Syria's Chemical Weapons: Issues for Congress

Mary Beth D. Nikitin
Specialist in Nonproliferation

Paul K. Kerr
Analyst in Nonproliferation

Andrew Feickert
Specialist in Military Ground Forces

August 7, 2013

Congressional Research Service
7-5700
www.crs.gov
R42848

CRS Report for Congress
Prepared for Members and Committees of Congress

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Summary

The use or loss of control of chemical weapons stocks in Syria could have unpredictable consequences for the Syrian population and neighboring countries as well as U.S. allies and forces in the region. Congress may wish to assess the Administration's plans to respond to possible scenarios involving the use, change of hands, or loss of control of Syrian chemical weapons.

Syria has produced, stored, and weaponized chemical weapons, but it remains dependent on foreign suppliers for chemical precursors. The regime of President Bashar al Asad reportedly has stocks of nerve (sarin, VX) and blister (mustard gas) agents, possibly weaponized into bombs, shells, and missiles, and associated production facilities. Chemical weapons and their agents can deteriorate depending on age and quality. Little is known from open sources about the current size and condition of the stockpile. Syria continues to attempt to procure new supplies of chemical weapons precursors, which are dual-use, through front companies in third countries. Most countries that have had chemical weapons arsenals in the past have destroyed these weapons under the Chemical Weapons Convention, or are in the process of destroying them. The U.S. intelligence community cites Iran, North Korea, and Syria as having active chemical weapons programs.

While the United States and other governments have said they believe the Asad regime has kept its chemical weapons stocks secure, policymakers are concerned about what could happen to these weapons in the course of the civil war, such as diversion to terrorist groups or loss of control during a regime collapse.

Reports in early December 2012 quoted unnamed officials as saying intelligence showed possible preparations for use, but this was denied by the Syrian government. Since then, press reports have discussed several alleged incidents of chemical weapons use in Syria by both the government and opposition forces. A United Nations chemical weapons inspection team is negotiating with Syria on access to the sites to investigate. On June 13, 2013, the White House released a statement saying that following its investigation, "our intelligence community assesses that the Assad regime has used chemical weapons, including the nerve agent sarin, on a small scale against the opposition multiple times in the last year. Our intelligence community has high confidence in that assessment given multiple, independent streams of information." The June 13 statement said that chemical weapons use had resulted in an estimated 100-150 deaths in Syria.

President Obama and other world leaders have said that the use of chemical weapons against the civilian population would be met with consequences, which could include the use of military force. There is also concern that Syria could transfer its chemical weapons to Hezbollah in Lebanon. Administration officials have stated that the United States has been working with regional allies to detect the movement of chemical weapons, prepare interdiction scenarios, and mitigate possible use against military or civilian populations. The June 13 White House statement said that in response to the Asad regime's use of chemical weapons, the President has authorized the expansion of military assistance to the opposition forces in Syria.

During conflict, the intelligence community and Special Forces units would likely play a major role in locating and securing such weapons in a combat environment. The nature and recent course of the conflict in Syria suggests that rapid changes in control over critical military facilities may occur. U.S. government programs established to secure or remove chemical or other

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weapons of mass destruction through threat reduction or nonproliferation programs have focused on destruction or scientist redirection in an atmosphere of cooperation. At present, such programs are providing border security assistance to neighboring states. U.S. policymakers and Congress may wish to review and discuss authorities, funding, forces, and scenarios in advance.

For additional information on chemical weapons agents, see CRS Report R42862, *Chemical Weapons: A Summary Report of Characteristics and Effects*, by Dana A. Shea. For a broader discussion of U.S. policy options, see CRS Report RL33487, *Armed Conflict in Syria: U.S. and International Response*, by Jeremy M. Sharp and Christopher M. Blanchard.

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Contents

Policy Issues 1
Brief History of the Chemical Weapons Program in Syria 2
Current Chemical Weapons Program 3
Syrian Statements on Chemical and Biological Weapons 6
Chemical Weapons Security 7
Chemical Weapons Use and Potential Responses 8
U.N. Investigation 11
Possible Responses 12
Biological Weapons 14
DIA Director Flynn testified during the same hearing that "[w]e do not believe Syria has achieved a capability to use biological agents as effective mass-casualty weapons." 15
Cooperative Threat Reduction Programs 15
Legislation 17

Contacts

Author Contact Information 18

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Policy Issues

The Syrian case may be the first time the international community has faced a civil war in a state with a known stockpile of chemical weapons. This contingency raises two major policy concerns: whether the Asad regime would use chemical weapons; and whether it could lose control over these weapons.

U.S. officials have expressed confidence that chemical weapons stocks in Syria are secured by the Asad regime, which dispatched elite Special Forces for that purpose. Due to the urgency of preventing access to these weapons by unauthorized groups, including terrorists, the United States government has been preparing for scenarios to secure the weapons in the event of the Asad regime's loss of control. However, this presents unique challenges. In testimony before the Senate Armed Services Committee on March 7, 2012, then-Secretary of Defense Leon Panetta said, "It's 100 times worse than what we dealt with in Libya. And for that reason, that's why it's raised even greater concerns about our ability to address how we can secure those sites." The Pentagon has estimated that it would take over 75,000 troops to neutralize the chemical weapons.[1]

Specific scenarios have not been discussed in open testimony, but some analysts have proposed that advanced planning for international teams may be required. Press reports say that a joint exercise in Jordan in the spring of 2012 included scenarios for securing chemical weapons stocks. The United States and the Czech Republic, which leads NATO chemical defense preparation, are also cooperating to prepare for various scenarios. Israeli President Shimon Peres has appealed to Russian President Putin to urge Asad to ensure chemical weapons' security. Senator Richard Lugar has proposed that the United States and Russia cooperate to ensure chemical weapons security in Syria and eventually dismantle them.

Possible scenarios of highest concern include Syrian government use of chemical weapons—authorized or unauthorized by local commanders; or Syrian government loss of control through either defections by local commanders in charge of chemical weapons sites or a facility turnover in the course of battle. The United States and other governments have warned Syria that use of chemical weapons could prompt unspecified response, presumed to be military intervention. At the same time, the United States has been urging Russia, historically a patron of Syria, to encourage Asad to maintain control over chemical weapons.[2] Some have suggested that the United States should communicate to Syrian government commanders at the sites that they will be rewarded for maintaining control of these weapons and protecting these facilities from extremist elements. Other possible options include training or assisting the Free Syrian Army in securing chemical weapons, should that army capture such facilities. Preventing chemical weapons from falling into the hands of extremist elements is the ultimate goal of such policies. There will continue to be limits, however, to the United States' ability to monitor the security of these stockpiles and limits to intelligence about where, how well, and by whom they are being secured.

[1] Barbara Starr, "Military: Thousands of Troops Needed to Secure Syrian Chemical Sites," *CNN.com*, February 22, 2012.

[2] Russian Foreign Minister Sergey Lavrov stated during a June 15, 2013, press conference that Russia has asked for and received assurances from the Asad regime that Damascus would maintain such control.

