United States Government Accountability Office

Report to Congressional Requesters

July 2015

CRITICAL INFRASTRUCTURE PROTECTION

DHS Action Needed to Verify Some Chemical Facility Information and Manage Compliance Process

GAO-15-614

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GAO Highlights

Highlights of GAO-15-614, a report to congressional requesters

Why GAO Did This Study

Thousands of facilities have hazardous chemicals that could be targeted or used to inflict mass casualties or harm surrounding populations in the United States. DHS established the CFATS program to, among other things, identify and assess the security risk posed by chemical facilities. Within DHS, ISCD oversees this program.

GAO was asked to assess the CFATS program. This report addresses, among other things, the extent to which DHS has (1) categorized facilities as subject to the CFATS regulation, and (2) approved site security plans and conducted compliance inspections. GAO reviewed laws, regulations, and program documents; randomly selected data submitted to ISCD by facilities from 2007 to 2015, tested the data's reliability; and generated estimates for the entire population of facilities, and interviewed officials responsible for overseeing, identifying, categorizing, and inspecting chemical facilities from DHS headquarters and in California, Maryland, Oregon, and Texas (selected based on geographic location and other factors).

What GAO Recommends

GAO recommends, among other things, that DHS (1) verify the Distance of Concern reported by facilities is accurate and (2) document processes and procedures for managing compliance with site security plans. DHS concurred with GAO's recommendations and outlined steps to address them.

View GAO-15-614. For more information, contact Chris Currie at (404) 679-1875 or curriec@gao.gov.

What GAO Found

Since 2007, the Office of Infrastructure Protection's Infrastructure Security Compliance Division (ISCD), within the Department of Homeland Security (DHS), has identified and collected data from approximately 37,000 chemical facilities under its Chemical Facility Anti-Terrorism Standards (CFATS) program and categorized approximately 2,900 as high-risk based on the collected data. However, ISCD used unverified and self-reported data to categorize the risk level for facilities evaluated for a toxic release threat. A toxic release threat exists where chemicals, if released, could harm surrounding populations. One key input for determining a facility's toxic release threat is the Distance of Concern (distance) that facilities report—an area in which exposure to a toxic chemical cloud could cause serious injury or fatalities from short-term exposure. ISCD requires facilities to calculate the distance using a web-based tool and following DHS guidance. ISCD does not verify facility-reported data for facilities it does not categorize as high-risk for a toxic release threat. However, following DHS guidance and using a generalizable sample of facility-reported data in a DHS database, GAO estimated that more than 2,700 facilities (44 percent) of an estimated 6,400 facilities with a toxic release threat misreported the distance. By verifying that the data ISCD used in its risk assessment are accurate, ISCD could better ensure it has identified the nation's high-risk chemical facilities.

ISCD has made substantial progress approving site security plans but does not have documented processes and procedures for managing facilities that are noncompliant with their approved site security plans. Site security plans outline, among other things, the planned measures that facilities agree to implement to address security vulnerabilities. As of April 2015, GAO estimates that it could take between 9 and 12 months for ISCD to review and approve security plans for approximately 900 remaining facilities—a substantial improvement over the previous estimate of 7 to 9 years GAO reported in April 2013. ISCD officials attributed the increased approval rate to efficiencies in ISCD's security plan review process, updated guidance, and a new case management system. Further, ISCD began conducting compliance inspections in September 2013, but does not have documented processes and procedures for managing the compliance of facilities that have not implemented planned measures outlined in their site security plans. According to the nature of violations thus far, ISCD has addressed noncompliance on a case-by-case basis. Almost half (34 of 69) of facilities ISCD inspected as of February 2015 had not implemented one or more planned measures by deadlines specified in their approved site security plans and therefore were not fully compliant with their plans. GAO found variations in how ISCD addressed these 34 facilities, such as how much additional time the facilities had to come into compliance and whether or not a follow-on inspection was scheduled. Such variations may or may not be appropriate given ISCD's case-by-case approach, but having documented processes and procedures would ensure that ISCD has guidelines by which to manage noncompliant facilities and ensure they close security gaps in a timely manner. Additionally, given that ISCD will need to inspect about 2,900 facilities in the future, having documented processes and procedures could provide ISCD more reasonable assurance that facilities implement planned measures and address security gaps.

Contents

Abbreviations

ASP	Alternative Security Program
CFATS	Chemical Facility Anti-Terrorism Standards
CI	Compliance Inspection
COI	Chemical of Interest
CSAT	Chemical Security Assessment Tool
CVI	Chemical-terrorism Vulnerability Information
DHS	Department of Homeland Security
EPA	Environmental Protection Agency
GPRA	Government Performance and Results Act
IP	Office of Infrastructure Protection
ISCD	Infrastructure Security Compliance Division
NIPP	National Infrastructure Protection Plan
NPPD	National Protection and Programs Directorate
RBPS	Risk-Based Performance Standards
SSP	Site Security Plan

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Congressional Requesters

Facilities that produce, use, or store hazardous chemicals could be of particular interest to terrorists who are intent on using toxic chemicals to inflict mass casualties in the United States. These chemicals could be released from a facility to cause harm to surrounding populations, stolen and used as chemical weapons or the ingredients to make chemical weapons, or stolen and used to build an improvised explosive device. For example, on April 19, 1995, a domestic terrorist used ammonium nitrate fertilizer mixed with fuel oil to blow up a federal building in Oklahoma City, Oklahoma. The explosion killed 168 people and injured hundreds more. The Chemical Facility Anti-Terrorism Standards (CFATS) program, established pursuant to the Department of Homeland Security (DHS) Appropriations Act, 2007, enables DHS to, among other things, identify chemical facilities and assess the security risk posed by each, categorize the facilities into risk-based tiers, and inspect the high-risk facilities to ensure compliance with regulatory requirements.[1] The Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014, enacted in December 2014, in effect, reauthorized the CFATS program for an additional 4 years while also imposing additional implementation requirements on DHS for the program.[2] The Office of Infrastructure Protection (IP), through its Infrastructure Security Compliance Division (ISCD), within DHS's National Protection and Programs Directorate (NPPD), oversees the CFATS program.

In July 2012, we reported that ISCD had efforts under way to address challenges in implementing the CFATS program—such as delays approving site security plans—that were highlighted in a leaked internal ISCD memorandum.[3] We found that ISCD was in the early stages of

[1]See 72 Fed. Reg. 17,792 (Apr. 9, 2007) (interim final rule) (codified as amended at 6 C.F.R. pt. 27); see also Pub. L. No. 109-295, § 550, 120 Stat. 1355, 1388-89 (2006).

[2]See Pub. L. No. 113-254, 128 Stat. 2898 (2014); 6 U.S.C. §§ 621-29. Specifically, the Act amended the Homeland Security Act of 2002, Pub. L. No. 107-296, 116 Stat. 2135 (2002), by adding Title XXI—Chemical Facility Anti-Terrorism Standards—and expressly repealed the program's authority under the fiscal year 2007 DHS appropriations act.

[3]GAO, *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 (Washington, D.C.: July 26, 2012).

implementing actions to address challenges and had not yet established performance measures to assess results. We recommended that ISCD explore opportunities to develop performance measures and assess results, where practical. ISCD agreed with our recommendation and, in response, developed an operating plan that included information on how ISCD planned to measure performance. Subsequently, in April 2013, we reported that ISCD had categorized about 3,500 chemical facilities as high-risk, but that the approach ISCD used did not consider all elements of risk (consequence, threat, and vulnerability),[4] as called for by the *National Infrastructure Protection Plan* (NIPP).[5] We recommended, among other things, that ISCD enhance its risk assessment approach to incorporate all elements of risk, and conduct a peer review of the program to validate and verify ISCD's risk assessment approach. ISCD agreed with our recommendations and, as of May 2015, was taking steps intended to address the recommendations.

The Protecting and Securing Chemical Facilities from Terrorist Attacks Act includes a provision for GAO to assess implementation of the act and amendments made by the act and submit an initial report to Congress not later than 180 days after enactment.[6] In addition, the explanatory statement accompanying the Consolidated and Further Continuing Appropriations Act, 2013 (Public Law 113-6), provides that GAO is to continue its ongoing effort to examine the extent to which DHS has made progress and encountered challenges in developing a viable CFATS

[4]GAO, *Critical Infrastructure Protection: DHS Efforts to Assess Chemical Security Risk and Gather Feedback on Facility Outreach Can Be Strengthened*, GAO-13-353 (Washington, D.C.: Apr. 5, 2013).

[5]See DHS, *2013 National Infrastructure Protection Plan (NIPP), Partnering for Critical Infrastructure Security and Resilience* (Washington, D.C.: December 2013). The NIPP risk management framework is a planning methodology that outlines the processes for, among other things, setting goals and objectives; identifying critical infrastructure; assessing risk based on consequences, threats, and vulnerabilities; implementing protective programs and resiliency strategies; and measuring performance and taking corrective actions. Broadly defined, risk management is a process that helps policymakers assess risk, strategically allocate finite resources, and take actions under conditions of uncertainty.

[6]See Pub. L. No. 113-254, § 3(c)(2), 128 Stat. at 2918. The act further provides that GAO is to submit a second report not later than 1 year after the date of its initial report (roughly June 2016) that includes an assessment of the whistleblower protections provided in the act, and a third report not later than 1 year after GAO submits its second report that includes an assessment of the expedited approval program authorized under the act. We will summarize DHS officials' stated plans to implement provisions of the act in app. I of this report.

program.[7] We performed this review in response to both provisions, as well as additional requests for reviews related to chemical security and ammonium nitrate. This report assesses the extent to which DHS has

- identified and categorized facilities as subject to the CFATS regulation, and
- approved site security plans, conducted compliance inspections, and measured results.

Appendix I of this report provides an update of ISCD actions under way to address the Protecting and Securing Chemical Facilities from Terrorist Attacks Act.

To address our first objective, we reviewed laws and regulations applicable to facilities that possess or store chemicals, as well as Executive Order 13650, to determine how ISCD is to identify and categorize chemical facilities.[8] To evaluate how ISCD has identified facilities that could potentially be subject to CFATS, we reviewed and analyzed ISCD documentation related to its efforts to identify facilities, including documentation on coordinating with other federal agencies that regulate chemical facilities, and the Executive Order 13650 *Report for the President: Actions to Improve Chemical Facility Safety and Security—a Shared Commitment.*[9] To evaluate how ISCD has categorized chemical facilities, we reviewed and analyzed documentation ISCD provides to facilities intended to guide them in submitting data that ISCD uses to preliminarily categorize facilities as high-risk, which renders them subject to additional requirements under the CFATS regulation during its

[7]159 Cong. Rec. S1287, 1557 (daily ed. Mar. 11, 2013).

[8]Issued on August 1, 2013, Executive Order 13650—*Improving Chemical Safety and Security*—endeavors to improve chemical facility safety and security by facilitating coordination within and among all levels of government and with the owners and operators of such facilities. See Exec. Order No. 13650, 78 Fed. Reg. 48,029 (Aug. 7, 2013). Among other things, the order established a federal working group to improve federal coordination with state and local partners; enhance federal agency coordination and information sharing; modernize polices, regulations, and standards; and work with stakeholders to identify best practices.

[9]In May 2014, the working group established by Executive Order 13650 issued a report on its progress to date, findings and lessons learned, and next steps.

preliminary screening process.[10] As part of this effort, we obtained data submitted by facilities to ISCD in accordance with CFATS. We analyzed a statistical sample of these data to determine the extent to which ISCD used facility-submitted data to make categorization decisions that are reproducible, defensible, and free from significant errors and omissions, as called for by the *National Infrastructure Protection Plan*. We also compared ISCD's facility categorization efforts to project management guidance.[11] We assessed the reliability of ISCD data by reviewing relevant documentation and interviewing knowledgeable officials. We concluded that these data were sufficiently reliable for the purposes of this report. We also interviewed ISCD officials to confirm our understanding of the documents and data provided, and actions ISCD has taken to identify and categorize chemical facilities.

To address our second objective, we reviewed laws and regulations applicable to how DHS is to approve site security plans and ensure compliance with the CFATS regulation. We analyzed ISCD data to identify the number of site security plans approved per month, and used the results of our analysis to estimate the number of months it could take ISCD to approve remaining site security plans. We note limitations in our analysis, including that our estimate does not take into consideration resource constraints ISCD may face as it implements the Ammonium Nitrate Security Program once the rule establishing the program has been issued.[12] We analyzed compliance inspection reports to identify the extent to which the reports identify non-compliance among facilities that have undergone compliance inspections as part of the CFATS program. We compared ISCD's processes and procedures for tracking and monitoring noncompliant facilities to the NIPP, which calls for risk assessment approaches to be documented, reproducible, and defensible, and to

[10]See app. II for more information on the methodology used to perform this analysis. Facilities not preliminarily considered high risk are not subject to additional requirements under the CFATS regulation.

