

| REPORT DOCUMENTATION PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                                |                            | Form Approved<br>OMB No. 0704-0188       |                                                               |
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| Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. <b>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</b>                                                                                                                                                                                                                                                                                       |                          |                                |                            |                                          |                                                               |
| 1. REPORT DATE (DD-MM-YYYY)<br><b>31-10-2008</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                          | 2. REPORT TYPE<br><b>FINAL</b> |                            | 3. DATES COVERED (From - To)             |                                                               |
| 4. TITLE AND SUBTITLE<br><b>Iran and the Strait of Hormuz: Saber Rattling or Global Energy Nightmare?</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                                |                            | 5a. CONTRACT NUMBER                      |                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |                                |                            | 5b. GRANT NUMBER                         |                                                               |
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| 6. AUTHOR(S)<br><br><b>CDR Rodney A. Mills, USN</b><br><br>Paper Advisor (if Any): <b>Donald Chisholm</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                                |                            | 5d. PROJECT NUMBER                       |                                                               |
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| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br><br>Joint Military Operations Department<br>Naval War College<br>686 Cushing Road<br>Newport, RI 02841-1207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                                |                            | 8. PERFORMING ORGANIZATION REPORT NUMBER |                                                               |
| 9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                          |                                |                            | 10. SPONSOR/MONITOR'S ACRONYM(S)         |                                                               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |                                |                            | 11. SPONSOR/MONITOR'S REPORT NUMBER(S)   |                                                               |
| 12. DISTRIBUTION / AVAILABILITY STATEMENT<br>Distribution Statement A: Approved for public release; Distribution is unlimited.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                          |                                |                            |                                          |                                                               |
| 13. SUPPLEMENTARY NOTES A paper submitted to the Naval War College faculty in partial satisfaction of the requirements of the Joint Military Operations Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                          |                                |                            |                                          |                                                               |
| 14. ABSTRACT<br>The Strait of Hormuz is widely viewed as one of the most important maritime chokepoints in existence today - certainly it is the most important in terms of the global energy system, with one fifth of the oil consumed worldwide flowing through it each day. Iran has repeatedly threatened to disrupt the flow of oil through the strait, particularly in response to an attack, with potentially dire consequences for the price of oil and the world economy. A review of detailed open-source analysis, however, indicates that Iran's ability to close the strait is not a forgone conclusion, especially in light of the extensive U.S. military presence in the region. Furthermore, closing the strait would also have severe economic consequences for Iran. So, what is Iran's ability to disrupt the flow of oil through the Strait of Hormuz and what is the potential impact to the global energy system? Under what circumstances might Iran attempt to do this? In light of the uncertainty, why does Iran continue to make this threat? This paper shows that Iran's threat to close the Strait of Hormuz represents an information campaign against the U.S. to which we have failed to respond adequately. |                          |                                |                            |                                          |                                                               |
| 15. SUBJECT TERMS<br><b>Hormuz, strait, Iran, oil, Information Operation, blockade, shipping, energy security, maritime, chokepoint</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                          |                                |                            |                                          |                                                               |
| 16. SECURITY CLASSIFICATION OF:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |                                | 17. LIMITATION OF ABSTRACT | 18. NUMBER OF PAGES<br><br><b>23</b>     | 19a. NAME OF RESPONSIBLE PERSON<br>Chairman, JMO Dept         |
| a. REPORT UNCLASSIFIED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | b. ABSTRACT UNCLASSIFIED | c. THIS PAGE UNCLASSIFIED      |                            |                                          | 19b. TELEPHONE NUMBER (include area code)<br><br>401-841-3556 |

**NAVAL WAR COLLEGE  
Newport, R.I.**

**Iran and the Strait of Hormuz:  
Saber Rattling or Global Energy Nightmare?**

**by**

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**A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.**

**The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.**

**Signature: \_\_\_\_\_**

**31 October 2008**

## Table of Contents

|                 |    |
|-----------------|----|
| Introduction    | 1  |
| Background      | 2  |
| Discussion      | 5  |
| Conclusions     | 10 |
| Recommendations | 13 |
| Notes           | 17 |
| Bibliography    | 19 |

## **Abstract**

The Strait of Hormuz is widely viewed as one of the most important maritime chokepoints in existence today - certainly it is the most important in terms of the global energy system, with one fifth of the oil consumed worldwide flowing through it each day. Iran has repeatedly threatened to disrupt the flow of oil through the strait, particularly in response to an attack, with potentially dire consequences for the price of oil and the world economy. A review of detailed open-source analysis, however, indicates that Iran's ability to close the strait is not a forgone conclusion, especially in light of the extensive U.S. military presence in the region. Furthermore, closing the strait would also have severe economic consequences for Iran. So, what is Iran's ability to disrupt the flow of oil through the Strait of Hormuz and what is the potential impact to the global energy system? Under what circumstances might Iran attempt to do this? In light of the uncertainty, why does Iran continue to make this threat? This paper shows that Iran's threat to close the Strait of Hormuz represents an information campaign against the U.S. to which we have failed to respond adequately.