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In addition to concerns over loss of control, there has been widespread concern that Asad could decide to use chemical weapons. In a speech at the National Defense University on December 3, 2012, President Obama stated, perhaps in reaction to recent reports of chemical weapon preparations: "I want to make it absolutely clear to Asad and those under his command: The world is watching. The use of chemical weapons is and would be totally unacceptable. And if you make the tragic mistake of using these weapons, there where be consequences, and you will be held accountable." Former Secretary of State Hillary Clinton said that use would be a "red line" and that the United States was "planning to take action" should it occur. NATO Secretary General Anders Fogh Rasmussen has made similar statements.

Brief History of the Chemical Weapons Program in Syria

Syria has had a chemical weapons program "for many years," according to an Office of the Director of National Intelligence (ODNI) report to Congress covering 2011.[3] However, U.S. official assessments regarding the origin of Syria's chemical weapons program have varied over the years. A 1995 intelligence assessment states that "Syria has had a chemical warfare program since the mid-1980s."[4] However, a 1997 Department of Defense report states that the program began in the 1970s.[5] Damascus probably developed its chemical weapons program in response to a perceived threat from Israel, according to a 1988 U.S. intelligence assessment and the 1997 Defense Department report.[6] Some analysts point out that Egypt provided Syria with a small number of chemical weapons and delivery systems in the lead-up to the Yom Kippur War in 1973.[7] An expanded Syrian effort began in the late 1970s and early 1980s. Declassified U.S. documents indicate that the Soviet Union supplied Syria with chemical agents, delivery systems, and training related to chemical weapons use.[8] Syria is likely to have procured equipment and precursor chemicals from private companies in Western Europe.

U.S. government documents indicate that Damascus has sought a self-sufficient chemical weapons program since the mid-1980s. A 1983 Special National Intelligence Estimate indicated that Syria did not have an "indigenous capability to produce [chemical weapon] agents or material,"[9] but a 1985 State Department telegram suggested that the country was attempting to

[3] *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 January to 31 December 2011.*

[4] *The Weapons Proliferation Threat*, Nonproliferation Center, March 1995.

[5] Department of Defense*, Proliferation: Threat and Response*, 1997.

[6] Central Intelligence Agency, *Chemical and Biological Weapons: The Poor Man's Atomic Bomb,* An Intelligence Assessment, 1988.

[7] Jonathan B. Tucker, *War of Nerves*, Pantheon Books, New York, 2006.

[8] Central Intelligence Agency, *Use of Toxins and Other Lethal Chemicals in Southeast Asia and Afghanistan*, Special National Intelligence Estimate, Volume I, Key Judgments, February 2, 1982; Director of Central Intelligence, *Implications of Soviet Use of Chemical and Toxin Weapons for U.S. Security Interests*, Special National Intelligence Estimate, September 15, 1983. The1983 document also identified Czechoslovakia as a supplier of "chemical agents, delivery systems, and training" to Syria. Nevertheless, a Russian official involved in chemical weapons destruction stated in August 2012 that neither Russia nor the Soviet Union had supplied Syria with chemical weapons. "Russia Never Supplied Chemical Weapons to Syria—Official," *Interfax*, August 21, 2012.

[9] *Implications of Soviet Use of Chemical and Toxin Weapons for U.S. Security Interests*, 1983.

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develop its own chemical weapons.[10] Stating that "Damascus is enhancing its chemical weapon capability," the cable explains that the United States was imposing export controls on eight dual-use chemicals that "can be used … in the manufacture of chemical weapons." Twelve years later, Syria was seeking an "independent chemical warfare capability," according to the Defense Department. Damascus has apparently not yet achieved this goal.

Like Egypt, Syria has never signed the Chemical Weapons Convention (CWC), which prohibits the development, production, stockpiling, transfer, and use of chemical weapons. However, in 1968, Syria acceded to the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, which bans the use of chemical or biological agents in warfare.[11] Therefore, "Syria has formally renounced both first and retaliatory use of chemical or biological weapons against any State," according to the Organization for the Prohibition of Chemical Weapons, which implements the CWC.[12] Syria has said that its ratification of the CWC (and BWC) is contingent on establishment of a zone free of weapons of mass destruction in the Middle East. Syrian Foreign Minister Walid al Mu'allim stated during a July 29, 2012, press conference that Damascus supports the establishment of such a zone.[13]

Current Chemical Weapons Program

"There is no doubt amongst the UK intelligence community that the Syrian regime possesses vast stockpiles" of chemical weapon, according to a British Parliamentary report published in July 2013.[14] Israel Defense Forces Deputy Chief of Staff Major-General Ya'ir Nave described Syria's chemical weapons arsenal as "the largest in the world" during a June 2012 interview.[15] Damascus possesses mustard blister agent, sarin nerve agent, and VX nerve agent, according to official U.S. assessments.[16] The size of the stockpile is unknown from open sources. The country's chemical

[10] Telegram from Secretary of State to American Embassy Damascus, *Foreign Policy Export Controls on Chemical Weapon Precursors*, July 1985.

[11] Syria acceded with the reservation that accession did not represent recognition of the state of Israel, also a party.

[12] Damascus has signed, but not ratified, the Biological and Toxin Weapons Convention (BWC), which bans the development, production, and stockpiling of biological agents or toxins "of types and in quantities that have no justification for peaceful purposes." Unlike Israel, Syria is party to the nuclear Non-Proliferation Treaty (NPT), although an Israeli military raid in 2007 is believed to have targeted a clandestine Syrian nuclear facility. The International Atomic Energy Agency continues to seek Syrian cooperation in answering questions related to nuclear activities in the country.

[13] "Syrian Foreign Minister Speaks Of Chemical Weapons, Iranian Support," *Syrian TV Satellite Service*, July 29, 2012.

[14] *Intelligence and Security Committee of Parliament Annual Report 2012*–2013, July 10, 2013.

[15] "Israeli Army General Says Syria Has Largest Chemical Weapon Arsenal," *Voice of Israel Network B*, June 11, 2012. Most of the world's chemical weapons arsenals have been destroyed or are awaiting destruction under the Chemical Weapons Convention. The United States, Russia, Iraq and Libya are in the process of destroying chemical weapons. India, South Korea and Albania have completed destruction. Israel and Myanmar have signed but not ratified the CWC. The following countries are not party to the CWC: Angola, Egypt, North Korea, Somalia, South Sudan, Syria. *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 January to 31 December 2011* cites Iran, North Korea and Syria as having active chemical weapons programs.

[16] For effects of chemical agents, CRS Report R42862, *Chemical Weapons: A Summary Report of Characteristics and Effects*, by Dana A. Shea. Hearing of the Senate Armed Services Committee, *Worldwide Threats to U.S. National Security*, February 28, 2006, and State Department News Briefing, August 30, 2011. U.S. government officials and reports have stated that Syria was developing VX. (See then-Under Secretary of State Bolton, "Remarks on the (continued...)

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weapons and related facilities appear to be distributed throughout the country. U.S. Defense Department Press Secretary George Little told reporters on July 24, 2012, that Syria has "a really distributed network of [chemical weapons] stockpiles." Similarly, Director of National Intelligence James Clapper told the Senate Armed Services Committee on February 16, 2012, that Damascus has "an extensive network" of chemical weapons installations.

