



# Chemical Facility Security: Issues and Options for the 113<sup>th</sup> Congress

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## Summary

The Department of Homeland Security (DHS) has statutory authority to regulate chemical facilities for security purposes. The 112<sup>th</sup> Congress extended this authority through March 27, 2013. The Obama Administration has requested extension of this authority until October 4, 2013. Congressional policymakers have debated the scope and details of reauthorization and continue to consider establishing an authority with longer duration. Some Members of Congress support an extension, either short- or long-term, of the existing authority. Other Members call for revision and more extensive codification of chemical facility security regulatory provisions. Questions regarding the current law's effectiveness in reducing chemical facility risk and the sufficiency of federal chemical facility security efforts exacerbate the tension between continuing current policies and changing the statutory authority.

Congressional policymakers have questioned DHS's effectiveness in implementing the authorized regulations, called chemical facility anti-terrorism standards (CFATS). The DHS finalized CFATS regulations in 2007. Since then, 22 chemical facilities have completed the CFATS process, which starts with information submission by chemical facilities and finishes with inspection and approval of facility security measures by DHS. Several factors, including the amount of detailed information provided to DHS, effectiveness of DHS program management, and the availability of CFATS inspectors, likely complicate the inspection process and lead to delays in inspection. Policymakers have questioned whether the compliance rate with CFATS is sufficient to mitigate this homeland security risk.

Key policy issues debated in previous Congresses contribute to the current reauthorization debate. These issues include the adequacy of DHS resources and efforts; the appropriateness and scope of federal preemption of state chemical facility security activities; the availability of information for public comment, potential litigation, and congressional oversight; the range of chemical facilities identified by DHS; and the ability of inherently safer technologies to achieve security goals.

The 113<sup>th</sup> Congress might take various approaches to this issue. Congress might allow the statutory authority to expire but continue providing appropriations to administer the regulations. Congress might permanently or temporarily extend the statutory authority to observe the impact of the current regulations and, if necessary, address any perceived weaknesses at a later date. Congress might codify the existing regulations in statute and reduce the discretion available to the Secretary of Homeland Security to change the current regulatory framework. Alternatively, Congress might substantively change the current regulation's implementation, scope, or impact by amending the existing statute or creating a new one. Finally, Congress might choose to terminate the program by allowing its authority to lapse and removing funding for the program. This would leave regulation of chemical facility security to state and local governments.

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## Introduction

Recognizing the potential harm that a large, sudden release of hazardous chemicals poses to nearby people, state and federal governments have long regulated safety practices at chemical facilities. Historically, chemical facilities have engaged in security activities on a voluntary basis. Even before the terrorist attacks of 2001, congressional policymakers expressed concern over the security vulnerabilities of these facilities. After the 2001 attacks and the decision by several states to begin regulating security at chemical facilities, Congress again considered requiring federal security regulations to mitigate these risks.

In 2006, the 109<sup>th</sup> Congress passed legislation providing the Department of Homeland Security (DHS) with statutory authority to regulate chemical facilities for security purposes. Subsequent Congresses have extended this authority, which currently expires on March 27, 2013. The Obama Administration has requested extension of this authority until October 4, 2013. Advocacy groups, stakeholders, and policymakers have called for Congress to reauthorize this authority, though they disagree about the preferred approach. Congress may extend the existing authority, revise the existing authority to resolve potentially contentious issues, or allow this authority to lapse.

This report provides a brief overview of the existing statutory authority and implementing regulation. It describes several policy issues raised in previous debates regarding chemical facility security and identifies policy options for congressional consideration.

## Overview of Statute and Regulation

The 109<sup>th</sup> Congress provided DHS with statutory authority to regulate chemical facilities for security purposes.<sup>1</sup> The statute explicitly identified some DHS authorities and left other aspects to the discretion of the Secretary of Homeland Security. The statute contains a “sunset provision” that causes the statutory authority to expire on March 27, 2013.<sup>2</sup> The Obama Administration requested that Congress extend this authority until October 4, 2013.<sup>3</sup> This section reviews the chemical facility security statute and regulation, focusing on the regulatory compliance process.

On April 9, 2007, the Department of Homeland Security issued an interim final rule regarding the chemical facility anti-terrorism standards (CFATS).<sup>4</sup> This interim final rule entered into force on June 8, 2007. The interim final rule implements both statutory authority explicit in P.L. 109-295,

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<sup>1</sup> Section 550, P.L. 109-295, Department of Homeland Security Appropriations Act, 2007.

<sup>2</sup> The original statutory authority expired on October 4, 2009, three years after enactment. The Department of Homeland Security Appropriations Act, 2010 (P.L. 111-83) extended the existing statutory authority through October 4, 2010. Since this initial extension, Congress has incrementally extended this authority through many appropriation acts and continuing resolutions. The Continuing Appropriations Resolution, 2013 (P.L. 112-175) extends the statutory authority through March 27, 2013.

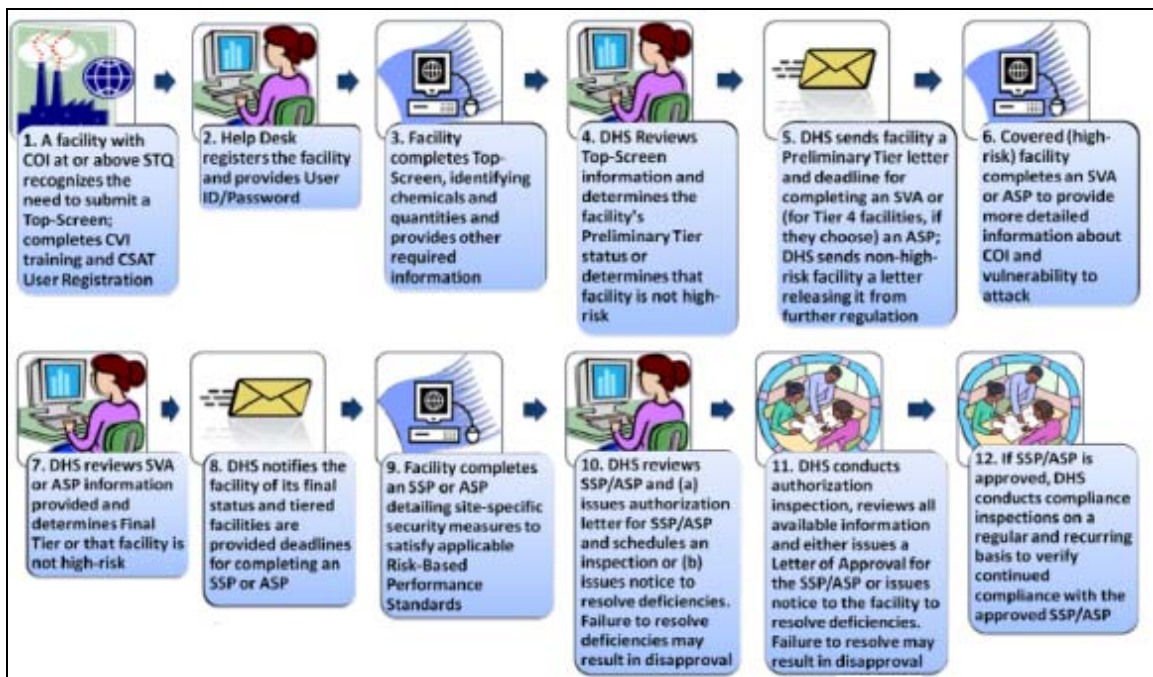
<sup>3</sup> Office of Management and Budget, The White House, *Budget of the United States Government, Fiscal Year 2013*, Appendix, p. 597.

<sup>4</sup> 72 *Federal Register* 17688-17745 (April 9, 2007). An interim final rule is a rule that meets the requirements for a final rule and that has the same force and effect as a final rule, but contains an invitation for further public comment on its provisions. After reviewing comments to the interim final rule, an agency may modify the interim final rule and issue a “final” final rule. The DHS first issued the proposed rule in December 2006 and solicited public comments. 71 *Federal Register* 78276-78332 (December 28, 2006).

Section 550, and authorities DHS found that Congress implicitly granted. In promulgating the interim final rule, DHS interpreted the language of the statute to determine what DHS asserts was the intent of Congress. Consequently, much of the rule arises from the Secretary’s discretion and interpretation of legislative intent rather than explicit statutory language.

Under the interim final rule, the Secretary of Homeland Security determines which chemical facilities must meet regulatory security requirements, based on the degree of risk posed by each facility. The DHS lists 322 “chemicals of interest” for the purposes of compliance with CFATS.<sup>5</sup> The DHS considers each chemical in the context of three threats: release; theft or diversion; and sabotage and contamination. Chemical facilities with greater than specified quantities, called screening threshold quantities, of chemicals of interest must submit information to DHS to determine the facility’s risk status. See **Figure 1**. The statute exempts several types of facilities from this requirement: facilities defined as a water system or wastewater treatment works; facilities owned or operated by the Department of Defense or Department of Energy; facilities regulated by the Nuclear Regulatory Commission (NRC); and those facilities regulated under the Maritime Transportation Security Act of 2002 (P.L. 107-295).

**Figure 1. Overview of CFATS Regulatory Process**  
(July 2012)



**Source:** Office of Infrastructure Protection, National Protection and Programs Directorate, Department of Homeland Security, *Chemical Facility Anti-Terrorism Standards (CFATS) and Ammonium Nitrate Security Regulation Update*, July 31, 2012.

**Notes:** COI=Chemical of Interest; STQ=Screening Threshold Quantity; CVI=Chemical-terrorism Vulnerability Information; CSAT=Chemical Security Assessment Tool; SVA=Security Vulnerability Assessment; ASP=Alternative Security Program; SSP=Site Security Plan.

<sup>5</sup> 72 *Federal Register* 65396-65435 (November 20, 2007).

Based on the information received from the facility, DHS determines whether a facility is or is not high-risk. Facilities that DHS deems high risk must meet CFATS requirements. The DHS assigns high-risk facilities into one of four tiers based on the magnitude of the facility's risk. Facilities in higher risk tiers must meet more stringent performance-based requirements. The statute mandated the use of performance-based security requirements.<sup>6</sup> The DHS created graduated performance-based requirements for facilities assigned to each risk-based tier.

All high-risk facilities must perform a security vulnerability assessment, develop an effective site security plan, submit these documents to DHS, and implement their security plan.<sup>7</sup> The security vulnerability assessment serves two purposes under the interim final rule. One is to determine or confirm the placement of the facility in a risk-based tier. The other is to provide a baseline against which to evaluate the site security plan activities.

The site security plans must address the security vulnerability assessment by describing how activities in the plan correspond to securing facility vulnerabilities. Additionally, the site security plan must address preparations for and deterrents against specific modes of potential terrorist attack, as applicable and identified by DHS. The site security plans must also describe how the activities taken by the facility meet the risk-based performance standards provided by DHS.

The DHS must review and approve the submitted documents, audit and inspect chemical facilities, and determine regulatory compliance. The DHS may disapprove submitted security vulnerability assessments or site security plans that fail to meet DHS performance-based standards, but not because of the presence or absence of a specific security measure. In the case of disapproval, DHS must identify in writing those areas of the assessment and/or plan that need improvement. Owners or operators of chemical facilities may appeal such decisions to DHS.

Similarly, if, after inspecting a chemical facility, DHS finds the facility not in compliance, the Secretary must write to the facility explaining the deficiencies found, provide an opportunity for the facility to consult with DHS, and issue an order to the facility to comply by a specified date. If the facility continues to be out of compliance, DHS may fine and, eventually, order the facility to cease operation. The interim final rule establishes the process by which chemical facilities can appeal DHS decisions and rulings, but the statute prohibits third-party suits for enforcement purposes.

