December 2006, DHS referenced EPA’s RMP regulation:

As the RMP chemical list and threshold limits were established by EPA based on a chemical’s potential for acute offsite health impacts in the event of a large air

release, the Department believes that a number of facilities regulated under this program may also qualify as ‘high-risk’ facilities covered under Section 550.

71 Fed. Reg. 78,279.

In the preamble to the CFATS Interim Final Rule published in April 2007, DHS again indicated that the RMP list was significant as a source (though not the only source) for developing its own COI list. *See* 72 Fed. Reg. 17,696. DHS also acknowledged that several industry commenters supported using the RMP list both to help identify the initial group of regulated facilities and as a basis for selecting chemical facilities. *Id.* at 17,697. It further acknowledged that “one association felt that DHS should link its definition of chemical facility to those facilities covered by EPA’s RMP, because it is a clear and defined list.” *Id.*

In Final Appendix A, DHS followed EPA’s RMP in a number of particulars. It indicated that “[t]o identify the release chemicals for Appendix A, the Department looked to the list of substances in the EPA’s RMP rule.” 72 Fed. Reg. 65,401. DHS “adopted the EPA RMP [threshold quantities], because DHS accepts the same rationale that EPA used when setting its [threshold quantities]—i.e., that they are amounts that, if released, have the potential to create significant human health effects.” *Id.* DHS stated that “in developing these [threshold quantities], EPA collected extensive input and conducted a thorough analysis, and DHS wants to leverage that knowledge base.” *Id.* Accordingly, DHS explained that “[f]or release-flammable chemicals, DHS also uses the same listing criteria as EPA does for release-flammable chemicals. EPA, and now DHS, identifies flammable gases and volatile flammable liquids based on the flash point and boiling point criteria that the NFPA uses for its highest flammability hazard ranking (Class IA).” *Id.*

Logically, therefore, DHS also adopted exclusions in 6 CFR § 27.203(a) that track many of the exclusions from the RMP rules. DHS reasoned that the exclusions were appropriate “...because chemicals in such circumstances or forms are unlikely to contribute to the potential consequences of a successful attack.” *Id.* at 65,398.

Even though EPA, after due consideration, exempted gasoline from its RMP rules, DHS included gasoline, although the risk of off-site consequences from a terrorist attack postulated by DHS is less than the risk of off-site consequences from an accidental release. All of the terrorist attack scenarios envisioned for Release-Flammable COIs involve kinetic events that could be expected to pierce a tank. Yet, even if the attack pierced one or more tanks, the expected result would be an immediate fire, which *would itself remove the possibility of a vapor cloud build-up*. In this sense, the terrorism threat poses *less* of a hazard of off-site consequences than that posed by operator negligence.

ILTA again acknowledges that the application of EPA’s RMP rules (*accidental* threats to public health and safety) is somewhat different from the objective of CFATS (*intentional* threats to public health and safety). Yet, the only justification that DHS *continues* to offer to support its departure from EPA is premised on supposedly increased “... potential consequences to human life or health of an *intentional* terrorist attack.” 75 Fed. Reg. 2,446. This statement repeats,

nearly verbatim, the earlier conclusory statement made by DHS in November 2007 in the preamble to Final Appendix A.

B. EPA's Vapor Cloud Explosion Model is Not Readily Adaptable for Use with NFPA Category 3 Flammable Liquids

EPA developed the VCE model for use with NFPA 4 substances that readily form vapors in ambient conditions. DHS states that it "...used the EPA VCE model as a starting point for modeling potential VCE consequences for all Release-Flammable COIs, including those at gasoline terminals." *Id.* at 2,447. DHS then refined the model and "...*assumes* that only one percent of gasoline will participate...[in the explosion]." *Id.* (emphasis added).

The EPA VCE model was *not* developed for use with flammable liquids, such as *NFPA 3* gasoline; therefore, it is unclear how DHS can justify application of the model for the purposes of estimating "...the potential consequences of a terrorist attack on gasoline terminals in particular." *Id.* Modifying a misapplied VCE model is not scientific and does not withstand scrutiny.