As noted, Syria has sought an independent chemical weapons production capability for some time. However, according to the ODNI report covering 2011, "Syria remains dependent on foreign sources for key elements" of its chemical weapons program, "including precursor chemicals."[17] Defense Intelligence Agency (DIA) Director Michael Flynn made a similar statement in April 2013 congressional testimony.[18] Precursor chemicals are generally dual-use chemicals with legitimate industrial uses that can be combined as feedstock to produce blister or nerve agents. Syria appears to lack the capacity to independently produce key precursors. Additionally, the potency and effectiveness of Syrian chemical agents are unknown since precursor chemicals may degrade over time.

According to the ODNI report covering 2011, Syria's chemical weapons agents "can be delivered by aerial bombs, ballistic missiles, and artillery rockets."[19] Of these delivery vehicles, public official U.S. assessments apparently only provide detailed information about Syria's ballistic missiles, although a 1991 national intelligence estimate stated that Syria had 500-kilogram aerial bombs containing sarin.[20] According to Flynn's testimony and a State Department report covering 2008, Syria possesses "several hundred" Scud B, Scud C, Scud D, and SS-21 short-range ballistic missiles (SRBMs),[21] all of which are mobile.[22] Past U.S. official reports have not been entirely clear regarding the composition of Syria's Scud missile inventory; a 2006 report from the National Air and Space Intelligence Center (NASIC) includes the Scud B, Scud C, Scud D, and SS-21 in Syria's SRBM inventory, but NASIC reports from 2009 and 2013 omit the Scud B and Scud C.[23]

(...continued)

Continuing Threat of Weapons of Mass Destruction," November 12, 2003; *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 January to 31 December 2006;* and Michael Flynn, Director, Defense Intelligence Agency, *Current and Future Worldwide Threats,* Senate Armed Services Committee Hearing, April 18, 2013.).

[17] Then-Under Secretary of State for Arms Control and International Security Bolton told the House Committee on International Relations in June 2003 that Syria was "dependent on foreign sources" for "key production equipment," but whether that is still the case is unclear. See also Australia Group Plenary press release, June 2012, http://www.australiagroup.net/en/media_june2012.html.

[18] Michael Flynn, April 18, 2013.

[19] *Unclassified Report to Congress Covering 2011.*

[20] Director of Central Intelligence*, Prospects for Special Weapons Proliferation and Control, National Intelligence Estimate: Volume II Annexes*, July 1991.

[21] Defined as missiles having ranges under 1,000 kilometers.

[22] Flynn, April 18, 2013; *Report on the Proliferation of Missiles and Essential Components of Nuclear, Biological, Chemical and Radiological Weapons, January 1 – December 31, 2008*, Department of State, April 22, 2009. See also, *Ballistic and Cruise Missile Threat,* National Air and Space Intelligence Center, March 2006; *Ballistic and Cruise Missile Threat*, National Air and Space Intelligence Center, April 2009; *Ballistic and Cruise Missile Threat*, National Air and Space Intelligence Center, 2013; *Unclassified Report to Congress Covering 2011.* A 1991 National Intelligence Estimate stated that Syria had "about 300 Soviet-made Scuds with about a 300-km range" (Director of Central Intelligence, *Prospects for Special Weapons Proliferation and Control,* 1991).

[23] *Ballistic and Cruise Missile Threat*, 2006; *Ballistic and Cruise Missile Threat*, April 2009; *Ballistic and Cruise Missile Threat*, 2013.

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An ODNI report to Congress covering 2006 indicates that Syria's Scud B, Scud C, and Scud D missiles, as well as its SS-21 missiles, "can employ" chemical warheads. But exactly which of these missiles are tasked with delivering chemical weapons is unclear. A 1988 U.S. assessment identifies Syria's Scud B missiles as delivery vehicles for chemical weapons. However, more recent U.S. government statements have been somewhat less precise. In June 2003, then-Under Secretary of State for Arms Control and International Security John Bolton told a House Committee on International Relations hearing that Syria "is believed to have chemical warheads available for a portion of its Scud missile force," but he did not specify which types of Scud missiles were assigned this mission. DIA Director Flynn made a similar statement in his April 2013 testimony.[24] While missile warheads can deliver non-persistent chemical agents such as sarin, persistent agents such as VX and blister are viewed by many chemical weapons experts as being more effectively employed by missile warheads than non-persistent agents.

Another possibility is that Syria would use its batteries of BM-21 multiple rocket launchers, which can more reliably deliver ordnance to a targeted area.[25] Rocket launchers, when massed, can be used to rapidly achieve lethal doses of non-persistent agents in a concentrated area. While Scuds might be used for targeting a neighboring country, it is more likely that artillery rockets would be used on the battlefield against rebel forces. However, other well-known difficulties in the employment of chemical weapons include inability to control the gas cloud resulting from an attack, putting one's own troops at risk without proper protection; contaminating the area attacked for days and weeks, depending on the chemical agent and weather conditions; and uncertain delivery of a lethal dose of the agent (due to dissipation of agents into the atmosphere or volatility of the agent).[26]

Storage and munitions design could impact the length of time Syrian forces or other forces would have to deploy chemical weapons. Chemical munitions are either unitary or binary in design.[27] Unitary munitions are filled with the chemical agent at a central facility, while binary munitions include two separate canisters of precursor chemicals that combine either manually or automatically inside the weapon when launched. The exact composition of Syria's chemical munitions stockpile is not known from open sources, but a 1991 National Intelligence Estimate stated that Damascus had developed binary Scud missile warheads and aerial bombs.[28] More recently, DIA Director Flynn testified in April 2013 that Syria's chemical weapons stockpile "includes either complete or binary components of sarin, mustard, and VX."[29] If unitary munitions are employed, it is not known whether chemical agent is stored in bulk, or warheads are filled in advance. This process could take weeks to months for battlefield quantities and is considered a hazardous undertaking for troops involved in filling unitary chemical munitions, as well as those troops handling, transporting, and delivering them. If Syria used binary munitions, then the warheads could potentially be deployed immediately.[30] Press reports in early December

[24] Michael Flynn, April 18, 2013.

[25] Scott Steward, "The Specter of Syrian Chemical Weapons," *Stratfor*, August 2, 2012.

[26] *Technologies Underlying Weapons of Mass Destruction*, Office of Technology Assessment, December 1993.

[27] *Ibid.*

[28] *Prospects for Special Weapons Proliferation and Control,* 1991.

[29] Flynn, April 18, 2013.

[30] "NBC Capabilities- Chemical, Syria: Key Facts," *Jane's Nuclear, Biological and Chemical Defense*, July 24, 2012.

