

The Iranian Hostage Rescue Mission: A Case Study

CSC 2002

Subject Area General

## **EXECUTIVE SUMMARY**

**Title:** THE IRANIAN HOSTAGE RESCUE MISSION: A CASE STUDY

**Author:** Major Peter D. Buck, USMC

**Thesis:** Operation Eagle Claw was tactically feasible, operationally vacant, and strategically risky.

**Discussion:** This paper examines the failed hostage rescue mission conducted by the U.S. in Iran during April of 1980. The following text will recreate the rescue mission in its historical context while identifying factors across the three levels of war which contributed to its outcome. The three levels of war referred to in this discussion are the tactical, operational and strategic levels.

### **Conclusion:**

This study concludes that (1) The fall of the Shah unearthed a gap in U.S. military influence in the Middle East which could not rapidly be overcome; (2) the hostage rescue mission, although tied directly to the strategic objective of returning the 53 American hostages, provided little influence in terms of salvaging U.S. honor and interests in the Middle East. In reality, it is probable that mission failure protracted eventual diplomatic resolution of the crisis; (3) the hostage rescue mission, a limited objective and high risk raid, should only have been executed in the event that hostages lives were directly threatened; and (4) since 1961, sixty-six separate hostage, kidnapping, or hijacking

incidents have occurred involving U.S. diplomats, servicemen, and private citizens. The frequency of these actions equate to 1.6 per year over the past 41 years. This data demonstrates the relevancy of the subject and the frequency of its occurrence.

## *Table of Contents*

	<i>Page</i>
DISCLAIMER	2
EXECUTIVE SUMMARY	3
INTRODUCTION	5
CHAPTER 1: Background	8
CHAPTER 2: Operation Rice Bowl	16
CHAPTER 3: Operation Eagle Claw	27
CHAPTER 4: Discussion	42
SUMMARY & CONCLUSION	51
BIBLIOGRAPHY	56

# The Iranian Hostage Rescue Attempt: A Case Study

## Introduction

On 4 November 1979 a mob of Iranian students stormed the U.S. embassy in Tehran and seized sixty-six American diplomats and most government citizens.<sup>1</sup> In subsequent days, American women, black Marines, and all non-American hostages were released.<sup>2</sup> However, 53 Americans remained in Tehran as leverage against the United States in an effort to force the return to Iran of the exiled Shah, Mohammed Reza Pahlevi. Official Iranian demands included return of the Shah to stand trial in Iran, return of the Shah's wealth to Iran, an official apology from the U.S., and a U.S. promise of termination of interference in internal Iranian affairs.<sup>3</sup> Following a stalemate in political negotiations, President Jimmy Carter authorized and launched a secret military rescue mission, dubbed Operation Eagle Claw, into Tehran, Iran in April of 1980. "This mission fell apart on a desolate desert, the Dasht-e-Havir, and eight brave men perished in the flaming wreckage that resulted from the collision of two aircraft at Desert-I, a remote area being used as a helicopter refueling site."<sup>4</sup> Critics in the aftermath of the event highlighted helicopter failure rates and raised questions about U.S. military capabilities and technological edge.<sup>5</sup> "To some analysts and journalists, the episode demonstrated that the Defense Department was incapable of mounting a combined assault, especially in

---

<sup>1</sup> Colonel James H. Kyle, USAF (Ret.), *the guts to try* (New York: Orion Books, 1990), 1.

<sup>2</sup> Rod Lenahan, *Crippled Eagle: A Historical Perspective of U.S. Special Operations 1976-1996* (Charleston, SC: Narwhal Press, 1998), 49.

<sup>3</sup> S. Marshall, "Hostage Crisis In Iran," URL: <<http://www.mcps.k12.md.us/schools/einsteinhs/delavan/history/forpolicy/marshall.htm>>, accessed 20 December, 2001.

<sup>4</sup> Kyle, ix.