## INTRODUCTION

*"Enemies know that we are easily able to block the Strait of Hormuz for an unlimited period"*

-Major General Mohammad Ali Jafari, Iranian Revolutionary Guard, 5 August 2008

The Strait of Hormuz is widely viewed as one of the most important maritime chokepoints in existence today - certainly it is the most important in terms of the global energy system. In 2006, approximately 17 million barrels of crude oil were shipped through the straits each day, representing one fifth of the world's daily oil consumption.<sup>1</sup> At its narrowest point, the strait is 34 miles wide with two mile wide inbound and outbound shipping lanes split by a two mile separation zone. Iran is strategically situated on the north and east sides of the strait, and one of its primary naval bases, along with its submarine force, is located near the strait in Bandar-e Abbas.<sup>2</sup> Iran has repeatedly threatened to disrupt the flow of oil through the strait, particularly in response to an attack. Frequently, reports of these threats are accompanied by dire predictions about the impact on the price of oil and the resultant devastation to the world economy.<sup>3</sup> A review of detailed open-source analysis, however, indicates that Iran's ability to close the strait is not a forgone conclusion, especially in light of the extensive U.S. military presence in the region. Furthermore, closing the strait would also have severe economic consequences for Iran. So, what is Iran's ability to disrupt the flow of oil through the Strait of Hormuz and what is the potential impact to the global energy system? Under what circumstances might Iran attempt to do this? In light of the uncertainty, why does Iran continue to make this threat? This paper will show that Iran's threat to close the Strait of Hormuz represents an information campaign against the U.S. to which we have failed to respond adequately.

## **BACKGROUND**

### *The Iranian Military Challenge*

Since the end of the Iran-Iraq war in 1988, Iran has worked to rebuild its military and has acquired a sizeable asymmetric maritime force focused around layered coastal defense and area denial capabilities. While this capability would seem effective to interdict shipping through the strait, oil tankers pose unique challenges as targets and the Iranians face operational challenges in employing their forces, including the formidable U.S. Navy presence in the region. Understanding the nature of oil tankers as targets and the capabilities and limitations of Iran's forces is key to understanding the Iranian military challenge.

Oil tankers would seem to be the ideal target - they are large, not particularly maneuverable, and have little in the way of onboard defenses. They are plentiful in the Strait of Hormuz - in 2007, an average of fifteen tankers carrying crude oil passed through the Strait of Hormuz every day.<sup>4</sup> The size and design of crude oil tankers works to their advantage, however. The supertankers, or Very Large Crude Carriers (VLCCs), that carry much of the crude oil in the strait are massive, displacing more than an aircraft carrier, thus reducing the effectiveness of a given size warhead.<sup>5</sup> Older, single-hulled tankers are being phased out, and most tankers today are of newer, double-hulled designs; coupled with internal compartmentalization, this tends to limit damage from an explosion. There are relatively few areas of vital machinery that could disable the vessel if damaged, and much of the vital machinery is underwater. The crude oil they carry tends to absorb and dissipate the shock caused by an explosion, reducing the effectiveness of the warhead. And the crude oil is not very flammable, reducing the chance of fire or secondary explosion. All of these factors work together to make oil tankers resilient targets and to make it unlikely that a single

weapon would sink or cause the "constructive total loss" of a tanker and its cargo, thus complicating the Iranian operational problem.<sup>6</sup>

The most conventional elements of the Iranian Navy (IRN) are its submarines, including three Russian-built Kilo class submarines and several midget submarines. Although these forces represent a credible threat to shipping, they also suffer from several drawbacks. The torpedoes or anti-ship cruise missiles they can employ are not likely to destroy a tanker with one shot, requiring the use of multiple weapons per target and rapidly depleting the submarine's limited magazine. Many of the U.S. Navy ships in the area possess an anti-submarine (ASW) capability and the Navy would be eager to permanently eliminate the Iranian submarine threat in a naval conflict. Outnumbered and vulnerable, a more likely use of the submarine force would be as part of a covert mine-laying effort.