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2012 quoted unnamed officials as saying that Syria had combined the precursor chemicals for sarin into warheads, but no officials have publicly confirmed that information.[31]

Syrian Statements on Chemical and Biological Weapons

In July, a Syrian official indicated that the government possesses chemical and biological weapons and may use them if attacked. During a July 23, 2012, press conference, Syrian Foreign Ministry Spokesperson Jihad Maqdisi stated that "[a]ny chemical or biological weapons will never be used … in the Syrian crisis, no matter what the internal developments in this crisis are." He explained that "[a]ll varieties of these weapons are stored and secured by the Syrian armed forces and under its direct supervision, and will not be used unless Syria is subjected to external aggression."[32]

Subsequent statements from Syrian officials have tried to walk back this statement, indicating that the country does not have chemical or biological weapons. Information Minister Imran al-Zubi said in a July 23, 2012, interview that Maqdisi's statement described above did not constitute an admission of chemical weapons possession, arguing that the statement was a response to accusations that Syria possesses such weapons.[33] Asked during a July 29, 2012, press conference whether Syria possesses chemical weapons, Syrian Foreign Minister al-Mu'allim observed that Israel possesses nuclear weapons, "regardless of whether we have or do not have" chemical weapons.[34] He was similarly ambiguous during a television interview broadcast on October 1, 2012.[35] Syria's Information Minister Umran Ahid al-Zabi denied in an April 26, 2013, interview that Syria had used chemical weapons and repeated the regime's claim that Damascus does not possesses such weapons.[36] He also stated that Syria does not possess biological weapons. President Asad stated in a newspaper interview published June 17, 2013, by the state-run Syrian news agency that "we have never confirmed or denied the possession" of chemical weapons.[37]

On December 3, 2012, the Syrian Foreign Ministry stated that "Syria has stressed repeatedly that it will not use these types of weapons, if they were available, under any circumstances against its people."[38] Information Minister al-Zabi stated in late April 2013 that Syria would not use chemical weapons against Israel, even in the case of armed conflict between the two countries.[39]

[31] "Exclusive: U.S. Sees Syria Prepping Chemical Weapons for Possible Attack," *Danger Room*, Wired.com, December 3, 2012; "NATO Expected to Clear Turkey Missile Deployment," *Agence France Presse*, December 4, 2012.

[32] "Syrian Spokesman Says No Chemical Weapons to be Used During Crisis," *Syrian TV Satellite Service*, July 23, 2012.

[33] "Information Minister: Foreign Media and Diplomatic Misconstrued Foreign Ministry Statement and Put ..." *SANA News Agency*, July 24, 2012.

[34] Syrian TV Satellite Service, July 29, 2012.

[35] "Syria: Foreign Minister Al-Mu'allim Says 'Security Solution Was Imposed on Us'," *Al-Mayadin Satellite Channel*, October 1, 2012.

[36] "Syrian Minister Says Army Did Not Use Chemical Weapons, Warns of Iraqi Scenario," *Interfax*, April 26, 2013.

[37] "Al-Asad Says Chemical Weapons Accusations "Pretext" For Intervention in Syria," *SANA News Agency*, June 17, 2013.

[38] "Obama Warns Syria Amid Rising Concern Over Chemical Weapons," *The Washington Post*, December 3, 2012.

[39] "Syrian Troops Won't Use Chemicals For Moral Reasons—Information Minister," *Interfax*, April 24, 2013.

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President Asad denied the allegations of Syrian chemical weapons use (discussed below) in the June 2013 interview.[40]

Chemical Weapons Security

In the past, the United States has discussed chemical weapons security with Damascus; State Department spokesperson Victoria Nuland told reporters February 10, 2012, that "for many years we've had a dialogue with Syria about the importance of security and safety of these weapons." Officials from the Obama Administration and other governments have expressed concern regarding the security of Syria's chemical weapons, but U.S. officials have unanimously stated that the weapons stockpiles are secure. For example, former White House spokesperson Tommy Vietor stated on July 21, 2012, that the Obama Administration is "very concerned" about Syria's chemical weapons, but also noted that "[w]e believe Syria's chemical weapons stockpile remains under Syrian government control."[41] The United States is monitoring Syrian chemical weapons stockpiles, Vietor added. Then-Secretary of Defense Leon Panetta stated during a September 28, 2012, press briefing that Damascus has moved some chemicals in order to secure them better, adding that the country's "main sites … still remain secure." Press reports of the movement of chemical weapons again appeared in early December 2012. According to Director of National Intelligence James Clapper's March 12, 2013, testimony before the Senate Select Committee on Intelligence, "groups or individuals in Syria could gain access to [chemical weapons]-related materials." The United States continues to assess that the "Assad [sic] regime maintains control" of the government's chemical weapons, according to a June 13, 2013, statement from Deputy National Security Advisor for Strategic Communications Ben Rhodes.

Officials from other governments have expressed concern about Syria's chemical weapons security while acknowledging that, for the time being, the weapons are secure. Israeli Vice Prime Minister and Strategic Affairs Minister Moshe Ya'alon stated in June 2012 that "[at] this stage, the Syrian regime has firm control over the chemical weapons arsenal."[42] Russian Deputy Foreign Minister Sergey Ryabkov stated in an interview published September 6, 2012, that "[w]e are fully sure—and we have official confirmation from Damascus on this—that the government of this country is taking all necessary measures to ensure the security of its chemical stockpile."[43] More recently, British Defense Secretary Philip Hammond told reporters on May 2, 2013, that the Syrian government "is largely in control of its chemical weapons, principal chemical weapons sites ... there is no evidence that the regime has lost control of significant chemical weapon sites yet."

Obama Administration officials have indicated that the United States has been working with other regional governments, including Israel, to ensure the security of Syria's chemical weapons.[44] During a July 29, 2012, press briefing, then-Secretary of Defense Panetta identified Jordan, Turkey, and "other allies in the region" as partners in this effort.

[40] *SANA News Agency*, June 17, 2013.

[41] "U.S. Says Closely Monitoring Syria Chemical Weapons," *Reuters*, July 21, 2012.

[42] "Asad Retains Control of Syria Chemical Arms—Israel," *Reuters*, June 12, 2012.

[43] "Russia Sure That Syria Will Not Use Chemical Weapons—Senior Diplomat," *Interfax*, September 6, 2012.

[44] Carol E. Lee and Adam Entous, "Obama Warns Syria on Chemical Weapons—President Threatens Military Response Against Any Use of the Banned Arms," *The Wall Street Journal*, August 21, 2012.

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U.S. and British officials have claimed that their governments generally know the locations of Syria's chemical weapons. British Defense Secretary Hammond stated on May 2, 2013, that "I think we have a great deal of knowledge of location of chemical weapons," although he added that "[t]hat is not the same as saying that I can put my hand on my heart and say we know where every last item is." Deputy National Security Advisor Rhodes stated during a June 17, 2013, press briefing that

> while we can't say with certainty that we are aware of where every chemical weapons munitions [sic] is in the country, this is something we devote a lot of attention and resources to and we feel like we have a sense of both the fact of the regime controlling these chemical weapons stockpiles and some sense of where they are generally.

Chemical Weapons Use and Potential Responses

According to officials from France, Israel, the United Kingdom, and the United States, there is evidence that the Syrian government has used sarin nerve agent against opposition forces in the country. Over time, official statements on this issue have expressed increasing certainty that chemical weapons have been used. White House Press Secretary Jay Carney stated on December 3, 2012, that the Obama Administration has "increased concern about the possibility of the [Asad] regime taking the desperate act of using its chemical weapons." Major General Aviv Kochavi, the head of Israeli military intelligence, has stated that Syria is preparing to use its chemical weapons, according to press reports.[45] British intelligence has indicated in January 2013 that Syria may have a low threshold for using chemical weapons.[46] Director of National Intelligence James Clapper told the Senate Armed Services Committee on April 18, 2013, that the "increasingly beleaguered regime, having found that its escalation of violence through conventional means is not working, appears quite willing to use chemical weapons against its own people."