[11]Project Management Institute, Inc. *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide), Fifth Edition (Newtown Square, Pennsylvania: 2013).

[12]In accordance with the DHS Appropriations Act, 2008, Pub. L. No. 110-161, Div. E, § 563, 121 Stat. 1844, 2083-90 (2007), DHS issued a proposed rule for the Ammonium Nitrate Security Program in August 2011. See 76 Fed. Reg. 46,908 (Aug. 3, 2011). As of July 2015, DHS had not implemented the program but, according to the DHS semiannual regulatory agenda published in June 2015, a final rule for the program is anticipated in October 2015. See 80 Fed. Reg. 35,030, 35,031 (June 18, 2015).

standards in *Standards for Internal Control in the Federal Government* for documenting transactions and significant decisions.[13] To determine how DHS has measured results, we compared ISCD's performance measure with criteria in the NIPP for evaluating the effectiveness of risk management efforts by, among other things, collecting performance data to assess progress in achieving outputs and outcomes. We interviewed ISCD headquarters officials responsible for overseeing the CFATS program to confirm our understanding of their processes and systems for authorizing, approving, and inspecting facilities for compliance. Finally, we conducted four site visits to observe two authorization inspections and two compliance inspections. We selected inspection locations in California, Oregon, Maryland, and Texas based on geographic dispersion and to cover different types of chemical facilities regulated by the CFATS program. While the information obtained from these inspections cannot be generalized to all inspections, it provides insight and context on how ISCD conducts CFATS inspections. For further details on our scope and methodology, see appendix II.

We conducted this performance audit from September 2014 to July 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The CFATS program is intended to ensure the security of the nation's chemical infrastructure by identifying, assessing the risk posed by, and requiring the implementation of measures to protect high-risk chemical facilities. Section 550 of the DHS Appropriations Act, 2007, required DHS to issue regulations establishing risk-based performance standards for chemical facilities that, as determined by DHS, present high levels of risk, and required vulnerability assessments and the development and implementation of site security plans for such facilities.[14] DHS published the CFATS interim final rule in April 2007 and appendix A to the rule,

[13]GAO, *Standards for Internal Control in the Federal Government,* GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

[14]Pub. L. No. 109-295, § 550, 120 Stat. at 1388-89.

published in November 2007, lists 322 chemicals of interest (COI) and the screening threshold quantities amount for each.[15] According to DHS and subject to certain statutory exclusions, all facilities that manufacture chemicals of interest as well as facilities that store or use such chemicals as part of their daily operations may be subject to CFATS.[16] In general, however, only chemical facilities determined to possess a requisite quantity of COI (that is, the screening threshold quantity) and that are subsequently determined to present high levels of security risk—that is, covered facilities—are subject to the more substantive requirements of the CFATS regulation.[17] The Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014, enacted in December 2014, amended the Homeland Security Act of 2002 by adding the Chemical Facility Anti-Terrorism Standards as Title XXI and, in effect, authorizing the program for an additional 4 years.[18] Among other things, the Act expressly repeals DHS's authority to implement the program under section 550 of the DHS Appropriations Act, 2007, but also expressly provides that the CFATS regulation promulgated under that authority shall remain in effect unless otherwise amended, consolidated, or repealed. Consequently, while the Act imposes new and additional responsibilities on DHS to implement the

[15]72 Fed. Reg. 17,688 (Apr. 9, 2007) (codified as amended at 6 C.F.R. pt. 27); 72 Fed. Reg. 65,396 (Nov. 20, 2007) (codified at 6 C.F.R. pt. 27, App. A). The interim final rule (i.e., the CFATS regulation), as subsequently amended, remains in effect. Appendix A has not been revised since its initial publication.

[16]Such facilities can include food-manufacturing facilities that use COI in the manufacturing process, universities that use the chemicals to do experiments, or warehouses that store ammonium nitrate, among others. Under the Protecting and Security Chemical Facilities from Terrorist Attacks Act, such a facility would be recognized as a "chemical facility of interest." See 6 U.S.C. § 621(2). Consistent with law and regulation, certain facilities—including, in general, facilities regulated under the Maritime Transportation Security Act of 2002 (Public Law 107-295), public water systems or wastewater treatment facilities, facilities owned and operated by the Department of Defense or the Department of Energy, and facilities subject to regulation by the Nuclear Regulatory Commission or in accordance with the Atomic Energy Act of 1954—are not subject to regulation under CFATS and are referred to as excluded facilities. See, e.g., 6 C.F.R. § 27.110(a).

[17]See generally 6 C.F.R. pt. 27, subpt. B.

[18]See Pub. L. No. 113-254, §§ 2, 4-5, 128 Stat. at 2898, 2918-19 (adding Title XXI—Chemical Facility Anti-Terrorism Standards—to the Homeland Security Act of 2002, Pub. L. No. 107-296, 116 Stat. 2135 (2002); 6 U.S.C. §§ 621-29)).

CFATS program, the program continues to be implemented by ISCD under the existing regulatory framework.[19]

In addition to implementing the CFATS program, ISCD is also to manage the Ammonium Nitrate Security Program—a program DHS is to establish pursuant to section 563 of the DHS Appropriations Act, 2008.[20] While the CFATS program covers facilities with certain thresholds of ammonium nitrate, the Ammonium Nitrate Security Program is to regulate the sale and transfer of ammonium nitrate by an ammonium nitrate facility for the purpose of preventing the misappropriation or use of ammonium nitrate in an act of terrorism.[21] Among other things, the statute authorizing the ammonium nitrate program authorizes DHS to require individuals who purchase, sell, or transfer ammonium nitrate to register with DHS and submit to vetting against the Terrorist Screening Database, and requires the owners of ammonium nitrate facilities to maintain records on each sale or transfer of ammonium nitrate and to report any identified theft or loss of ammonium nitrate to appropriate federal authorities.[22] DHS issued a proposed rule for the Ammonium Nitrate Security Program in August 2011 and, as of July 2015, has yet to establish the program.[23]

[19]Among other things, the act expands upon the regulatory definitions of "chemical facility" (defining "chemical facility of interest" as a facility, other than an excluded facility, that holds, or that the Secretary of Homeland Security has a reasonable basis to believe holds, a chemical of interest at a threshold quantity set pursuant to relevant risk-related security principles) and "covered chemical facility" (defining the term as a facility, other than an excluded facility, that the Secretary identifies as a chemical facility of interest and, based upon review of the facility's information [i.e., the facility's Top-Screen], determines it meets the established risk criteria). See 6 U.S.C. §§ 621(2)-(4), 622(e). For purposes of this report, we refer to covered chemical facilities as being high-risk.

[20]See Pub. L. No. 110-161, Div. E, § 563, 121 Stat. 1844, 2083-90 (2007) (amending Title VIII of the Homeland Security Act of 2002 by adding Subtitle J—Secure Handling of Ammonium Nitrate); 6 U.S.C. §§ 488-88i.

[21]See 6 U.S.C. § 488a(a); see also 76 Fed. Reg. 46,908 (Aug. 3, 2011) (proposed rule). Consistent with the statute, DHS's proposed rule for the Ammonium Nitrate Security Program rule defines, among other things, "ammonium nitrate facility" as any person or entity that produces, sells, or otherwise transfers ownership of, or provides application services for, ammonium nitrate, as well as what constitutes ammonium nitrate for purposes of the program.

[22]The Terrorist Screening Database is the U.S. government's consolidated list of known and suspected terrorists.

[23]See 80 Fed. Reg. at 35,031 (indicating that a final rule for the program is anticipated in October 2015).

The CFATS Regulation and Process

The CFATS regulation outlines how ISCD is to administer the CFATS program. Specifically, any facility that possess any of the 322 chemicals of interest (COI) in quantities that meet or exceed the screening threshold quantities established by DHS for those COI are required to use ISCD's Chemical Security Assessment Tool (CSAT)—a web-based application through which owners and operators of facilities with COI are to provide information about the facility—to complete a Top-Screen.[24] The Top-Screen is the initial screening tool whereby a chemical facility in possession of a COI at the requisite thresholds is to provide ISCD data, including the name and location of the facility and the chemicals and their quantities at the site.

ISCD's risk assessment approach, which relies on data from the Top-Screen, among other sources, is based on three security issues: (1) release (toxic, flammable, and explosive) chemicals with the potential for impacts within and beyond a facility; (2) theft or diversion; and (3) sabotage, depending on the type of risk associated with the COI.

- **Release:** For the release threat, ISCD's approach assumes that a terrorist will release the COI at the facility and then estimates the risk to the facility and surrounding population. Facilities with toxic release chemicals are to calculate and report in their Top-Screen submission the Distance of Concern—which represents the radius of an area in which exposure to a toxic chemical cloud from a release event could cause serious injury or fatalities from short-term exposure. ISCD uses the Distance of Concern to estimate the number of fatalities from an intentional toxic release and to categorize the risk posed by this facility.[25] The Top-Screen directs respondents to use an online tool

[24]For example, a facility that possesses butane at a quantity equal to or exceeding 10,000 pounds with a minimum concentration of 1.0 percent must submit information to DHS because the substance is considered flammable if subject to release. A facility that uses or maintains oxygen difluoride, however, must submit information to DHS if it possesses the substance at a quantity equal to or exceeding 15 pounds with a minimum concentration of 0.09 percent because it is considered vulnerable to theft for use as a weapon of mass effect. The "screening threshold quantity" is the quantity of a chemical of interest, upon which the facility's obligation to complete and submit the Top-Screen is based. See 6 C.F.R. § 27.105.

[25]Once a respondent submits the Distance of Concern, ISCD uses it to estimate the size of the area in which fatalities would occur and determines the population within that area.

called RMP*Comp to calculate the Distance of Concern.[26] RMP*Comp takes inputs such as the quantity of chemical that could be released and the surrounding terrain type to determine the Distance of Concern.

- **Theft or diversion:** For theft or diversion, the approach assumes that a terrorist will steal or have the COI diverted to him or herself and then estimates the risk of a terrorist attack using the COI to cause the most harm at an unspecified off-site location.
- **Sabotage:** For sabotage, the approach assumes that a terrorist will cause water to be mixed with a COI that is shipped from the facility, creating a toxic release at an unspecified location, and then estimates the risk to a medium-sized U.S. city.

If, according to ISCD's automated assessment of information provided via the Top-Screen, the facility is preliminarily categorized to be high-risk it becomes a "covered chemical facility," and ISCD is to notify the facility of its preliminary placement in one of four risk-based tiers—tier 1, 2, 3, or 4. If ISCD does not categorize the chemical facility as high-risk, ISCD does not assign the facility to one of these four risk-based tiers and the facility is not subject to additional requirements under the CFATS regulation.[27] Facilities that ISCD preliminarily categorizes to be high-risk—covered chemical facilities—are required to then complete the CSAT security vulnerability assessment, which includes the identification of potential

[26]RMP*Comp was developed and is administered by the Environmental Protection Agency (EPA) to help entities regulated under the Clean Air Act with reporting requirements. As part of these reporting requirements, regulated entities must conduct an off-site consequence analysis to provide information about the potential consequences of an accidental chemical release. The off-site consequence analysis consists of two elements: (1) a worst-case release scenario, which evaluates the consequences of the release of the largest quantity of the regulated chemical that results in the greatest Distance of Concern, and (2) an alternative release scenario, which evaluates the consequences of a release event more likely to occur than the worst-case scenario but which could still affect the surrounding population.

[27]According to DHS data, 80 percent of facilities were not categorized as high-risk based upon information facilities provide in the Top-Screen.

critical assets at the facility, and a related vulnerability analysis.[28] ISCD is to review the security vulnerability assessment to confirm and notify the facility as to whether the facility remains categorized as high-risk and, if so, about its final placement in one of the four tiers.

Once a covered chemical facility is assigned a final tier, the facility may use CSAT to submit a site security plan (SSP) or submit an Alternative Security Program in lieu of the CSAT SSP.[29] The security plan is to describe the existing and planned security measures to be implemented to address the vulnerabilities identified in the security vulnerability assessment, and identify and describe how existing and planned security measures selected by the facility are to address the applicable risk-based performance standards.[30] To meet risk-based performance standards, covered facilities may choose the security programs or processes they deem appropriate to address the performance standards so long as ISCD determines that the facilities achieve the requisite level of performance on each of the applicable areas in their existing and agreed-upon planned measures.