Although open source data is sparse and sometime conflicting, it is likely that Iran has accumulated several hundred anti-ship cruise missiles (ASCMs).<sup>7</sup> Primarily of Chinese origin, they can be launched from a variety of naval platforms and from mobile launchers on land. Although inexpensive, accurate, and relatively easy to use, there are some limitations in targeting. It is unclear from open sources whether Iran has the ability to conduct over-the-horizon targeting, and the high shipping density in the strait may make it difficult for the operator to ensure that his missile hits an oil tanker rather than a less valuable cargo ship. Their relatively small warheads make them less effective against large tankers, where they are likely to cause only relatively minor damage. One article concluded "In order to disable a modern-day tanker, an attack would have to include a salvo of eight to ten missiles with conventional warheads...."<sup>8</sup> While perhaps an optimistic assessment, this illustrates the challenge Iran faces. One possible use for Iran's ASCM capability would be to attack U.S.

or coalition maritime forces engaged in mine clearance, ASW, or convoy escort, thus complicating our efforts to clear the strait.

Open source information indicates that Iran also possesses a significant mine inventory. Inexpensive and relatively easy to employ, mines have been used successfully by Iran and many other nations to defend harbors and deny access. Mines represent a diverse threat, from simple contact mines to more sophisticated and powerful influence mines that can be employed in a variety of ways. Iran also possesses a large number of potential mine laying platforms.<sup>9</sup> Mining the Strait of Hormuz presents a substantial operational challenge, however. Although the inbound and outbound shipping channels are only two miles wide, those small channels merely represent an agreed traffic separation scheme designed for the efficiency and safety of maritime vessel passage. The navigable channel is more than twenty miles wide at its narrowest, giving the Iranians a large area to mine in order to prevent the simple solution of driving around the minefield. Estimates from different authors vary, but numerous mine laying platforms would have to be coordinated to lay between 700 and 2,000 mines to effectively block the straits, all done with enough secrecy to prevent diplomatic or military action from stopping the mine-laying effort. Once in place, however, the minefield would present a formidable challenge to limited U.S. and coalition mine clearing assets, particularly if Iran used other methods of attack, such as ASCMs, to hamper mine countermeasure efforts. Coalition forces would not have to clear all the mines to restore access, however. Mine countermeasure efforts would first focus on bounding the minefield and clearing one specific path, or Q-route, through the strait to restore the flow of traffic; then the remaining mines could be cleared to remove the hazard to navigation. This scenario

– covertly laying a minefield that effectively blocks all flow through the strait – represents the most dangerous Iranian course of action.

One of Iran’s most asymmetric capabilities has been a growing concern for the Navy in recent years – the use of small, high speed craft to conduct attacks against warships and shipping using small arms, shoulder fired grenades or rockets, or perhaps a suicide delivery of explosives. The reality of this threat was demonstrated in January 2008 when several small, fast Iranian Revolutionary Guard Corps Navy (IRGCN) patrol craft interacted with three U.S. Navy ships passing through the Strait of Hormuz. The IRGCN has more than 1000 small boats in its inventory and swarming attacks using these boats have been a part of Iranian doctrine since the Iran-Iraq War.<sup>10</sup> The success of terrorist attacks against the USS COLE and M/V Limburg indicate that it is a viable option for an asymmetric opponent. This type of attack presents several challenges to the Iranians, however. With their large bow wave, a tanker underway in the Strait of Hormuz presents a more challenging intercept target than the COLE or Limburg, which were in or near port when attacked. And small boats are relatively easy to counter with modern weapon systems, including helicopters and other air combat power. While small boats may represent a threat to warships and tankers transiting the strait, it would be difficult to sustain a disruption of maritime traffic using small boat attacks alone.

## **DISCUSSION**

### *Iranian Capability*

Relatively few detailed and recent open source analyses have been conducted concerning Iran’s capability to close the Strait of Hormuz. Two were completed in the last decade, both in 2008.<sup>11</sup> Several articles have been written in the same time frame which

provide a less detailed analysis of Iran's capabilities but still articulate a basic argument for their conclusions. It is not the intent of this paper to make another attempt at a detailed analysis of Iran's capabilities, but two conclusions can be drawn by examining these studies in aggregate. First and foremost, there is consensus among the analysts that the U.S. military would ultimately prevail over Iranian forces if Iran sought to close the strait. The various scenarios and assumptions used in the analyses produce a range of potential timelines for this action, from the optimistic assessment that the straits would be open in a few days to the more pessimistic assessment that it would take five weeks to three months to restore the full flow of maritime traffic. These analyses bound the problem and provide a basis for assessing the impact of Iran's actions.

#### *Shipping Industry and Oil Market Response*

History provides good examples for anticipating both shipping industry and oil market behavior in the event of an Iranian blockade. During the Iran-Iraq war from 1980-1988, each side attacked shipping in the Strait of Hormuz and the Persian Gulf, and the behavior of the shipping industry during that time period can be used to predict the response to an Iranian blockade. War, revolution, political embargoes, and natural disasters provide numerous examples of how the oil markets might respond to a supply disruption.