ILTA previously sought the opinions of leading experts regarding the likely outcomes of the DHS postulated attack scenarios against a gasoline terminal. *See* ILTA Petition, Exhibits F, G and H. As ILTA stated in its petition, the near immediate result of the attack vectors would be an immediate fire. Fuel vapors would instantaneously become consumed in flames. Thus, the only satisfactory explosive "yield factor" for a tank whose contents were ignited at the onset of an attack is zero.

To create a VCE similar to Buncefield or Puerto Rico, an adversary would need to cause a protracted release of gasoline from the tank without ignition. To accomplish this, the adversary would either have to breach the tank, overfill the tank, or drain the tank into its containment area. The DHS attack scenarios that would breach the tank have been discussed in ILTA's petition and would likely only ignite the fuel, resulting in a fire.

Overfilling the tank would require the high level and high-high level alarms to be circumvented. These alarms are commonly used in gasoline facilities throughout the United States. Many alarm systems are further integrated with failsafe mechanisms to halt product movement. There are no DHS attack scenarios which suggest that an adversary has the ability to both route product in sufficient volumes to overfill a tank *and* disable storage tank level alarm systems without terminal personnel being alerted and able to quickly halt product movements.

Finally, with rare exception, bulk gasoline storage tanks are very limited in their ability to drain product to the ground. The common exception is a nominal 2 inch pipe with a valve for use in draining water from the bottom of the tank. If an undetected adversary were to release product through these valves, the process would occur slowly. For instance, it would require 39 hours to drain a 50 foot diameter tank with 35 feet of gasoline through a single 2 inch water draw valve. A 100 foot tank would require over 80 hours to drain through two 2 inch valves. Laminar flow

at such gradual rates would not allow the volatilization necessary to accumulate a vapor cloud similar in size to the one experienced in Buncefield or Puerto Rico.

C. Pool Fire Modeling is not Applicable or Relevant to CFATS

Numerous sophisticated pool fire models are currently in existence. Therefore, a new model developed by DHS is not necessary. Existing models include the Process Hazard Analysis Software Tool (PHAST),⁷ SafeSite 3G Software,⁸ SuperChems Software Package,⁹ and the Toxic Release Analysis of Chemicals Emissions (TRACE) Software Package.¹⁰ While use of these models would be expected to accurately portray burning vapors above a pool of liquid gasoline, the information that DHS solicited from terminals through its “Chemical Security Assessment Tool” for both Top Screen and SVA processes does not allow for proper application of these models to a given site. However, even if properly applied to gasoline terminals, existing pool fire models would fail to portray a gasoline pool fire as a likely cause of significant human life consequences. Accordingly, such modeling does not justify the inclusion of gasoline as a COI under CFATS.

1. *Pool Fire Modeling Introduces Flammability as a New Risk Under CFATS*

DHS does not regulate gasoline because of any intrinsically hazardous properties of the mixture itself. With the introduction of 6 CFR § 27.203(b)(1)(v) and 6 CFR § 27.204(a)(2), CFATS captures gasoline due to the presence of 1% or more of a COI *in* gasoline. Given that some blends of gasoline contain just below 1% of any COI, it is self-evident that the nature of gasoline as an NFPA 3 *flammable* liquid does not meet a risk profile of interest to DHS. Flammability is unrelated to the presence of COI. The flammability of a gasoline mixture with 10% of a COI would not be materially different from the flammability of a gasoline mixture without any COI whatsoever.

Therefore, there is no correlation between a liquid’s flammability and the presence of COI in any amount, whether greater or less than 1%. If DHS were to base the hazard of gasoline upon a pool fire scenario, it would be disassociating the perceived risk from these flammable liquids from any presence of COI. This would render irrelevant the mixtures rule and correspondingly eliminate DHS’s basis for using this technical mechanism to capture gasoline under CFATS.