The statute requires certain protections for information developed in compliance with this act. The interim final rule creates a category of information exempted from disclosure under the Freedom of Information Act (FOIA) and comparable state and local laws. The DHS named this

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<sup>6</sup> According to the White House Office of Management and Budget, a performance standard is a standard that states requirements in terms of required results with criteria for verifying compliance but without stating the methods for achieving required results. A performance standard may define the functional requirements for the item, operational requirements, and/or interface and interchangeability characteristics. A performance standard may be viewed in juxtaposition to a prescriptive standard which may specify design requirements, such as materials to be used, how a requirement is to be achieved, or how an item is to be fabricated or constructed.

For example, a performance standard might require that a facility perimeter be secured. In contrast, a prescriptive standard might dictate the height and type of fence to be used to secure the perimeter. See Office of Management and Budget, The White House, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," *Circular A-119*, February 10, 1998.

<sup>7</sup> High-risk facilities may develop security vulnerability assessments and site security plans using alternative security programs so long as they meet the tiered, performance-based requirements of the interim final rule.

category of information “Chemical-terrorism Vulnerability Information” (CVI). Information generated under the interim final rule, as well as any information developed for chemical facility security purposes identified by the Secretary, comprise this category. Judicial and administrative proceedings shall treat CVI as classified information. The DHS asserts sole discretion regarding who will be eligible to receive CVI. Disclosure of CVI may be punishable by fine.

The interim final rule states it preempts state and local regulation that “conflicts with, hinders, poses an obstacle to, or frustrates the purposes of” the federal regulation.<sup>8</sup> States, localities, or affected companies may request a decision from DHS regarding potential conflict between the regulations. Since DHS promulgated the interim final rule, Congress amended P.L. 109-295, Section 550, to state that such preemption will occur only in the case of an “actual conflict.”<sup>9</sup> The DHS has not issued revised regulations addressing this change in statute.

## Implementation

The National Protection and Programs Directorate (NPPD) within DHS is responsible for chemical facility security regulations. In turn, the Office of Infrastructure Protection, through its Infrastructure Security Compliance Division (ISCD), oversees the CFATS program within NPPD.<sup>10</sup> This section reviews implementation of the chemical facility security regulations, focusing on funding, the number of regulated facilities, rate of facility inspection, and DHS’s internal review of its implementation efforts.

## Staffing and Funding

The availability of staff, infrastructure, and funds is a key factor in implementing the CFATS program. Congress has not authorized specific appropriations for the CFATS program. As seen in **Table 1**, the staffing and funding for this program generally increased since its creation, but decreased since FY2011. The full-time-equivalent (FTE) staffing peaked in FY2011 at 257 FTE and then dropped to 247 in the next two fiscal years. Appropriations for this program peaked in FY2010 at \$103 million and have declined in each subsequent fiscal year.

When DHS received statutory authority to regulate chemical facilities in 2006, it did not possess a chemical facility security office or inspector cadre. The general increase in FTE over time reflects the creation and staffing of the office and the development of an inspector cadre. As of February 2012, DHS testified that it had hired most of the inspector cadre.<sup>11</sup>

For FY2013, the Senate Committee on Appropriations and the House of Representatives recommended different funding and staffing levels for ISCD before the passage of the Continuing Appropriations Resolution, 2013 (P.L. 112-175). The Senate committee recommended \$86

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<sup>8</sup> 72 *Federal Register* 17688-17745 (April 9, 2007) at 17739.

<sup>9</sup> Section 534, P.L. 110-161, the Consolidated Appropriations Act, 2008.

<sup>10</sup> The budget request for the Infrastructure Security Compliance Project contains the Infrastructure Security Compliance Division funding and personnel allocations for implementing CFATS and ammonium nitrate regulations.

<sup>11</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, February 3, 2012.



million, \$7 million less than the FY2012 appropriation but \$11 million more than the Administration's request. The Senate committee stated,

it would be shortsighted, in the meantime, to take the full amount of [the Administration's] proposed savings when the need for improvement has been documented. Funding will not resolve all of the outstanding issues, but the proposed cuts are too deep to ensure change for the better can be completed.<sup>12</sup>

The House, in contrast, would have appropriated \$45 million, \$48 million less than the FY2012 appropriation and \$30 million less than the Administration's request. In addition, the House report stated, "in spite of ample appropriations provided by Congress, the Department has made little progress carrying out its regulatory responsibilities for ... the Chemical Facility Anti-Terrorism Standards (CFATS) program...."<sup>13</sup>

The DHS responded to the House-passed funding level, stating that this level of appropriations would

drastically curtail DHS's ability to: 1) implement the statutory and regulatory requirements for the security of high-risk chemical facilities as specified in CFATS; 2) continue development of the proposed Ammonium Nitrate Security Program; and 3) fully implement the program improvements identified in the ISCD Action Plan. DHS estimates that, after expending approximately \$35 million for salaries and benefits for 242 FTEs, approximately \$12 million would remain for implementing CFATS and completing development of the proposed Ammonium Nitrate Security Program. DHS would be forced to cease virtually all activities under CFATS other than those directly related to reviewing SSPs and performing facility inspections—which means those other activities would be significantly delayed. At the proposed \$45.4 million funding level, the Department's ability to conduct the most basic CFATS functions would be impacted. These include maintaining the CSAT and the Chemical-Security Management System information technology systems, and acquiring important technical and subject matter support. Additionally, CFATS-related outreach and engagement with the regulated community would be significantly reduced and some aspects would cease....<sup>14</sup>

The Continuing Appropriations Resolution, 2013 (P.L. 112-175), provided appropriations for ISCD through March 27, 2013, at an annualized rate of \$94 million. P.L. 112-175 directs agencies to implement budget authority "so that only the most limited funding action of that permitted in the joint resolution shall be taken in order to provide for continuation of projects and activities."<sup>15</sup> Since the funding provided in P.L. 112-175 is greater than the Administration's request, the Senate committee recommendation, and the House-passed amount, it seems likely that ISCD will not obligate all of the FY2013 budget authority available to it.

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<sup>12</sup> S.Rept. 112-169, accompanying S. 3216, Department of Homeland Security Appropriations Bill, 2013, p. 98.

<sup>13</sup> H.Rept. 112-492, accompanying H.R. 5855, Department of Homeland Security Appropriations Bill, 2013, p. 101.

<sup>14</sup> Testimony of Suzanne Spaulding, Deputy Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Appropriations, Subcommittee on Homeland Security, July 26, 2012.

<sup>15</sup> Section 110, Continuing Appropriations Resolution, 2013 (P.L. 112-175).

**Table 1. DHS Funding for Chemical Facility Security Regulation by Fiscal Year**

Fiscal Year	Request (\$ in millions)	Appropriation (\$ in millions)	Full-time Equivalents
FY2007	10	22 <sup>a</sup>	0
FY2008	25	50	21
FY2009	63	78 <sup>b</sup>	78
FY2010	103 <sup>c</sup>	103 <sup>d</sup>	246
FY2011	105 <sup>e</sup>	96 <sup>e</sup>	257
FY2012	99 <sup>e</sup>	93 <sup>e</sup>	242
FY2013	75 <sup>f</sup>	g	242

**Source:** Department of Homeland Security, congressional justifications FY2007-FY2013; H.Rept. 109-699; P.L. 110-28; the explanatory statement for P.L. 110-161 at *Congressional Record*, December 17, 2007, p. H16092; the explanatory statement for P.L. 110-329 at *Congressional Record*, September 24, 2008, pp. H9806-H9807; H.Rept. 111-298; P.L. 111-242, as amended; S.Rept. 112-74; H.Rept. 112-331; and P.L. 112-175.

**Notes:** Congress has not enacted specific authorization of appropriations for chemical facility security. Funding levels rounded to nearest million. A full-time equivalent equals one staff person working a full-time work schedule for one year. The DHS requests funding for chemical facility security through the Infrastructure Security Compliance Project.

- a. Includes funds provided in supplemental appropriations (P.L. 110-28).
- b. Of this amount appropriated for the Infrastructure Security Compliance Project, \$5 million were designated for activities related to the development of ammonium nitrate regulations.
- c. Of this amount requested for the Infrastructure Security Compliance Project, \$14 million were designated for activities related to the development of ammonium nitrate regulations.
- d. Of this amount appropriated for the Infrastructure Security Compliance Project, \$14 million were designated for activities related to the development of ammonium nitrate regulations.
- e. The DHS planned to use an unspecified amount of these funds to regulate ammonium nitrate sale and transfer.
- f. The DHS plans to use an unspecified amount of these requested funds to regulate ammonium nitrate sale and transfer.
- g. The Continuing Appropriations Resolution, 2013 (P.L. 112-175) provides appropriations through March 27, 2013, at an annualized rate of \$94 million.

## Number of Regulated Facilities

The DHS has assessed initial information submissions from more than 41,000 chemical facilities (step 4 in **Figure 1**). Of these facilities, DHS required more than 7,800 to submit a security vulnerability assessment to determine whether they were high-risk. From the submitted security vulnerability assessments, DHS has identified more than 4,400 facilities as high-risk. The other approximately 37,000 facilities that submitted information to DHS are low-risk and need meet no further CFATS requirements at this time.<sup>16</sup> The DHS assigned each high-risk facility, in some cases preliminarily, to one of four risk tiers (step 7 in **Figure 1**). **Table 2** shows the number of high-risk facilities in each tier as of July 31, 2012, with Tier 1 those facilities of highest risk.

<sup>16</sup> This determination might change, for example, if the facility changed its chemical holdings.

**Table 2. High-Risk Facilities Regulated by DHS under CFATS**

<b>Risk Tier</b>	<b>Facilities with Final Tier Decision</b>	<b>Facilities Awaiting Final Tier Decision</b>	<b>Total Facilities</b>
1	114	7	121
2	454	51	505
3	1,071	170	1,241
4	2,023	535	2,558
<b>Total</b>	<b>3,662</b>	<b>763</b>	<b>4,425</b>

**Source:** Infrastructure Security Compliance Division, Office of Infrastructure Protection, National Protection and Programs Directorate, Department of Homeland Security, *Chemical Facility Anti-Terrorism Standards (CFATS) and Ammonium Nitrate Security Regulation Update*, July 31, 2012.

**Notes:** The DHS has preliminarily assigned some facilities to a risk tier. Final assignment to a risk tier occurs after final review of submitted security vulnerability assessments.

In May 2010, DHS identified an anomaly in one of the risk-assessment tools it used to determine a facility’s risk tier. At that time, DHS believed that it had resolved the anomaly. In June 2011, a new acting ISCD Director “rediscovered” this issue, identified its potential effect on facility tiering, brought the issue to the attention of NPPD leadership,<sup>17</sup> and notified facilities of their change in risk tier.<sup>18</sup> Subsequent review of this risk-assessment tool resulted in DHS reviewing the tier determination of approximately 500 facilities.<sup>19</sup> The DHS lowered the number of facilities allocated at that time to the highest-risk tier from 219 to 102, a greater than 50% reduction.<sup>20</sup> In some cases, DHS determined that some facilities no longer qualified as a high-risk facility and thus were not subject to the CFATS regulations.

Overall, the total number of chemical facilities assigned a risk tier by DHS has declined since the CFATS program began. The DHS asserts that the observed reduction in regulated chemical facilities indicates that the CFATS program and its statutory authority are increasing security by inducing regulated entities to voluntarily reduce the chemical holdings to levels below the regulatory threshold. Several other factors may have contributed to this decline, including erroneous filing by regulated entities, process changes on the part of regulated entities, and business operations and decisions.

<sup>17</sup> Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, February 3, 2012.

<sup>18</sup> Department of Homeland Security, “DHS Notifies Chemical Facilities of Revised Tiering Assignments,” July 5, 2011, <http://www.dhs.gov/files/programs/cfats-revised-tiering-assignments.shtm>.

<sup>19</sup> Response to Questions for the Record by Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Appropriations, Subcommittee on Appropriations, March 1, 2012.