Conventional wisdom might suggest that the initiation of hostilities in the Strait of Hormuz or Persian Gulf would stop or significantly deter the flow of maritime traffic through the strait, but the "Tanker Wars" between Iran and Iraq in 1980s show a different behavior by the shipping industry. During the eight years of the conflict, 544 attacks were carried out against all shipping in the Gulf, including more than 400 civilians killed and another 400 injured. However, after an initial 25 percent drop, the shipping industry adjusted to the risk

and the flow of commerce resumed.<sup>12</sup> Despite the threat, oil and other maritime commerce continued to flow even as the conflict intensified through 1987, when a total of 179 attacks were carried out, or roughly an attack every other day.<sup>13</sup> Although there are limitations in using the Tanker Wars as an analogy for the Strait of Hormuz today - a focused Iranian blockade would differ from the broad pattern of attacks in the historical case - there is evidence that the shipping industry response would be similar. In interviews with industry representatives, Gholz, et al., concluded that “It is probable that there will always be ship owners, captains and crews willing to take the risk for the right price.”<sup>14</sup>

The maritime insurance industry has ample experience pricing the risk due to conflicts and would be able to adjust, as well. While insurance rates might substantially increase very rapidly, those rates will not significantly impact the price of oil by today’s standards. The normal peacetime rate to insure the transit of a VLCC full of crude oil comes out to about one cent per barrel.<sup>15</sup> A pessimistic estimate of the “war risk premium” that would have to be paid to ship that same supertanker of oil through a war zone might add six dollars to the price of each barrel.<sup>16</sup> Despite the increased risk, history shows us that insurance will remain available at a reasonable rate for the value of the cargo shipped.<sup>17</sup>

Based on this expected response of the shipping industry, it is useful to consider exactly what Iran would have to accomplish to provide a substantial interruption to the flow of oil from the Persian Gulf. According to the International Energy Agency, the historical worst-case disruption of oil flow occurred during the Iranian Revolution when 5.6 million barrels per day were removed from the market, equivalent to 8.5 percent of the world’s daily consumption at that time. The Iran-Iraq War and the Iraqi invasion of Kuwait each removed 4 million barrels per day, or slightly more than 6 percent of world daily consumption.<sup>18</sup> At

today's daily consumption rate of 84 million barrels per day, 8.5 percent would equate to 7 million barrels per day removed from the global energy market for a sustained period. Certainly a worst-case scenario where effective mining dissuaded all shipping through the strait would accomplish this objective, but it would also invoke the most severe response from the U.S. and the rest of the world. Short of that, stopping 7 million barrels per day would equate to *3-4 VLCCs destroyed per day* for an extended period of time – a significant operational challenge.

History has shown that sustained disruptions to the flow of oil from a variety of causes has led to sharp increases in the price of a barrel of crude oil, sometimes doubling or tripling the price of oil over a matter of months, with attendant adverse economic effects. In many of the examples from the 1970s and 1980s, excess capacity from other countries was often used to alleviate some of the effects of a disruption. The growth of worldwide oil demand in the last two decades has removed much of the excess capacity from the global system, however, and much of the excess capacity that remains currently resides in Persian Gulf countries that must ship most of their oil through the Strait of Hormuz. To counteract the effects of supply disruptions, the U.S. and other countries have built up Strategic Petroleum Reserves (SPRs) designed to support their imported oil supply for several months. According to the International Energy Agency, net importing member countries are required to have enough public and industry stocks of both crude oil and refined products to support a disruption of imported oil supplies for 90 days.<sup>19</sup> This system was successfully implemented following the damage to the U.S. oil industry from Hurricane Katrina. A 2007 Heritage Foundation study of the economic effects of a blockade of the Strait of Hormuz concluded that use of the SPR could substantially mitigate the market impact from an oil supply shock.

The study also concluded that poor government policy response was to blame for much of the adverse economic effects from the energy crises of the 1970s and recommended additional actions beyond use of the SPR to mitigate the economic impact.<sup>20</sup> The sharp rise and fall of oil prices over the past year have demonstrated the capacity of markets to absorb significant changes in the price of oil. Putting this all together, a disruption of oil flowing through the Strait of Hormuz might cause major market fluctuations, but the problem would be manageable and the economy would compensate.

#### *Motivations for Iranian Action*

Despite the operational challenges and almost certain military response by the U.S., there are circumstances under which Iran might consider interdicting shipping or blockading the Strait of Hormuz. Certainly if attacked, we can expect Iran to retaliate by attacking the flow of oil. Iran could make limited attacks as a way to lure the U.S. into an overreaction that could turn world opinion against U.S. policies in the Middle East. Or they could attempt to involve us in an asymmetric battle of attrition designed to turn American public opinion. It is useful, however, to explore the reasons why Iran would not want to take this action.

