

Cape Ray Diplomacy: How a U.S. Merchant Vessel Took Center Stage in *Foreign Relations*

by Chi K. Cheung

In August 2013, chemical weapons attacks against civilians in Syria resulted in more than 1,400 deaths, including 426 children.^{1,2} As a result of international pressure, the Assad regime agreed to accede to the Chemical Weapons Convention (CWC) and bring the Syrian chemical weapons stockpile under international oversight.

The Organisation for the Prohibition of Chemical Weapons (OPCW), the body charged with providing oversight for the implementation of the CWC, categorized the declared chemicals in the Syrian chemical weapons stockpile into two groups. The Priority 1 group contained the most dangerous agents, including six chemical agents. Two of these substances were the unitary sulfur mustard agent (also referred to as HD) and the binary component for the nerve gas, Sarin, methylphosphonyl difluoride (DF). The international community quickly determined that the remaining Priority 1 chemicals and all Priority 2 chemicals (comprised of chemical weapons precursors with valid industrial uses) should be destroyed at commercial industrial facilities. The options for the destruction of the HD and DF were to destroy them—in Syrian territory, at a host-nation commercial facility or on land or at sea using a transportable neutralization system.

The deteriorating security situation placed too great a risk for safely carrying out the destruction operations in Syria, and finding a nation to host the destruction was politically untenable. This left the plan to destroy the chemical agents at sea in international waters as the only remaining viable option. In late November, the OPCW agreed to the U.S. proposal to host the destruction of Syria's chemicals onboard the U.S. merchant vessel, Cape Ray. The Cape Ray was a first-of-a-kind capability for a mission never before attempted on a vessel at sea. Its story marks both an engineering triumph and a major success in interagency cooperation—in spite of numerous challenges arising from competing agency requirements and strictures.

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The Challenges of Outfitting Cape Ray

The Chairman of the Joint Chiefs of Staff issued the warning order in late November 2013 to activate the strategic sealift vessel, Cape Ray, for the Syrian chemical weapons destruction. The order also directed the ship to be ready to deploy by early January 2014. Major modifications were made to the ship including installing two Field Deployable Hydrolysis Systems (FDHS), developed by the U.S. Army, Edgewood Chemical Biological Center to neutralize the chemical warfare agents, adding additional water desalinization capability, increasing capacity for an additional 96 crewmembers, providing a collective protection system for air filtration, augmenting communications for command and control, and installing a helicopter pad. The design for this massive engineering undertaking required months of planning and preparation prior to the activation order. The ability of the U.S. to make this offer took the efforts of agencies from across the U.S. government including the Departments of Defense (DoD), State, Transportation, Homeland Security, Commerce, and the Environmental Protection Agency.

The Defense Threat Reduction Agency (DTRA) first examined the concept to equip a ship to destroy the chemical agents at sea shortly after Syria acceded to the CWC. The plan matured as the type and quantity of the chemicals became known through the Syrian declarations. In total, the chemical agents weighed 848 metric tons, which called for the substances to be packaged and shipped in 127 separate, twenty-foot, International Organization for Standardization (ISO) containers. The hazardous waste (or effluent) generated in the destruction process required the installation of 382 ISO tanks that were roll-on/roll-off (RO/RO) removable from the ship's deck. Despite the work done by planners to anticipate issues,

many assumptions were adjusted during the outfitting related to the chemical throughput and time required for operations.

The Portsmouth shipyard, General Dynamics NASSCO-Earl Industries—where Cape Ray was being activated—held the key to the answers for the two critical assumptions about the U.S. contributions toward the international effort. The first assumption was the amount of chemical agents that the ship could process, and the second was the date the ship would be ready to sail.

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1. Chemical processing capability

The two key variables of the first assumption were the capacity of the sea-based platform selected and the reliance on components readily available in the commercial sector. The Department of Transportation Maritime Administration (MarAd) considered several vessels from its strategic sealift Ready Reserve Fleet for the mission. In the end, MarAd selected Cape Ray as the best-suited platform for the FDHS, primarily because of its large cargo capacity, continuously open deck space, and high overhead height clearances—all the elements necessary to accommodate the needs for a chemical weapons destruction facility. Despite these characteristics, as the outfitting of Cape Ray began, it became apparent that shortfalls in capacity necessitated a change of plans. The most significant discovery came in early December as the ISO tanks arrived onsite. Engineers discovered that due to a host of technical constraints the ship could only carry

269 ISO tanks. This reduction meant that Cape Ray could no longer destroy all six chemicals in the Priority 1 group on a single trip. Only the two most dangerous chemical substances, HD and DF, could now be processed on the ship without the need to offload ISO tanks in the middle of operations. Consequently, planners decided to make disposing of the HD and DF as the centerpiece of the U.S. contribution. This subsequently led to U.S. diplomatic efforts focused on finding international partners to take the four remaining chemical agents.