In addition, if DHS were to change its approach to claim that the flammability threat is sufficient to create significant human life consequences rather than a presumptive explosive threat, then *all* flammable liquids should be subject to evaluation on the same basis. If gasoline flammability presents a high level of security risk, then denatured ethanol also presents the same high level of risk. Denatured ethanol has the same supply chain as gasoline, and EPA’s Renewable Fuels Standard II mandates that ethanol consumption increase to approximately 30% of gasoline

⁷ Det Norske Veritas, <http://www.dnv.com/services/software/products/safeti/safetihazardanalysis/phast.asp>.

⁸ Baker Engineering and Risk Consultants, Inc., <http://www.bakerrisk.com/Applied-Engineering-Services/Consequence-Analysis/Flammable-and-Toxic-Consequence-Modeling>.

⁹ ioMosaic Corporation, <http://www.ioiq.com/superchems/overview.aspx>.

¹⁰ Safer Systems, LLC, <http://www.safersystem.com/trace.htm>.

volumes (36 billion gallons of ethanol annually) by 2022. *See generally* 40 CFR Part 80. Other flammable liquids that are currently excluded from CFATS with similar flammability characteristics would also be subject to regulation, including numerous other currently excluded NFPA 3 fuels and chemical solvents, though these are less prevalent in the market in large quantities.

2. Secondary Containment

A scenario for a successful attack on a gasoline terminal using an uncontained pool fire model inherently presumes the breach or elimination of secondary containment by the adversary prior to the attack on the tank itself. Thus, it is necessary for DHS to consider how existing federal regulations address secondary containment. Pursuant to EPA's Spill Prevention, Containment, and Countermeasures ("SPCC") regulations, all facilities "storing oil and oil products which, due to their location, could release oil into the navigable waters or adjoining shorelines of the United States" require secondary containment sufficient to contain the volume of the largest single container within the dike, plus rainwater. *See generally* 40 CFR Part 112. The majority of gasoline tanks that would come under CFATS are regulated under the SPCC regulations. These rules exclude certain CFATS-regulated gasoline storage tanks that are regulated by the Department of Transportation ("DOT"). DOT-regulated tanks must also be situated within secondary containment sufficient for the volume of the largest tank. *See* 49 CFR § 195.264, referencing the NFPA 30 Flammable and Combustible Liquids Code.

It is highly unlikely that an attack on secondary containment, such as an earthen berm, would compromise the complete integrity of the containment structure, which is a necessary precondition for an uncontained pool fire. Rather, it would likely result in a reduction in the height of the structure, which would cause only a partial reduction of the total volume of the containment area. The uncontained pool fire scenario unrealistically assumes that (1) the adversary targets a tank that contains a sufficient volume of gasoline in the first place, and (2) the release of gasoline is large enough to overflow the breach in the containment.

With the possible exception of an aircraft strike, the current SVA attack scenarios for Release-Flammable COIs would *not* result in an uncontained pool fire. Thus, the introduction of an uncontained pool fire model would require DHS to add a *new* attack scenario. Presumably, this means that each regulated facility with a Release-Flammable COI would need to complete and submit a *new* SVA incorporating this additional attack scenario.

It would be necessary for DHS to obtain information about a host of facility-specific factors that are material to the analysis. In addition to accounting for the "target-hardness" of various types of secondary containment structures, DHS would have to consider a facility's physical configuration. Many facilities are intentionally configured to make product departure from the facility very difficult. For example, gasoline terminals are often configured to intentionally trap and/or direct product which manages to escape from one containment area. Such "gravity-flow" designs are commonplace and help ensure that storm water is collected and contained on-site.

V. CONCLUSION

ILTA is committed to the application of CFATS to high-risk facilities, but facilities that store gasoline should not be included in the CFATS program. This conclusion is compelled by both the risk criteria for inclusion of COI and the attack scenarios established by DHS. Overstating the risk of gasoline based on overstated consequences of a terrorist attack does not make the nation more secure, and it misapplies limited resources, including those of DHS.

Should you have any questions, please do not hesitate to contact me by telephone (202-842-9200) or email (rpweaver@ilta.org).

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Peter Weaver', is centered on the page. The signature is fluid and cursive.

R. Peter Weaver
Director of Regulatory Compliance and Safety