Allegations that chemical weapons have been used in the conflict again surfaced on March 19, 2013. Both sides of the conflict claim that chemical weapons were used by the other side against civilians in the village of Khan al-Assal (near Aleppo). Some press reports have said they were delivered with rockets and may have carried chlorine.[47] The Syrian government officially requested that the United Nations Secretary General Ban Ki-moon investigate its allegations that opposition forces used chemical weapons at Khan al-Assal (Aleppo area) on March 19. The opposition claims that the Asad regime also used chemical weapons in other recent attacks (including near Damascus). The United Kingdom and France sent letters to the U.N. Secretary General in late March that reportedly provided evidence based on witness interviews and soil samples that chemical weapons were used on multiple occasions, but the letters have not been made public. Press reports said the letters claimed that chemical weapons had been used on three occasions: March 19 in Khal al-Assal and in Ataybah, as well as December 23 in Homs.[48]

According to letters sent April 25, 2013, to Senators John McCain and Carl Levin by Miguel Rodriguez, Assistant to the President and Director of the Office of Legislative Affairs, the U.S. intelligence community assessed "with varying degrees of confidence that the Syrian regime has used chemical weapons on a small scale in Syria, specifically the chemical agent sarin." The Asad

[45] Gili Cohen, "Assad Preparing to Use Chemical Arms, Says Israel's Military Intel Chief," *Haaretz*, March 14, 2013.

[46] *Intelligence and Security Committee of Parliament Annual Report 2012–2013*.

[47] Aryn Baker, "Syria's Civil War: The Mystery Behind a Deadly Chemical Attack," *Time.com*, April 1, 2013.

[48] Edith Lederer, "Evidence of Chemical Weapons Use Reported," *Associated Press*, April 18, 2013.

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regime, rather than opposition forces, would "very likely" have initiated any chemical weapons use, Rodriguez wrote. A White House official explained during an April 25, 2013, background briefing that U.S. intelligence on Syrian chemical weapons use is "based on a mosaic of information," which needs to be corroborated via further investigation. "[W]e are continuing to do further work to establish a definitive judgment as to whether or not the red line has been crossed and to inform our decision-making about what to do next," the official added. The April 25 letters explained that physical evidence has contributed to the intelligence assessment described above. But uncertainty concerning the "chain of custody" of this evidence precluded the intelligence community from confirming "how the exposure occurred and under what conditions," Rodriguez wrote. Secretary of State John Kerry stated May 28, 2013, that the United States has "evidence" of Syrian chemical weapons use," but added that "it's an intelligence community assessment. Assessments are not evidence that you're prepared to take to the world."

However, on June 13, 2013, the White House released a statement by Deputy National Security Advisor Rhodes saying that, after further investigation,

> our intelligence community assesses that the Assad regime has used chemical weapons, including the nerve agent sarin, on a small scale against the opposition multiple times in the last year. Our intelligence community has high confidence in that assessment given multiple, independent streams of information.

The statement said these sources of information included reporting about Syrian military attack planning and execution, descriptions of attacks, physiological symptoms consistent with exposure to chemical weapons agents, and analysis of physiological samples "which revealed exposure to sarin." Positive results from such samples, however, do not indicate "how or where the individuals were exposed or who was responsible for the dissemination," Rhodes added. Chemical weapons use had resulted in an estimated 100-150 deaths in Syria, the statement said.

Rhodes explained the evolution in the U.S. assessment during a June 17, 2013, press briefing:

> In terms of the time from April, essentially what we had in April was an initial intelligence assessment, and the President's direction was to continue to investigate additional corroborating facts and information so that we could raise our confidence level. Because that was not a high-confidence assessment and we didn't feel like we had enough corroborated information to reach that high degree of confidence that this red line had been crossed.
>
> What's been done in the course of the last several weeks is we've been able to piece together a broader information picture—so you're able to take, for instance, an assessed incident of chemical weapons use, you're able to receive reporting from individuals who were there on the ground. We were able to review physiological samples that have been collected at the site. We were able to review open source reporting from social media and other things that speak to the use of chemical weapons in an area. And we were able to review our own intelligence reporting, which obviously covers a range of different means.
>
> In piecing together that information picture, the intelligence community is able to increase its confidence level. And so that's what led to the announcement yesterday. It was driven by the firming up of this assessment over the course of the last several weeks, which the President had asked for after the announcement we made in April.

None of the U.S. statements concerning the June 13 assessment appear to address the chain of custody issue cited above.

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The United Kingdom and France have also argued that Syria has used chemical weapons. A British Foreign Office spokesperson stated April 25, 2013, that the United Kingdom has "limited but persuasive information from various sources showing chemical weapon use in Syria, including sarin."[49] More recently, British Foreign Secretary William Hague stated on June 14, 2013, that the United Kingdom "agree[s] with the US assessment that chemical weapons, including sarin, have been used in Syria by the Assad regime." Regarding the possible use of chemical weapons by opposition groups in Syria, a British government spokesperson stated on June 5, 2013, that "chemical weapons use in Syria is very likely to have been by the regime ... we have no evidence to date of opposition use."[50]

A French Ministry of Foreign Affairs spokesperson stated on April 26, 2013, that "there were indications" that the Syrian government has used chemical weapons, but added that the government lacks "irrefutable evidence" of such use. However, French Foreign Minister Laurent Fabius stated June 4, 2013, that "France is now certain that sarin gas has been used in Syria several times and in a localized manner." Elaborating on this claim during a June 14, 2013, press briefing, a French Ministry of Foreign Affairs spokesperson told reporters that the Syrian government had "sprayed sarin by helicopter." The spokesperson also commented on possible use of chemical weapons by opposition groups in Syria, explaining that "[n]ot only is there nothing to indicate that the opposition might have used such weapons, everything leads us to think that that isn't the case." Regarding the chain of custody issue, a French Foreign Ministry spokesperson told reporters on June 7, 2013, that, for one set of blood and urine samples taken from Syria, the French government "know[s] where and how it was taken; how it was transported; and how it was analyzed. In other words, we are certain about the soundness of the entire test chain: from when the sample was taken to the analysis." The other set of samples "made it possible to conclude that sarin was used, however, not to attribute it to the Syrian regime and it was not transported in optimal conditions," the spokesperson explained.

Michael Oren, Israel's ambassador to the United States, stated during an April 28, 2013, television interview that an Israeli military "assessment looks like there's a high probability of usage," but added that the assessment is not "definitive proof."[51]

For its part, Russia has expressed skepticism regarding the assessments described above. Russian Foreign Minister Sergey Lavrov explained during a June 20, 2013, television interview that "we have found nothing which would hold water" in the evidence of Syrian chemical weapons use presented to Moscow by representatives of France, the United Kingdom, and the United States. Lavrov had previously argued during a June 15 press conference that using chemical weapons "in such small amounts ... is senseless from a military point of view."

Moscow, however, has asserted that opposition fighters in Syria have used chemical weapons. Russian ambassador to the United Nations Vitaliy Churkin told reporters on July 9, 2013, that, according to Russian experts' analysis, only "fighters of the armed opposition" used chemical weapons at the Khal al-Assal site, explaining that the weapons used an explosive that is "not usually used in the production of standard [chemical] munitions."[52] Lavrov provided additional

[49] "UK Has Evidence of Chemical Weapon Use in Syria: Foreign Office," *Agence France Presse*, April 25, 2013.