The U.S. wielded the Cape Ray departure date as a political instrument to apply pressure on the Syrian government to expedite surrender of its chemical stockpile.

In order to meet the required timeline and minimize manufacturing costs, plans called for leasing or buying commercially available prefabricated modules and using ISO tanks and Mafi trailers already in use by the maritime industry. With the exception of the FDHS, all systems installed on the Cape Ray came from the existing inventory found in the commercial sector.

The prefabricated components, including berthing compartments, office modules, reverse osmosis water purifying units, and even the helicopter pad had to be able to withstand harsh maritime conditions and to meet federal regulations, including U.S. Coast Guard certification requirements. As a result, the supply source was limited to a single vendor, located in Midland, Texas—a company that built and rented these types of units for the offshore oil industry.

The next supply challenge was with the availability of Mafi trailers, which were low

profile RO/RO flat-bed trailers. The ship's internal tanks could not be used to hold the effluent generated by the FDHS from the processing of the chemicals due to the risk of contamination. The plan thus called for the effluent to be held in the ISO tanks. Once filled to capacity, these tanks exceeded weight limitations of the cargo handling equipment and could not be lifted off the deck. They had to be placed on Mafi trailers and then driven off the ship. Given only 43 days for the outfitting, Cape Ray experienced a shortage of Mafi trailers. Every available Mafi trailer in the U.S. was leased for this project. DTRA chartered an ocean freighter to deliver the remaining Mafi trailers from Germany. When weather delayed the arrival of the ocean freighter, DTRA then chartered two Russian-owned AN-124 air freighters to fly in the remaining Mafi trailers.

2. Sail date

The U.S. wielded the Cape Ray departure date as a political instrument to apply pressure on the Syrian government to expedite surrender of its chemical stockpile. Enormous pressure fell upon planners, engineers, suppliers, and shipyard workers, as well as a host of interagency coordinating staffs, to ready the ship. In total, the ship took 66 days to activate setting sail on January 27, 2014. Notwithstanding the January deadline dictated by the warning order, the delay was rendered unavoidable by, (1) the compressed timeline, (2) the growth in new requirements, and (3) the sheer weight of compounded interagency regulatory requirements.

DTRA planners had to offer a readiness date of the ship to meet the June 30, 2014, destruction deadline established in the U.S./Russia brokered deal. Using this deadline, planners figured early January as the window for when the ship must be available. Shipyard engineers had to work around three major holiday periods: Thanksgiving, Christmas,

and New Year's. Additionally, the shipyard contended with state and federal transportation regulations to move the necessary material. For example, the caustic soda and bleach needed for the destruction operations had to be moved over the U.S. highways to reach the shipyard. State and federal laws limited the weights, hours of operations, and roads used. This scaled back how quickly materials could be moved in each shipment, as well as the routes that could be taken to get to the shipyard. Slowing down the effort further, seven days were lost due to the weather. With a majority of the work happening in exposed areas, welding and crane operations were halted because of the rain, snow, high winds, and extreme cold experienced throughout this period. Furthermore, the media interest and high-level delegations visiting the ship contributed to numerous stoppages. Work ceased out of safety concerns for these large groups, which resulted in the loss of another two workdays.

The original 43 days needed to outfit Cape Ray did not allow for any significant additional requirements. Once operational components (the elements responsible for performing the mission) arrived in Portsmouth, personnel identified shortfalls that prevented them from carrying out the mission. The most far-reaching additional changes came from the OPCW inspectors, medical support team, and communications personnel, adding to the uncertainty of the departure date.

On December 9, 2013, the Office of the Secretary of Defense hosted a delegation from the OPCW Technical Secretariat for the initial consultations on the Facility Agreement, a required component of the destruction plan. The purpose of the consultations was to identify the technical requirements needed to meet the treaty obligations. Out of these consultations came the agreement to provide office spaces, closed-circuit television camera systems, and increased Internet bandwidth to host voice

and video communications systems. The new additions for the OPCW required extra time for structural work and acquisition of several components not already on hand. The OPCW delegation returned on January 15, 2014, to hold the Final Engineering Review after final outfitting. This cleared the U.S. hurdle for Cape Ray to be used as a destruction facility.