<sup>5</sup> Paul B. Ryan, *The Iranian Rescue Mission: Why It Failed* (Annapolis, MD: Naval Institute Press, 1985), 3.

distant territory.”<sup>6</sup> Additionally, contrasts were made to successful operations conducted by the Israeli Defense Force (IDF) at Entebbe and the German counter terrorism unit GSF9-9 at Mogadishu, further magnifying the failure.<sup>7</sup> The crisis as a whole proved to be a turning point in the 1980 presidential election.<sup>8</sup>

This paper will argue that Operation Eagle Claw was tactically feasible, operationally vacant, and strategically risky. Tactically, had it not been for the failure to forecast and identify the dust storm conditions, which contributed to the in-flight abort of the number 5 helicopter, the raid force would not have fallen short of the required 6 helicopters at the Desert One refueling site. Operationally, because of the sensitivity of the crisis and perceived need for secrecy, the President, National Security Advisor, and Joint Chiefs of Staff (JCS) interacted directly in the operational chain. Finally, in terms of strategic application, hedging America’s honor and interests in the Middle East and the safety of the American hostages on the successful execution of a single and tactically challenging rescue mission was strategically extremely risky. As stated by the late Secretary of State Cyrus Vance, “[a]s painful as it would be, our national interests and the need to protect the lives of our fellow Americans dictated that we continue to exercise restraint.”<sup>9</sup> This paper will proceed with a brief history of U.S. relations with Iran culminating with the take-over of the U.S. Embassy in Tehran in 1979 and the emergence

---

<sup>6</sup> Ibid.

<sup>7</sup> Ryan, 3. In 1976, the IDF conducted a raid on Entebbe International Airport in Kampala, Uganda. The mission, dubbed Operation Jonathan, was initiated to rescue 105 Israelis taken hostage by the Palestine Liberation Organization (PLO). In 1977, the West German GSF9-9 conducted a raid on the airport in Mogadishu, Somalia to rescue 86 hostages held by terrorists. Both hostage situations were the result of hijacked aircraft of Air France and Lufthansa respectively.

<sup>8</sup> Lieutenant Colonel William M. Steele, USA, “The Iranian Hostage Rescue Mission: A Case Study,” National War College Strategic Studies Program, National Defense University, National War College, Office of Dean of Faculty, March 1984, 2.

<sup>9</sup> Cyrus Vance, *Hard Choices: Critical Years In American Foreign Policy* (New York: Simon and Schuster, 1983), 408.

of an enemy. It will then discuss formation of the Joint Task Force, the military planning phase termed Operation Rice Bowl, and execution of Operation Eagle Claw in response to and support of U.S. diplomatic efforts to free the hostages.

## Chapter 1

### Background

Active U.S. involvement in Iran dates back to 1941 when U.S. forces were employed to maintain a lend-lease corridor to the Soviet Union known as the Persian Corridor.<sup>10</sup> At the start of World War II Iran declared a neutral position, but proved sympathetic to Germany when Iranian leader Reza Shah Pahlavi responded slowly to British and Soviet demands that resident German advisors be expelled.<sup>11</sup> British and Soviet response to Shah Pahlavi's procrastination was invasion of Iran on 25 August 1941 and then defeat of the Iranian army in a series of quick battles.<sup>12</sup>

The Allies forced the Shah to abdicate in September 1941, and his son, Mohammed Reza Pahlavi, ascended to the throne. For the remainder of the war, Iran was controlled by Soviet troops in the north, British troops in the south and a joint force on the outskirts of Tehran.<sup>13</sup>

At the close of World War II Allied forces withdrew from Iran, but U.S. and British support remained to assist the Shah.<sup>14</sup> The effects of the Cold War on Iran resulted in a political decision by the Shah in 1946 to form an alliance with the U.S. and Britain. Withdrawal of Allied forces from Iran was to be accomplished by March of 1946. However, the Soviet Union refused to relinquish control of northern regions in Iran by playing on regional differences thereby forcing a dependence on Soviet protection in the area and encouraging socialism and Communism.<sup>15</sup> A combination of Iranian negotiation and pressure from the U.N. Security Council succeeded in persuading a

---

<sup>10</sup> Geoffrey Kemp, *Forever Enemies? American Policy & The Islamic Republic of Iran* (NW Washinton, DC: The Carnegie Endowment For International Peace, 1994), 19.

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Kemp, 20.

<sup>15</sup> Robert Graham, *Iran: The Illusion of Power* (New York: St. Martin's Press, 1978), 62.

Soviet withdrawal in May of 1946 and by the end of the year a close to what was termed the Azerbaijan crisis.<sup>16</sup>

Mohammed Mossadegh, an Iranian politician who favored Iranian independence from foreign influence, gained power and became the Iranian prime minister in 1951. Mossadegh's radical and nationalistic views challenged the Shah's control of Iran and as a result produced numerous policies inconsistent with Western views. Responding to Mossadegh's actions, a European Oil embargo was initiated which devastated the Iranian economy between 1951 and 1953.<sup>17</sup> A U.S. initiated and Central Intelligence Agency (CIA) sponsored coup, dubbed Operation Ajax, toppled Mossadegh and returned the Shah to power in August of 1953.<sup>18</sup> It was the Mossadegh nationalistic and religious movement among the Iranian people, manifested in the oil industry issues, which would remain dormant until its final eruption between 1978 and 1979.<sup>19</sup> Although the Shah had regained power, his strong ties to the West and public knowledge of the role the U.S. had played in toppling Mossadegh caused a strong current of anti-American sentiment.