[50] "Britain Says Samples from Syria Test Positive for Sarin," *Agence France Presse*, June 5, 2013.

[51] Interview with Michael Oren, *Fox News Sunday*, April 28, 2013.

[52] "Russian Envoy Says Damascus, Not UN, Must Decide on Syria Chemical Arms Mission," *Interfax News Agency*, July 11, 2013.

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details of this assessment during a July 10, 2013, press briefing, explaining that "characteristics of the missile and sarin gas" used at the site "do not meet standards used in industrial production" and adding that "the missile and the mentioned substance were made in February in the territory of Syria," which at the time was under control of a group affiliated with the Free Syrian Army. Lavrov also indicated that Russia has avoided the chain of custody issue because Russian experts took samples from the Syrian site and analyzed them. U.S. and British officials responded that there is no evidence that any opposition groups possess chemical weapons or have used such weapons.[53] A Free Syrian Army spokesperson denied the Russian charges.[54]

Other governmental statements have also expressed uncertainty regarding claims of Syrian chemical weapons use. For example, the G8 did not confirm the use of chemical weapons, but instead condemned "any use of chemical weapons in Syria" in a June 18, 2013, statement. Moreover, a June 22, 2013, statement from the Friends of Syria Core Group referred to the "reported use" of chemical weapons by the regime.[55]

U.N. Investigation

The United Nations has continued to exhort the Syrian government, which, as noted, called for a U.N. investigation of chemical weapons use by opposition forces, to admit chemical weapons inspectors. The U.N. would like the ability to investigate beyond the Khal al-Assal site, but according to press reports, the Syrian government wants to limit the investigation to the March 19 incident and select the members of the inspection team.[56] The U.N. Secretary General appointed Ake Sellstrom to lead the inspection team, which will try to determine whether chemical weapons were used, but not who used them. The U.N. will also cooperate with the Organization for the Prohibition of Chemical Weapons in the investigation. During an April 26, 2013, press briefing, U.N. spokesperson Martin Nesirky explained that the U.N. investigators need "swift access and unfettered access" to the relevant Syrian sites, noting the "risk that the evidence can deteriorate over time when you are talking about possible chemical weapons." UN spokesperson John Ennis stated in June 2013 that, despite the possible deterioration of chemical agents, "[t]here are a range of possible on-site activities extending beyond the collection of environmental samples, which still could provide information on whether or not chemical weapons were used."[57]

France, the United Kingdom, and the United States have all expressed support for the investigation in the past and have reiterated support for the investigation since the June 13, 2013, U.S. assessment. According to Rhodes's June 13 statement, the United States intended to send a letter to the U.N. Secretary General describing "our updated intelligence assessment and specific incidents of alleged chemical weapons use." Secretary General Ban confirmed on June 14, 2013,

[53] "Russia Claims Syria Rebels Used Sarin at Khan al-Assal ," *BBC News*, July 9, 2013; Daily Briefing by Press Secretary Jay Carney, July 9, 2013.

[54] Louis Charbonneau, "UPDATE 2-Syria Opposition Denies Russian Chemical Attack Allegation," *Reuters*, July 10, 2013.

[55] Available at https://www.gov.uk/government/news/friends-of-syria-core-group-final-communique. The statement was issued by the Foreign Ministers of Qatar, Saudi Arabia, the United Arab Emirates, Jordan, Egypt, Turkey, the United Kingdom, Germany, France, Italy, and the United States.

[56] "Syria Yet to Accept U.N. Demand for Full Access in Chemical Attack Inquiry," *Global Security Newswire*, April 5, 2013.

[57] Kelsey Davenport and Daniel Horner, "U.S. Says Chemical Weapons Used in Syria," *Arms Control Today*, July/August 2013.

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that his office had received the letter. As noted, the United Kingdom and France have sent similar letters to the Secretary General. The Russian government has also submitted a "technical analysis" regarding the possible use of chemical weapons in Syria, Nesirky stated on July 12, 2013.

The June 18, 2013, G8 statement called on

> all parties to the conflict to allow access to the UN investigating team mandated by the UN Secretary-General, and drawing on the expertise of the Organisation for the Prohibition of Chemical Weapons (OPCW) and World Health Organisation (WHO), in order to conduct an objective investigation into reports of use of chemical weapons. The UN team should make their report and deliver it to the UN Security Council for their assessment.[58]

Sellestrom and U.N. High Representative for Disarmament Affairs Angela Kane met with Syrian officials in Damascus at the government's invitation on July 24 and 25, 2013. According to a joint statement, the two sides had "thorough and productive" discussions regarding the U.N. investigation, which "led to an agreement on the way forward." The statement provided no additional detail, but Nesirky stated August 1, 2013, that the inspection team "will depart for Syria as soon as practical." In addition to Sellestrom, the team "will consist of about 10 experts from the Organisation for the Prohibition of Chemical Weapons and the World Health Organization," he added. The team is to visit the Khal al-Assal site, as well as two other locations which the UN is keeping confidential "as a safety and security precaution." Nesirky told reporters on August 6, 2013, that the inspection team is "completing their preparations prior to their departure" and that the UN "is working to finalize the legal and logistical modalities for the investigations on the basis of the agreement reached last month with Syria."

Possible Responses

The allegations of use raise the question of the U.S. "red line." The White House has suggested that the United States might respond to the Syrian government's use or loss of control of chemical weapons with military force. Carney told reporters on July 22, 2012, that "the international community will hold accountable any Syrian officials" who fail to keep the country's chemical weapons under governmental control, but he would not specify possible actions to ensure accountability. President Barack Obama, after noting during an August 20, 2012, press briefing that he had not yet "ordered military engagement" in Syria, suggested that he may do so if Damascus used or lost control of its chemical weapons:

> We cannot have a situation where chemical or biological weapons are falling into the hands of the wrong people. We have been very clear to the Asad regime, but also to other players on the ground, that a red line for us is we start seeing a whole bunch of chemical weapons moving around or being utilized. That would change my calculus.

Secretary of Defense Chuck Hagel reiterated this policy to the Senate Armed Services Committee on April 18, 2013, that, "President Obama has made clear that if Assad and those under his command use chemical weapons or fail to meet their obligations to secure them, there will be consequences and they will be held accountable." Secretary Hagel also said there were "plans in place to respond to the full range of chemical weapon scenarios."

[58] Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/207771/Lough_Erne_2013_G8_Leaders_Communique.pdf.

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Reiterating previous statements on the matter, President Obama told reporters on April 26, 2013, that Syrian use of chemical weapons "crosses a line that will change my calculus and how the United States approaches these issues." According to the April 25, 2013, letters to Congress,

> the administration is prepared for all contingencies so that we can respond appropriately to any confirmed use of chemical weapons, consistent with our national interests. The United States and the international community have a number of potential responses available, and no option is off the table.

Asked during the April 25, 2013, background briefing cited above about the range of potential U.S. responses to Syrian use of chemical weapons, the White House official stated that such a response "could run a broad spectrum of activity across our various lines of effort in Syria," citing U.S. diplomatic initiatives, nonlethal assistance to opposition groups in Syria, and humanitarian assistance.

The June 13, 2013, White House statement said, "[t]he President has said that the use of chemical weapons would change his calculus, and it has." The statement announced a qualitative change in assistance to the opposition:

> Following on the credible evidence that the regime has used chemical weapons against the Syrian people, the President has augmented the provision of non-lethal assistance to the civilian opposition, and also authorized the expansion of our assistance to the Supreme Military Council (SMC).