While Iran may be able to achieve military success for a time and gain some political benefit from blockading the Strait of Hormuz as an offensive move, there are significant disadvantages to Iran in taking this action. First would be the adverse economic impact. Iran received \$80 billion in oil revenue in 2007, accounting for 60% of its budget,<sup>21</sup> but because most of Iran's oil infrastructure is in the Gulf, blockading the strait would cut off their source of income, as well. Additionally, a lack of sufficient refining capability makes Iran a net importer of refined petroleum products.<sup>22</sup> Thus blockading the Strait of Hormuz would be a severe hardship for Iran's already troubled economy. Second, world reaction to Iran's

blockade would be immediate and severe, likely leading to U.N. sanctions and other political pressure in addition to any U.S. or coalition military response. China receives half of its oil supplies via the Strait of Hormuz and it is unlikely that they would remain passive, perhaps even joining a coalition response, or at least exerting diplomatic pressure. Third, Iran will probably only be able to make good on this threat once. It is likely that most or all of the materiel necessary to blockade the strait would be destroyed by the military response. Worse yet for Iran, if the U.S. is able to quickly restore access through the strait *without* escalating the crisis, and is able to minimize the economic impact through the use of the SPR and other policy moves, those assets will be spent in vain. Finally, and most significantly, this action would impose a substantial national security risk to Iran. While the torpedoes, missiles, mines, and small craft may not be that effective against supertankers, they are quite effective against warships. Thus, if Iran were to expend most or all of these assets in a futile attempt to close the Strait of Hormuz, they would leave themselves very open to escalation or a subsequent attack. In aggregate, these factors should serve as compelling reasons against an Iranian decision to blockade of the Strait of Hormuz.

## CONCLUSION

### *The Power of Information*

In light of the operational challenges they face, the likelihood of prompt and decisive U.S. response, and the strategic negatives in carrying out their threat to blockade the Strait of Hormuz, why does Iran repeatedly assert on the world stage their ability to do so? The answer is that Iran gains more from the existence of their threat than they would by actually carrying it out. Thus, this repeated threat is part of an *information campaign* by Iran to prepare the operating environment and to shape U.S., coalition, and world response in

dealing with Iran. These threats have been made several times a year in recent memory and have maintained this topic as a recurrent issue in the open media and public discussion about how to deal with Iran and more broadly, about global energy security. Accompanying these threats has been at least one demonstration of Iran's asymmetric military capability and our problems at dealing with this threat. In January 2008, several IRGCN small craft interacted with three U.S. Navy ships as they transited through the Strait of Hormuz. Although the interaction was resolved without incident, the desired message entered the public discourse – that Iranian small craft can place at risk naval vessels transiting the strait and, by extension, they can place at risk the highly valuable oil tankers that also pass through the strait.

Iran achieves several key benefits from this information campaign. The first is deterrence. U.S. and other decision makers are consistently reminded that a decision to attack Iran, and perhaps even a decision to put undue political or economic pressure on Iran, will result in military action with economic consequences. The second benefit comes from shaping public opinion - both internal and external to Iran. The discussion about the severe damage Iran can cause to the global energy system and the resultant economic impact is part of the public discourse on Iran and energy security. In its current form, this discussion tends to sway public opinion away from military action against Iran, unnecessarily constraining military and political leaders in their range of options and narrowing the set of circumstances under which leaders will get public support for military action. It is likely that the Iranian threat is also partly intended to shape Iranian public opinion - to show that Iranian leaders are willing to stand up to competitors and external influence in the region. Third, the information campaign shapes the oil market in ways favorable to Iran. In today's market with little excess production capacity, factors potentially affecting future crude oil supplies

tend to increase the market price of oil, imposing what is termed a “risk premium.” Although the principle is straightforward, it is very difficult to quantify. One article put the value at ten to twenty dollars per barrel – a value corroborated in the article by Qatar’s oil minister – primarily due to tensions in the Middle East.<sup>23</sup> That equates to tens of millions of dollars per day in excess income for Iran. Certainly not all of the risk premium is caused by Iran’s threat to the Strait of Hormuz, but it is a contributor to the risk premium over which Iran exercises direct control. Finally, on a longer time horizon, Iran’s information campaign also contributes to increased volatility in the oil market that will increase the economic impact if Iran ever does make good on the threat to the flow of oil.