The Shah succeeded in signing a series of oil agreements with several European countries which created considerable wealth and economic potential for Iran.<sup>20</sup> Unfortunately, the fruits of these ventures were used exclusively by the Shah and wealthy Iranian businessmen and exacerbated the widening gap between the Shah and a growing nationalistic and anti-American sentiment. Possibly, it was the intoxication of wealth obtained through oil and the historical reality that no Shah had ever experienced an uncontested and peaceful closure to his reign that guided the Shah in his execution of

---

<sup>16</sup> Graham, 62.

<sup>17</sup> Kemp, 20.

<sup>18</sup> Ibid.

<sup>19</sup> Mohamed Heidal, *Iran: The Untold Story* (New York: Pantheon Books, 1982), 9.

<sup>20</sup> Graham, 67.



domestic and foreign policy. Certainly, his power struggle with Mohammed Mossadegh had taught him that defense of his crown was of critical importance. A brutal and secret police force known as the Sazeman-e Ettela'at va Amniyate Khasavar, or SAVAK, became the foundation from which the Shah would attempt to secure his dominance inside Iran.<sup>21</sup> Ironically, it was the existence of the SAVAK that led to the dismantling of CIA operations in Iran.<sup>22</sup> Through the SAVAK the Shah secured tight control of the national elements of power by censorship of the press, ruthless suppression of political and religious opponents, and placing loyal compatriots at the head of puppet political parties.<sup>23</sup> Cognizant of the challenge to his power between 1951 and 1953, the Shah's political attacks were directed specifically at elements of the National Front Party of Mossadegh.<sup>24</sup>

U.S. interests in Iran grew in recognition of Iran's geostrategic importance and the need to maintain stability in the Persian Gulf region. As a result, economic ties were expanded dramatically in the sixties to support Iran's role in Persian Gulf leadership.<sup>25</sup> During 1962, the Kennedy Administration believed that the oppressive nature of the Shah's regime was not conducive to the Shah's domestic political legitimacy and U.S. interests.<sup>26</sup> The U.S. promised continued long-term economic aid, but initiated a curtailment in military aid being used to upgrade the Iranian army.<sup>27</sup> In light of a growing enemy in Iraq, the withdrawal of U.S. military aid proved inopportune to the

---

<sup>21</sup> Graham, 68.

<sup>22</sup> Gregory F. Treverton, "The Fall Of The Shah Of Iran", (Kennedy School of Government, President and Fellows of Harvard University, 1988), 2.

<sup>23</sup> Graham, 68.

<sup>24</sup> Ibid.

<sup>25</sup> Craig L. Gordon, "US-Iranian Relations and the Hostage Crisis," URL: <<http://147.4.150.5/~cgordon1/iranhostagae.htm>>. accessed 28 September, 2001.

<sup>26</sup> Kemp, 20.

<sup>27</sup> Ibid.

Shah's needs.<sup>28</sup> Forced into independent action, the Shah's response was initiation of an economic and social reform known as the White Revolution or the Shah-White Revolution.<sup>29</sup>

The White Revolution merely marked the end of a Western-style parliamentary democracy and the beginning of absolute monarchy. For the Shah the revolution was symbolized by the overwhelming support given to his six-point referendum held on 26 January 1963. The points were: (i) the abolition of the landlord-serf relationship; (ii) nationalization of the forests; (iii) sale of government factories to pay for Land Reform; (iv) amendment of the election law, including the enfranchisement of women; (v) approval of workers sharing company profits; (vi) establishment of a literacy corps to facilitate compulsory education.<sup>30</sup>

The Shah's White Revolution, which was a revolution initiated from the top rather than the bottom, met opposition from both the landlords and religious leaders.<sup>31</sup> On the domestic political front, a nationalistic party sought boycott of a Land Reform referendum eliciting an aggressive response from the Shah. Despite success concerning the Land Reform referendum, the more dangerous form of opposition was realized in the religious leaders, or clerics, headed by the Ayatollah Khomeini.<sup>32</sup> Espousing that land reform and enfranchisement of women were against Islam, the Ayatollah gained a considerable following among the urban poor who were already embittered by the Shah's failure to share profit from Iranian oil.<sup>33</sup> The Ayatollah's zealous opposition and growing following earned him arrest in 1963 soon after the Shiite holy period known as Moharram, and resulted in violent riots throughout the major cities in Iran.<sup>34</sup> The Shah responded with a violent demonstration of military force that resulted in a bloodletting

---

<sup>28</sup> Ibid.