The Administration stated that the use of chemical weapons by Syria had led to an increase in "the scope and scale of assistance" that it will provide to the opposition.

A July 19, 2013, letter from General Martin Dempsey, Chairman of the Joint Chiefs of Staff, to Senator Carl Levin described an option for using military force "to prevent the use or proliferation" of Syrian chemical weapons. Such an operation would include "destroying portions of Syria's massive stockpile, interdicting its movement and delivery, or ... seizing and securing program components." This option "would call for a no-fly zone as well as air and missile strikes involving hundreds of aircraft, ships, submarines, and other enablers," Dempsey wrote, adding that "[t]housands of special operations forces and other ground forces would be needed to assault and secure critical sites." The operation would result in the "control of some, but not all chemical weapons" and "would also help prevent their further proliferation into the hands of extremist groups," the letter said. Dempsey concluded his description of this option by noting that the "inability" of the United States "to fully control Syria's storage and delivery systems could allow extremists to gain better access."

Other governments have also said the use of military force would be justified if chemical weapons were used. For example, French President François Hollande stated in an August 27, 2012, speech that Syrian use of chemical weapons "would be a legitimate reason for direct intervention" by the "international community."[59] Additionally, William Hague, the UK secretary of state for foreign and commonwealth affairs, told the House of Commons on September 3, 2012, that Syria's use of chemical weapons "would be an extremely serious matter, and it might change some of the international calculations about this crisis."[60] Hague did not specify any

[59] "France Warns Syria Over Chemical Weapons Use," *Reuters*, August 27, 2012.

[60] Commons Debates, *Daily Hansard,* September 3, 2012.

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potential actions, but did say in an opening statement to the House that "we have not ruled out any options as this crisis deepens." President Obama and NATO Secretary General Rasmussen stated in early December 2012 that the Asad regime would be "held accountable" for any use of chemical weapons. Ambassador Oren stated during an April 28, 2013, interview on Fox News that Israel "will react" if "the Syrian regime tries to transfer chemical weapons, or what we call game changing weapons, could be anti-aircraft systems, to terrorists in Lebanon."

Biological Weapons

The question of a Syrian biological weapons program has also been raised in discussions of loss of sensitive military sites. Syria's biological weapons activities appear to be considerably less advanced than the country's chemical weapons program. Past U.S. assessments have stated that Damascus was pursuing biological weapons. According to a 1988 intelligence estimate, Syria was "conducting research and development" on a biological weapons program.[61] A 1991 intelligence estimate assessed that the government had "a mature offensive [biological weapons] program" and that some agents "could be weaponized in the next three to five years."[62] However, a 1997 Defense Department was similar to the 1988 estimate and added that Damascus had not "begun any major weaponization or testing related to biological warfare."[63] Several years later, Syria was "not believed to have progressed much beyond the research and development phase and may have produced only pilot quantities of usable agent," according to an October 2001 Defense Department report.[64]

Some U.S. assessments issued during the past decade have indicated that Damascus has continued to pursue biological weapons. For example, a report from the Director of Central Intelligence to Congress covering the second half of 2002 states that "[i]t is highly probable that Syria also continued to develop an offensive [biological weapons] capability."[65] More recently, Principal Deputy Assistant Secretary of State Vann Van Diepen stated in April 2012 that Syria "has been researching biological weapons."[66] Nevertheless, it appears that Syria is still not capable of producing biological weapons. An ODNI report to Congress covering 2009 states that Damascus is "not believed to have achieved a capability to put [biological weapons] agents into effective weapons."[67] The ODNI report covering 2011 states only that "Syria's biotechnological infrastructure is capable of supporting BW agent development."[68]

According to the 2012 State Department report regarding compliance with arms control and disarmament agreements, "the United States is concerned that Syria ... may be engaged in

[61] *Chemical and Biological Weapons: The Poor Man's Atomic Bomb*, 1988.

[62] Director of Central Intelligence, *Prospects for Special Weapons Proliferation and Control, National Intelligence Estimate*, July 1991.

[63] *Proliferation: Threat and Response,* 1997.

[64] Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense, *Chemical and Biological Defense Primer*, October 2001.

[65] *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 July Through 31 December 2002*.

[66] Vann Van Diepen, "Key Note Address, U.S. Gulf Cooperation Council Workshop," April 12, 2012.

[67] *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, Covering 1 January to 31 December 2009*.

[68] *Unclassified Report to Congress covering 2011.*

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activities that would violate its obligations under the BWC," if Damascus were a party to the agreement. "It remained unclear during the reporting period whether Syria would consider the use of biological weapons as a military option," the report adds.[69] The 2013 version of the report reiterates this analysis.[70]

According to April 18, 2013, testimony from Director of National Intelligence Clapper before the Senate Armed Services Committee, Syria's biological weapons program may be somewhat more advanced than suggested by the assessments described above. Clapper stated that

> [b]ased on the duration of Syria's longstanding biological warfare (BW) program, we judge that some elements of the program may have advanced beyond the research and development stage and may be capable of limited agent production. Syria is not known to have successfully weaponized biological agents in an effective delivery system, but it possesses conventional and chemical weapon systems that could be modified for biological agent delivery.[71]

DIA Director Flynn testified during the same hearing that "[w]e do not believe Syria has achieved a capability to use biological agents as effective mass-casualty weapons."[72]

Cooperative Threat Reduction Programs

U.S. government programs could be used to address or fund efforts to secure or dismantle Syrian weapons of mass destruction or advanced conventional weapons following a regime collapse scenario. There are two most likely sources of such funding. The State Department's Nonproliferation and Disarmament Fund (NDF) has authority to spend funds "notwithstanding any other provision of law" and is authorized to work in states outside the former Soviet Union. The Department of Defense's Cooperative Threat Reduction (CTR) has authorization to use funds in the Middle East region as a whole.

Secretary of Defense Hagel told the Senate Armed Services Committee on April 18, 2013, that CTR funds are being used to assist Syria's neighbors to bolster border defenses and prevent WMD proliferation from Syria:

> Through our cooperative threat reduction program, the Department of Defense personnel and our interagency partners are also working closely with Syria's neighbors, including Jordan, Turkey and Iraq to help them counter the threat from Syria's chemical weapons.
>
> As part of this effort, the Department of Defense is funding over $70 million for activities in Jordan including providing training and equipment to detect and stop any chemical weapons transfers along its border with Syria and developing Jordanian capacity to identify and secure chemical weapons assets.

[69] *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, Department of State, August 2012.

[70] *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*, Department of State, July, 2013.

[71] James R. Clapper, Director of National Intelligence, *Statement for the Record, Worldwide Threat Assessment of the U.S. Intelligence Community*, Senate Committee on Armed Services, April 18, 2013.

[72] Flynn, April 18, 2013.