To determine whether facilities achieve the requisite level of performance for each of the applicable areas, ISCD is to conduct a preliminary review of the facility's security plan to determine whether it meets the risk-based regulatory requirements. If these requirements appear to be satisfied, ISCD is to issue a letter of authorization for the plan, and conduct an authorization inspection of the facility to determine whether to approve the plan. Upon inspection of the facility, if ISCD determines that the plan satisfies the CFATS requirements, it will issue a letter of approval to the facility, which is to then implement the approved SSP. If ISCD determines

[28]6 C.F.R. § 27.215. Facilities categorized as Tier 4, however, may submit an Alternative Security Program (ASP) in lieu of the CSAT security vulnerability Assessment. See 6 C.F.R. § 27.235(a)(1). An ASP is a third-party or industry organization program; a local authority, state or federal government program; or any element or aspect thereof that has been determined to meet the requirements of and provide for an equivalent level of security to that established by the CFATS regulation. See 6 C.F.R. § 27.105. Facilities categorized as Tiers 1 to 3 may not submit an ASP in lieu of the security vulnerability assessment. 6 C.F.R. § 27.235(a)(2).

[29]6 C.F.R. §§ 27.225, 27.235.

[30]The CFATS regulation establishes 18 risk-based performance standards that identify the areas for which a facility's security posture are to be examined, such as perimeter security, access control, and cybersecurity. See 6 C.F.R. § 27.230.

that the plan does not satisfy CFATS requirements, ISCD then notifies the facility of any deficiencies and the facility must submit a revised plan for correcting them.[31]

Following ISCDs approval of a facility's SSP, in order to assess compliance with CFATS requirements as addressed through the approved SSP, ISCD conducts a compliance inspection (CI) of the covered facilities.[32] CIs are to follow specific standard operating procedures that focus on verifying existing measures and the implementation and effectiveness of planned measures, including dates implemented, as well as verifying and reviewing any significant changes in the facility's security posture. If through a compliance inspection it is determined a facility has not fully implemented security measures as outlined in its approved site security plan, ISCD is to provide the facility with written notification that clearly identifies the deficiencies in the SSP and will work with the facility towards achieving full compliance or, if warranted, take enforcement action.[33] For example, the CFATS regulation provides that an order compelling a facility to take appropriate action may be issued if the facility was found to be in violation of any part of the regulation. If a facility were to violate this initial order, an order assessing a civil penalty of up to $25,000 per day or to cease operations, or both, may be issued.[34] According to ISCD guidance, inspectors conducting a CI are to document in a CI report any necessary enforcement actions that may result from the inspection, including, among others, security measures not implemented in accordance with the SSP. ISCD guidance further provides that inspectors are not to recommend enforcement actions where issues identified during a CI are quickly remedied on-site; however, inspectors are to document their finding in the CI report. Inspection teams are to submit their CI report to ISCD management for review and approval within 25 business days from the inspection completion. ISCD management is to then determine whether a facility is

[31]According to ISCD officials, site security plans can also be sent back to facilities to be revised for any number of reasons. For example, during the preliminary review, if ISCD finds that a plan does not contain all the requisite data needed to meet regulatory requirements, ISCD can return the plan to the facility for more information.

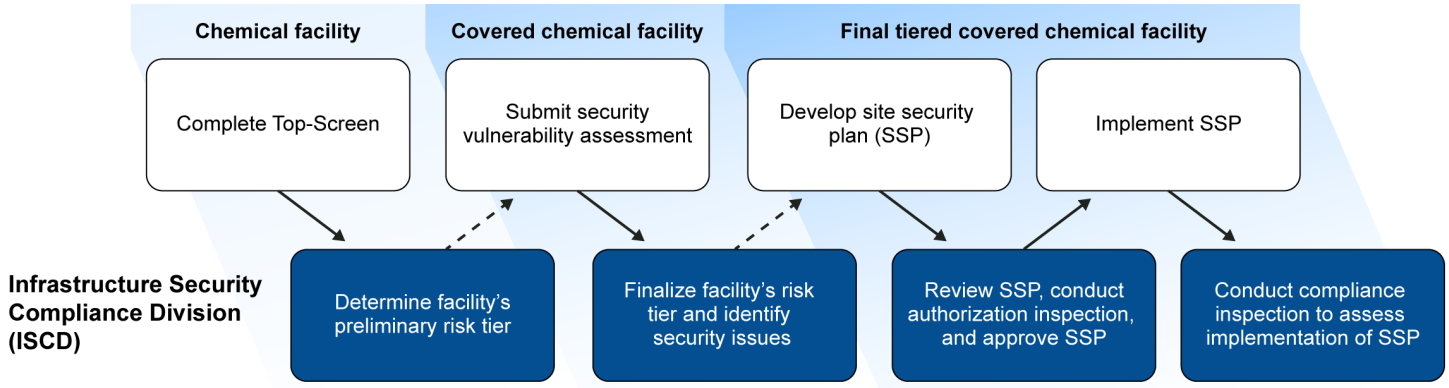
[32]See 6 C.F.R. § 27.250.

[33]See 6 C.F.R. §§ 27.245(b), 27.250(b)(2), 27.300.

[34]6 C.F.R. §27.300(a)-(b).

in compliance with their approved SSP or whether to take enforcement actions. Figure 1 illustrates the CFATS regulatory process.

Figure 1: Department of Homeland Security's (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Process



Source: GAO analysis of CFATS regulatory process. | GAO-15-614

ISCD Has Taken Steps to Identify Chemical Facilities but Used Unverified Data to Categorize Thousands of Facilities

ISCD Has Identified about 37,000 Chemical Facilities, but Plans Additional Identification Efforts

Since 2007, when ISCD began identifying chemical facilities to determine which facilities present a high risk and therefore should be subject to further regulation under CFATS, about 37,000 facilities have submitted a Top-Screen but ISCD officials acknowledged some facilities may have failed to do so. According to these officials, as of April 2015, ISCD had received most Top-Screens within the first 3 years of the program; specifically, ISCD received about 88 percent of Top-Screens from 2007

through 2009.[35] ISCD officials told us they believe the 37,000 facilities that have submitted Top-Screens represent most facilities subject to CFATS. However, as we previously reported, ISCD officials have acknowledged some facilities may not comply with the requirement to submit a Top-Screen and therefore some facilities may not be included in ISCD's data, but the magnitude of potential Top-Screen noncompliance is not known.[36]

In response to Executive Order 13650, in May 2014, ISCD outlined a number of efforts it had taken and planned to take to identify potentially noncompliant chemical facilities. These efforts included comparing facilities data from relevant federal partners and from state entities against ISCD's current database of chemical facilities to identify potentially noncompliant chemical facilities, among others.[37] ISCD officials told us ISCD consulted with the Occupational Safety and Health Administration; the Department of Transportation; the Department of Agriculture; the Bureau of Alcohol, Tobacco, Firearms and Explosives; and the Environmental Protection Agency (EPA) to determine the extent to which ISCD could identify all chemical facilities using data held by those agencies. According to ISCD officials, ISCD also reached out to all 50 states' Homeland Security Advisors to request lists of chemical facilities maintained by the states.

According to ISCD officials, as of April 2015, ISCD completed some of these efforts, such as conducting cross-agency compliance analysis with EPA and analyzing facility lists provided by New York, New Jersey, and Texas. Although these efforts resulted in the identification of chemical facilities subject to CFATS that had not submitted a Top-Screen, ISCD officials told us the work resulted in few new covered facilities. For example, in 2013, after conducting cross-agency compliance analysis with EPA, ISCD identified and notified about 3,300 chemical facilities as

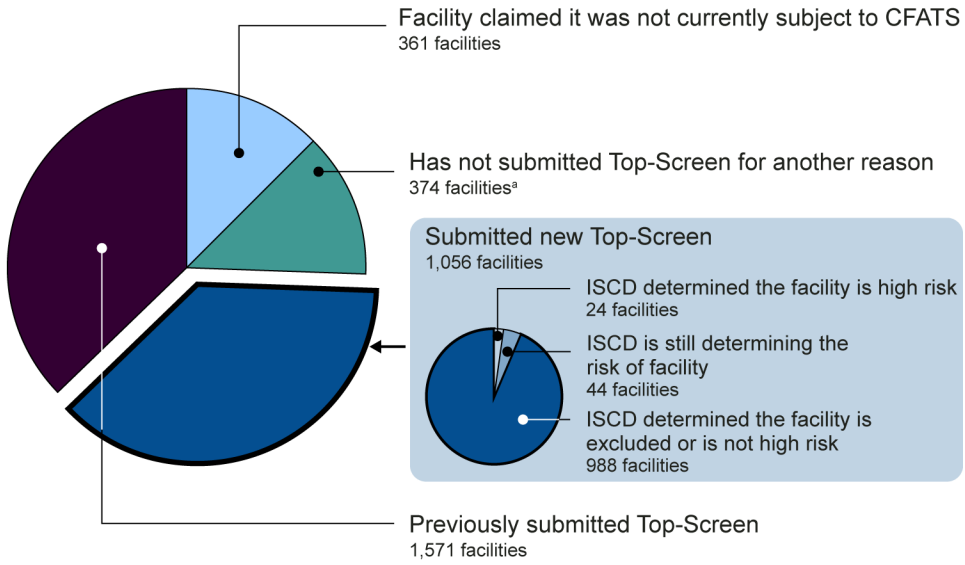
[35]According to ISCD officials, 32,777 chemical facilities—facilities that hold a COI at or above the screening threshold quantity—submitted a Top-Screen from 2007 to 2009; 1,899 facilities submitted a Top-Screen from 2010 to 2012 and 2,459 facilities have submitted a Top-Screen since 2013.

[36]GAO, *Chemical Safety: Actions Needed to Improve Federal Oversight of Facilities with Ammonium Nitrate,* GAO-14-274 (Washington, D.C.: May 19, 2014).

[37]ISCD's other efforts to identify potentially noncompliant chemical facilities include a hotline to report noncompliant facilities and outreach to industry associations and State Emergency Response Commissions.

potentially noncompliant with the requirement to submit a Top-Screen. As shown in figure 2, in response to notification by ISCD 1,571 facilities reported they had previously submitted a Top-Screen and another 361 claimed they are not currently subject to the requirement to submit a Top-Screen.[38] An additional 374 facilities have not submitted a Top-Screen for other reasons such as the facility closed or the facility does not have chemicals of interest above the screening threshold quantity. Of the 1,056 facilities required to submit a Top-Screen as a result of ISCD's notification, representing approximately 30 percent of all facilities notified, ISCD categorized 2.3 percent, 24 facilities, as high-risk.[39]

Figure 2: Result of Cross-Agency Effort to Identify Chemical Facilities Subject to Regulation under the Chemical Facilities Security Regulations (CFATS) Program



Source: GAO analysis of Infrastructure Security Compliance Division (ISCD) data. | GAO-15-614

[38]ISCD officials noted that because of differences in the data fields due to the different regulatory role of EPA, ISCD had to manually compare the EPA and CFATS facility data in spreadsheets, which resulted in ISCD identifying a high-number of facilities as potentially noncompliant that had already submitted a Top-Screen. Consistent with law and regulation, certain facilities, such as public water systems or wastewater treatment facilities, are not subject to regulation under CFATS and are not required to submit a Top-Screen. See, e.g., 6 C.F.R. § 27.110(b).

[39]As of April 2015, ISCD was still determining the risk of an additional 44 facilities, some of which may be ultimately categorized as high-risk.

[a]Reasons why these facilities did not submit Top-Screens varied. ISCD stated that data for 244 facilities was no longer accurate because, for example, the facility had been sold or closed. Another 67 facilities indicated their intent to file a Top-Screen; 61 facilities did not respond to ISCD's notification; 1 facility requested ISCD assistance in complying with CFATS requirements, and notification delivery failed for another facility.

ISCD officials told us that although the effort to compare EPA and CFATS facility data did result in more than 1,000 chemical facilities submitting Top-Screens, they noted that efforts to identify chemical facilities have resulted in few new covered facilities. Because of this, ISCD officials are reevaluating how ISCD conducts federal-and state-level cross-agency compliance analysis as a method for identifying chemical facilities. While they plan to continue these efforts and the California Environmental Protection Agency recently provided ISCD with information on over 46,000 facilities regulated by the state, ISCD is currently assessing which approaches for identifying potentially noncompliant facilities will result in a high return on investment. The officials cited two challenges to cross-agency matching. First, while other federal agencies collect some information on chemical facilities, differing program goals and data formats may limit the utility of these data in identifying chemical facilities for the CFATS program. Second, according to ISCD officials, 14 of 50 states responded to ISCD's request for facility lists.[40] To continue identifying chemical facilities for which the submission of a Top-Screen is required, ISCD plans to designate a lead staff member to oversee efforts to identify such facilities, measure effectiveness of efforts relative to the costs and benefits, and recommend a long-term future strategy. ISCD officials told us they also have hired a third-party vendor to pilot an effort to analyze supply-chain data to identify noncompliant facilities.