<sup>20</sup> CRS analysis of facilities with either final or preliminary tier assignment. See National Protection and Programs Directorate, Department of Homeland Security, *Chemical Facility Anti-Terrorism Standards, 13<sup>th</sup> Annual DOE/EFCOG Chemical Safety and Lifecycle Management Workshop*, March 23, 2011; Personal communication with Department of Homeland Security, September 15, 2011; and AcuTech Consulting Group, *A Survey of CFATS Progress in Securing the Chemical Sector*, September 6, 2011.

## Facility Inspections and Plan Approval

The DHS planned to begin inspections of Tier 1 facilities as quickly as 14 months after issuance of regulations (step 11 of **Figure 1**).<sup>21</sup> Several factors have delayed inspections, including the release of additional regulatory information in the form of an appendix and the need to build an inspector cadre, to establish a regional infrastructure, and to assist facilities in complying with regulation. Chemical inspectors must be able to assess the security measures at a chemical facility using the performance-based criteria developed by DHS. Performance-based security measures are likely more difficult than prescriptive measures for chemical inspectors to assess and thus may require greater training and experience in the inspector cadre. To overcome this challenge, DHS has established a Chemical Security Academy, a 10-week training course for inspectors. Such training, while likely improving the quality of inspection, also introduces additional time between the hiring of new inspectors and their deployment in the field.

DHS officials have provided numerous dates since 2007 for beginning inspections.<sup>22</sup> The DHS began inspections of Tier 1 facilities in February 2010.<sup>23</sup> At that time, DHS testified that it planned to inspect all Tier 1 facilities by the end of calendar year 2010,<sup>24</sup> but DHS had only authorized 10 site security plans (step 10 of **Figure 1**) and had approved no implementation of any site security plan by the end of calendar year 2011.<sup>25</sup> Since then, DHS has implemented an interim site security plan review process that it asserts is more effective and timely. The DHS has used this interim review process to authorize additional site security plans. As of January 2013, DHS had authorized or conditionally authorized more than 200 site security plans. The DHS also reported that it had successfully inspected and approved the site security plan implementation at 22 facilities.<sup>26</sup>

The DHS has identified an additional factor in the delay of the inspection schedule: the necessary iteration between DHS and the regulated entity regarding its site security plan.<sup>27</sup> The DHS has issued at least 66 administrative orders to compel facilities to complete their site security plans.<sup>28</sup>

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<sup>21</sup> Department of Homeland Security, *Chemical Facility Anti-Terrorism Standards Interim Final Rule Regulatory Assessment*, DHS-2006-0073, April 1, 2007, p. 15.

<sup>22</sup> In July 2007, DHS provided testimony that formal site inspections of a selected group of facilities would begin by the end of 2007 (Testimony of Robert B. Stephan, Assistant Secretary for Infrastructure Protection, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Homeland Security, Subcommittee on Transportation Security and Infrastructure, July 24, 2007).

<sup>23</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>24</sup> Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>25</sup> Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Homeland Security, Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies, February 11, 2011.

<sup>26</sup> David Wulf, Director, Infrastructure Security Compliance Division, Office of Infrastructure Protection, National Programs and Protection Directorate, Department of Homeland Security, *A Year of Progress for the Chemical Facility Anti-Terrorism Standards (CFATS)*, January 17, 2013, <http://blog.socma.com/?post=308>.

<sup>27</sup> The DHS identified such iteration on the contents of site security plans as one factor delaying the start of the inspection process from December 2009 to February 2010. Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>28</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, (continued...)

In addition, DHS established a pre-authorization inspection process to gain additional information from facilities to fully assess the submitted site security plan. Once DHS completes a pre-authorization inspection at a facility, the facility may amend its site security plan to reflect the results of the pre-authorization inspection. The DHS had performed approximately 180 pre-authorization inspections as of February 2012.<sup>29</sup> The DHS has since included this type of inspection in its more general compliance assistance visit program.

## **Internal Review of CFATS Program**

A series of challenges internal to the Infrastructure Security Compliance Division (ISCD), which implements CFATS regulations, led to an internal review of ISCD in 2011. These challenges included problems with the assignment of regulated chemical facilities to risk tiers and issues with respect to locality pay.<sup>30</sup> In December 2010, NPPD initiated a management review of ISCD through the NPPD Office of Compliance and Security. In July 2011, new leadership took charge of ISCD and, at the direction of Under Secretary Beers, began a review of the goals, challenges, and potential corrective actions to improve program performance.<sup>31</sup> In November 2011, ISCD leadership presented Under Secretary Beers with a report containing the results of both reviews. According to DHS, the report was intended as a candid, internal assessment that focused predominantly on the challenges faced by ISCD rather than on the program's successes and opportunities.<sup>32</sup>

At the time of the report, DHS had received approximately 4,200 site security plans but had not yet approved any. The review report identified several factors that contributed to the absence of approvals. These factors included the inability to perform compliance inspections and the lack of an established records management system to document key decisions.<sup>33</sup> Other challenges facing ISCD reportedly included human resource issues, such as having employees with insufficient qualifications and work training, erroneous impressions of inspector roles and responsibilities, and the use of contractors to perform inherently governmental work.<sup>34</sup> Additional reported challenges included difficulty in quickly altering workplace requirements, resolving personnel security requirements, detailing site security compliance inspections, managing workplace behavior and perceptions, and dealing with a unionized workforce. Additionally, ISCD lacked a

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March 31, 2011.

<sup>29</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, February 3, 2012.

<sup>30</sup> Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, February 3, 2012.

<sup>31</sup> Personal communication with Department of Homeland Security, January 5, 2012.

<sup>32</sup> Oral testimony of David Wulf, Deputy Director, Infrastructure Security Compliance Division, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, February 3, 2012.

<sup>33</sup> Government Accountability Office, *Critical Infrastructure Protection: DHS Is Taking Action to Better Manage Its Chemical Security Program, but It Is Too Early to Assess Results*, GAO-12-515T, July 26, 2012.

<sup>34</sup> Mike Levine, "EXCLUSIVE: Beset by Strife at Chemical Security Office, DHS Internal Report Claims Anti-Terrorism Program Now in Jeopardy," *FoxNews.com*, December 21, 2011.

system for tracking the usage of consumable supplies, potentially allowing for waste, fraud, and abuse; faced challenges in hiring new qualified individuals; and suffered from a lack of morale.

The report identified three top priorities to address the challenges addressing ISCD:

- clearing the backlog of site security plans;
- developing a chemical inspection process; and
- addressing ISCD statutory responsibilities for regulating ammonium nitrate and managing personnel surety as part of the CFATS program.<sup>35</sup>

The ISCD developed an action plan with discrete action items to address identified challenges. In addition to the action plan, NPPD requested ISCD leadership to provide milestones and a schedule for completion of the action plan tasks. The ISCD is implementing this plan with the oversight of NPPD leadership.<sup>36</sup> According to GAO, ISCD has developed at least eight sequential versions of the action plan, updating each additional version, and in some cases adding additional detail, milestones, or timelines.<sup>37</sup>

As of January 2013, DHS reports it has completed 87 of the 95 action items included in the action plan.<sup>38</sup> The ISCD has implemented an interim review process for site security plans with a goal of formalizing a new review process by July 2012.<sup>39</sup> In the action plan, ISCD has updated its internal policy and guidance materials for inspections, created a monthly ISCD newsletter, promoted staff engagement and dialogue, provided additional supervisory training and guidance, and attempted to hire a permanent leadership team. In addition, NPPD is overseeing review of the process by which ISCD assigns risk tiers to regulated facilities.

GAO reviewed the DHS action plan and stated that “ISCD appears to be heading in the right direction, but it is too early to tell if individual items are having their desired effect because ISCD is in the early stages of implementing corrective actions and has not established performance measures to assess results.”<sup>40</sup> GAO provided several caveats to its assessment, including that it did not have available documentary evidence about the causes of the issues identified in the ISCD memorandum. For example, GAO stated, “Program officials did not maintain records of key decisions and the basis for those decisions during the early years of the program.”<sup>41</sup>

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<sup>35</sup> Government Accountability Office, *Critical Infrastructure Protection: DHS Is Taking Action to Better Manage Its Chemical Security Program, but It Is Too Early to Assess Results*, GAO-12-515T, July 26, 2012.

<sup>36</sup> ISCD program leadership meets with the Principal NPPD Deputy Under Secretary at least weekly to discuss progress on the action plan. Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, February 3, 2012.

<sup>37</sup> Government Accountability Office, *Critical Infrastructure Protection: DHS Is Taking Action to Better Manage Its Chemical Security Program, but It Is Too Early to Assess Results*, GAO-12-515T, July 26, 2012.

<sup>38</sup> David Wulf, Director, Infrastructure Security Compliance Division, Office of Infrastructure Protection, National Programs and Protection Directorate, Department of Homeland Security, *A Year of Progress for the Chemical Facility Anti-Terrorism Standards (CFATS)*, January 17, 2013, <http://blog.socma.com/?post=308>.

<sup>39</sup> Government Accountability Office, *Critical Infrastructure Protection: DHS Is Taking Action to Better Manage Its Chemical Security Program, but It Is Too Early to Assess Results*, GAO-12-515T, July 26, 2012.

<sup>40</sup> Government Accountability Office, *Critical Infrastructure Protection: DHS Is Taking Action to Better Manage Its Chemical Security Program, but It Is Too Early to Assess Results*, GAO-12-515T, July 26, 2012.

<sup>41</sup> Government Accountability Office, *Critical Infrastructure Protection: DHS Is Taking Action to Better Manage Its Chemical Security Program, but It Is Too Early to Assess Results*, GAO-12-515T, July 26, 2012.

## Policy Issues

Previous congressional discussion on chemical facility security raised several contentious policy issues.<sup>42</sup> Some issues will exist even if Congress extends the existing statutory authority without changes. These include whether DHS has sufficient funding and capabilities to adequately oversee chemical facility security; whether federal chemical facility security regulations should preempt state regulations; and how much chemical security information individuals may share outside of the facility and the federal government. Other issues, such as what facilities DHS should regulate as a chemical facility and whether DHS should require chemical facilities to adopt or consider adopting inherently safer technologies, may be more likely addressed if Congress chooses to revise or expand existing authority.

## Funding and Infrastructure and Workforce Capabilities

The 2007 CFATS regulations establish an oversight structure that relies on DHS personnel inspecting chemical facilities and ascertaining whether regulated entities have implemented their authorized site security plans. Although the use of performance-based measures, where chemical facilities have flexibility in how to achieve the required security performance, may reduce some demands on the regulated entities, it may also require greater training and judgment on the part of DHS inspectors. Congressional oversight has raised the question of whether DHS has requested and received appropriated funds sufficient to hire and retain the staff necessary to perform the required compliance inspections and whether DHS has properly managed the appropriated funds received.<sup>43</sup>

The DHS has faced challenges when creating the necessary infrastructure to perform nationwide inspections. As stated by DHS, initial expectations for inspector responsibilities and infrastructure needs did not match the final needs.

For example, at the program's outset, certain roles and responsibilities were envisioned for the program staff that, in the end, did not apply. This resulted in the hiring of some employees whose skills did not match their ultimate job responsibilities and the purchase of some equipment that in hindsight appear to be unnecessary for chemical inspectors. Additionally, we envisioned a greater number of field offices than we eventually decided to employ.<sup>44</sup>

The degree to which funding meets agency infrastructural needs likely depends on factors both external and internal to DHS. External factors include the number of regulated facilities and the sufficiency of security plan implementation. Challenges experienced by DHS in overseeing facility site security plan implementation will likely increase the workforce necessary to meet the

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<sup>42</sup> Congressional policymakers have debated chemical facility security issues since at least the 106<sup>th</sup> Congress.

<sup>43</sup> See, for example, House Committee on Homeland Security, Subcommittee on Transportation Security and Infrastructure Protection, *Chemical Security: The Implementation of the Chemical Facility Anti-Terrorism Standards and the Road Ahead*, 110<sup>th</sup> Congress, December 12, 2007; H.Rept. 112-492, accompanying H.R. 5855, Department of Homeland Security Appropriations Bill, 2013, and S.Rept. 112-169, accompanying S. 3216, Department of Homeland Security Appropriations Bill, 2013.