<sup>29</sup> Ibid.

<sup>30</sup> Graham, 71.

<sup>31</sup> Kemp, 21.

<sup>32</sup> Graham, 68.

<sup>33</sup> Graham, 33.

<sup>34</sup> Graham, 69.

estimated at 1,000 dead or seriously wounded.<sup>35</sup> The Shah's violent response proved effective as open opposition subsided.<sup>36</sup>

In 1964, President Johnson renewed military aid to Iran in response to the Shah's promise to protect American interests in the Persian Gulf region.<sup>37</sup> U.S. presence in Iran and considerable diplomatic immunity afforded U.S. personnel angered the clerics. Outspoken accusations by the Ayatollah Khomeini against the Shah's regime and the U.S. resulted in his deportation and exile to Turkey during November of 1964.<sup>38</sup> Despite his exile, Khomeini remained outspoken against the U.S. and the Shah's pro-western policies. In 1968, the British withdrew their military presence east of the Suez creating a void that required reevaluation of American interests.<sup>39</sup> In response, the Nixon Administration strengthened the policy of cooperation with both Iran and Saudi Arabia which resulted in the decade of the 1970s becoming economically beneficial to Iran.<sup>40</sup> The Nixon Administration did not want to balance a reduced British military presence in the Middle East with increased U.S. presence and as a result developing Iran's military became critical to U.S. stability interests throughout the region. A quid pro quo relationship involved U.S. dependence on Iranian oil and created large revenues that facilitated the purchase of an extensive quantity of U.S. military equipment. The result was economic and military growth for Iran and an anticipated solution to U.S. security interests in the region. However, stronger ties between Iran and the U.S. also served to flare the nationalistic movement towards isolation from American involvement in internal

---

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.

<sup>37</sup> Kemp, 21.

<sup>38</sup> Craig L. Gordon, "US-Iranian Relations and the Hostage Crisis," URL: <<http://147.4.1505/~cgordon1/iranhostage.htm>>. accessed 28 September, 2001.

<sup>39</sup> Kemp, 21.

<sup>40</sup> Ibid.

Iranian affairs. Iranian dissidents continued acting against the Shah and the United States. Between the early and mid-1970s, several assassinations, bombings, and attempted kidnappings were conducted against U.S. military and civilian personnel by religious extremists.<sup>41</sup>

In 1977, Jimmy Carter became President and inherited the supportive U.S. relationship with the Shah of Iran. Amid unrest in Iran, the Shah made attempts to institute more liberal government policies realizing it was authority that was provoking the revolutionary fervor.<sup>42</sup> During this period, the Shah also learned that he suffered from cancer.<sup>43</sup>

Ayatollah Khomeini, now living in forced exile in Paris, France, spoke out vehemently against the Shah and the U.S. If a single event can be identified as the powder keg from which the Shah would pass sentence upon himself, it would have to be through a news article attacking Khomeini that appeared in the Iranian government newspaper *Etelat* on 8 June 1978.<sup>44</sup> Khomeini followers were incensed by the Shah's article and proclamations were issued calling for a revolution against the Shah and condemnation of the U.S. for supporting the oppressive regime. As violent action escalated, the Shah and his family fled the country on 16 January 1979.<sup>45</sup> "Once the Shah fled the country, the Iranian revolution became a full-blown affair."<sup>46</sup> The Shah had

---

<sup>41</sup> Craig L. Gordon, "US-Iranian Relations and the Hostage Crisis," URL: <<http://147.4.1505/~cgordon1/iranhostage.htm>>. accessed 28 September, 2001.

<sup>42</sup> Ibid.

<sup>43</sup> Ibid.

<sup>44</sup> Kapuscinski, 106.

<sup>45</sup> Craig L. Gordon, "US-Iranian Relations and the Hostage Crisis," URL: <<http://147.4.1505/~cgordon1/iranhostage.htm>>, accessed 28 September, 2001.