ISCD Used Self-Reported Data That Is Not Verified to Categorize Thousands of Facilities

ISCD has used self-reported and unverified data to determine the risk for facilities with a toxic release threat. As described earlier, approximately 37,000 facilities have submitted Top-Screens to ISCD. Of these facilities, we estimate that more than 6,400 facilities hold a chemical at or above the screening threshold quantity that could pose a toxic chemical release threat.[41] As part of the Top-Screen, ISCD requires these facilities to self-

[40]Reasons other states did not provide ISCD data varied. According to ISCD officials, some states responded that the information is publicly available and ISCD could retrieve it. Other states told ISCD they were unwilling to share data with ISCD. Some states did not respond to the request at all.

[41]The estimate from our statistical sample is 7,749 facilities. The associated 95 percent confidence interval is 6,409 to, 9,092 facilities.

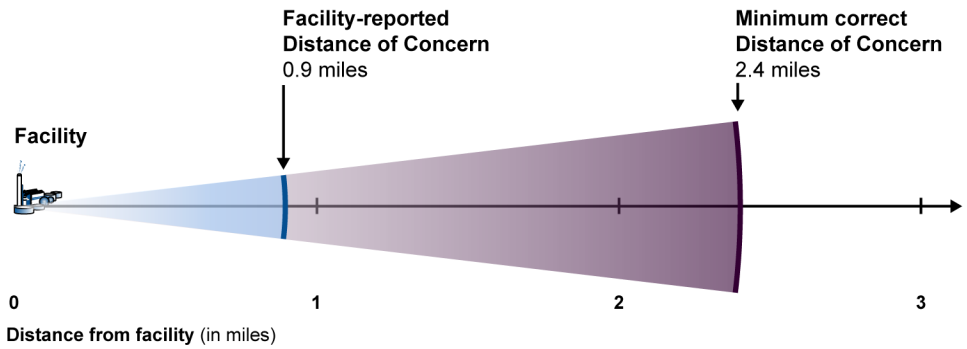
report the Distance of Concern, which represents the radius of an area in which exposure to a toxic chemical cloud from a release event could cause serious injury or fatalities from short-term exposure.[42] As part of its risk assessment of facilities with toxic release chemicals, ISCD uses the Distance of Concern to determine the consequences from an intentional toxic release. Using DHS guidance and Top-Screen information stored in a DHS database—which contains facility-reported information such as chemicals and quantities in their possession, and the Distance of Concern—we recalculated the Distance of Concern for a generalizable sample of facilities and compared these results to what facilities reported. On the basis of these results, we estimate more than 2,700 facilities, or at least 44 percent of facilities with a toxic release chemical, misreported the Distance of Concern.[43] We further estimate that at least 1,200 of the 2,700 misreporting facilities, or about 43 percent, underestimated the Distance of Concern.[44] Figure 3 depicts an example of 1 facility with more than 200,000 pounds of anhydrous ammonia that reported a Distance of Concern of 0.9 miles compared to a minimum possibly correct Distance of Concern of 2.4 miles.

[42]To calculate the Distance of Concern, DHS guidance directs facilities to use the RMP*Comp tool—a web-based tool on the EPA website—which allows users to enter data related to a chemical, such as the type and amount, and to calculate the magnitude of exposure if the chemicals were to be released.

[43]The estimate is 4,173 facilities. The associated 95 percent confidence interval is 2,798 to 5,822 facilities.

[44]The estimate is 2,384 facilities. The associated 95 percent confidence interval is 1,213 to 4,129 facilities.

Figure 3: Example of Facility-Reported 0.9-Mile Distance of Concern and Corrected 2.4- Mile Distance of Concern Generated by GAO Using Department of Homeland Security Guidance



Source: GAO analysis and Infrastructure Security Compliance Division (ISCD) data. | GAO-15-614

ISCD officials acknowledged that some facilities may have erred when reporting the Distance of Concern. However, ISCD officials told us that they do not verify the Distance of Concern on the Top-Screen because they believe that most facilities with toxic release chemicals above the screening threshold quantities would be familiar with RMP*Comp. According to ISCD officials, chemical facilities use the RMP*Comp for purposes of meeting EPA regulatory requirements. However, guidance published on the DHS web-site directs facilities to calculate the Distance of Concern in a manner that is different from EPA reporting requirements. For example, to satisfy EPA reporting requirements, facilities can include in their Distance of Concern calculation information about passive mitigation systems (such as dikes, enclosures, berms, and drains) that may reduce the output RMP*Comp generates. Conversely, according to DHS guidance, because the Top-Screen is evaluating an intentional release rather than an accidental release, facilities are not to include passive mitigation systems to calculate the Distance of Concern. ISCD officials stated that because RMP*Comp is outside the domain of ISCD oversight, they cannot say with full certainty that the information facilities use to generate the Distance of Concern is accurate. Nevertheless, ISCD has retained all Top-Screen data, including the necessary information that can be used to verify the accuracy of Distances of Concern provided by relevant facilities. ISCD officials also stated that they plan to develop a new model that will incorporate a Distance of Concern calculation into the next iteration of the Top-Screen, originally scheduled to be operational by September 2015, which will not require facilities to calculate and provide a Distance of Concern using RMP*Comp. Instead, the new Top-Screen will calculate the Distance of Concern using chemical information, such

as the quantity of chemicals, reported by facilities. However, officials stated ISCD has not yet decided whether to re-screen facilities that hold toxic release chemicals that have already submitted a Top-Screen. As of May 2015, ISCD officials stated that implementation of the new Top-Screen is delayed, and ISCD officials did not have a timeline for implementation.

As described earlier, the Distance of Concern is one key input in the risk assessment approach that ISCD uses to preliminarily categorize facilities that could pose a toxic chemical release threat. Facilities ISCD categorizes as high-risk are covered facilities subject to additional requirements under the CFATS regulation, while facilities not categorized as high-risk are, in general, not subject to additional requirements under the CFATS program. According to ISCD officials, ISCD only verifies information in the Top-Screens reported by high-risk facilities, including the Distance of Concern. ISCD officials also told us that because ISCD takes other factors into account, errors in the Distance of Concern may not necessarily result in changes in ISCD's risk-assessment of facilities that misreport the Distance of Concern. According to ISCD, within our sample 1 high-risk facility could be miscategorized based upon an erroneous Distance of Concern. [45] On the basis of ISCD's finding of 1 potentially miscategorized facility within our sample, we estimate that ISCD could have miscategorized 85 high-risk facilities, but potentially up to 543 high-risk facilities that have previously submitted Top-Screens.[46] Additionally, because implementation of the new Top-Screen is delayed, ISCD cannot provide reasonable assurance it will categorize facilities with release toxic chemicals using reliable Distance of Concern data as these facilities submit new Top-Screens.

Standard project management practices include activities such as developing a schedule with milestone dates to identify points throughout the project to reassess efforts under way to determine whether project changes are necessary. Practices such as developing a new target schedule with a forecasted finish date would provide ISCD a more

[45]To determine this, ISCD officials told us that they calculated alternative Distances of Concern for facilities in our sample through the automated tool ISCD uses to categorize facilities' risk. Because we do not have access to this tool and it was beyond the scope of this engagement, we were unable to verify their results.

[46]The associated 95 percent confidence interval is 2 to 543 facilities.

realistic plan to guide the implementation of the new Top-Screen.[47] Additionally, the NIPP risk management framework calls for risk assessment approaches—such as ISCD's risk-based implementation of CFATS—to be reproducible and defensible. Specifically, the NIPP states the risk assessment methodology must produce comparable, repeatable results free from significant errors or omissions. In the interim, before ISCD implements the new Top-Screen and determines whether to re-screen facilities that have already submitted a Top-Screen, identifying potentially miscategorized facilities that may pose a significant security risk and verifying the Distance of Concern these facilities report is accurate could help ensure that ISCD has accurately categorized facilities with the potential to cause the greatest harm. Moreover, ISCD could provide more reasonable assurance it has identified the nation's high-risk chemical facilities and, subsequently, that these facilities take actions to address potential terrorist threats.

[47]Project Management Institute, Inc. *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide), Fifth Edition (Newtown Square, Pennsylvania: 2013).

ISCD Has Made Substantial Progress Approving Site Security Plans and Conducting Compliance Inspections but Does Not Consistently Ensure Compliance and Effectively Measure Program Results

ISCD Has Substantially Reduced the Time Needed to Approve Remaining Site Security Plans

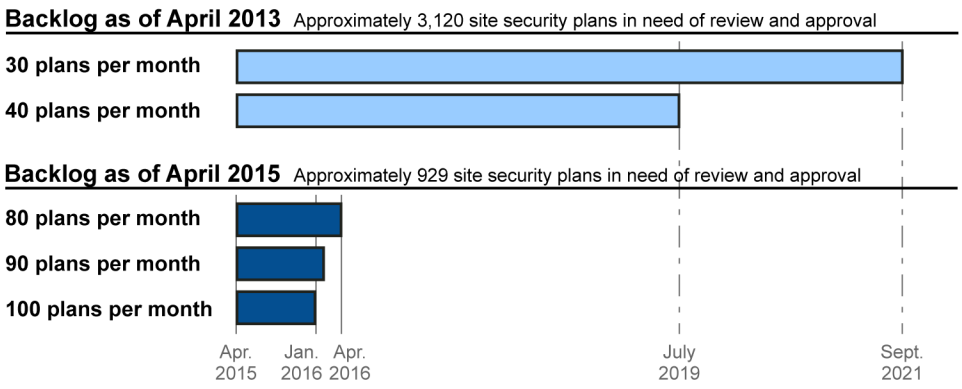
ISCD has taken actions to improve its processes for reviewing and approving site security plans, which have reduced the amount of time needed to resolve the backlog of unapproved plans. On the basis of ISCD's pace of site security plan approvals in calendar year 2014—between 80 and 100 plans per month[48]—as of April 2015, we estimate that it could take between 9 and 12 months for ISCD to review and approve site security plans for the 929 facilities currently awaiting approval.[49] This represents a substantial improvement over our previous

[48]According to ISCD officials, ISCD approved an average of between 80 and 100 site security plans per month during calendar year 2014, and officials told us they believe they will maintain those approval rates moving forward. Using data in ISCD's case management system, we found that ISCD approved an average of 85 plans per month in 2014 and 90 plans per month over the last 6 months of the year. According to these data and ISCD's estimates, we calculated a range of estimates for the time needed by ISCD to resolve the backlog of unapproved plans assuming potential approval rates of 80, 90, and 100 plans per month.

[49]Our estimate does not include 270 site security plans that were actively in the review process as of April 2015, or 461 facilities that have yet to be assigned a final tier as of April 2015 and therefore may not all be required to complete a site security plan. In addition, as of January 2013, ISCD had assigned approximately 3,500 high-risk covered chemical facilities to a final tier. As of April 2015, there were approximately 2,900 covered chemical facilities with a final tier. According to ISCD officials, approximately 600 facilities are no longer covered chemical facilities subject to additional CFATS requirements.

estimates, in April 2013, when, we reported that, based upon ISCD's estimated approval rate of between 30 and 40 security plans per month, it could take between 7 and 9 years for ISCD to complete reviews of the approximately 3,120 plans in its queue at that time.[50] Figure 4 shows our revised estimate for the time needed to approve plans for unapproved final-tiered facilities as of April 2015—assuming approval rates of 80, 90, and 100 plans per month—as compared to our original April 2013 estimates.

Figure 4: Estimates of Time Needed to Approve Remaining Chemical Facility Anti-Terrorism Standards (CFATS) Site Security Plans



Source: GAO analysis of Infrastructure Security Compliance Division (ISCD) data. | GAO-15-614

ISCD officials attributed the increased rate of approvals and reduction in the backlog of facilities awaiting approval to a number of improvements in ISCD's processes. These improvements included new steps ISCD has taken since our last report and planned actions we previously reported in

[50]See GAO, *Critical Infrastructure Protection: DHS Efforts to Assess Chemical Security Risk and Gather Feedback on Facility Outreach Can Be Strengthened,* GAO-13-353 (Washington, D.C.: Apr. 5, 2013).