<sup>44</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, February 3, 2012.

planned inspection cycle. In contrast, reduction in the number of regulated facilities will likely decrease the number of needed inspectors. Internal factors include the ratio between headquarters staff and field inspectors; the assigned risk tiers of the regulated facilities; and the timetable for implementation of inspections. Once DHS has more fully engaged in inspection of regulated facilities, it may be able to more comprehensively determine its long-term resource needs and estimate both funding and staff requirements. A key factor for achieving program efficacy and efficiency may be the success in training inspectors to perform CFATS inspections, given the reported difficulties in developing inspector training combined with the requirements of a new regulatory program.

## **Inspection Rate**

As of January 2013, 22 chemical facilities had completed the CFATS process, which starts with information submission by chemical facilities and finishes with approval of inspected security measures by DHS.<sup>45</sup> The DHS states that the first authorization inspection was conducted in 2010, and as of September 2012, DHS had conducted 19 authorization inspections.<sup>46</sup> The DHS projects that it will require almost seven years of inspections to inspect and approve all regulated facilities.<sup>47</sup> Some policymakers have expressed surprise at the pace of inspection and questioned whether DHS should continue at the current pace or accelerate the compliance process.<sup>48</sup> Several factors likely complicate and slow the inspection process. One factor appears to be the internal operations of the DHS implementing office and the skills and capabilities of the ISCD inspector cadre. Another factor appears to be that the information facilities submit in site security plans may not provide what DHS views as sufficient detail to evaluate compliance.<sup>49</sup> Rather than reject such site security plans, DHS attempts to gather the necessary information from the facilities, including through compliance assistance visits.

Compliance assistance visits may lead to higher quality site security plan submissions, even though the visits appear to be a significant drain on DHS resources. In principle, such visits may lower the future authorization inspection burden, as CFATS inspectors will be familiar with security measures at the chemical facility. Such familiarity may hasten the actual authorization inspection.

The DHS has also suggested that higher risk-tier facilities benefit more from these types of assistance visits due to the complexity of the facility, the potential presence of multiple chemicals of interest, and the more stringent risk-based performance standards that apply. Lower risk-tier facilities may not need such visits because these facilities may be less complex and inspectors may develop best practices through the compliance assistance visits of higher-tiered facilities.

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<sup>45</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, September 11, 2012.

<sup>46</sup> Oral Testimony of David Wulf, Director, Infrastructure Security Compliance Division, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, September 11, 2012.

<sup>47</sup> H.Rept. 112-492, accompanying H.R. 5855, Department of Homeland Security Appropriations Bill, 2013, p. 101.

<sup>48</sup> Monica Hatcher, "Why Chemical Plants Are Vulnerable to Terrorism," *Houston Chronicle*, April 5, 2010.

<sup>49</sup> For example, see Department of Homeland Security, *Chemical Facility Anti-Terrorism Standards Site Security Plans and Preliminary Inspections, NASTTPO Annual Meeting*, May 12, 2010; and W. Koch, Air Products, *Overview of DHS CFATS Pre Authorization Visit*, July 7, 2010.



However, the converse might be true instead. Smaller facilities with less security experience may benefit more from such visits.

Some policymakers have questioned whether the low inspection rate is due to constraints in the number of chemical facility security inspectors hired by DHS or the availability of appropriated funding. The CFATS regulations state that DHS will inspect the implementation of site security plans at all facilities and require that facilities resubmit their site security plan every two years for Tier 1 and Tier 2 facilities or three years for Tier 3 and Tier 4 facilities.<sup>50</sup> This requires DHS to perform approximately 1,700 inspections annually to inspect each facility's implementation of its site security plan. The DHS has asserted that each inspection would require two or more inspectors and approximately one week to perform.<sup>51</sup>

The DHS appears to have requested sufficient inspectors to manage the workload associated with a reinspection cycle of every two years for top tier facilities and every three years for lower tier facilities, but such a staffing level may be insufficient to address the large number of initial regulatory submissions or a more frequent reinspection cycle or the use of inspectors to perform compliance assistance visits.<sup>52</sup> This level of staffing would appear to require at least several years of inspections to reduce the backlog created from the initial site security plan submissions, even if DHS performed only authorization inspections. If DHS were to hire additional inspectors, it might reduce the backlog of site security plans but also run the risk of having additional unnecessary staff in future years. The DHS might hire temporary or short-term staff to augment the inspector cadre, but the need to train such employees for CFATS-specific inspections may pose challenges.

Finally, because DHS has focused on inspecting those facilities in the highest risk tier, it potentially faces the most complicated inspection environments. Inspections of lower risk tier facilities may pose fewer complications, take less time, and involve fewer inspectors. If so, DHS might quickly and substantially increase the number of facilities inspected by focusing efforts on lower tier facilities. Through this approach, DHS might gain insight and experience among the inspector cadre while reducing some national risk.<sup>53</sup>

## **Federal Preemption of State Activities**

The original statute did not expressly address the issue of federal preemption of state and local chemical facility security statute or regulation. When DHS issued regulations establishing the CFATS program, DHS asserted that the CFATS regulations would preempt state and local chemical facility security statute or regulation that “conflicts with, hinders, poses an obstacle to or

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<sup>50</sup> Other DHS documents have provided different inspection timeframes. In 2011, DHS stated its expectation that, when at full operational capability, it would inspect Tier 1 facilities annually, Tier 2 facilities every two years, and a prioritized selection of 10% of Tier 3 and Tier 4 facilities each year (Department of Homeland Security, *Annual Performance Report Fiscal Years 2010 – 2012; Appendix A: Measure Descriptions and Data Collection Methodologies*, p. 8).

<sup>51</sup> Department of Homeland Security, *The Chemical Facility Anti-Terrorism Standards—Update for the Chemical Sector Security Summit*, June 29, 2009.

<sup>52</sup> CRS calculation assuming two inspectors per inspection and one inspection per week.

<sup>53</sup> The DHS defines all facilities regulated under CFATS as high-risk chemical facilities. A lower or higher risk tier is relative to other high-risk chemical facilities.

frustrates the purposes of” the federal regulation.<sup>54</sup> After the regulation’s release, Congress amended DHS’s statutory authority to state that only in the case of an “actual conflict” would the federal regulation preempt state authority.<sup>55</sup> Few states have established independent chemical facility security regulatory programs, and conflict between the federal and state activities has not yet occurred.<sup>56</sup> The DHS did not identify any state programs that conflict with the CFATS regulations.<sup>57</sup> The DHS has also not altered its regulatory language in response to the statutory amendment.

Advocates for federal preemption call for a uniform security framework across the nation. They assert that a “patchwork” of regulations might develop if states independently develop additional chemical facility security regulations.<sup>58</sup> Variation in security requirements might lead to differing regulatory compliance costs, and companies might suffer competitive disadvantage based on their geographic location.

Supporters of a state’s right to regulate chemical facility security claim that the federal regulation should be a minimum standard with which all regulated entities must comply. They assert that DHS should allow states to develop more stringent regulations than the federal regulations. They claim such regulations would increase security. Some supporters of state regulation suggest that more stringent, conflicting state regulations should preempt the federal regulations. Such a case might occur if a state regulation mandated the use of a particular security approach at chemical facilities, conflicting with the federal regulation that adopts a performance-based, rather than prescriptive, approach. The desire to retain industries that might relocate if faced with increased regulation arguably would temper state inclinations to require overly stringent or incompatible regulations.

Some policymakers may assert that chemical facility security should be left to the states rather than be implemented by the federal government. If Congress allows the statutory authority to expire and does not appropriate funds for the further implementation of CFATS, the federal authority would lapse, and state and local jurisdictions would be solely responsible for regulating chemical facility security.

## **Transparency**

The CFATS process involves determining chemical facility vulnerabilities and developing security plans to address them. Information developed in this process is not openly disseminated. The CFATS program categorizes this information as Chemical-terrorism Vulnerability Information (CVI) and provides penalties for its disclosure. Some advocates have argued for greater transparency in the CFATS process, even if the program does not provide detailed information regarding potential vulnerabilities and specific security measures. They assert that

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<sup>54</sup> 6 CFR 27.405(a).

<sup>55</sup> Section 534, P.L. 110-161, Consolidated Appropriations Act, 2008.

<sup>56</sup> Several states, including New Jersey, Maryland, and New York, have implemented laws addressing security at chemical facilities.

<sup>57</sup> 72 *Federal Register* 17688–17745 (April 9, 2007) at 17727.

<sup>58</sup> See, for example, National Association of Chemical Distributors, “NACD Key Issue: Chemical Facility Security,” *Key Issues 2009 Washington Fly-In 111<sup>th</sup> Congress*.

those individuals living in surrounding communities require such information to effectively plan and make choices in an emergency.<sup>59</sup>

The current statute and regulation prohibit public disclosure of CVI. Only specific “covered persons” may access CVI. While acknowledging a legitimate homeland security need to limit dissemination of security information, some policymakers have questioned whether such limitations hinder other efforts. For example, first responders and community representatives have highlighted how such information protection regimes may impede emergency response and the ability of those in the surrounding community to react to emergency situations at the chemical facility.<sup>60</sup> Additionally, worker representatives have raised concerns that these limitations and the lack of mandated inclusion of worker representatives may impede worker input into security plans.<sup>61</sup>

The current information protection regimes for chemical facility security information, CVI under CFATS and Sensitive Security Information (SSI) under the Maritime Transportation Security Act (MTSA), do not contain penalties for incorrectly marking information as protected. Only disclosure of correctly marked information is penalized. Additionally, the chemical facility is responsible for identifying and appropriately marking protected information. These information markings only would be assessed in the case of dispute. As was asserted during congressional oversight, this disparity may lead to a tendency by regulated entities, in order to protect themselves against potential liability or scrutiny, to erroneously limit dissemination of information that should be made available to the public.<sup>62</sup>

Additionally, the existing statute contains no provisions explicitly protecting or allowing for concerned covered persons to divulge CVI or to challenge the categorization of information as protected in an attempt to inform authorities about security vulnerabilities or other weaknesses. Depending on the circumstances, those individuals might be penalized for their disclosure of protected information. The CFATS regulations, reflecting this inherent tension, provide for a point of contact to which such information might be revealed, but also state “Section 550 did not give DHS authority to provide whistleblower protection, and so DHS has not incorporated specific whistleblower protections into this regulation.”<sup>63</sup>

## **Definition of Chemical Facility**

The DHS regulates both entities that possess and entities that manufacture chemicals of interest. Thus, the term chemical facility encompasses many types of facilities, including agricultural facilities, universities, and others. With DHS defining chemical facilities according to possession

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<sup>59</sup> OMB Watch and Public Citizen, “Chemical Facility Anti-Terrorism Standards, Department of Homeland Security, DHS-2006-0073,” *Letter*, February 7, 2007.

<sup>60</sup> Testimony of Joseph Crawford, Chief of Police, City Saint Albans, WV, before the House Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, April 21, 2009; and testimony of Kent Carper, President, Kanawha County Commission, Kanawha County, WV, before the House Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, April 21, 2009.

<sup>61</sup> See, for example, testimony of Glenn Erwin, United Steelworkers International Union, before the Senate Committee on Homeland Security and Governmental Affairs, July 13, 2005.

<sup>62</sup> “House Energy and Commerce Subcommittee on Oversight and Investigations Holds Hearing on the Bayer CropScience Facility Explosion,” *CQ Congressional Transcripts*, April 21, 2009.