<sup>46</sup> Ibid.

hoped to seek refuge in the U.S., but had to appeal to Egypt, Morocco, the Bahamas, and Mexico as President Carter wisely denied the Shah political asylum.<sup>47</sup>

In the midst of the chaos, the Ayatollah Khomeini returned to Iran and established himself as leader in the revolutionary endeavor. American oil and security interests in the region were threatened as the U.S. lost access to Iranian oil and a critical location from which to monitor the Soviet border in the Persian Gulf region.<sup>48</sup> U.S. response was the embargo of millions of dollars worth of military equipment along with the money previously financed by the Shah. Despite assurance from President Carter that the U.S. had no intention of assisting the Shah in return to power, Iranians had not forgotten the actions of the CIA in toppling Mohammed Mossadegh in 1953.<sup>49</sup>

There were two possible lines of action for the American Government [in 1978]. The first was to speed up the Shah's departure and attempt to get a reformist government in power . . . to block the revolution. The second was to encourage the use of the iron fist . . . The Carter Administration did neither; it hoped for the best and got the worst.<sup>50</sup>

On 14 February 1979, Valentines Day, revolutionary extremists in Tehran overran the U.S. embassy and seized 70 employees.<sup>51</sup> Although the hostages were released after two hours, the incident demonstrated the extreme situation existing in Iran. On 26 February 1979, the families of embassy personnel and all other non-embassy Americans were directed by the State Department to evacuate Iran.<sup>52</sup>

By October 1979, having lost his battle against revolution, the Shah was also losing his battle with cancer. The Shah entered the U.S. on 22 October 1979 for critical

---

<sup>47</sup> Ibid.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid.

<sup>50</sup> Russell Watson and David C. Martin, "Who 'Lost' Iran? The: Postmortem Begins," *Newsweek*, 28 April 1980, 24.

<sup>51</sup> Craig L. Gordon, "US-Iranian Relations and the Hostage Crisis," URL: <<http://147.4.1505/~cgordon1/iranhostage.htm>>. accessed 28 September, 2001.

<sup>52</sup> Ibid.

surgery following President Carter's efforts to obtain assurance from the government of Iran that no retaliatory measures would be directed at the U.S..<sup>53</sup> The Shah survived gall bladder surgery on 26 October 1979, but unrest quickly erupted in Iran. On 4 November 1979, a group of Iranian students estimated at 3,000 stormed the U.S. embassy in the name of Khomeini and took the American diplomats and government citizens hostage.<sup>54</sup> Iranian government officials assured the U.S. that they would do everything in their power to achieve a rapid release of the hostages.<sup>55</sup> However, only Khomeini possessed true negotiating power and he was quick to capitalize on the bargaining chip presented by the students who had become overnight heroes in Iran.<sup>56</sup>

---

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

<sup>55</sup> Ibid.

<sup>56</sup> Ibid.

## Chapter 2

### Operation Rice Bowl

As a result of the Nixon Administration's policy emphasizing Iran as the stabilizing force in the Middle East, American military influence in the region was weak, but not completely absent. The U.S. Navy maintained a carrier presence in the Indian Ocean as well as the communications facility at Diego Garcia.<sup>57</sup> The Navy was hampered in the Gulf region by the small number of available ports, but its greatest challenge was the Arab embargo of oil. Naval planners developed a number of possible responses to such an event including diversion of outbound tankers, air strikes, and even an amphibious assault. In light of the available options, then Chief of Naval Operations Admiral James L. Holloway III, made a realistic and prophetic statement; "[I]t becomes evident that there is little we can effectively accomplish in M.E."<sup>58</sup> Such was the military reality inherited by President Jimmy Carter.

For all of its misgivings related to response to the hostage crisis, the Carter Administration had already recognized the weak American position in the Middle East and moved to make necessary adjustments.<sup>59</sup> In mid-1977 Carter initiated Presidential Review Memorandum 10 and Presidential Directive 18 which identified the Gulf Region as a vulnerable and vital region to which greater military concern should be given starting with the establishment of a Rapid Deployment Force.<sup>60</sup>

---

<sup>57</sup> Palmer, 94.

<sup>58</sup> Palmer, 100

<sup>59</sup> Palmer, 101.

<sup>60</sup> Ibid.