April 2013 and May 2014, but could not assess at that time because they had not yet been fully implemented.[51] For example, ISCD has

- continued the revised site security plan review process implemented in July 2012 in which teams of ISCD headquarters officials review plans by assessing how layers of security measures meet the intent of each of the performance standards;
- issued updates to the online Chemical Security Assessment Tool (CSAT) beginning in March 2014 to make the system more user-friendly and improve facility data collection;
- distributed updated internal guidance and lessons learned on plan approvals to inspectors and plan reviewers;
- transitioned to a new internal case management system in December 2013 that provides improved program and facility management capabilities;
- begun using inspectors alongside ISCD headquarters officials to review site security plans in order to leverage inspectors' knowledge of facility security and role conducting CFATS inspections;
- implemented changes to inspection processes, such as employing smaller inspection teams, conducting preinspection phone calls with facilities to help them prepare for inspections, and enabling inspectors to help facility personnel edit their site security plans during inspections;
- distributed updated guidance to facilities to help them improve their site security plans and worked to expand the use of alternative security programs; and
- worked with corporations that have multiple covered chemical facilities to leverage inspection documents and security procedures that are standard across corporations to expedite the inspection process.

[51]In April 2013, we reported that ISCD revised its procedures for reviewing facilities' site security plans to address ISCD manager concerns that the original process was slow and overly complicated. See GAO-13-353. In May 2014, we reported that officials were taking other actions, such as updating the internal case management system, to reduce the time needed to review remaining site security plans. See GAO, *Critical Infrastructure Protection: Observations on DHS Efforts to Implement and Manage Its Chemical Security Program,* GAO-14-608T (Washington, D.C.: May 14, 2014).

While ISCD has taken actions to reduce the backlog of site security plans, our estimate that ISCD could complete its approval of all current site security plans within 9 to 12 months does not take into account the potential impact of other tasks central to the CFATS program and additional compliance activities for which ISCD is responsible. Specifically, our estimate does not include the time required to:

- identify, categorize, review, and approve site security plans for facilities that have not yet submitted Top-Screens or those that ISCD previously did not categorize as high risk but may now qualify as high-risk in light of the aforementioned errors in the Top-Screen submissions we identified related to toxic release Distance of Concern calculations, and
- review approved site security plans to resolve issues relating to one requirement of the personnel surety performance standard, under which covered facilities are to perform background checks and ensure appropriate credentials for personnel and visitors at their facilities. As part of the personnel surety standard, DHS plans to check for terrorist ties by comparing certain employee information against the Terrorist Screening Database. ISCD currently has measures in place for other screening requirements under the personnel surety standard, and as of May 2015, ISCD was determining how the terrorist screening requirement will be implemented.[52]

In addition, our estimate assumes that the pace of site security plan approvals will not be affected by ISCD's implementation of the Ammonium Nitrate Security Program. As described earlier, ISCD released a proposed rule on August 3, 2011, for how it plans to implement the program. According to ISCD officials, the final rule was initially scheduled to be released in April 2015; as of May 2015, the rule

[52]According to ISCD officials, ISCD has submitted the Information Collection Request for the Terrorist Screening Database requirement of the personnel surety standard to the Office of Management and Budget for review and clearance. In May 2014, we reported that, according to ISCD officials, once the personnel surety performance standard is finalized, ISCD plans to reexamine each approved plan to ensure that approved facilities are in compliance with the personnel surety performance standard. In the meantime, ISCD officials told us that ISCD is informing facilities in their letters of approval that they may be subject to additional review with regard to the Terrorist Screening Database requirement once the personnel surety performance standard is finalized. See GAO-14-608T. See also 6 U.S.C. § 622(d)(2) (requiring DHS to establish and carry out a Personnel Surety Program applicable to covered chemical facilities).

had not been released but, according to the DHS semiannual regulatory agenda published in June 2015, a final rule for the program is anticipated in October 2015. Although the rule has not yet been released, DHS has stated that development and implementation of the ammonium nitrate requirements would be resource-intensive and require trade-offs with ISCD's responsibilities under the CFATS program. For example, ISCD officials estimated that approximately 1,000 or more ammonium nitrate facilities would need to be inspected annually, which would likely increase ISCD's inspectors' workload since they would be responsible for both the CFATS program and the Ammonium Nitrate Security Program. According to ISCD officials, it will take at least 1 year from issuance of the final rule to establish the ammonium nitrate regulatory program. As a result, we could not assess the impact of the pending ammonium nitrate regulations on ISCD's approval of site security plans or on the CFATS program as a whole.

ISCD Is Conducting Compliance Inspections but Does Not Have Documented Processes and Procedures for Managing Facilities That Are Noncompliant with Security Plans

The CFATS regulation, consistent with the program's underlying statutory authority, authorizes ISCD to take enforcement action, such as issuing orders to assess civil penalties or to cease operations, against a covered chemical facility if, for example, a compliance inspection finds a facility to be noncompliant with its approved site security plan. The regulation also provides, however, that if a facility is found to be noncompliant, the facility shall be provided written notification, an opportunity for consultation, and time frames within which the facility is to ensure compliance. According to ISCD officials, based on the nature of the violations found thus far, it has been ISCD practice to exercise the discretion afforded to it under law and regulation and not to take enforcement actions but to instead work with noncompliant facilities on a case-by-case basis to ensure compliance. However, ISCD does not have documented processes and procedures to track facilities that are noncompliant with their approved site security plans and ensure facilities implement planned measures to become compliant.

ISCD standard operating procedures for inspections of covered facilities provide that inspectors are to report to ISCD, among other things, any recommended enforcement actions resulting from a compliance

inspection.[53] The CFATS regulation also provides that if a facility is in violation of any part of the regulation, appropriate action may be taken, including the issuance of an order, compelling a facility to take actions necessary to become compliant.[54] For example, if a compliance inspection determines that a facility does not fully implement security measures as outlined in its site security plan, an order may be issued specifying actions the facility must take to remedy the instances of noncompliance, along with timeframes for coming into compliance. If a noncompliant facility does not comply with such an order, an order assessing a civil penalty of up to $25,000 per day for as long as the violation continues or, if warranted, an order to cease operations may be issued. ISCD officials stated that they consider an approved site security plan to be a contract between a facility and ISCD and a facility is therefore required to implement planned security measures by the deadlines specified in its site security plan—commonly between 6 and 12 months after plan approval. According to ISCD officials, facilities that do not implement planned measures by these deadlines are noncompliant with their requirements under CFATS.

ISCD began conducting compliance inspections in September 2013 and as of April 2015 had conducted 83 compliance inspections out of 1,727 facilities with approved site security plans. Our analysis of these compliance inspections found that nearly half of facilities did not fully implement security measures needed to satisfy the risk-based performance standards—as required by the CFATS regulation—and therefore were not fully compliant with their approved site security plans. Specifically, 34 of 69 facilities that underwent compliance inspections and had completed compliance inspection reports as of February 2015 had

[53]Specifically, ISCD's standard operating procedures provides that the resulting compliance inspection report summary is to list all inconsistencies, identify follow-on actions for the facility or DHS, and categorize any recommended enforcement actions such as Failure to Allow Inspection (6 C.F.R. § 27.250); Insufficient Response/Failure to Respond to Information Request by the Assistant Secretary for Infrastructure Protection (6 C.F.R. § 27.200(a) or (b)); Security Measures Not Implemented in Accordance with Site Security Plans (6 C.F.R. § 27.225); Security Measures Not Implemented in Accordance with an Alternative Security Program (6 C.F.R. § 27.235); Maintenance of Records (6 C.F.R. § 27.255); and Improper Handling/Disclosure of Chemical-terrorism Vulnerability Information (CVI) (6 C.F.R. § 27 400(d)).

[54]See 6 C.F.R. § 27.300.

not implemented one or more planned measures by deadlines specified in their approved plans.[55]

According to ISCD officials, ISCD has not exercised its authority to issue orders and take enforcement actions based on the nature of violations identified through compliance inspections it has conducted as of May 2015. Instead, ISCD officials told us they track noncompliant facilities individually and work with the facilities on a case-by-case basis to help ensure compliance. According to ISCD officials, as part of ISCD's review process following compliance inspections, officials track noncompliant facilities on a case-by-case basis using individual compliance inspection reports and do not close out a facility's report until issues of noncompliance are resolved. ISCD officials stated that, thus far, they have provided additional time to noncompliant facilities and conducted follow-on inspections to ensure implementation of planned measures. ISCD officials also stated that, thus far, it has been more productive to work with facilities on a case-by-case basis to ensure compliance than to use enforcement actions. However, we found that ISCD does not have documented processes and procedures for how officials and inspectors are to track noncompliant facilities and ensure that they take actions towards compliance when ISCD exercises its discretion not to take enforcement actions. According to ISCD officials, ISCD provided written guidance on this issue to inspectors in the March 2015 update to ISCD's inspections and approvals lessons-learned guidance. However, this guidance outlines requirements for the proper submission of compliance inspection reports by inspectors but does not provide documented guidance for how officials and inspectors are to ensure noncompliant facilities take actions to become compliant, such as how much additional time to provide to facilities to implement planned measures.

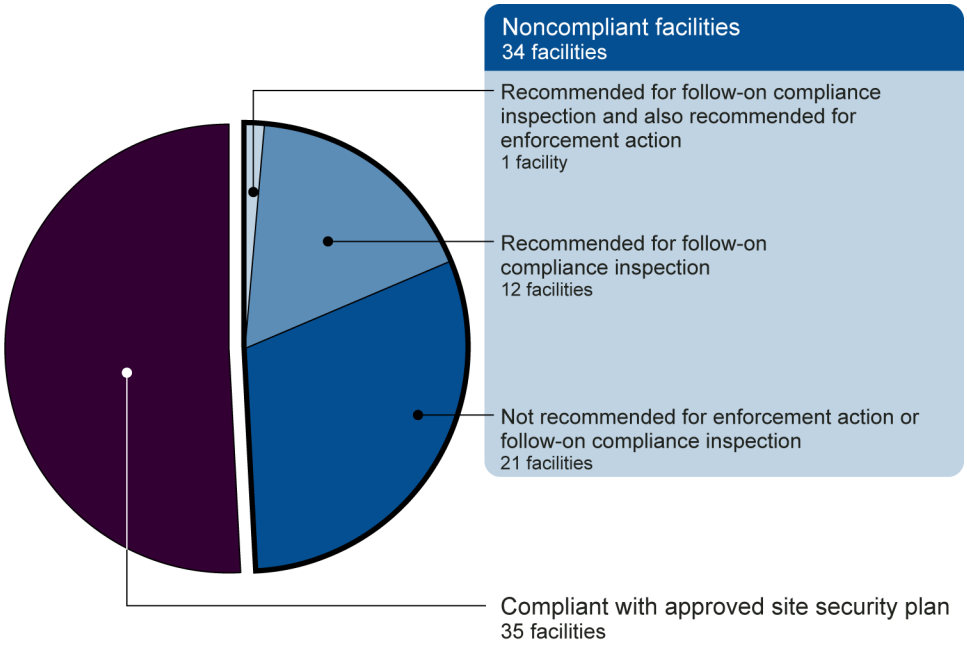
Our analysis of compliance inspections conducted by ISCD as of February 2015 indicated that inspectors made varying recommendations relating to the 34 facilities that inspectors found had not implemented planned measures as outlined in their site security plans by deadlines and therefore were not fully compliant with their approved site security plans:

[55]When we conducted our analysis, in February 2015, ISCD had conducted compliance inspections at 74 facilities. However, ISCD inspectors had not completed compliance inspection reports outlining the results of the inspections for 5 of those facilities, so we did not include the facilities in our analysis.

- Inspectors recommended both a follow-on compliance inspection and an enforcement action for 1 of the 34 noncompliant facilities. However, ISCD officials later elected not to take an enforcement action in that instance and determined that they would instead work with the facility to ensure it implemented planned measures.
- Inspectors recommended a follow-on compliance inspection to verify the implementation of planned measures for 12 of the 34 noncompliant facilities.
- Inspectors did not recommend an enforcement action or follow-on compliance inspection for the remaining 21 of 34 noncompliant facilities.
- Inspectors reported that the 34 noncompliant facilities required additional time, beyond their compliance inspection date, to implement planned measures that were not implemented by deadlines in their site security plans. Among the 34 noncompliant facilities, additional time to implement these planned measures as intended ranged from 3 weeks to another year.

Figure 5 summarizes our analysis of compliance inspections conducted by ISCD.