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The final decision on whether to embark military or contracted civilian medical personnel did not come until the end of December. The late decision to move forward with a contracted civilian team was significant because it delayed the identification of one of the most important requirements—the treatment of casualties. The medical team held its first site survey of Cape Ray on December 23, 2013. After touring the spaces allocated for medical treatment, the team found the current accommodations inadequate. The medical team required the capability to stabilize one trauma patient for 24 hours until the patient could be evacuated to a medical trauma center. To facilitate this, the shipyard had to lease a medical module available only from the same vendor in Midland, Texas. The new footprint required removing an entire berthing module, significantly changing the number of people available for the mission.

The high visibility of the mission also created great demands for information sharing. Cape Ray was ultimately outfitted with two military and three commercial satellite communication systems, more than doubling the Internet bandwidth originally planned. As public interest and international attention grew, so did the call for transparency. Nongovernment organizations

and Mediterranean nations voiced concerned over potential environmental impact, and CWC obligations required the U.S. to monitor and report on the status of the destruction process. U.S. military commanders placed additional burdens on the communications infrastructure. Moreover, the crew of 130 took up bandwidth for morale and welfare purposes.

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The unique combination of regulatory requirements generated by this mission created an unprecedented interagency challenge, as the risks involved with carrying out the destruction of chemicals at sea drew concerns from the different organizations responsible for activating the ship and transferring it to military control: (1) military requirements placed additional demands on MarAd to train the crew to a standard beyond those called for on a U.S. flagged public merchant vessel, (2) Unknowns associated with final chemical carriage and hazardous waste made difficult the attainment of required documentation for a National Defense Waiver, and (3) advisory organizations that did not normally take part in the vessel activation process subjected Cape Ray to additional inspections.

MarAd normally maintains Cape Ray in a reduced operating status until called upon for the mission of strategic sealift. Strategic sealift entails moving cargo from one port to another when mobilized for a national crisis. For the strategic sealift mission, MarAd is only required to provide a crew trained to the standards established by the U.S. Coast Guard. However, operating a ship as a chemical agent

processing facility is outside of any training a licensed mariner receives. To accommodate the additional training requirements, military commanders dedicated two of the four days during sea trials to this purpose.

The Cape Ray required a National Defense Waiver (NDW) issued by the U.S. Coast Guard to deviate from her primary mission of strategic sealift. The waiver authorized the ship to carry and process the dangerous chemical substances at sea. The challenge for MarAd in obtaining the waiver came from the uncertainty in type and quantity of chemicals that were to be processed, as well as the associated effluent generated. MarAd could not provide this information to the Coast Guard until U.S. policymakers decided upon final chemical carriage for the ship. As a result, the Coast Guard did not sign the NDW until January 17, 2014.

Unlike any vessel activation experienced by MarAd, Cape Ray's activation involved other military agencies levying concerns about seaworthiness and safety of operations. On January 15, 2014, immediately after Cape Ray returned from sea trials, stakeholders held a meeting that included senior executives and flag officers to address these issues. The sea trials answered many of the concerns, but the securing of the cargo to the ship's deck remained a major point of contention drawing in an independent third party, the National Cargo Bureau (NCB). As a result of that inspection, major structural work was needed to correct deficiencies in the cargo lashings on the ship.

Cape Ray Diplomacy

The interagency effort to ready the Cape Ray was not merely about how U.S. military planners and policymakers adjusted to accomplish the challenges of outfitting a merchant vessel; it was also about making the ship the centerpiece of U.S. diplomatic efforts. The unanticipated problems that came up over the two months it took to ready the ship meant that the U.S. had

to broaden its outreach with the international community to keep the destruction of Syria's chemical weapons stockpile a viable option. These diplomatic engagements were followed up by a smart media campaign at senior levels within the Departments of Defense, State, and Transportation, to reinforce the unity of U.S. government efforts. These combined factors ultimately led to a highly successful U.S. diplomatic engagement with the international community.

Developments on the ship frequently drove the discussions at the international table. Denmark, Norway, and Italy made key contributions in the early stages of the initial plan. Later on, Spain, Great Britain, Germany, and Finland gave their support to keep the plan viable.