#### *U.S. Response*

Based on a review of reporting in the open press, however, the U.S. has not effectively countered the Iranian information campaign, showing that we have incorrectly structured the problem. Certainly U.S. forces are ready to respond to the conventional threat with an appropriate contingency plan, but we are losing in the pre-hostilities information operation (IO). Each time a report comes out about the latest Iranian threat, there is often a comment from a U.S. Navy representative refuting Iran’s capability to close the strait or stating our commitment to keep it open. But that information often seems to be an afterthought, with the more “newsworthy” information about Iran’s threat, their military capability, and the vital role that the Strait of Hormuz plays in the global energy system occupying most of the article. All of the information discussed above about Iran’s capabilities and challenges, the response of the shipping industry and oil market, and our ability to counteract supply disruptions with the Strategic Petroleum Reserve is available

through open sources, but the military and civilian leadership within the government has been unsuccessful in making that information a part of the dialogue in the mainstream media.

Exercise Arabian Gauntlet serves as another example of how the U.S. has failed to mount an effective information campaign against the Iranian threat. According to an article on the website of the Commander, U.S. Naval Forces Central Command (NAVCENT), Arabian Gauntlet is a biennial, multinational exercise that integrates mine warfare and surface warfare capabilities, involving 14 partner nations over a ten day period – seemingly an exercise designed to counter one of Iran’s primary threats to the strait.<sup>24</sup> Yet the vast majority of the web pages and articles returned by a “Google” search for the term “Arabian Gauntlet” were either official military websites reporting on the completion of the exercise or military oriented civilian website such as ship histories, etc. Only one of the top 25 web pages returned appeared to be an independent media outlet. A search of several major U.S. newspapers produced no results for the term. It is clear that the U.S. military has done little other than the most basic public affairs work with Exercise Arabian Gauntlet.

## **RECOMMENDATIONS**

As the Geographic Combatant Commander for the Middle East, the U.S. Central Command (CENTCOM) is responsible for the contingency plan to respond to an Iranian blockade of the Strait of Hormuz, and the Maritime Component Commander, NAVCENT is the primary executor of the plan. Some of the information campaign recommendations below will require inter-agency coordination with other U.S. Government entities, however, to ensure that the right information is sent toward the right target audience.

## *Information Operations*

Based on the comparison between the Iranian and U.S. information campaign efforts over the Strait of Hormuz, the obvious recommendation is to improve the U.S. IO campaign for phase zero of the Strait of Hormuz contingency plan. To that end, the following target audiences, desired effects, and messages are recommended.

**Iranian Leadership.** One of the primary functions of IO is to influence the decision making process of enemy leaders. In this case, the desired effect would be to convince Iran's civilian and military leaders that they will not get what they want from an effort to close the strait, or at least to introduce enough uncertainty that they will be unable to achieve the consensus necessary to authorize an offensive blockade. The primary message should assert that we will be able to effectively counter their actions in the strait and quickly restore maritime traffic. The results of Exercise Arabian Gauntlet, better communicated through the open press, could carry that message. An effort that is likely already ongoing, but invisible to the open media, is to communicate the exercise results to Iran through regional partners. Our message should also emphasize that we can take this action with a minimal risk of escalating the conflict, thereby thwarting any attempt to use a blockade to prompt us into an overreaction that might work to Iran's favor. The final part of the message should emphasize the significant negative impacts to Iran's economy, regional stature, and national defense from taking this action.

**American Public.** While the American public may have plenty of good reasons to oppose political or military action against Iran, unnecessary fear of the impact of an oil blockade should not be one of those reasons. To that end, the desired effect on this target audience is to counter the Iranian information efforts. The message should fill in the

discussion with more complete information about Iranian and U.S. capabilities and U.S. plans to counter both the military and economic impact of Iran's threat.

**Oil Markets.** Shaping market response is a tricky problem. Recent experience with the financial crisis shows that it can be difficult to stem market volatility and prevent panic. The desired effect is to counter the Iranian information campaign and reduce the risk premium. The message should emphasize that the potential disruption would be short lived and that the government would take steps to mitigate the impact, including using the Strategic Petroleum Reserve.

One possible vehicle to reach the target audiences listed above would be a more direct and complete response to Iran's threats. Shortly after Iran makes this threat the next time, an Op-Ed piece could appear in a major newspaper, written by NAVCENT or another appropriate military leader, detailing the U.S. position and explaining why Iran will not be able to achieve the results they want. Effectiveness could be enhanced by explaining how the SPR would be used, if necessary, to mitigate the economic impact. Another, less direct method, would be to encourage such articles to be written by non-military or non-governmental leaders. One related example was a recent New York Times Op-Ed article that highlighted our ability to use the SPR to counter supply disruptions.<sup>25</sup>

#### *Implications for the Contingency Plan*

The discussions above, about both the military threat to the Strait of Hormuz and the information campaign, contain several implications for the contingency plan for this threat, which CENTCOM should ensure are adequately addressed.