Figure 5: Analysis of Chemical Facility Anti-Terrorism Standards (CFATS) Compliance Inspections Conducted as of February 2015



Source: GAO analysis of Infrastructure Security Compliance Division (ISCD) compliance inspection reports. | GAO-15-614

Compliance inspections—after which ISCD makes compliance determinations to either mitigate or accept risk at facilities—are a critical stage in ISCD's risk management approach to implementing the CFATS program. The NIPP risk management framework states that risk assessment approaches should be documented, reproducible, and defensible—common principles that are broadly applicable to all parts of a risk methodology. Specifically, the NIPP calls for risk assessment approaches to clearly document what information is used, and that subjective judgments need to be transparent to minimize their impact and help ensure comparable results. In addition, *Standards for Internal Control in the Federal Government* states that all organizational transactions—which can include processes and procedures for dealing with regulated entities—need to be clearly documented and that this documentation should be readily available for examination in administrative policies or operating manuals.[56] According to ISCD

[56]GAO/AIMD-00-21.3.1.

officials, ISCD's processes and procedures—although not documented—track noncompliant facilities through the compliance process and ensure they implement planned measures. According to ISCD officials, ISCD's current method of tracking noncompliant facilities on a case-by-case basis using individual compliance inspection reports is sufficient. ISCD officials also stated that inspectors and ISCD headquarters officials evaluate the significance of security gaps and facilities' ability to implement planned measures when working to bring facilities into compliance.

By documenting its processes and procedures for tracking noncompliant facilities and ensuring planned measures are implemented, ISCD could better ensure consistency in how officials and inspectors address noncompliance in the CFATS program. Variations in the process for addressing noncompliant facilities—such as facilities having widely varying amounts of time to implement measures—may be warranted on a case-by-case basis. However, according to ISCD officials, facilities that do not implement planned security measures in accordance with their approved site security plans remain vulnerable to security threats until such measures are implemented. Such vulnerabilities could increase over time as the CFATS program matures and ISCD conducts compliance inspections for the approximately 2,900 additional facilities that, as of April 2015, had an approved site security plan or were assigned a final tier and awaiting approval of the site security plan. Documented processes and procedures that prescribe how to address noncompliance in lieu of taking enforcement actions, including the establishment of time frames to implement planned measures, would better position ISCD to achieve its broader mission of securing chemical facilities in a consistent and timely manner.

DHS's Performance Measure for CFATS Does Not Accurately Reflect Program Results

DHS's performance measure for the CFATS program, which was developed by ISCD and is intended to reflect security measures implemented by facilities and the overall impact of the CFATS regulation on facility security, does not solely capture security measures that are implemented by facilities and verified by ISCD.[57] Instead, DHS's

[57]In fiscal year 2013, ISCD updated the performance measure in DHS's *Annual Performance Report for Fiscal Years 2013-2015* to better reflect CFATS program progress. The measure calculates the percentage of risk-based performance standards (RBPS) that are confirmed through the SSP/ASP approval process as having been met by tier 1 and tier 2 covered facilities. ISCD created a separate measure and performance targets to track tier 3 and 4 facilities in fiscal year 2015.

performance measure reflects both existing security measures that were in place when facilities completed their site security plans and planned security measures approved by ISCD that facilities intend to implement within the fiscal year.[58] DHS reported this performance measure for the CFATS program in its *Annual Performance Report for Fiscal Years 2013-2015* as the percent of performance standards implemented by the highest risk chemical facilities and verified by ISCD.[59] According to ISCD, the performance measure reflects the value of the CFATS program and its impact on reducing risk at facilities.

ISCD officials stated that they calculate the performance measure based on existing and planned measures identified in each facility's site security plan rather than based on the results of compliance inspections, at which ISCD verifies that facilities have implemented planned measures as intended. According to ISCD officials, they count the planned measure as having been implemented once the implementation date listed in a facility's site security plan has passed. However, according to ISCD officials, ISCD does not adjust the performance measure if it later determines that a facility did not implement a planned measure on time. In our analysis of compliance inspections conducted as of February 2015, we identified that 34 of 69 facilities did not implement one or more planned measures by intended deadlines. As a result, ISCD may have

[58]The numerator of ISCD's calculation for the performance measure is the total number of RBPS for tier 1 and 2 facilities that are satisfied by either existing measures or planned measures that are approved and intended to be completed within the fiscal year. To calculate the numerator, ISCD adds the number of RBPS with planned measures that are deemed necessary and are planned to be completed within the fiscal year, and the number of RBPS with existing measures only. The denominator of the measure is the total number of applicable RBPS for all final-tiered tier 1 and 2 facilities. The denominator is calculated by multiplying the total number of tier 1 and 2 facilities by 18 RBPS and then subtracting the RBPS that are not applicable to facilities based on their specific security concerns.

[59]ISCD officials stated that ISCD has additional performance measures intended to measure the impact of the CFATS program, such as the percent of facilities that include at least one planned measure in their site security plan and the number of facilities that are no longer considered high-risk because, for example, they eliminated chemical holdings. However, ISCD tracks these performance measures in annual operating plans and DHS does not report them for the CFATS program in its *Annual Performance Report for Fiscal Years 2013-2015*. According to ISCD officials, ISCD has also begun work to develop a new performance measure that would better identify the baseline level of security for chemical facilities and compare that against the level of security represented by facilities' approved site security plans. However, ISCD officials stated that development and analysis relating to this task have not been completed.

improperly counted some planned measures as implemented in the performance measure and therefore overstated the CFATS program's progress in reducing risk.

According to ISCD officials, when ISCD developed the performance measure, in fiscal year 2013, it had not yet begun conducting compliance inspections, at which ISCD verifies that facilities have implemented planned measures as intended. As a result, the performance measure does not take into account information gathered during compliance inspections, such as if facilities had implemented planned measures by the intended date. Since developing the performance measure, ISCD began conducting compliance inspections in September 2013, but ISCD officials stated that they did not begin verifying that planned measures had been implemented before including them in the performance measure at that point because they had conducted too few compliance inspections to produce meaningful performance data. ISCD officials also told us that the performance measure includes existing measures that were in place when facilities completed their site security plans because the goal of the performance measure is to capture the overall extent of security implemented by facilities. According to ISCD officials, it is difficult to assess the source of existing security measures because facilities could anticipate CFATS requirements and make enhancements prior to becoming a covered facility under CFATS. As a result, ISCD officials stated that it is a challenge to assess the baseline security measures already in place at facilities and therefore the impact of the CFATS program on improving those security measures. However, while it may be illustrative to report the overall extent of security implemented, including all existing measures does not reflect the value of the CFATS program and its impact on reducing risk at facilities, as ISCD's current performance measure is intended to do.

The NIPP calls for evaluating the effectiveness of risk management efforts by collecting performance data to assess progress in achieving identified outputs and outcomes. In addition, the purpose of CFATS, as stated in its regulation, is to enhance national security by furthering DHS's mission and lowering the risk posed by certain chemical facilities. Measuring the effectiveness of the CFATS program requires that facilities implement planned security measures identified as necessary to address vulnerabilities and that DHS evaluate implementation of these measures against CFATS performance standards. However, because ISCD's performance measure reflects both existing security measures that had not necessarily been implemented in response to CFATS and planned security measures that have not yet been verified as implemented,

ISCD's performance measure does not reflect the value of the CFATS program and its impact on reducing risk at facilities, as stated in performance reports. As the CFATS program matures and ISCD conducts compliance inspections in greater numbers, revising current performance measures or adding new ones to accurately reflect only security measures that have been implemented and verified would help provide a more accurate picture of ISCD's progress and help ISCD ensure that the program is meeting its goals.

Conclusions

Individuals intent on using or gaining access to hazardous chemicals to carry out a terrorist attack continue to pose a threat to the security of chemical facilities and surrounding populations. DHS, through the CFATS program overseen by ISCD, has made progress in identifying chemical facilities that pose the greatest risks and in expediting the time it takes to approve security plans. However, DHS has not taken steps to mitigate errors in some facility-reported data and does not have reasonable assurance that it has identified all of the nation's highest-risk chemical facilities. Additionally, DHS cannot ensure consistency in how it addresses noncompliance in the CFATS program because it does not have documented processes and procedures. Finally, DHS's CFATS performance measure does not reflect security measures that facilities have implemented and that ISCD has verified, thus not accurately reflecting the value of the CFATS program and its impact on reducing risk at facilities.

Recommendations for Executive Action

We recommend that the Secretary of Homeland Security direct the Under Secretary for NPPD, the Assistant Secretary for the Office of Infrastructure Protection, and the Director of ISCD to take the following two actions to ensure the accuracy of the data submitted by chemical facilities:

- provide milestone dates and a timeline for implementation of the new Top-Screen and ensure that changes to this Top-Screen mitigate errors in the Distance of Concern submitted by facilities, and
- in the interim, identify potentially miscategorized facilities with the potential to cause the greatest harm and verify the Distance of Concern these facilities report is accurate.

In addition, to better manage compliance among high-risk chemical facilities and demonstrate program results, we recommend the following two actions:

- develop documented processes and procedures to track noncompliant facilities and ensure they implement planned measures as outlined in their approved site security plans, and
- improve the measurement and reporting of the CFATS program performance by developing a performance measure that includes only planned measures that have been implemented and verified.

Agency Comments

We provided a draft of this report to DHS for review and comment. DHS provided written comments, which are reproduced in full in appendix III, and technical comments, which we incorporated as appropriate. DHS concurred with all four recommendations and outlined steps that the National Protection and Programs Directorate (NPPD), Office of Infrastructure Protection (IP), Infrastructure Security Compliance Division (ISCD) will take to address them.

With respect to the first recommendation that NPPD provide milestone dates and a timeline for implementation of the new Top-Screen and ensure that changes to this Top-Screen mitigate errors in the Distance of Concern submitted by facilities, DHS noted that NPPD is developing a revised Top-Screen to eliminate the need for facilities to calculate and self-report Distances of Concern. In the interim, NPPD will verify the accuracy of Distances of Concern submitted in new Top-Screens. These actions, if fully implemented, should address the intent of the recommendation.

Regarding the first recommendation, DHS indicated in its letter that the impact from the erroneous Distance of Concern data is likely extremely minimal because only 85 of approximately 37,000 facilities that submitted Top-Screens were likely to have been assigned a lower risk status had they correctly reported their Distances of Concern, with potentially as few as two facilities actually having been impacted. However, as stated in our report, we based our estimates on a simple random sample and followed a probability procedure based on random selections. Our sample is only one of a large number of samples that we might have drawn, each of which could have provided different estimates. Therefore, the number of facilities affected by this issue may be as low as two or as high as 543.

DHS also stated that the erroneous Distance of Concern data impacts only preliminary tiering (categorization) results and additional information submitted through a security vulnerability assessment will affect the final tiering decision. As stated in our report, according to DHS data, 80 percent of facilities were determined not to be high-risk based upon information provided in the Top-Screen, which made those facilities not subject to additional requirements under the CFATS regulation. Thus, only a minority of facilities that submitted a Top-Screen were ultimately required to submit a security vulnerability assessment.

Regarding the second recommendation that NPPD identify potentially miscategorized facilities with the potential to cause the greatest harm and verify the Distance of Concern these facilities report is accurate, DHS stated that NPPD will review facilities that submitted Top-Screens with release-toxic chemicals of interest. NPPD will determine which facilities are most likely to potentially cause the greatest harm and will verify the Distances of Concern reported by the facilities. These actions, if fully implemented, should address the intent of the recommendation.

In response to the third recommendation that NPPD develop documented processes and procedures to track noncompliant facilities and ensure they implement planned measures, DHS stated that NPPD was in the process of developing and documenting such procedures. DHS also stated that NPPD has drafted requirements to update its case management system to separately track noncompliant facilities, a function not currently available in the system. According to DHS, in the interim, NPPD will monitor noncompliant facilities through a function in the case management system that keeps compliance inspection reports open until a facility implements all aspects of its site security plan. These actions, if fully implemented, should address the intent of the recommendation.

Finally, for the fourth recommendation that NPPD improve the measurement and reporting of the CFATS program performance by developing a performance measure that includes only planned measures that have been implemented and verified, DHS stated that NPPD will develop a performance measure that will provide an additional means to evaluate and illustrate the value of the CFATS program. According to DHS, the new measure will be included in ISCD's Fiscal Year 2016 Annual Operating Plan. These actions, if fully implemented, should address the intent of the recommendation.

We are sending copies of this report to the Secretary of Homeland Security, the Under Secretary for the National Protection Programs Directorate, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have questions about this report, please contact me at (404) 679-1875 or CurrieC@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix IV.