The initial U.S. proposal to destroy Syria's chemical weapons at sea called for Cape Ray to take all six of the Priority 1 chemicals and destroy them in the FDHS in a single trip before returning to port. To make this plan work, the U.S. needed partner nation support to remove the chemical agents from Syria, a host nation to provide a port to transload the cargo onto the Cape Ray, and the international community, through the OPCW, to accept the hazardous waste generated in the process.

When Syria decided to surrender its chemical weapons stockpile, U.S. planners had to figure out how to remove and destroy the chemical agents without having an American presence in Syria. This became significantly more difficult when left only with the "destruction at sea" option. The challenge then became how to get the chemical agents out of Syria onto the decks of the Cape Ray without entering Syrian territorial waters. The vessel had a grey-hull, giving it a warship appearance. The crew consisted of U.S. civilian contractors, carried government civil servants, and maintained a small U.S. military command and security element. Using the Cape Ray to enter a Syrian port for the removal of the

chemical agents was a diplomatic non-starter.

For the option to destroy Syria's chemical agents at sea to be possible, a third party nation would have to carry out the initial task of removing the chemical agents. This meant that planners needed to ensure that the vessels committed to the removal were compatible for the transfer of chemicals onto the Cape Ray. Over the course of the Cape Ray outfitting, DTRA planners exchanged information about potential ships. Oftentimes, the data needed for the Cape Ray did not exist because operational testing had never been done for a mission of this kind. Military-to-military engagements by DoD planners to answer the concerns of partner nations played an important diplomatic role. DTRA planners answered countless requests for information coming from interagency and international partners about the Cape Ray. Consequently, the governments of Denmark and Norway agreed to contribute their respective merchant vessels, Ark Futura and Taiko, for the removal of the chemicals agents from the Syrian port of Latakia. Ark Futura would carry all the chemical agents, HD and DF, destined for the Cape Ray. Taiko would take the Priority 2 chemical agents.

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After removal of the chemicals from Syria, the next task was to determine how to transload the chemical agents from the Ark Futura onto the Cape Ray. Neither ship was designed to conduct cargo transfers at sea. This meant that they needed access to a port. The Cape Ray ship characteristics and operating parameters limited

the choice of usable locations. The plan required a deep-water port that could accommodate two RO/RO vessels simultaneously. Access to a foreign port by a ship carrying chemical agents also carried great political risks that only the political leadership could shoulder. Negotiating the use of a foreign facility required a whole-of-government approach. In mid-December, a U.S.-led interagency delegation held a series of meetings in Stuttgart, Germany, to seek a donor nation for the use of its port facility. The meetings resulted in the government of Italy announcing on January 16, 2014, that it would offer the containership facility in Gioia Tauro for transloading operations.

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Among other nations, Finland's major contribution came through the disposal of the bulk of the effluent generated by the Cape Ray through the OPCW tender process—the final agreement with the international community for how to handle the entire Syrian chemical stockpile. Without it, the Cape Ray would have been unable to dispose of the effluent. The terms of the OPCW tender package treated the effluent as hazardous waste. Thus, it allowed the private sector to dispose of the substances in a commercial facility. Finland won the bid to dispose the DF effluent and one of the four Priority 1 substances that the Cape Ray could no longer handle.

However, the need continued for a holding port in the Mediterranean and other partner nations to accept the remaining four agents that the ship no longer had the capacity to process.

An important international contribution came from Spain permitting the use of the naval base in Rota. The holding port allowed continual logistic access as well as crew relief. Without a holding port, the Cape Ray would have been underway for an indeterminate time, exposed to the harsh maritime environment. Military planners were unsure if the presence of the Cape Ray in Spain posed a political liability even without carrying a single container of chemical agents. Sensitive to the political undertones, military planners did not assume that the use of the naval base would be covered under the terms of the Status of Forces Agreement with Spain. Through the U.S. Embassy in Spain, military attachés worked to confirm with Spain's Ministry of Defense that the ship would be permitted to stay at the naval base prior to the start of destruction operations. On January 21, 2014, the U.S. diplomatic mission in Spain announced that the Cape Ray would be treated like all other U.S. military vessels visiting the country and did not need special diplomatic clearance at this stage of operations.

Great Britain also proved to be a tremendous ally in the effort. The British leadership shouldered great domestic political risk to make the at-sea option possible by accepting the task to destroy the remaining three of the four chemical agents in the Priority 1 group. Uncertain of the British public reaction for bringing these chemical agents into the country, the government made the commitment without seeking public debate. This commitment further reduced the effluent that would be generated by the FDHS process and the number of ISO tanks that had to be carried onboard the Cape Ray. It also removed a great deal of uncertainty for U.S. planners. As a measure of gratitude, the U.S. hosted a delegation from the U.K. Embassy on the Cape Ray at Portsmouth, Virginia.