<sup>63</sup> *72 Federal Register* 17688–17745 (April 9, 2007) at 17718.

of a chemical of interest, it regulates facilities not part of the chemical manufacturing and distributing chain. Stakeholders have expressed concern that the number of entities so regulated might be unwieldy and that the regulatory program might focus on many chemical facilities that pose little risk rather than on those facilities that pose more substantial risk. For example, during the rulemaking process, DHS received commentary and revised its regulatory threshold for possession of propane, stating:

DHS, however, set the [screening threshold quantities] for propane in this final rule at 60,000 pounds. Sixty thousand pounds is the estimated maximum amount of propane that non-industrial propane customers, such as restaurants and farmers, typically use. The Department believes that non-industrial users, especially those in rural areas, do not have the potential to create a significant risk to human life or health as would industrial users. The Department has elected, at this time, to focus efforts on large commercial propane establishments but may, after providing the public with an opportunity for notice and comment, extend its [CFATS] screening efforts to smaller facilities in the future. This higher [screening threshold quantity] will focus DHS's security screening effort on industrial and major consumers, regional suppliers, bulk retail, and storage sites and away from non-industrial propane customers.<sup>64</sup>

Academic institutions have asserted that DHS should not apply CFATS regulations to them because of the dispersed nature of chemical holdings at colleges and universities. These institutions claim that regulatory compliance costs would not be commensurate with the risk reduction.<sup>65</sup> The DHS has identified that a college or university with a high-risk facility on campus might choose to implement security measures at the specific location rather than across the entire campus.<sup>66</sup> While the regulatory compliance costs likely decrease at lower risk tiers compared to higher risk tiers, all regulated entities bear compliance costs as continued annual expenses.

As mentioned above, the statutory authority underlying CFATS exempts several types of facilities, including water and wastewater treatment facilities. The federal government does not regulate water and wastewater treatment facilities for chemical security purposes. Instead, current chemical security efforts at water and wastewater treatment facilities are voluntary in nature.<sup>67</sup> Some advocacy groups have called for inclusion of currently exempt facilities, such as water and wastewater treatment facilities.<sup>68</sup> Some drinking water and wastewater treatment facilities possess amounts of chemicals of interest and would lead to regulation if located at a different type of facility.<sup>69</sup> Advocates for their inclusion in security regulations cite the presence of such potentially

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<sup>64</sup> 72 *Federal Register* 65396–65435 (November 20, 2007) at 65406.

<sup>65</sup> 72 *Federal Register* 65396–65435 (November 20, 2007) at 65412.

<sup>66</sup> Department of Homeland Security, *Colleges and Universities and the Chemical Facility Anti-Terrorism Standards (CFATS)*, July 2010.

<sup>67</sup> Congress required certain drinking water facilities to perform vulnerability assessments and develop emergency response plans through Section 401 of P.L. 107-188, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002. For more information on drinking water security activities, see CRS Report RL31294, *Safeguarding the Nation's Drinking Water: EPA and Congressional Actions*, by Mary Tiemann.

<sup>68</sup> See, for example, Paul Orum and Reece Rushing, Center for American Progress, *Chemical Security 101: What You Don't Have Can't Leak, or Be Blown Up by Terrorists*, November 2008; and testimony of Philip J. Crowley, Senior Fellow and Director of Homeland Security, Center for American Progress, before the House Committee on Energy and Commerce, Subcommittee on Environment and Hazardous Materials, June 12, 2008.

<sup>69</sup> See U.S. Environmental Protection Agency, *Factoids: Drinking Water and Ground Water Statistics for 2008*, EPA 816-K-08-004, November 2008; and U.S. Environmental Protection Agency, *Clean Watersheds Needs Survey 2004: Report to Congress*, January 2008.

hazardous chemicals and their relative proximity to population centers as reasons to mandate security measures for such facilities. In contrast, representatives of the water sector point to the critical role that water and wastewater treatment facilities have in daily life. They caution against including these facilities in the existing regulatory framework because of the potential for undue public impacts. They cite, for example, loss of basic fire protection and sanitation services if the federal government were to order a water or wastewater utility to cease operations for security reasons or failure to comply with regulation.<sup>70</sup>

If Congress were to remove the drinking water and wastewater treatment facility exemption, the number of regulated facilities might substantially increase, placing additional burdens on the CFATS program. The United States contains approximately 52,000 community water systems and 16,500 wastewater treatment facilities.<sup>71</sup> These facilities vary substantially in size and service. The number of regulated facilities would depend on the criteria used to determine inclusion, such as chemical possession or number of individuals served. It is likely that only a subset of these facilities would meet a regulatory threshold.<sup>72</sup> In 2011, a DHS official testified that approximately 6,000 such facilities would likely meet the CFATS threshold.<sup>73</sup>

## **Inherently Safer Technologies**

Previous debate on chemical facility security has included whether to mandate the adoption or consideration of changes in chemical processes to reduce the potential consequences following a successful attack on a chemical facility. Suggestions for such changes have included reducing the amount of chemical stored onsite and changing the chemicals used. In previous congressional debate, these approaches have been referred to as inherently safer technologies or methods to reduce the consequences of a terrorist attack.

A fundamental challenge for inherently safer technologies is how to compare one technology with its potential replacement. It is challenging to unequivocally state that one technology is inherently safer than the other without adequate metrics. Risk factors may exist outside of the comparison framework.<sup>74</sup> Some experts have asserted that the metrics for comparing industrial processes are

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<sup>70</sup> American Water Works Association, "Chemical Facility Security," *Fact Sheet*, 2009. For more information on security issues in the water infrastructure sector, see CRS Report RL32189, *Terrorism and Security Issues Facing the Water Infrastructure Sector*, by Claudia Copeland.

<sup>71</sup> See U.S. Environmental Protection Agency, *Factoids: Drinking Water and Ground Water Statistics for 2008*, EPA 816-K-08-004, November 2008; and U.S. Environmental Protection Agency, *Clean Watersheds Needs Survey 2004: Report to Congress*, January 2008. For comparison, more than 38,000 chemical facilities filed a Top-Screen under CFATS.

<sup>72</sup> For example, the number of individuals served by the drinking water facility might be used as a regulatory criterion. Section 401 of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (P.L. 107-188) mandated drinking water facilities serving more than 3,300 individuals develop an emergency response plan and perform a vulnerability assessment. Approximately 8,400 community water systems met this requirement at that time. For more information on drinking water security activities, see CRS Report RL31294, *Safeguarding the Nation's Drinking Water: EPA and Congressional Actions*, by Mary Tiemann.

<sup>73</sup> Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Homeland Security, Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies, February 11, 2011.

<sup>74</sup> For example, the replacement of hydrogen fluoride with sulfuric acid for refinery processing would replace a more toxic chemical with a less toxic one. In this case, experts estimate that equivalent processing capacity would require 25 times more sulfuric acid. Thus, more chemical storage facilities and transportation would be required, potentially posing different dangers than atmospheric release to the surrounding community. Determining which chemical process (continued...)

not yet fully established and need additional research and study.<sup>75</sup> A committee of the National Research Council of the National Academies has recommended that DHS support research and development to foster cost-effective, inherently safer chemistries and chemical processes.<sup>76</sup> The National Academies has identified as a potential concern that inherently safer process analyses may become narrowly focused and its outcomes inappropriately weighted.<sup>77</sup> A facility might consider many additional factors beyond homeland security implications when weighing the applicability and benefit of switching from one process to another. These factors include cost, technical challenges regarding implementation in specific situations, supply chain impacts, quality and availability of end products, and indirect effects on workers.<sup>78</sup>

Supporters of adopting these approaches as a way to improve chemical facility security argue that reducing or removing these chemicals from a facility will reduce the incentive to attack the facility. They suggest that reducing the consequences of a release also lowers the threat from terrorist attack and mitigates the risk to the surrounding populace. They point to facilities that have voluntarily changed amounts of chemicals on hand or chemical processes in use as examples that facilities can implement such an approach in a cost-effective, practical fashion.<sup>79</sup>

Opponents of mandating what proponents call inherently safer technologies question the validity of the approach as a security tool and the government's ability to effectively oversee its implementation. Industrial entities assert that process safety engineers within the regulated industry already employ such approaches and that these are safety, not security, methods. They assert that process safety experts and business executives should determine the applicability and financial practicality of changing existing processes at specific chemical facilities.<sup>80</sup> A 2011 industry survey stated that, of those respondents that assessed using alternative chemicals or processes, 66.4% determined such alternatives were not technically feasible.<sup>81</sup> Opponents of an inherently safer technology mandate also state concern that few existing alternative approaches

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(...continued)

had less overall risk might require considering factors both internal and external to the chemical facility and the surrounding community. See testimony of M. Sam Mannan, Director, Mary Kay O'Connor Process Safety Center, Texas A&M University, before the House Committee on Homeland Security, December 12, 2007.

<sup>75</sup> Testimony of M. Sam Mannan, Director, Mary Kay O'Connor Process Safety Center, Texas A&M University, before the House Committee on Homeland Security, December 12, 2007.

<sup>76</sup> Committee on Assessing Vulnerabilities Related to the Nation's Chemical Infrastructure, National Research Council, *Terrorism and the Chemical Infrastructure: Protecting People and Reducing Vulnerabilities*, 2006.

<sup>77</sup> Committee on Inherently Safer Chemical Processes, National Research Council, *The Use of Methyl Isocyanate (MIC) at Bayer CropScience*, 2012.

<sup>78</sup> For further discussion on this issue, see Center for Chemical Process Safety, American Institute of Chemical Engineers, *Final Report: Definition for Inherently Safer Technology in Production, Transportation, Storage, and Use*, July 2010.

<sup>79</sup> See, for example, Paul Orum and Reece Rushing, Center for American Progress, *Preventing Toxic Terrorism: How Some Chemical Facilities Are Removing Danger to American Communities*, April 2006; and Paul Orum and Reece Rushing, Center for American Progress, *Chemical Security 101: What You Don't Have Can't Leak, or Be Blown Up by Terrorists*, November 2008.

<sup>80</sup> See, for example, testimony of Timothy J. Scott, Dow Chemical Company, before the House Committee on Homeland Security, Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies, February 11, 2011; and testimony of Marty Durbin, Managing Director, Federal Affairs, American Chemistry Council, before the House Committee on Energy and Commerce, Subcommittee on Environment and Hazardous Materials, June 12, 2008.

<sup>81</sup> AcuTech Consulting Group, *A Survey of CFATS Progress in Securing the Chemical Sector*, September 6, 2011, p. 41.

are well understood with regard to their unanticipated side effects. They claim that researchers should continue to study these alternative approaches rather than immediately apply them, since unanticipated side effects could injure business and other interests.<sup>82</sup> A third opposing view questions whether the federal government contains the required technical expertise to adjudicate the practicality and benefit of alternative technological approaches.<sup>83</sup>

The DHS has engaged in research and development activities within its Science and Technology (S&T) Directorate to develop a better understanding of inherently safer technology, including efforts to define inherently safer technology.<sup>84</sup> The NPPD has not adopted the results from these research and development efforts within its regulatory context. Congress has directed DHS to detail and report to Congress the Department's definition of inherently safer technology as it relates to chemical facilities under the purview of CFATS.<sup>85</sup>

Some industry representatives have asserted that an inherently safer technology mandate might have a potentially significant negative financial impact.<sup>86</sup> Regulated entities incur a cost when meeting existing CFATS requirements, and small businesses may be challenged to make additional necessary capital investments. In its interim final rule, DHS estimated that even without an inherently safer technology requirement CFATS “may have a significant economic impact on a substantial number of small entities.”<sup>87</sup> Because of the performance-based nature of the regulatory requirement, it is difficult to detail the exact impact on small businesses.<sup>88</sup> Adding an inherently safer technology requirement might increase the cost of CFATS compliance and might disproportionately affect small entities not already incorporating such activities in their business processes. Policymakers in previous Congresses highlighted the issue of small business impact, especially in the context of requiring additional measures that might hurt productivity.

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<sup>82</sup> For example, EPA experts have pointed to the change by drinking water treatment facilities between two approved disinfectants—chlorine and chloramine—as correlated with an unexpected increase in levels of lead in drinking water due to increased corrosion. Government Accountability Office, *Lead in D.C. Drinking Water*, GAO-05-344, March 2005.