Chris P. Currie
Director, Homeland Security and Justice Issues

List of Requesters

The Honorable Ron Johnson
Chairman
The Honorable Thomas R. Carper
Ranking Member
Committee on Homeland Security and Governmental Affairs
United States Senate

The Honorable John Hoeven
Chairman
The Honorable Jeanne Shaheen
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
United States Senate

The Honorable John Carter
Chairman
The Honorable Lucille Roybal-Allard
Ranking Member
Subcommittee on Homeland Security
Committee on Appropriations
House of Representatives

The Honorable Michael T. McCaul
Chairman
The Honorable Bennie G. Thompson
Ranking Member
Committee on Homeland Security
House of Representatives

The Honorable Patrick L. Meehan
House of Representatives

Appendix I: GAO Summary of Department of Homeland Security (DHS) Plans to Implement the Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014

Required elements	DHS plans according to officials
Section 2. Chemical Facility Anti-Terrorism Standards Program	
The Secretary of Homeland Security's (Secretary) efforts to identify facilities, require the submission of Top-Screen and other information, establish risk-based performance standards, and require each covered facility to submit a security vulnerability assessment and to develop, submit and implement a site security plan. (6 U.S.C. § 622)	In August 2014, DHS's Infrastructure Security Compliance Division (ISCD) initiated a rulemaking process through an Advance Notice of Proposed Rulemaking to identify ways to make the Chemical Facility Anti-Terrorism Standards (CFATS) program more effective in achieving its regulatory process. The rulemaking process comment period closed in October 2014, and ISCD is reviewing comments. According to ISCD officials, the rulemaking was included in the latest unified agenda, but it was listed as a long term item and thus did not have an expected timeframe associated with it.[a]
Content of site security plans and employee input. (§ 622(b))	ISCD is considering requiring that facilities validate that employee input has been obtained to the greatest extent practicable in the development of their site security plans.
Approval and disapproval of site security plans, approval of alternative security programs, risk assessment policies and procedures for site security plan assessments. (§ 622(c)(1)-(3))	ISCD does not expect its review process to change.
Expedited approval program for site security plans, including guidance issued by the Secretary within 180 days of enactment (enacted December 18, 2014). (§ 622(c)(4))	The expedited approval process is the biggest change from the original statute, according to ISCD. DHS issued guidance for the expedited removal program in May 2015.
Audits and inspections by the Secretary, including (1) requirements for individuals working for nondepartmental or nongovernmental entities, who conduct audits or inspections, to report to a regional supervisor and (2) standards for training and retaining auditors and inspectors. (§ 622(d)(1))	ISCD is not planning to make any changes to its audits or inspections. Third party inspectors could be considered at a later date as appropriate, but ISCD did not have plans to use them as of June 2015. In terms of training, ISCD officials stated that in February 2015, they re-instituted a training task force to assess the effectiveness of ISCD's training efforts. As part of this effort, ISCD developed a statement of work to hire a contractor to analyze inspectors' training competencies.
The Secretary's establishment and carrying-out of a personnel surety program. (§ 622(d)(2))	ISCDs personnel surety program is awaiting Office of Management and Budget approval and ISCD did not have an estimate on when it will be finalized.

Required elements	DHS plans according to officials
Responsibilities of the Secretary to:	
1. Consult with the heads of other federal agencies, states and political subdivisions, relevant business associations, and public and private labor organizations to identify all chemical facilities of interest; (§ 622(e)(1))	ISCD completed this requirement in response to Executive Order 13650 and is documented in the report of the Executive Order 13650 working group. ISCD intends to continue consulting with stakeholders as appropriate to identify chemical facilities of interest.
2. Develop a security risk assessment approach and corresponding tiering methodology for covered chemical facilities; (§ 622(e)(2))	In response to GAO recommendations to incorporate additional threat information into the risk tiering methodology, ISCD is updating how it addresses consequence, vulnerability and threat in its risk approach and corresponding tiering methodology. The risk methodology will be subject to a peer review when completed.
3. Document each instance where tiering for a covered facility changes or a covered facility is no longer subject to the requirements; (§ 622(e)(3))	ISCD currently documents each instance where a previously assigned tier changes and is modifying its case management system to facilitate required reporting on the number of such instances and the rationale for each.
4. Submit semiannual reports, beginning not later than 6 months after enactment, that includes for the period covered the number of covered facilities in the United States, changes in tiering, metrics addressing reviews and inspections, among other information. (§ 622(e)(4))	ISCD has drafted the first semi-annual report, which is currently in the DHS review and clearance process. ISCD is on schedule to submit the report to Congress in June 2015.
Protection and sharing of information. (§ 623)	ISCD does not plan to make changes to the protection and sharing of information. ISCD is working to share permissible information with certain partners through Infrastructure Protection Gateway, a DHS portal containing tools and information to help partners prepare vulnerability assessments and risk analysis.
Civil enforcement, including providing notices of noncompliance and addressing circumstances of continued noncompliance; use of civil penalties and emergency orders. (§ 624)	ISCD has assessed the new statutory language and believes that some minor changes are necessary to make existing procedures conform to the new statutory language. These modifications are expected to be procedural in nature (i.e., do not require industry notification and an opportunity to comment) and ISCD is in the process of developing them.
Whistleblower protections, including: the establishment of procedures within 180 days of enactment for reporting violations to the Secretary. (§ 625)	Procedures for reporting violations already exist and are being expanded with the ability to submit reports by e-mail. In addition, ISCD is refining outreach materials to promote the availability of these mechanisms, and is working closely with the Department of Labor's Occupational Safety and Health Administration to establish mechanisms to enforce the whistleblower retaliation protections should they ever be invoked.
The Secretary's efforts to promulgate regulations or amend the existing CFATS regulations to implement provisions of the Act and, within 30 days of enactment, whether the Secretary repealed any existing CFATS regulation that the Secretary determines is duplicative of, or conflicting with, the act. (§ 627)	This is a challenging deadline for DHS to meet, because repealing any of this without including any pending program changes resulting from the rulemaking process would not make sense. Therefore, as a matter of policy, DHS is going to miss these deadlines and continue to work through the rulemaking process.
Efforts undertaken by the Secretary, if any, to provide guidance and other support to "small covered chemical facilities" (as that term is defined in the Act) and whether the Secretary submitted the requisite report on best practices that may assist small covered chemical facilities in development of physical security best practices. (§ 628)	ISCD is developing guidance as part of its 18-month reporting requirement, but this may result in a separate deliverable to the small covered chemical facilities. No additional activities are anticipated.

Required elements	DHS plans according to officials
Establish an outreach implementation plan to identify chemical facilities of interest and make available compliance assistance materials and information on education and training, not later than 90 days after the date of enactment of the act. (§ 629)	ISCD completed this plan on March 18, 2015, and shared it with federal, state, local, commerce, and other stakeholders for comments in advance of completion.
Section 3. Assessments and Reporting:	
1. The Secretary's commission of a third-party study to assess vulnerabilities of covered chemical facilities (using funds appropriated prior to enactment of the Act). (§ 3(b))	This third party assessment is under development.
2. The Secretary's report, for submission to the Committee on Homeland Security and Governmental Affairs of the Senate and the Committee on Homeland Security and the Committee on Energy and Commerce of the House of Representatives not later than 18 month after enactment, on a. the CFATS program that includes certification by the Secretary that significant progress in identifying all chemical facilities of interest under 6 U.S.C § 622(e)(1) has been made; (§ 3(c)(1)(A)) b. certification by the Secretary that a risk assessment approach and corresponding tiered methodology under 6 U.S.C § 622(e)(2) has been developed; (§ 3(c)(1)(B)) c. the Secretary's assessment of implementation by DHS of recommendations by the Homeland Security Studies and Analysis Institute; (§ 3(c)(1)(C)) and d. a description of best practices that may assist small covered chemical facilities in the development of physical security best practices. (§ 3(c)(1)(D))	This report is under development.

Source: Public Law 113-254; interviews with ISCD officials. I GAO-15-614

Note: See Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014, Pub. L. No. 113-254, 128 Stat. 2898 (2014); 6 U.S.C. §§ 621-29. Section 2 of the Act amends the Homeland Security Act of 2002, Pub. L. No. 107-296, 116 Stat. 2135 (2002), by adding Title XXI (§§ 2101-09)—Chemical Facility Anti-Terrorism Standards. All statutory references in this appendix are to the United States Code section, unless otherwise indicated.

[a] See 80 Fed. Reg. 35,030, 35,032 (June 18, 2015) (providing that DHS intends to publish a notice of proposed rulemaking by a date yet-to-be determined after considering public comments received on the advance notice of proposed rulemaking it issued soliciting comments for potential modifications to the CFATS program (79 Fed. Reg. 48,693 (Aug 18, 2014)).

Appendix II: Scope and Methodology

This appendix provides details of our scope and methodology to answer each objective. For both objectives, we reviewed applicable laws,[1] regulations (including proposed rules),[2] Department of Homeland Security's (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) program policies and procedures, and our prior reports on the CFATS program.[3] We also identified various criteria relevant to this program and compared the results of our analyses with these criteria, including the CFATS statute and rule, internal control standards,[4] project management guidance,[5] and policies and procedures outlined in the *National Infrastructure Protection Plan* (NIPP) risk management framework, which calls for risk assessments to be documented, reproducible, and defensible in order to generate results that can support investment, planning, and resource prioritization decisions.[6]

To address our first objective, on the extent to which the DHS's Infrastructure Security Compliance Division (ISCD) has identified and

[1]See, e.g., Department of Homeland Security Appropriations Act, 2007, Pub. L. No. 109-295, § 550, 120 Stat. 1355, 1288 (2006) (requiring the issuance of interim final regulations establishing risk-based performance standards for security of chemical facilities and requiring vulnerability assessments and the development and implementation of site security plans for chemical facilities), repealed and supplanted by the Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014, Pub. L. No. 113-254, 128 Stat. 2898.

[2]See, e.g., 6 C.F.R. pt. 27; *Ammonium Nitrate Security Program*, 76 Fed. Reg. 46,908 (Aug. 3, 2011) (proposed rule, to be codified at 6 C.F.R. pt. 31).

[3]For a list of prior GAO reports related to this issue, see the Related GAO Products list at the end of this report.

[4]GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999). Internal control is an integral component of an organization's management that provides reasonable assurance that the following objectives are being achieved: effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations. These standards, issued pursuant to the requirements of the Federal Managers' Financial Integrity Act of 1982 (FMFIA), provide the overall framework for establishing and maintaining internal control in the federal government.

[5]Project Management Institute, Inc. *A Guide to the Project Management Body of Knowledge* (PMBOK® Guide), Fifth Edition (Newtown Square, Pennsylvania: 2013). Standard project management practices include activities such as developing a timeline with milestone dates to identify points throughout the project to reassess efforts under way to determine whether project changes are necessary.

[6]DHS, *2013 National Infrastructure Protection Plan, Partnering to Enhance Protection and Resilience* (Washington, D.C.: December 2013).

categorized facilities subject to the CFATS regulation, we reviewed laws applicable to facilities that possess chemicals, including the statutes authorizing and regulations governing the CFATS program and Executive Order 13650.[7] To address how ISCD has identified facilities that could potentially be subject to CFATS but have not yet self-identified or been identified by ISCD as being required to submit information to ISCD pursuant to CFATS, we reviewed and analyzed ISCD documentation related to its efforts to identify facilities, including documentation on coordinating with other federal agencies that regulate chemical facilities, and the Executive Order 13650 *Report for the President: Actions to Improve Chemical Facility Safety and Security—a Shared Commitment*.[8] To address how ISCD has categorized chemical facilities, we reviewed and analyzed documentation ISCD provides to facilities intended to guide them in submitting data that ISCD uses to preliminarily categorize facilities as high-risk, which renders them subject to additional requirements under the CFATS regulation during its preliminary screening process.[9] We reviewed ISCD applications and documents including web-based Chemical Security Assessment Tools (CSAT) applications—such as the Top-Screen—used to collect security information from facilities, the ISCD risk assessment approach used to determine a facility's preliminary risk tier, and policies and procedures on preliminary tiering. As part of this effort, we obtained and analyzed data submitted by facilities to ISCD as required by CFATS. First, to assess the reliability of data we obtained from CSAT, we reviewed system documentation, compared similar data sets for consistency, and interviewed knowledgeable ISCD officials about

[7]Issued on August 1, 2013, Executive Order 13650—*Improving Chemical Safety and Security*—endeavors to improve chemical facility safety and security by facilitating coordination within and among the all levels of government and with the owners and operators of such facilities. See Exec. Order No. 13650, 78 Fed. Reg. 48,029 (Aug. 7, 2013). Among other things, the order established a federal working group to improve federal coordination with state and local partners; enhance federal agency coordination and information sharing; modernize polices, regulations, and standards; and work with stakeholders to identify best practices.

[8]In May 2014, the working group established by Executive Order 13650 issued a report on its progress to date, findings and lessons learned, and next steps. Executive Order 13650 *Report for the President: Actions to Improve Chemical Facility Safety and Security—a Shared Commitment* (May 2014).

[9]In general, facilities not preliminarily considered high-risk are not subject to additional requirements of the CFATS regulation. If a facility makes certain changes, or if DHS determines the facility needs to submit a new Top-Screen, a facility may be required to submit additional information.

system controls and determined that CSAT data were sufficiently reliable for the purposes of this report. Second, we outlined the CFATS risk assessment approach and the three security issues upon which it is based—release-toxic/flammable/explosive, theft or diversion, and sabotage.