JCS response to PD 18 was a review of Middle East and Persian Gulf military strategy, the findings of which were released in 1978.<sup>61</sup>

The Joint Chiefs recommended expanding basing facilities at Diego Garcia, in Oman, Saudi Arabia, and Djibouti and projecting naval force augmentation to include increases in carrier battle group (CVBG) deployment from one-to-three months to three-to-four months of the year. At times when CVBGs were absent, the Joint Chiefs recommended that an amphibious assault ship (LHA or LPH) with AV-8A Harriers and an embarked Marine Air-Ground Task Force (MAGTF) patrol the Indian Ocean.<sup>62</sup>

Unfortunately, the military review recommendations would not be realized before the fall of the Shah or the assault on the U.S. Embassy.

Hastened by the fall of the Shah, the Carter Administration placed unarmed U.S. Air Force F-15 Eagles and Airborne Warning and Control Systems (AWACS) in Saudi Arabia in January and March of 1979.<sup>63</sup> The introduction of unarmed F-15s in Saudi Arabia presents an ironic parallel to the fateful placement of unarmed Marine guards at the gate to the Marine Barracks in Beirut, Lebanon. A deterring initiative possesses no teeth when emasculated by an unrealistic restraint. The challenge to military leadership was to quickly develop a military capability in the region that would ensure the security of American interests including access to oil supplies, resistance to Soviet expansion, promotion of stability in the region, advance of the Middle East peace process, and assurance of security to the State of Israel.<sup>64</sup>

On 9 November 1979, only five days following the beginning of the hostage crisis at the American Embassy in Tehran, President Carter directed that military options in

---

<sup>61</sup> Palmer, 103.

<sup>62</sup> Ibid.

<sup>63</sup> Palmer, 106.

<sup>64</sup> Palmer, 107.



dealing with the crisis be considered.<sup>65</sup> Initial meetings between the President's national security advisor, Dr. Zbigniew Brzezinski, and the Joint Chiefs of Staff (JCS) directed the formulation of military options to be utilized should the captors begin harming hostages.<sup>66</sup> To say that a military response was at the forefront of President Carter's thoughts would be inaccurate. Initial actions included an embargo on Iranian oil, the freezing of Iranian assets in American banks, and exhaustive negotiations.

The complexities of planning a rescue, the scale of which had never before been undertaken, were huge. Tactically conducting a rescue in a twenty-seven acre compound consisting of more than sixteen buildings holding upwards of 67 possible hostages at five different locations guarded by a force numbering more than 150, which in turn was supported by bands of armed zealot irregulars, was daunting. Coupled with the above was a hostile (or at least questionable) government status and an unpredictable civilian population that was in the throes of a social revolution. Compounding the problem was the fact that the rescue objective was located in a congested urban center more than 1,600 miles from the nearest American military base. The American Embassy was located almost dead center in the Capital City, which held the potential to be a very nasty hornet's nest, once disturbed. The city of Tehran stretched more than sixteen miles from north to south and ten miles east to west in a dense network of narrow streets and highly populated areas. Within these confines, there were no less than seven major military bases, more than 100 police stations, and an unknown number of armed neighborhood militia groups.<sup>67</sup>

Many military options were considered including seizure of Iranian oil fields, retaliatory bombings, mining of harbors, total blockade, seizure of Kharg Island and covert operations.<sup>68</sup> However, only one option would eventually be selected.

The challenge of an operational commander is normally to coordinate tactical battles and engagements to achieve strategic objectives. "Simply put, the commander's basic mission at this level is to determine the sequence of actions most likely to produce

---

<sup>65</sup> Steven Strasser, "A Mission Comes to Grief In Iran," *Newsweek*, 5 May 1980, 25.

<sup>66</sup> Steele, 3.

<sup>67</sup> Lenahan, 30.

<sup>68</sup> Steele, 2.

the military conditions that will achieve the strategic goals.”<sup>69</sup> However, the unique problem of the hostage crisis would place conventional forces, designed to deter and respond to regional instability and Soviet expansion, in a precarious position. The reality was that there was no existing military strategy from which a coherent military design could be constructed.

When that imperative [strategy] is not the dominating force in the process---when in other words, operational and tactical considerations determine strategy---the result is usually disastrous.<sup>70</sup>

Over a five-month period, a complex and extremely secret raid plan was orchestrated in conjunction with the construction and training of a Joint Task Force (JTF). “JTF 1-79 had a single purpose and mission---prepare a plan and train a force to rescue the American citizens illegally held in Iran, and be prepared to execute it ON ORDER.”<sup>71</sup> Concurrent with the developing events in Iran, a planning cadre was evolving in the JCS Special Operations Division (JCS-SOD). “The principle task of the SOD cell was to monitor the developments and assemble a picture of the situation in Iran, and conduct a feasibility evaluation of a range of insertion and extraction possibilities.”<sup>72</sup> Development of the actual assault planning was assigned to Delta Force, a Special Forces Detachment certified in July of 1978.<sup>73</sup> In early meetings and discussions of the top planners it was evident that Delta Force did not have all the resident capabilities required to reach and access the distant and complex objective area existing in the hostage

---

<sup>69</sup> David Jablonsky, “Strategy and the Operational Level of War: Part I,” *Parameters Journal of the US Army War College Vol. XVII No. 1*, (Spring 1987): 66.