<sup>83</sup> See, for example, testimony of M. Sam Mannan, Director, Mary Kay O'Connor Process Safety Center, Texas A&M University, before the House Committee on Homeland Security, Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies, February 11, 2011; testimony of Dennis C. Hendershot, Staff Consultant, Center for Chemical Process Safety, American Institute of Chemical Engineers, before the Senate Committee on Environment and Public Works, June 21, 2006, S.Hrg. 109-1044; and testimony of Matthew Barmasse, Synthetic Organic Chemical Manufacturers Association, before the Senate Committee on Homeland Security and Governmental Affairs, July 13, 2005.

<sup>84</sup> The Chemical Security Analysis Center of the DHS S&T Directorate contracted with the Center for Chemical Process Safety of the American Institute of Chemical Engineers to develop a technically based definition for inherently safer technology. See Center for Chemical Process Safety, American Institute of Chemical Engineers, *Final Report: Definition for Inherently Safer Technology in Production, Transportation, Storage, and Use*, July 2010.

<sup>85</sup> H.Rept. 112-331, p. 986.

<sup>86</sup> Testimony of Stephen Poorman, International EHS Manager, FUJIFILM Imaging Colorants Ltd., on behalf of the Society of Chemical Manufacturers and Affiliates before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>87</sup> 72 *Federal Register* 17688–17745 (April 9, 2007) at 17772.

<sup>88</sup> Department of Homeland Security, *Chemical Facility Anti-Terrorism Standards Interim Final Rule Regulatory Assessment*, DHS-2006-0073, April 1, 2007.

## Personnel Surety

A recurring issue in chemical facility security is assuring that individuals with known terrorist affiliations do not gain access to high-risk facilities. The CFATS program addresses this concern in regulation by establishing a personnel surety risk-based performance standard. This performance standard requires facilities to conduct background checks on employees and unescorted visitors and provide information to DHS for use in screening employees against the Terrorist Screening Database (TSDB).<sup>89</sup>

The DHS has not established a process by which CFATS-regulated facilities can meet this standard fully. The DHS issued a series of information collection requests from 2009 to 2011 that described how DHS would gather and use information on employees at CFATS-regulated facilities and requested public comment.<sup>90</sup> Stakeholders and policymakers raised concerns that the DHS approach seemed duplicative of existing requirements underpinning the Transportation Worker Identification Credential (TWIC). In addition, DHS did not plan to accept existing TWIC cards as meeting this screening requirement.

In July 2012, DHS withdrew its information collection request from Office of Management and Budget (OMB) review. The DHS asserts that its position on how to comply with the personnel surety standard has “evolved” in response to industry-provided information.<sup>91</sup> The DHS is developing a new information collection request for submission to OMB.<sup>92</sup> The DHS has indicated that this new information collection request will clarify that DHS will implement the personnel surety program in phases; that DHS will accept third-party submission of information on behalf of regulated entities; that facilities will not need to submit information each time an affected individual seeks access; and that entities with multiple regulated facilities may submit information on a company-wide, rather than facility, basis. Additionally, the DHS is considering mechanisms to use electronic verification and validation of TWIC cards rather than requiring submission of information to DHS.<sup>93</sup>

## Policy Options

The statutory authority for CFATS expires on March 27, 2013. The Obama Administration has requested extension of this authority until October 4, 2013.<sup>94</sup> The 113<sup>th</sup> Congress may address chemical facility security through several options. Congress may continue its oversight of DHS’s

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<sup>89</sup> The Terrorist Screening Database (TSDB) is a centralized federal database of information about known or suspected terrorists. For more information, see [http://www.fbi.gov/about-us/nsb/tsc/tsc\\_faqs](http://www.fbi.gov/about-us/nsb/tsc/tsc_faqs).

<sup>90</sup> See 74 *Federal Register* 27555-27557 (June 10, 2009); 75 *Federal Register* 18850-18857 (April 13, 2010); and 76 *Federal Register* 34720-24732 (June 14, 2011).

<sup>91</sup> Office of Infrastructure Protection, National Protection and Programs Directorate, Department of Homeland Security, *CFATS Personnel Surety Program Update-Chemical Sector Security Summit*, August 1, 2012.

<sup>92</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, September 11, 2012.

<sup>93</sup> Office of Infrastructure Protection, National Protection and Programs Directorate, Department of Homeland Security, *CFATS Personnel Surety Program Update-Chemical Sector Security Summit*, August 1, 2012.

<sup>94</sup> Office of Management and Budget, The White House, *Budget of the United States Government, Fiscal Year 2013*, Appendix, p. 597.



efforts to implement this program. Congress might also take legislative action to extend further the existing statutory authority by revising or repealing its sunset provision; codifying the existing regulations; amending the existing statutory authority; addressing existing programmatic activities; or restricting or expanding the scope of chemical facility security regulation.

If Congress does not act and allows the statutory authority to expire, regulated entities may question the application and enforcement of the CFATS regulations. In the case where Congress allows the statutory authority to expire, but Congress appropriates funds for enforcing the CFATS program, DHS will likely be able to enforce the CFATS regulations. The Government Accountability Office (GAO) has found that in the case where a program's statutory authority expires, but Congress explicitly appropriates funding for it, the program may continue to operate without interruption.<sup>95</sup> If Congress allows the statutory authority to expire and also does not appropriate funding for implementing the CFATS program, the CFATS regulations will likely also lapse. In this case, the states would likely become the primary source of any chemical facility security regulation.

## **Continue Congressional Oversight**

Under one possible policy option, interested Members of Congress or congressional committees might continue their oversight of the CFATS program. Historically, much of the congressional debate has considered legislative options to reauthorize the existing statute or authorize the CFATS program through a different statutory vehicle. Congressional committees have accepted the assurances of DHS officials regarding CFATS activities even as DHS failed to meet its self-established deadlines. With the program's critical self-assessment, congressional oversight may have increased focus due to concerns about program performance, use of appropriations, and internal oversight. Congressional oversight of the program's implementation, enforcement, and efficacy may play a key role in determining the sufficiency of the existing authority and regulations.

The 112<sup>th</sup> Congress held oversight hearings on DHS's implementation of the CFATS program through both appropriating and authorizing committees. Following the results of the ISCD review memorandum, congressional oversight has additionally focused on DHS's progress in addressing identified management challenges. GAO reviewed the CFATS program management and plans on addressing mission-related issues.<sup>96</sup>

## **Maintain the Existing Regulatory Framework**

The existing statutory authority places much of the CFATS regulatory framework at the discretion of the Secretary of Homeland Security. The DHS is still in the process of implementing these regulations and has not yet determined their effectiveness. Congress might choose to maintain the existing regulations by extending the statutory authority's sunset date or codifying the existing regulations. Also, as noted above, allowing the statutory authority to expire could maintain, in

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<sup>95</sup> Office of the General Counsel, General Accounting Office, *Principles of Federal Appropriations Law, Third Edition*, GAO-04-261SP, January, 2004, pp. 2-70–2-71.

<sup>96</sup> Government Accountability Office, *Critical Infrastructure Protection: DHS Is Taking Action to Better Manage Its Chemical Security Program, but It Is Too Early to Assess Results*, GAO-12-515T, July 26, 2012.

effect, the existing regulatory framework if Congress continues to fund implementation, although this might lead to legal challenge.

### **Extend the Sunset Date**

Congressional policymakers might choose to extend the current statutory authority for a fixed or indefinite time. Congress has enacted a series of limited extensions of the statutory authority since its inception. The Obama Administration requested for FY2012 an extension of the statutory authority to October 4, 2013.<sup>97</sup> The Continuing Appropriations Resolution, 2013 (P.L. 112-175) extends the statutory authority through March 27, 2013. Extending the existing statutory authority may provide regulated entities continuity, protect them from losing those resources already expended in regulatory compliance, and avoid providing a competitive advantage to those regulated entities that remained out of regulatory compliance. An extension may allow assessment of the efficacy of the existing regulations and inclusion of this information in any future attempts to revise or extend DHS's statutory authority. Moreover, since DHS is in the process of implementing current regulations, some policymakers argue for a simple extension without changing statutory requirements.

In addition to requesting a temporary extension of the statutory authority, the Obama Administration also supports enacting a permanent statutory authority.<sup>98</sup> Congress might make the existing program permanent by removing the statutory authority's sunset date. Some chemical manufacturers support converting the existing program into a permanent program.<sup>99</sup> The removal of the sunset date would make the statutory authority permanent, maintain the current discretion granted to the Secretary of Homeland Security to develop regulations, and might allow long-term assessment of the efficacy of the existing regulations. Making the existing statute permanent would provide consistency in authority and remove the statutory pressure to reauthorize the program. In contrast, the presence of a sunset date for the statutory authority arguably increases the likelihood of congressional attention to chemical facility security as a legislative topic. Some advocates who wish for more regular congressional review of the statutory authority might oppose removing its sunset date.

### **Codify the Existing Regulations**

Congressional policymakers might choose to affirm the existing regulations by codifying them or their principles in statute. Such codification could reduce the discretion of the Secretary of Homeland Security to alter the CFATS regulations in the future. The existing statutory authority grants broad discretion to the Secretary to develop many elements of the CFATS regulations. Future Secretaries may choose to alter its structure or approach and still comply with the existing statute. Policymakers might identify specific components of the existing regulation that they wish any future regulation to retain and codify those portions. Specifying these components might limit the ability of the Secretary to react to changing circumstance, gained experience, and new

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<sup>97</sup> Office of Management and Budget, The White House, *Budget of the United States Government, Fiscal Year 2012*, Appendix, p. 553.

<sup>98</sup> Oral testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Homeland Security, Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies, February 11, 2011.

<sup>99</sup> Randy Dearth and Cal Dooley, "Commentary: Taking Chemical Plant Security in Pittsburgh Seriously," *Pittsburgh Post-Gazette*, May 27, 2009.

knowledge. On the other hand, the codified portions might enhance the regulated community's ability to plan for future expenses and requirements.

## **Alter the Existing Statutory Authority**

Congressional policymakers might choose to alter the existing statutory authority to modify the existing regulations, address stakeholder concerns, or broadly change the regulatory program.

## **Accelerate or Decelerate Compliance Activities**

The DHS bases its schedule for facility CFATS compliance on the chemical facility's assigned risk tier. Those chemical facilities assigned to higher risk tiers have a more accelerated compliance and resubmission schedule than those assigned to lower risk tiers. Congressional policymakers might attempt to accelerate the compliance schedule by increasing funding available to DHS for CFATS, thereby increasing the ability of DHS to provide feedback to regulated entities, review submissions, and inspect facilities filing site security plans. Additional funding might reduce or mitigate inefficiencies or delays related to DHS processing of submissions.

Alternatively, policymakers might provide DHS with the authority to use third parties as CFATS inspectors. The DHS could then augment the number of CFATS inspectors to meet increased demand or delegate inspection authority to state and local governments. Third-party inspectors might allow DHS to draw on expertise outside of the federal government in assessing the efficacy of the implemented site security activities. The DHS may need to define the roles and responsibilities of these inspectors and how DHS will assess and accredit their qualifications. The DHS has stated its intent to issue a rulemaking regarding the use of third-party inspectors but has not yet done so.<sup>100</sup> The use of third-party inspectors might lead to concerns about equal treatment of chemical facilities by different third-party inspectors, and questions about whether homeland security inspections of this type are an inherently governmental responsibility that only federal employees should perform.

Finally, Congress might determine that DHS has sufficient resources to accelerate compliance activities but is restrained by some other procedural factor. Congressional policymakers might direct DHS to streamline its review process, reduce the timeframe for response and interaction with regulated entities, or otherwise enact process improvements.

Congressional policymakers might choose to slow the implementation schedule of the chemical facility security regulations. Concern about the impact of the regulation on small businesses or other entities might lead to a decelerated compliance schedule. The DHS has already implemented select regulatory extensions for certain agricultural operations.<sup>101</sup> Congressional policymakers might direct DHS to provide longer submission, implementation, and resubmission timelines for those regulated entities that might suffer disproportionate economic burdens from compliance.