Finally, we analyzed a sample of ISCD data and compared it to criteria in the *National Infrastructure Protection Plan* (NIPP), *Supplemental Tool: Executing a Critical Infrastructure Risk Management Approach*, to determine the extent to which ISCD used facility-reported data to make categorization decisions that are documented and reproducible. Specifically, we selected a simple random sample of 475 facilities from the population of 36,811 facilities that submitted Top-Screens since the inception of the CFATS program in 2007 through January 2, 2015. During our review we identified 91 facilities from among the sample of 475 facilities that indicated that their facility had toxic release chemicals of interest above the screening threshold quantity. For these 91 facilities we tested the reliability of the Distance of Concern reported in Top-Screens. To determine how DHS intended respondents to calculate the Distance of Concern, we reviewed DHS guidance that directs facilities to use an online tool, RMP*Comp. We also reviewed instructions for using this tool. Using RMP*Comp, DHS guidance, and data from their most recently submitted Top-Screen (the type and quantity of chemical that could be released and terrain type surrounding facility), we calculated the Distance of Concern for the 91 facilities and compared these results to what facilities reported.

Because we followed a probability procedure based on random selections, our sample is only one of a large number of samples that we might have drawn. Since each sample could have provided different estimates, we express our confidence in the lower of our particular sample's results as a 95 percent confidence interval (e.g., plus or minus 7 percentage points). This is the interval that would contain the actual population value for 95 percent of the samples we could have drawn. For our determination of facilities potentially at risk of being missed by DHS because of errors in their RMP*Comp calculations we provide the 95 percent confidence interval associated with each estimate.

To corroborate and confirm our understanding of ISCD's approach to identify and categorize chemical facilities, we also interviewed ISCD officials knowledgeable about the processes to identify and categorize chemical facilities to corroborate our understanding of the program.

To address our second objective, on the extent to which DHS has approved site security plans, conducted compliance inspections, and measured results, we reviewed laws and regulations on how DHS is to approve site security plans and ensure compliance with the CFATS program. We analyzed ISCD data to identify the number of site security plans approved per month, and used the results of our analysis to estimate the number of months it could take ISCD to approve remaining site security plans. To assess the reliability of data we obtained from ISCD's case management system, we reviewed system documentation, conducted data and logic testing, and interviewed knowledgeable ISCD officials about system controls and determined that the data were sufficiently reliable for the purposes of this report. We note limitations in our analysis, including that our estimate does not take into consideration resource constraints ISCD may face as it implements the pending Ammonium Nitrate Security Program.[10] We analyzed 69 of 74 compliance inspection reports completed as of February 2015 to identify the extent to which the reports identify noncompliance among facilities that have reached the compliance inspection phase of the CFATS program. When we conducted our analysis, in February 2015, ISCD inspectors had not completed compliance inspection reports outlining the results of the inspections for 5 of the 74 facilities, so we did not include these facilities in our analysis. We compared ISCD's processes and procedures for tracking and monitoring noncompliant facilities to criteria in the NIPP for documented, reproducible, and defensible risk assessment approaches and *Standards for Internal Control in the Federal Government* for documenting transactions and significant decisions. To determine how DHS has measured results, we compared ISCD's performance measure with criteria in the NIPP for evaluating the effectiveness of risk management efforts by, among other things, collecting performance data to assess progress in achieving outputs and outcomes. We also interviewed ISCD headquarters officials regarding their processes and systems for authorizing, approving, and inspecting facilities for compliance. Finally, we conducted four site visits to observe (1) two

[10]In accordance with the DHS Appropriations Act, 2008, Pub. L. No. 110-161, Div. E, § 563, 121 Stat. 1844, 2083-90 (2007) (requiring that DHS issue a proposed rule not later than 6 months after enactment [enacted December 26, 2007] and a final rule not later than 1 year after enactment), DHS issued a proposed rule for the Ammonium Nitrate Security Program in August 2011. 76 Fed. Reg. 46,908 (Aug. 3, 2011). As of July 2015, DHS had not implemented the program but, according to the DHS semiannual regulatory agenda published in June 2015, a final rule for the program is anticipated in October 2015. See 80 Fed. Reg. 35,030, 35,031 (June 18, 2015).

authorization inspections and (2) two compliance inspections. We selected inspection locations in California, Oregon, Maryland, and Texas based on geographic dispersion and to cover different types of chemical facilities regulated by the CFATS program. While the information obtained from these inspections cannot be generalized to all inspections, it provides insight and context on how ISCD conducts CFATS inspections.

We conducted this performance audit from September 2014 to July 2015 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix III: Comments from the Department of Homeland Security

U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

July 8, 2015

Chris P. Currie
Director, Homeland Security and Justice Issues
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Re: Draft Report GAO-15-614, "CRITICAL INFRASTRUCTURE PROTECTION: DHS Action Needed to Verify Some Chemical Facility Information and Manage Compliance Process"

Dear Mr. Currie:

Thank you for the opportunity to review and comment on this draft report. The U.S. Department of Homeland Security (DHS) appreciates the U.S. Government Accountability Office's (GAO's) work in planning and conducting its review and issuing this report.

The Department is pleased to note GAO's recognition of the "substantial progress" DHS has made both in identifying chemical facilities that pose the greatest risk and in expediting the time it takes to approve site security plans (SSPs). As noted in the report, DHS has made numerous improvements to the Chemical Facility Anti-Terrorism Standards (CFATS) program since last reviewed, resulting in a doubling of the pace at which SSPs are reviewed and approved. Improvements that contributed to this increased review pace include:

- continued improvements to the SSP review process;
- updates to the on-line Chemical Security Assessment Tool resulting in a more user-friendly system and improved facility data collection;
- distribution of updated internal guidance and lessons learned on plan approvals;
- transition to a new internal case management system that provides improved program and facility management capabilities;
- use of inspectors alongside headquarters officials to review SSPs in order to leverage inspectors' knowledge of facility security;
- changes to inspection processes, such as employing smaller inspection teams, conducting pre-inspection phone calls with facilities to help them prepare for inspections, and enabling inspectors to help facility personnel edit their SSPs during inspections;

- distribution of updated guidance to facilities to help them improve their site security plans;
- work to expand the use of alternative security programs; and
- work with corporations that have multiple covered chemical facilities to leverage inspection documents and security procedures that are standard across corporations to expedite the inspection process.

These and other programmatic improvements have also been recognized by our Congressional stakeholders who, in December 2014, passed the "Protecting and Securing Chemical Facilities from Terrorist Attacks Act of 2014", Public Law 113-254, which provided long-term authorization for the CFATS program.

The draft report contained four recommendations with which DHS concurs. Specifically, GAO recommended that the Secretary of Homeland Security direct the Under Secretary for the National Protection and Programs Directorate (NPPD), the Assistant Secretary for Infrastructure Protection (IP), and the Director of the Infrastructure Security Compliance Division (ISCD) to:

Recommendation 1: Provide milestone dates and a timeline for implementation of the new Top-Screen and ensure that changes to this Top-Screen mitigate errors in the Distance of Concern submitted by facilities.

Response: Concur. GAO is correct in its assertion that a number of CFATS facilities appear to have submitted erroneous information in response to a single question on the Top-Screen; however, it is also essential to note that any tangible impact from this erroneous data is likely to be extremely minimal.

As presented, the draft report does not accurately convey that the issue identified applies to only approximately 1.5% of all facilities that submitted Top-Screens. Furthermore, it is highly unlikely that the underestimation of Distance of Concern had a significant impact on tiering results. Notably, GAO acknowledges that only 85 of the more than 37,000 facilities (0.2%) that have submitted Top-Screens were likely to have been assigned a lower risk status than they would have been assigned had they correctly reported their Distances of Concern, with potentially as few as two (2) out of 37,000 facilities (0.005%) actually having been impacted.

It is important to underscore that this impacts only preliminary tiering results, and additional information submitted through a Security Vulnerability Assessment will affect the final tiering decision. Accordingly, potentially misreported Distances of Concern likely have less of an impact on the final tiering than the report alludes.

Nevertheless, NPPD IP ISCD agrees that reasonable efforts should be made to avoid assessing any facilities using erroneously self-reported Distance of Concern information. To that end, NPPD IP ISCD has already begun developing a revised Top-Screen application and

supporting tiering methodology that eliminates the need for facilities to calculate and self-report Distances of Concern. In the interim, the NPPD IP ISCD will establish a process through which it will verify Distances of Concern submitted in new Top-Screens for accuracy before finalizing a preliminary tiering result for any facility with threshold quantities of a release-toxic chemical of interest.

Estimated Completion Date (ECD): December 31, 2015 (this ECD applies to the provision of milestones and a timeline; the ECD for release of the Top-Screen itself will be included in that deliverable).

Recommendation 2: In the interim, identify potentially miscategorized facilities with the potential to cause the greatest harm and verify the Distance of Concern these facilities report is accurate.

Response: Concur. NPPD IP ISCD will review the population of facilities that submitted Top-Screens with release-toxic chemicals of interest to determine those that are most likely to have the potential to cause the greatest harm and will undertake efforts to verify the Distances of Concern reported by the facilities. ECD: December 31, 2015.

Recommendation 3: Develop documented processes and procedures to track noncompliant facilities and ensure they implement planned measures as outlined in their approved site security plans.

Response: Concur. First, GAO is correct in stating that the documented processes for resolving incidents of potential non-compliance identified during Compliance Inspections have yet to be completed. Compliance Inspections are the final step in a multi-step CFATS program. The Department is conducting only a small number of Compliance Inspections per month. This rate has been intentional as Chemical Security Inspectors are focused on Authorization Inspections, SSP reviews, and other activities aimed at getting all CFATS covered facilities to an approved SSP status. NPPD IP ISCD has been conducting a small number of Compliance Inspections in large part so that it can identify best practices and lessons learned before performing Compliance Inspections in large numbers. Thus, the lack of documentation is not inclusive necessarily of any programmatic failure, but rather is to be expected as NPPD is just beginning this final stage of implementation of a relatively young regulatory program.

Second, GAO is correct that the current case management system used by NPPD to track facility progress does not have a separate function tracking all facilities that had potential issues of non-compliance identified during a Compliance Inspection. However, a Compliance Inspection Report cannot be closed out in the case management system if any aspect of the facility's SSP has not been implemented as agreed to. This interim step allows NPPD to continue to monitor non-compliant facilities until the case management system is updated to separately track these facilities. To that end, NPPD has already drafted requirements for an update to the case management system to create this tracker.

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Third, any issue that is identified during a Compliance Inspection as a potential violation is verified to be corrected either through a follow-on visit or through a technical consultation where the facility provides documentation sufficient to verify completion. These items also are highlighted for future Compliance Inspection teams to verify during a subsequent visit.

Accordingly, the Department believes that documenting processes to track non-compliant facilities would be worthwhile and, as had previously been done with all other major aspects of CFATS implementation, NPPD is in the process of developing and documenting such procedures for this final stage of the CFATS process. In the interim, NPPD will continue to maintain the mechanisms it currently has in place to ensure that a facility that is determined to potentially fall short of full compliance during a Compliance Inspection is tracked until it is confirmed to have reached full compliance. ECD: December 31, 2015.

Recommendation 4: Improve the measurement and reporting of the CFATS program performance by developing a performance measure that includes only planned measures that have been implemented and verified.

Response: Concur. NPPD agrees with GAO to the extent GAO recognizes that the existing CFATS Government Performance and Results Act measure does not fully reflect the true value of the CFATS program and its impact on reducing risk. NPPD agrees that the recommended measure will provide an additional means for evaluating and illustrating the value of the CFATS program, and intends to develop such a measure. NPPD IP ISCD will include that measure in the ISCD Fiscal Year 2016 Annual Operating Plan as one of a suite of measures which, collectively, help demonstrate CFATS program performance and the CFATS program's impact on reducing risk. ECD: December 31, 2015.

Again, thank you for the opportunity to review and comment on the draft report. Technical comments were previously provided under separate cover. Please feel free to contact me if you have any questions. We look forward to working with you in the future.

Sincerely,

Jim H. Crumpacker, CIA, CFE
Director
Departmental GAO-OIG Liaison Office

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Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact named above Ben Atwater, Assistant Director, and Joel Aldape, Analyst-in-Charge, managed this assignment. Carl Barden, Andrew Curry, Kathleen Donovan, Michele C. Fejfar, Eric D. Hauswirth, Susan Hsu, Thomas F. Lombardi, and Kelly Snow made significant contributions to the work.

Related GAO Products

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