<sup>70</sup> Jablonsky, 73.

<sup>71</sup> Lenahan, 39.

<sup>72</sup> Lenahan, 26.

<sup>73</sup> Lenahan, 15.

situation.<sup>74</sup> JTF 1-79, officially constituted on 12 November 1979 and commanded by Major General Jim Vaught, USA, was comprised of all four service capabilities.<sup>75</sup>

The planning phase of the yet undetermined scheme of maneuver was given the name “Operation Rice Bowl.”<sup>76</sup> The name was selected to preserve the security of the actual subject planning matter and required aircraft movements by attempting to indicate a relationship to an existing relief operation being conducted in Cambodia.<sup>77</sup> As planning continued, individual options were weighed against several factors.

These factors included such questions as—Could it be done undetected? Did we have the assets and means to make it work? What was the transit time, hours or days? What was the impact of the winter weather? What would be the condition of the rescue force when they arrived? What were the options for recall if necessary? What mobility was required once the force was on the ground?<sup>78</sup>

By mid November 1979 specific elements of the plan were developing that indicated the need for forward basing locations due to the great distances involved. Aircraft capability requirements were also identified and it was evident that a helicopter extraction option provided the best chance of success in the urban environment of Tehran.<sup>79</sup> In his book, Lenahan stated that a survey of the capabilities of the American helicopter fleet indicated that only the Sikorsky H-53, or one of its derivatives, had the lift and range potential to conduct the mission.<sup>80</sup> The Navy RH-53D, an airborne mine countermeasure (AMCM) and vertical onboard delivery (VOD) aircraft, was eventually chosen because it was the platform best suited to meet mission parameters and also

---

<sup>74</sup> Lenahan, 30.

<sup>75</sup> Lenahan, 36.

<sup>76</sup> Lenahan, 38.

<sup>77</sup> Ibid.

<sup>78</sup> Lenahan, 40.

<sup>79</sup> Lenahan, 47.

<sup>80</sup> Lenahan, 51.

supported security interests if introduced to the inventory on a Naval carrier.<sup>81</sup> Initial JTF helicopter crews consisted of an even split between Navy pilots with RH-53D backgrounds and Marine pilots with tactical CH-53D experience. Following much discussion and training, a majority of Marine pilots were chosen to fly the helicopters because of their familiarity with the H-53 aircraft and the low-level navigation tactics estimated to be required in execution of the mission.<sup>82</sup> Although a variety of electronic navigation systems were utilized by the helicopter crews, including the Inertial Navigation System (INS) and OMEGA, the primary navigation source remained a simple map.<sup>83</sup> In support of the navigation source and the low level tactics anticipated for the mission, the helicopter crews would be utilizing first generation PVS-5 night vision goggles.<sup>84</sup>

Military raids of this type typically follow a rule of quick and decisive execution. However, the complexity of the Iranian hostage situation required application of this rule in general terms. Conduct of the assault itself would take less than an hour, but the geographic location of the objective called for a three phased plan, including insertion, hostage release, and extraction to be executed during the hours of darkness over a two-day period.<sup>85</sup> In general terms, the plan involved the movement to and meeting of an assault force and helicopters at a secret refueling point, code named Desert One, in the middle of the Iranian desert. Following refueling and loading, the helicopters would transport Delta Force to a hide site outside Tehran at which the force would link with a

---

<sup>81</sup> Ibid.

<sup>82</sup> Colonel Ed Seiffert, USMC (Ret.), Eagle Claw Helicopter Flight Leader, interviewed by author, 15 November, 2001.

<sup>83</sup> Seiffert, interview.

<sup>84</sup> Ibid.

<sup>85</sup> Kyle, 178.

series of trucks obtained by agents inside Iran. The helicopters would continue to an additional hide site where crews would camouflage the aircraft and await the darkness of night two when they would accomplish the extraction of the hostages and Delta Force members.