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<sup>100</sup> 72 *Federal Register* 17688–17745 (April 9, 2007) at 17712.

<sup>101</sup> 73 *Federal Register* 1640 (January 9, 2008).

## **Incorporate Excluded Facilities**

Policymakers might remove some or all of the statutory exclusions from the CFATS program. The Administration has supported revising the existing exclusions to provide a more comprehensive chemical facility security approach. The DHS supports modifying the existing exemption for (1) facilities regulated under the Maritime Transportation Security Act (MTSA) to increase security at these facilities to the CFATS standard and (2) facilities regulated by the Nuclear Regulatory Commission to clarify the scope of the exemption.<sup>102</sup>

In addition, DHS and the Environmental Protection Agency (EPA) have called for additional authorities to regulate water and wastewater treatment facilities:

The Department of Homeland Security and the Environmental Protection Agency believe that there is an important gap in the framework for regulating the security of chemicals at water and wastewater treatment facilities in the United States. The authority for regulating the chemical industry purposefully excludes from its coverage water and wastewater treatment facilities. We need to work with the Congress to close this gap in the chemical security authorities in order to secure chemicals of interest at these facilities and protect the communities they serve. Water and wastewater treatment facilities that are determined to be high-risk due to the presence of chemicals of interest should be regulated for security in a manner that is consistent with the CFATS risk and performance-based framework while also recognizing the unique public health and environmental requirements and responsibilities of such facilities.<sup>103</sup>

The EPA has testified that the Obama Administration believes that EPA should be the lead agency for chemical security for both drinking water and wastewater systems, with DHS supporting EPA's efforts. The EPA also supports providing states with an important role in regulating chemical security at water systems, including determinations, auditing, and inspecting.<sup>104</sup>

If Congress provides the executive branch with statutory authority to regulate water and wastewater treatment facilities for chemical security purposes, it may weigh several policy decisions. Among these choices are which facilities should be regulated; how stringent such security measures should be; what federal agency should oversee them; and whether compliance with these security measures is practicable given the public nature of many water and wastewater treatment facilities.

One option for congressional policymakers might be to include water and wastewater treatment facilities under the existing CFATS regulations, effectively removing the exemption currently in statute. This would place water and wastewater treatment facilities on par with other possessors

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<sup>102</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010. The DHS and the Nuclear Regulatory Commission have developed a memorandum of agreement regarding security at chemical facilities regulated by the Nuclear Regulatory Commission (*Memorandum of Understanding between the U.S. Department of Homeland Security and the U.S. Nuclear Regulatory Commission*, March 31, 2011).

<sup>103</sup> Testimony of Benjamin H. Grumbles, Assistant Administrator for Water, U.S. Environmental Protection Agency before the House Committee on Energy and Commerce, Subcommittee on Environment and Hazardous Materials, June 12, 2008. See also testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>104</sup> Testimony of Peter S. Silva, Assistant Administrator for Water, Environmental Protection Agency, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

of chemicals of interest. The DHS would provide oversight of all regulated chemical facilities.<sup>105</sup> Opponents might claim that activities under CFATS, such as vulnerability assessment, duplicate existing requirements under the Safe Drinking Water Act.<sup>106</sup> Also, opponents of such an approach cite the essential role that water and wastewater treatment facilities play in daily life and assert that several authorities available to DHS under CFATS, such as the ability to require a facility to cease operations, are inappropriate if applied to a municipal utility.<sup>107</sup> Congressional policymakers might mitigate some of these concerns by requiring DHS to consult with EPA regarding its regulation of water and wastewater treatment facilities and harmonizing existing vulnerability assessment requirements.

Another option might be to grant statutory authority to regulate water and wastewater treatment facilities for security purposes to EPA. Some water-sector stakeholders suggest that EPA retaining the lead for water and wastewater treatment facilities would be more efficient. Providing EPA the authority to oversee public health and safety and security operations may reduce the potential for redundancy and other inefficiencies.<sup>108</sup>

If policymakers assign responsibility for chemical facility security at different facilities to different agencies, each agency will promulgate separate rules. These rules may be similar or different depending on the agencies' statutory authority, interpretation of that authority, and ability of the regulated entities to comply as well as any interagency coordination that might occur. Some industry representatives have expressed concern regarding the effects of multiple agencies regulating security at drinking water and wastewater treatment facilities.<sup>109</sup> They assert that municipalities that operate both types of facilities might face conflicting regulations and guidance if different agencies regulate drinking water and wastewater treatment facilities. Congress may wish to assess the areas where such facilities are similar and different in order to provide authorities that meet any unique characteristics.

Any new regulation of drinking water and wastewater treatment facilities is likely to cause the regulated entities, and potentially the federal government, to incur some costs. Representatives of the water and wastewater sectors argue that local ratepayers will eventually bear the capital and ongoing costs incurred due to increased security measures.<sup>110</sup> Congressional policymakers may wish to consider whether the regulated entities and the customers they serve should bear these costs, as is done for other regulated chemical facilities, or whether they should be borne by the

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<sup>105</sup> Those chemical facilities exempt from CFATS because they are regulated under MTSA are overseen by the Coast Guard, which is part of DHS. In 2009, DHS testified that 365 facilities are fully exempt from the CFATS regulations due to compliance with MTSA, while 135 are partially exempt ("House Committee on Homeland Security Holds Hearing on the Chemical Facility Antiterrorism Act of 2009," *CQ Congressional Transcripts*, June 16, 2009).

<sup>106</sup> Section 1433 of the Safe Drinking Water Act as amended by Section 401 of P.L. 107-188, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, required water systems to perform a vulnerability assessment.

<sup>107</sup> Testimony of Brad Coffey, Association of Metropolitan Water Agencies, before the House Committee on Energy and Commerce, Subcommittee on Environment and Hazardous Materials, June 12, 2008.

<sup>108</sup> Some agencies oversee both safety and security issues. For example, the U.S. Coast Guard has both safety and security responsibilities for ports.

<sup>109</sup> See, for example, American Water Works Association, "AWWA Members Urged to Contact Congress on Chemical Security Bill," and Association of Metropolitan Water Agencies, "Drinking Water Security and Treatment Mandates," *Policy Resolution*, October 2008.

<sup>110</sup> Testimony of Brad Coffey, Association of Metropolitan Water Agencies, before the House Committee on Energy and Commerce, Subcommittee on Environment and Hazardous Materials, June 12, 2008.

taxpayers in general through federal financial assistance to the regulated entities. Additionally, if inclusion of other facility types significantly increases the number of regulated entities, the regulating agency may require additional funds to process regulatory submissions and perform required inspections.

## **Harmonize Regulations**

Other security provisions, such as MTSA, apply to some facilities exempt from the existing chemical facility security regulations. The DHS supports modifying the existing exemption for MTSA facilities to increase security at these facilities to the CFATS standard and modifying the existing exemption for facilities regulated by the Nuclear Regulatory Commission to clarify the scope of the exemption for NRC-regulated facilities.<sup>111</sup> The EPA has testified that the Obama Administration believes that DHS should be responsible for ensuring consistency of high-risk chemical facility security across all critical infrastructure sectors.<sup>112</sup> If Congress modifies these exemptions, conflicts might arise between requirements under chemical facility security regulations and these other provisions. One approach to resolving these conflicts is to identify which statute would supersede the others. Critics of such an approach might assert that the superseding statute does not contain all of the protections present in the other statutes. Another approach might be to require agencies to generally harmonize the regulations implementing each statute. Regulatory agencies might identify and determine the best ways to meet statutory requirements while also limiting regulatory duplication or contradiction.

Such harmonization might reduce the regulatory burden on companies possessing facilities regulated under two frameworks, such as MTSA and CFATS, by allowing a single security approach to the regulations. For example, equivalent credentialing of workers under both regulatory frameworks might limit the regulatory cost of compliance, in contrast to requiring two distinct security credentials. The DHS has established a joint NPPD/U.S. Coast Guard (USCG) working group to evaluate and, where appropriate, implement methods to harmonize the CFATS and MTSA regulations.<sup>113</sup> In contrast, if the process of harmonization leads to a significant increase in security requirements, the regulatory burden faced by industry might also increase. Congress previously expressed its expectation that DHS would execute a Memorandum of Agreement between NPPD and USCG regarding harmonization of chemical security responsibilities under CFATS and MTSA no later than March 30, 2012.<sup>114</sup> The DHS did not meet this expectation.

## **Consider Inherently Safer Technologies**

Congressional policymakers may choose to address the issue of inherently safer technologies, sometimes called methods to reduce the consequences of terrorist attack. The current statute bars DHS from mandating the presence or absence of a particular security measure. Therefore, DHS

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<sup>111</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>112</sup> Testimony of Peter S. Silva, Assistant Administrator for Water, Environmental Protection Agency, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>113</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the House Committee on Energy and Commerce, Subcommittee on Environment and the Economy, March 31, 2011.

<sup>114</sup> H.Rept. 112-331, p. 947.

cannot require a regulated facility to adopt or consider inherently safer technologies.<sup>115</sup> Congress could choose to continue the current policy or provide DHS with statutory authority regarding inherently safer technologies at regulated chemical facilities or require efforts regarding inherently safer technologies.

One policy approach might be to mandate the implementation of inherently safer technologies for a set of processes. Another policy approach might be to mandate the consideration of implementation of inherently safer technologies with certain criteria controlling whether implementation is required. A third policy approach might be to mandate the development of a federal repository of inherently safer technology approaches and consideration of chemical processes against those options listed in the repository. Stakeholders might assess and review the viability of applying these inherently safer approaches at lower cost if such information were centralized and freely available. Alternatively, policymakers might establish an incentive-based structure outside of the chemical facility security mandate to encourage the adoption of inherently safer technologies by regulated entities.

The Obama Administration supports use of inherently safer technologies to enhance security at high-risk chemical facilities in some circumstances. It has established a series of principles directing its policy:

- The Administration supports consistency of inherently safer technology approaches for facilities regardless of sector.
- The Administration believes that all high-risk chemical facilities, Tiers 1-4, should assess [inherently safer technology] methods and report the assessment in the facilities' site security plans. Further, the appropriate regulatory entity should have the authority to require facilities posing the highest degree of risk (Tiers 1 and 2) to implement inherently safer technology methods if such methods demonstrably enhance overall security, are determined to be feasible, and, in the case of water sector facilities, consider public health and environmental requirements.
- The Administration believes that the appropriate regulatory entity should review the inherently safer technology assessment contained in the site security plan for all Tier 3 and Tier 4 facilities. The entity should be authorized to provide recommendations on implementing inherently safer technologies, but it would not have the authority to require facilities to implement the inherently safer technology methods.
- The Administration believes that flexibility and staggered implementation would be required in implementing this new inherently safer technology policy.<sup>116</sup>

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<sup>115</sup> The National Environmental Justice Advisory Council, an EPA advisory committee, has recommended an alternative approach to the EPA. It recommends that the EPA Administrator use authorities under the Clean Air Act to require chemical facilities to implement inherently safer technology approaches (National Environmental Justice Advisory Council, *Letter to Administrator Jackson*, March 14, 2012). Several congressional policymakers have expressed their opposition to this approach. See, for example, Senator James M. Inhofe, Senator Susan M. Collins, Senator David Vitter, and Senator Mary Landrieu, *Letter to Administrator Jackson*, July 16, 2012; and Representative Fred Upton, Representative Ed Whitfield, and Representative John Shimkus, *Letter to Administrator Jackson*, May 8, 2012.