One of the recommended messages aimed at the Iranian leaders is that the U.S. could restore the flow of commerce through the Strait of Hormuz without escalating the conflict,

and thus the contingency plan must be able to make good on the promise of not escalating. The ability to counter without escalation is important because it can eliminate one of Iran's potential motivations for conducting an offensive blockade of the strait. If Iranian leaders believed they could use a limited blockade to prompt us into a unilateral overreaction that could alienate other Gulf nations, they might see that as an avenue to increase their standing in the region. If Iran chooses to conduct an offensive blockade, we will likely respond with the plan we have "on the shelf" because there will be tremendous pressure for prompt action. If that contingency plan is written with an initial goal of avoiding escalation, that will give CENTCOM more flexibility. It will be easier to implement that plan and then later add additional actions to escalate the conflict if necessary than it would be to de-escalate after immediate military actions have expanded the conflict.

In reviewing the open source analysis of this threat, one scenario stood out as the most dangerous potential course of action that Iran could take. The only scenario put forward that had the potential to completely close the Strait of Hormuz was a worst-case mining scenario where Iran is able to covertly put in place a minefield of sufficient size that it has a high probability of damaging or destroying *any* vessel attempting to transit the strait. Such a minefield might stop all maritime traffic until air and maritime superiority is established and sufficient anti-mine efforts are complete to reduce the chance of damage to an acceptable level. The challenges for both Iran and the U.S. in this case are significant, but because the potential economic damage from this course of action is so great, this scenario shows that the contingency plan must address two key areas. First, sufficient intelligence, surveillance, and reconnaissance (ISR) assets must be dedicated to watching Iranian actions so that we can detect covert mining operations in time to prevent the completion of such a

minefield. And second, the U.S. and coalition partners must keep sufficient anti-mine assets available to respond to such an Iranian mine threat in a timely manner.

The security of global energy supplies is one of the issues likely to shape national security for decades to come, and Iran's asymmetric naval threat tops the list of concerns. But the capable U.S. presence in the Persian Gulf and the resilience of the oil shipping system and markets are more than able to deal with the threat.

Although much of the information campaign related to Iran's threat to the Strait of Hormuz will play out in the open press, it would be a mistake to dismiss the threat as a mere media event. Iran is an ideological adversary with real men and real weapons that can strike at this vital energy artery. They have used oil and commerce interdiction in war before; we need to be ready in case they do it again.

But by failing to recognize the nature of Iran's threat as primarily an information campaign, we are giving them an essentially uncontested battlespace in which to conduct IO and we are missing our opportunity to shape the future conflict. Although only a part of our complex interactions with Iran, we must take every opportunity to gain the advantage and to undermine their efforts. This is a battle that we can win without complex weapon systems and the commitment of more troops - a battle of ideas.

## NOTES

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<sup>1</sup> Energy Information Administration, *World Oil Transit Chokepoints*, January 2008, 3, [http://www.eia.doe.gov/cabs/World\\_Oil\\_Transit\\_Chokepoints/pdf.pdf](http://www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/pdf.pdf) (accessed 11 October 2008).

<sup>2</sup> GlobalSecurity.org, "Bandar-e Abbas," <http://www.globalsecurity.org/military/world/iran/abbas-nb.htm> (accessed 18 October 2008).

<sup>3</sup> For examples, see Claire Webb, "Record oil prices: Iran and the Strait of Hormuz," *TIMESONLINE*, 3 July 2008, [http://business.timesonline.co.uk/tol/business/industry\\_sectors/natural\\_resources/article4262388.ece](http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article4262388.ece) (accessed 18 October 2008) and David Wyss, "The Future of Oil: Four Scenarios," *BusinessWeek*, 8 August 2006, [http://www.businessweek.com/investor/content/aug2006/pi20060808\\_648271.htm](http://www.businessweek.com/investor/content/aug2006/pi20060808_648271.htm) (accessed 30 October 2008).