The U.S. employed multiple channels of diplomacy on the state-to-state level when it negotiated with Italy for access to the

Port of Gioia Tauro to conduct the transload operations. The U.S. also worked with partners by obtaining contributions from Great Britain and Germany for the disposal of additional chemical substances and effluent. At the military-to-military level, U.S. defense officials confirmed with Spain's Ministry of Defense that it would allow Rota to be used as a holding port for the Cape Ray. The ship thus escaped the fate of being held indefinitely at sea to wait for Syria to remove its chemicals. Finally, the Cape Ray's reduced capacity meant the U.S. needed to take an active part in drafting the terms of the OPCW tender package. Here the U.S. employed the CWC treaty to bring the larger international community into funding and disposing of the remaining material and hazardous waste. In sum, the interagency choreography required to accomplish this historic mission was intense.

Controversy followed the Cape Ray even before arriving in theater and despite the fact that it would destroy Syria's chemical agents in international waters. The search for the ideal location to operate the ship limited military planners to the waters in the Mediterranean. Nongovernmental organizations (NGOs) and countries in the Mediterranean raised concerns about the potential environmental impact. The U.S. employed a vigorous communications campaign that called for active engagements with key partner nations in order to stay ahead of the controversy.

To prepare the countries potentially impacted by these operations, the Department of State took the effort to centralize the strategic messaging going out to U.S. missions around the Mediterranean. Meanwhile, U.S. defense officials embarked on a media campaign to take on the issue of the Cape Ray operating the FDHS in the Mediterranean.

Secretary of State John Kerry took measures to provide the missions in the Mediterranean a central U.S. public diplomacy position for the destruction of Syria's chemical weapons

stockpile. The State Department issued a series of public affairs talking points regarding the Cape Ray. Given the number of nations making contributions to the effort and the large number of countries potentially impacted by the operating location, the U.S. needed a unified, whole-of-government response. The leadership from the Department of State served to get ahead of the controversy by centralizing the strategic message.

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Taking place concurrently with outfitting and before the start of operations, the DoD launched an aggressive public campaign to demystify the Cape Ray and FDHS process. Over 50 news organizations from around the world received invitations to tour the ship. The media gained unprecedented access to film the FDHS and interview senior government officials as well as crewmembers. The Under Secretary of Defense Frank Kendall and Acting Maritime Administrator Chip Jaenichen seized the opportunity to increase confidence in the operations by making statements before the press. The captain of the Cape Ray and two operators of the FDHS also took the time to answer questions in front of cameras. After the Cape Ray arrived in Rota, Spain, the DoD launched another media campaign that included NGOs, foreign diplomats, and international press members from 15 different countries.

Conclusion

The Cape Ray provided policymakers a means to take Syria's chemical stockpile out of

Assad's hands. Without the at-sea destruction alternative, the options were limited to carrying out the destruction in Syria or finding a host nation, both of which were practically and politically unachievable. Planners working on the Cape Ray had less than two months to come up with a proposal for the at-sea destruction option and had only two months to execute it. Given only the original 43 days for outfitting, engineers and naval architects on the project had to work through regulatory challenges and against a compressed timeline and growing requirements. Despite taking 66 days overall, the Cape Ray was, among other things, a triumph of American interagency cooperation. To be able to so quickly offer U.S. policymakers an option that would not otherwise have existed, the Cape Ray made it possible for the U.S. to take a leadership role on the international scene. The challenges required the U.S. to work multilaterally with partner nations. The effort required a whole-of-government approach with strategic messaging and a media campaign. The engagements happened on multiple fronts of diplomacy, through state-to-state and military-to-military channels, as well as through institutions like the OPCW. In short, the collective effort required to accomplish this historic mission produced an historic success. **IAJ**

NOTES

1 The views expressed herein are those of the author and do not necessarily reflect the official views of the U.S. government or any of its entities.

2 Office of the Press Secretary, "Government Assessment of the Syrian Government's Use of Chemical Weapons on August 21, 2013," The White House, August 30, 2013, <<http://www.whitehouse.gov/the-press-office/2013/08/30/government-assessment-syrian-government-s-use-chemical-weapons-august-21>>, accessed on July 13, 2014.