<sup>116</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

A congressional mandate for regulated entities to adopt or consider adopting inherently safer technologies may have benefits and drawbacks. It may lead regulated entities to consider factors such as homeland security impact in their chemical process assessments. Some experts assert that existing chemical process safety activities consider and assess inherently safer technology approaches though not necessarily in a homeland security context.<sup>117</sup> These assessments may lead to changes in chemical process when deemed safer, more reliable, and cost-effective. The extent to which homeland security impact has factored into these industry decisions is unknown, but DHS has identified cases where chemical facilities have voluntarily modified chemical processes to lower their CFATS tier. An additional complication to assessing inherently safer technology is the varying amounts and quality of information available regarding industrial implementation of inherently safer technologies. While some facilities have converted to processes generally deemed as inherently safer, other facilities may not have sufficient information available to effectively assess the impacts from changing existing processes to ones considered inherently safer.<sup>118</sup> The differences that exist among chemical facilities, in terms of chemical process, facility layout, and ability to finance implementation, may challenge mandatory implementation of inherently safer technologies at regulated entities. Finally, the National Academies have identified that the chemical industry lacks a common understanding and set of practice protocols for identifying safer processes.<sup>119</sup> Therefore, it seems likely that any such mandate will also require accompanying outreach and educational activities for regulated entities. Even the mandatory consideration of inherently safer technologies may place a financial burden on some small regulated entities. Congress might limit mandatory measures to those facilities considered by DHS to pose the most risk or might provide such financial assistance to regulated facilities.<sup>120</sup>

Policymakers might choose to try to further incentivize regulated entities to adopt inherently safer technologies. Under the CFATS regulations, facilities that adopt inherently safer technologies might change their assigned risk tier by reducing the amount of chemicals of interest they store. As of July 2012, more than 2,730 facilities had removed or reduced the amount of chemicals of interest stored onsite in order to no longer qualify as a high-risk facility.<sup>121</sup> Policymakers might provide regulated entities that adopt inherently safer technologies with additional financial or regulatory incentives. Alternatively, policymakers might direct DHS or another agency to perform

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<sup>117</sup> See, for example, testimony of Dennis C. Hendershot, Staff Consultant, Center for Chemical Process Safety, American Institute of Chemical Engineers, before the Senate Committee on Environment and Public Works, June 21, 2006, S.Hrg. 109-1044.

<sup>118</sup> The DHS Science and Technology (S&T) Directorate is engaged in a Chemical Infrastructure Risk Assessment Project that, among other goals, will assess the potential for safer alternative processes that may reduce risk to a select subset of high volume toxic chemicals (Department of Homeland Security, *FY2010 Budget Justification*, pp. S&T R&D - 27–28). The Chemical Security Analysis Center of the DHS S&T Directorate contracted with the Center for Chemical Process Safety of the American Institute of Chemical Engineers to develop a technically based definition for inherently safer technology. See Center for Chemical Process Safety, American Institute of Chemical Engineers, *Final Report: Definition for Inherently Safer Technology in Production, Transportation, Storage, and Use*, July 2010. The DHS has not adopted the S&T Directorate work as a regulatory definition. Congress has directed DHS to detail and report to Congress the Department's definition of inherently safer technology as it relates to chemical facilities under the purview of CFATS. See H.Rept. 112-331, p. 986.

<sup>119</sup> Committee on Inherently Safer Chemical Processes, National Research Council, *The Use of Methyl Isocyanate (MIC) at Bayer CropScience*, 2012.

<sup>120</sup> Section 401 of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (P.L. 107-188) mandated drinking water facilities serving more than 3,300 individuals develop an emergency response plan and perform a vulnerability assessment. Funds were authorized to help offset the costs to these facilities.

<sup>121</sup> Infrastructure Security Compliance Division, Office of Infrastructure Protection, National Protection and Programs Directorate, Department of Homeland Security, *Chemical Facility Anti-Terrorism Standards (CFATS) and Ammonium Nitrate Security Regulation Update*, July 31, 2012.



inherently safer technology assessments for regulated entities, transferring the cost of such assessment from the facility to the federal government.<sup>122</sup> The regulated entity or the overseeing agency might use the results of these assessments to guide adoption of inherently safer technologies.

## **Modify Information Security Provisions**

Congressional policymakers might choose to increase transparency in the CFATS process by altering the information security provisions of the program. Such an approach might include increasing the number and type of individuals granted access to CVI, improving information exchange with first responders, and adjusting the manner by which courts and administrative proceedings handle CVI. The Obama Administration has testified that CVI is a distinct information protection regime and expressed support for maintaining CVI in its current form.<sup>123</sup>

Congress might choose to amend the existing statutory authority to address policy concerns. Policymakers might direct DHS to make specific types of information, such as the results of enforcement activities or the approval of successful implementation of a site security plan, more generally available. As more information about the vulnerability assessment and the security process becomes available, the potential that adversaries might combine this disparate information to obtain insight into a security weakness may increase. Congressional policymakers might require that the executive branch or another entity identify the threats or vulnerabilities that might accrue from release of a greater amount of chemical facility security information prior to implementing such a policy change.<sup>124</sup>

Congressional policymakers might choose to alter the information protection regime afforded to chemical facility security information by specifically expanding access to first responders. The existing regulation explicitly states that information developed in response to other laws or regulations, such as the Emergency Planning and Community Right-to-Know Act, are not protected from disclosure. Enhancing first responder access to such information might minimize perceived barriers to disclosing information during an accident. For example, Congress might mandate that each jurisdiction with a regulated chemical facility contain a first responder designated as a covered individual.

Conversely, congressional policymakers might choose to further limit dissemination of CVI so as to increase barriers to its release. Congress might prohibit DHS from sharing such information outside of the federal government or further limit CVI access to state and local officials by

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<sup>122</sup> Following investigation into the explosion at the Bayer CropScience facility in Institute, WV, Members of Congress requested that the Chemical Safety Board provide recommendations on the adoption of alternative chemical processes at the chemical facility. Rep. Henry A. Waxman, Sen. John D. Rockefeller IV, Rep. Bart Stupak, and Rep. Edward J. Markey, *Letter to John Bresland*, May 4, 2009.

<sup>123</sup> Testimony of Rand Beers, Under Secretary, National Protection and Programs Directorate, Department of Homeland Security, before the Senate Committee on Homeland Security and Governmental Affairs, March 3, 2010.

<sup>124</sup> A similar approach was taken with regard to making available chemical facility information submitted to the EPA under the auspices of the Risk Management Program. In this case, Congress directed the President to assess the potential risk of placing this information on the Internet. See Section 3 of Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (P.L. 106-40). The Department of Justice assessed that placing such information on the Internet posed law enforcement and national security concerns. See Department of Justice, *Assessment of the Increased Risk of Terrorist or Other Criminal Activity Associated with Posting Off-Site Consequence Analysis Information on the Internet*, April 18, 2000.

establishing additional eligibility criteria. Limiting the number of individuals with access to CVI may make it more difficult for those wishing to do harm to obtain technical or operational security information. Conversely, state and local officials may not support such an approach, as limitations on distribution may also adversely affect emergency response at a regulated facility or inhibit the ability of state and local law enforcement officials to provide targeted protection of particular chemical facility assets.

Policymakers might also choose to address the issue of identifying and marking protected information by mandating review of marked documents. Congressional policymakers might place this responsibility to review and certify marked information on the chemical facility. Alternatively, the federal government might review and certify documents marked CVI on a regular basis. Industry representatives may not support such a requirement due to the additional regulatory burden caused by the review. While such review might potentially limit incorrect marking, it may inhibit information reporting by regulated entities to the federal government. Additionally, absent a penalty for incorrect marking, it is unclear how to discourage incorrect marking of nonsecurity materials in order to avoid public release.

Congressional policymakers may also address concerns raised regarding the ability of concerned individuals to report misdeeds by creating a “whistleblower” reporting mechanism.<sup>125</sup> One approach might be to codify the current mechanism of reporting such concerns to DHS or a similar federal entity, such as an agency Inspector General. Alternatively, Congress can create a more general exemption to the penalties arising from disclosure of protected information for those individuals who report such concerns to federal officials if that is needed to protect whistleblowers. As part of a whistleblower mechanism, policymakers might choose to extend protections against retaliation or other job-related actions to those individuals availing themselves of current or newly established reporting mechanisms.

## **Preempt State Regulations**

The 110<sup>th</sup> Congress addressed the issue of federal preemption of state chemical facility security statutes and regulations by placing in statute the requirement that federal regulation preempt the state regulation only when an “actual conflict” occurs between them.<sup>126</sup> Congressional policymakers may choose to further limit the cases where federal regulation would preempt state regulation by affirming the right of states to make chemical facility security regulations that are more stringent than federal regulation even if they conflict. Alternatively, policymakers may choose to increase the number of cases where federal regulations preempt those of a state by expanding the types of conflict, beyond “actual,” that will lead to preemption.

## **Congressional Action**

The annual appropriations process provides funding for implementation of chemical facility security regulation. The 112<sup>th</sup> Congress, through the Continuing Appropriations Resolution, 2013 (P.L. 112-175), extended the statutory authority through March 27, 2013, and provided

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<sup>125</sup> While DHS has established a “CFATS Tip-Line” where individuals may report security concerns, individuals using the tip-line accrue no special protections.

<sup>126</sup> P.L. 110-161, the Consolidated Appropriations Act, 2008, Section 534.

appropriations for CFATS implementation. Chemical facility security legislation has also been introduced in the 113<sup>th</sup> Congress. For an overview of legislative activity in the 112<sup>th</sup> Congress, see CRS Report R41642, *Chemical Facility Security: Issues and Options for the 112<sup>th</sup> Congress*, by Dana A. Shea.

## **Extend the Existing Authority**

The current statutory authority to regulate security at chemical facilities expires on March 27, 2013. The Obama Administration has requested an extension of the existing statutory authority until October 4, 2013.<sup>127</sup> Historically, Congress has extended this authority through appropriations acts. Congress is considering extending the existing authority through authorization legislation.

### **H.J.Res. 117/P.L. 112-175**

H.J.Res. 117/P.L. 112-175, the Continuing Appropriations Resolution, 2013, became law on September 28, 2012. It extended the existing statutory authority to March 27, 2013.

## **Modify the Existing Authority**

Legislation in the 113<sup>th</sup> Congress has been introduced in the House that would modify the existing authority.

### **H.R. 68**

H.R. 68 was referred to the House Committee on Energy and Commerce and the House Committee on Homeland Security. The act would prohibit the Secretary of Homeland Security from approving a chemical facility site security plan if the plan did not meet or exceed existing state or local security requirements. It would allow the Secretary of Homeland Security to mandate the use of specific security measures in site security plans. The bill would also cause CVI to be treated as sensitive security information in both general and legal proceedings. Finally, the act would no longer prohibit third-party individuals from bringing suit in court to require the Secretary of Homeland Security to enforce chemical facility security regulations against a chemical facility.

### **S. 67**

S. 67, the Secure Water Facilities Act, was referred to the Senate Committee on Environment and Public Works. The act would authorize the EPA Administrator to regulate community water systems and wastewater treatment facilities for security purposes. S. 67 also would authorize implementation of methods to reduce the consequences of a chemical release from an intentional act. Among other provisions, the Administrator would be directed to promulgate regulations as necessary to prohibit the unauthorized disclosure of controlled information. S. 67 would authorize

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<sup>127</sup> Office of Management and Budget, The White House, *Budget of the United States Government, Fiscal Year 2013, Appendix*, p. 597.

the Administrator to provide grants or enter into cooperative agreements with states or regulated entities to assist in regulatory compliance.

## **S. 68**

S. 68, the Secure Chemical Facilities Act, was referred to the Senate Committee on Homeland Security and Governmental Affairs. The act would codify aspects of the CFATS regulation. It would require facilities to evaluate whether the facility could reduce the consequences of an attack by using a safer chemical or process. The act would authorize DHS to require implementation of those safer measures if a facility has been classified as one of the highest-risk facilities, implementation of safer measures is feasible, and implementation would not increase risk overall by shifting risk to another location. Among other provisions, S. 68 also would increase the participation of employees and employee representatives in developing security plans. S. 68 would alter the current information control regime, aligning it with that for sensitive security information. Finally, S. 68 would allow third-party individuals to file suit against the Secretary of Homeland Security or submit a petition to the Secretary to enforce compliance with statute.

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