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- <sup>4</sup> Energy Information Administration, *World Oil Transit Chokepoints*, January 2008, 3, [http://www.eia.doe.gov/cabs/World\\_Oil\\_Transit\\_Chokepoints/pdf.pdf](http://www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/pdf.pdf) (accessed 11 October 2008).
- <sup>5</sup> One quarter of the world's tankers - VLCCs and the "Suezmax" tankers - displace 120,000 deadweight tons (DWT) or more; NIMITZ class aircraft carriers displace 97,000 tons.
- <sup>6</sup> Caitlin Talmadge, "Closing Time," *International Security* 33, no. 1 (Summer 2008): 84; and Eugene Gholz, et al, "Strait of Hormuz: Assessing Threats to Energy Security in the Persian Gulf," The Robert S. Strauss Center for International Security and Law, The University of Texas at Austin, <http://www.hormuz.robertstrausscenter.org/tankers> (accessed 19 October 2008).
- <sup>7</sup> Talmadge, 99-111, and Gholz, <http://www.hormuz.robertstrausscenter.org/missiles> (accessed 19 October 2008).
- <sup>8</sup> Dennis Blair and Kenneth Lieberthal, "Smooth Sailing: The World's Shipping Lanes Are Safe," *Foreign Affairs*, 86: no. 3 (May-June 2007):7. <http://www.proquest.com/> (accessed 23 September 2008).
- <sup>9</sup> Talmadge, 89-99. Iran's mine laying platforms include 3 Kilo submarines, 18 larger surface ships, more than 200 smaller patrol craft and coastal combatants, and three RH-53D Sea Stallion mine laying helicopters sold to Iran before the revolution.
- <sup>10</sup> Gholz, <http://hormuz.robertstrausscenter.org/boats> (accessed 26 October 2008).
- <sup>11</sup> Talmadge's "Closing Time" and Gholz's "Strait of Hormuz."
- <sup>12</sup> Blair and Lieberthal.
- <sup>13</sup> Anthony H. Cordesman and Abraham R. Wagner, *Lessons of Modern Warfare*, vol. 2, *The Iran-Iraq War*, (1990; repr., Boulder: Westview Press, 1991), 544.
- <sup>14</sup> Gholz, <http://hormuz.robertstrausscenter.org/disruption> (accessed 20 October 2008). Based on interviews with individuals from Intertanko, the International Association of Independent Tanker Owners.
- <sup>15</sup> Majdoline Hatoum, "Dubai Mulls Oil Canal To Bypass Iran's Hormuz Threat," Dow Jones Newswires, 8 September 2008, from <http://www.zawya.com/story.cfm/sidZW20080908000060/lok075015080908> (accessed on 26 October 2008). Hatoum cited that the insurance premium on a tanker carrying 300,000 metric tons of crude oil, or about 2,250,000 barrels, was \$24,000, according to Lloyds Underwriters. This is equivalent to about a penny a barrel.
- <sup>16</sup> Based on data from Gholz, <http://hormuz.robertstrausscenter.org/insurance> (accessed 20 October 2008). The "war risk premium" at its highest during the Tanker Wars was approximately 7.5% of the value of the tanker. The current war risk premium for a ship's journey that included spending 20 days in port in Somalia is approximately 6%. Pessimistically assuming a 10% premium on a VLCC valued at \$120 million and carrying 2 million barrels of oil, the premium would equate to \$6 per barrel.
- <sup>17</sup> Gholz, from <http://www.hormuz.robertstrausscenter.org/insurance> (accessed 30 October 2008).
- <sup>18</sup> International Energy Agency, *World Energy Outlook 2005*, (Paris: IEA Publication Service, 2005), 262.
- <sup>19</sup> International Energy Agency, *IEA Response System for Oil Supply Emergencies*, (Paris: IEA Publication Service, 2007), 7. The IEA states that member countries are required to maintain the equivalent of ninety days of net imports. This requirement can be met by a combination of public and private stocks of both crude oil and refined products. According to the IEA, at the end of June 2007, member countries had the equivalent of 150 days of net imports in stock.
- <sup>20</sup> James Jay Carafano, William W. Beach, Ariel Cohen, Lisa A. Curtis, Tracy L. Foertsch, Alison Acosta Fraser, Ben Lieberman, and James Phillips, *If Iran Provokes an Energy Crisis: Modeling the Problem in a War Game*, CFA07-03, (Washington, DC: Heritage Foundation, 25 July 2007), 2, 6.
- <sup>21</sup> Thomas Erdbrink, "Oil Cash May Prove A Shaky Crutch for Iran's Ahmadinejad," *Washington Post*, 30 June 2008, <http://www.washingtonpost.com/wp-dyn/content/article/2008/06/29/AR2008062901978.html> (accessed 30 October 2008).
- <sup>22</sup> U.S. Congress, Joint Economic Committee, *Iran's Oil and Gas Wealth*, 109<sup>th</sup> Cong., 2<sup>nd</sup> sess., 2006. Research Article #109-31, March 2006, 4.
- <sup>23</sup> James Surowiecki, "Troubled Waters Over Oil," *The New Yorker*, 19 February 2007, [http://www.newyorker.com/talk/financial/2007/02/19/070219ta\\_talk\\_surowiecki](http://www.newyorker.com/talk/financial/2007/02/19/070219ta_talk_surowiecki) (accessed 21 October 2008).
- <sup>24</sup> "Exercise Arabian Gauntlet Concludes in Arabian Gulf," 6 May 2007, <http://www.cusnc.navy.mil/articles/2007/096.html> (accessed 26 October 2007).
- <sup>25</sup> Eugene Gholz and Daryl G. Press, "All the Oil We Need," *New York Times*, 20 August 2008, <http://www.nytimes.com/2008/08/21/opinion/21press.html> (accessed 13 October 2008).

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