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The program will continue to train and equip border security staff in Jordan, Iraq, and Turkey in FY2014 to prevent proliferation of WMD across borders shared with Syria. Prior to this, CTR programs were used most recently in the Middle East in Libya and Iraq. The estimated scope of the chemical (and potential biological) weapons stocks and facilities in Syria is far greater than those in those countries. In Libya, the dismantlement process was initially undertaken with the agreement of the government. In 2011, when unrest toppled the Qaddafi regime, the chemical stocks were secured by forces aligned with the United States. However, additional stocks were hidden by the Qaddafi regime and only identified after the conflict, showing the limits of U.S. and other intelligence.[73] In the case of Iraq, the United States undertook similar work in 2003 after Operation Iraqi Freedom. However, United Nations inspectors had completed much of the dismantlement work after the 1991 Persian Gulf War, and stockpiles and capacity turned out to have been overestimated in 2003. A continued focus of nonproliferation programs in both Iraq and Libya has been engaging former WMD weapons scientists in civilian projects to prevent the exploitation of their expertise for weapons proliferation purposes. International partners under the G-8 Global Partnership have experience cooperating in dismantling former Soviet chemical weapons stockpiles. In general, CTR and NDF programs are not designed to work in a non-cooperative environment and require the agreement of the host country. Therefore, the focus to date for the Syria challenge has been to bolster capacity of neighboring states to interdict any transfers.

Civil war and possible loss of control or regime collapse by a state in possession of weapons of mass destruction poses a distinct change from the way these nonproliferation programs have been implemented in the past. The Syrian case may be the first time the international community faces the possibility of a civil war in a state with a known stockpile of chemical weapons. Due to the urgency of preventing access to these weapons by unauthorized groups including terrorists, the United States government has been preparing to secure the weapons in the event of the Asad regime's loss of control.

However, a successor regime may not agree to renounce and eventually dismantle Syrian chemical weapons. A new government in Syria may believe that chemical weapons continue to serve as a military deterrent to Israel or others. Some experts and policy makers have suggested that the United States and other countries make joining the Chemical Weapons Convention (and therefore chemical weapons dismantlement) a condition for recognition and support of a new government in Syria.[74] The Organization for the Prohibition of Chemical Weapons may play a key role in dismantling the chemical weapons in Syria, if permitted by a new Syrian government.

If the stocks remain secure after a transition to a new government in Syria, or if the present government agrees to rid itself of these weapons as part of a negotiated agreement, then cooperative threat reduction programs could have a prominent role to play. In other scenarios, it may take a combination of military and intelligence operations in a hostile environment, followed by more traditional NDF or CTR activities undertaken with the agreement of a new government.

[73] See "Chemical Weapons Destruction and Nuclear Material" in CRS Report RL33142, *Libya: Transition and U.S. Policy*, by Christopher M. Blanchard.

[74] Chairman Ed Royce, Subcommittee on Terrorism, Nonproliferation, and Trade, Opening Statement for the hearing, *When Regimes Fall: The Challenge of Securing Lethal Weapons,* July 18, 2012; Leonard S. Spector, "Minimizing Dangers Posed by Syria's Military Assets During and After the Current Civil Turmoil," Testimony before the Subcommittee on Terrorism, Nonproliferation and Trade, Committee on Foreign Affairs, U.S. House of Representatives, July 19, 2012.

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Legislation

Syria's chemical weapons stocks have been addressed in recent legislation.

- The Free Syria Act of 2013 (H.R. 1327), Section 204 has a provision giving the President the authority to establish a program to facilitate Syrian chemical and biological weapons destruction in cooperation with a "Syrian entity" to "secure, safeguard, disable, dismantle, transport out of Syria, or destroy chemical and biological weapons, their precursor and constituent parts and associated equipment." It includes congressional reporting requirements and funding authorities.
- The Syria Democratic Transition Act of 2013 (S. 617), Section 10 proposes that the United States work with regional partners to develop a plan to secure conventional and unconventional weapons stockpiles in Syria; recover and dispose of all unconventional weapons stockpiled in Syria "with particular attention to chemical weapons"; and prevent the illicit transfer of these weapons. It gives the President notwithstanding authority to conduct these activities. It also includes the sense of Congress that the State Department's FY2014 budget request should include an increase in NADR funding for these goals.
- The House FY2013 Foreign Operations Appropriations Bill (H.R. 5857) said NADR funds "may also be used for such countries other than the Independent States of the former Soviet Union and international organizations when it is in the national security interest of the United States to do so." This could include Syria.
- The Syria Freedom Support Act (H.R. 2106) as passed by the House Committee on Foreign Affairs in March 2012 included a provision that would authorize the President to assist a future democratic Syrian government with securing and dismantling its inherited weapons of mass destruction and related facilities. Section 106 of the bill provides $250 million in drawdown authority and transfer authority from any other appropriated funds "notwithstanding any other provision of law."
- The Senate FY2012 Foreign Operations Appropriations Committee report (S.Rept. 112-85) said in regard to the Nonproliferation, Demining, and Anti-terrorism funding, "The Committee recognizes that dynamic change in the Near East and ongoing threats and humanitarian needs in other regions afford opportunities to conduct and expand nonproliferation, demining, and anti-terrorism programs, including in Syria should the current regime fall. The Committee recommends additional funding above the budget request to accelerate the U.S. response to such opportunities, which is in the security interests of the United States and regional allies."
- The National Defense Authorization Act (H.R. 1960) as reported by the House includes Section 1205, which gives authority to the "Secretary of Defense, with the concurrence of the Secretary of State, to provide assistance to the military and civilian response organizations of Jordan, Kuwait, Bahrain, the United Arab Emirates, Iraq, Turkey, and other countries in the region of Syria in order for such countries to respond effectively to incidents involving weapons of mass destruction in Syria and the region." It authorizes up to $4 million for this purpose. Section 1251(b) of this bill gives the sense of Congress that "the

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President should fully consider all courses of action to reinforce his stated 'redline' regarding the use of weapons of mass destruction by the Assad regime in Syria."

- The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 (P.L. 102-182) requires that the President, following the receipt by the executive branch of "persuasive information ... indicating the substantial possibility that, on or after October 28, 1991, the government of a foreign country has made substantial preparation to use or has used chemical or biological weapons," determine within 60 days "whether that government, on or after October 28, 1991, has used chemical or biological weapons in violation of international law or has used lethal chemical or biological weapons against its own nationals." The law also requires the President to report such a determination to Congress "promptly." The report is to specify sanctions to be imposed on the government pursuant to the law.

  The law also contains a provision that enables the Chairs of the Senate Committee on Foreign Relations and the House Foreign Affairs Committee (in consultation with the ranking members) to request at any time a report within 60 days "on the information held by the executive branch which is pertinent to" whether a specified foreign government "on or after December 4, 1991, has used chemical or biological weapons in violation of international law or has used lethal chemical or biological weapons against its own nationals."

The use, change of hands, or loss of control of chemical weapons stocks in Syria could have unpredictable consequences for the Syrian population as well as for U.S. allies and forces in the region. Congress may wish to assess the Administration's plans to respond to possible scenarios involving the use, change of hands, or loss of control of Syrian chemical weapons. Forces, funding, and authorization by Congress may be required to address potential contingencies.

Author Contact Information

Mary Beth D. Nikitin
Specialist in Nonproliferation
mnikitin@crs.loc.gov, 7-7745

Paul K. Kerr
Analyst in Nonproliferation
pkerr@crs.loc.gov, 7-8693

Andrew Feickert
Specialist in Military Ground Forces
afeickert@crs.loc.gov, 7-7673

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