On night two, Delta Force would move by pre-arranged ground transportation to the objective area where the assault would be conducted to free the hostages. Following the assault, Delta would call for the helicopters to proceed to predetermined pick-up points for extract of the hostages and assault force. The helicopters would ferry personnel to Manzariyeh airfield, previously secured by U.S. Rangers, where both the hostages and JTF would transfer to C-141 aircraft for transport out of Iran.

During planning, eight Navy RH-53D mine sweeping helicopters were positioned aboard USS Nimitz, an aircraft carrier deployed in the Gulf of Oman.<sup>86</sup> The crew of USS Nimitz, unaware of the secretive hostage rescue mission, exercised and maintained the eight helicopters under the auspice that they were to execute a critical mine sweeping operation.<sup>87</sup> Only months later would they watch in wonderment as the eight helicopters, flown by unknown crews, lifted into the darkness on a secret mission that would test the capability of crew and machine.

During the insertion phase of the operation, three MC-130 aircraft would depart from their staging base at Masirah, Oman for the refueling and rendezvous point Desert One in the Dasht-e-Havir desert.<sup>88</sup> Aboard these aircraft would be the Delta assault force, Desert One security elements, and drivers for the ground transportation inside Iran.<sup>89</sup> The

---

<sup>86</sup> Seiffert, interview

<sup>87</sup> Ibid.

<sup>88</sup> Kyle, 178.

<sup>89</sup> Ibid.

initial MC-130, departing one hour ahead of the number 2 and 3 MC-130s, would utilize Forward Looking Infrared Radar (FLIR) to visually determine the security of the Desert One site.<sup>90</sup> Once on the ground at Desert One, security teams and combat controllers would set up two desert floor landing zones and a Tactical Air Navigation system (TACAN) to be used by follow-on aircraft.<sup>91</sup> Just minutes in trace of the second and third MC-130s, three EC-130 aircraft would move from Masirah, Oman to Desert One to provide a critical fueling capability required to ensure enough fuel in the helicopters for execution of events on night two.<sup>92</sup> Once the three EC-130s were safely on-deck at Desert One, the initial two MC-130s would depart the refueling point to provide space for eight RH-53D helicopters inbound from USS Nimitz to meet with Delta Force and the refuelers at Desert One.<sup>93</sup> The arrival of the helicopters at Desert One was choreographed to occur 15 minutes following the departure of the EC-130s.<sup>94</sup>

An event highly rehearsed in training of the JTF, refueling of the helicopters was expected to take about 40 minutes on deck at Desert One.<sup>95</sup> Following refueling, the helicopters would transport the Delta Force to its drop-off point approximately 50 miles southeast of Tehran.<sup>96</sup> Delta Force would move on foot from the drop site to another location in which they would conceal themselves before dawn.<sup>97</sup> From this position, Delta Force would be transported to a warehouse outside of Tehran where they would make preparations for the events of night two.<sup>98</sup> After inserting Delta Force, the

---

<sup>90</sup> Ibid.

<sup>91</sup> Kyle, 179.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid.

<sup>94</sup> Kyle, 180.

<sup>95</sup> Kyle, 181.

<sup>96</sup> Ibid.

<sup>97</sup> Ibid.

<sup>98</sup> Lenahan, 107.

helicopters would proceed approximately fifty miles to the east to their hide or laager site.<sup>99</sup> In this location, crewmembers would establish security while the helicopters were camouflaged prior to dawn.<sup>100</sup> Following departure of the Assault force on the helicopters, the four remaining EC-130s at Desert One would depart for Masirah, Oman executing an enroute rendezvous for fuel with KC-135s over the Gulf of Oman.<sup>101</sup>

On night two, Delta Force Commander, Colonel Charlie Beckwith would proceed with guide Dick Meadows into Tehran to reconnoiter the routes and objective area to be utilized by Delta Force.<sup>102</sup> Additionally, a group of drivers and translators would position the trucks needed to transport the assault forces to the U.S. Embassy and Ministry of Affairs.<sup>103</sup>

Concurrent with Delta's reconnaissance and movement to the objective areas, a 100-man force of Rangers would launch on 4 MC-130s from Wadi Kena enroute to Manzariyeh airfield.<sup>104</sup> Additionally, four AC-130s would depart Wadi Kena to provide close air support (CAS) for the assault forces at the U.S. Embassy and Ministry of Affairs, as well as the Rangers at Manzariyeh airfield.<sup>105</sup> In Daharan, Saudi Arabia, 2 C-141s would depart to arrive at Manzariyeh airfield approximately 10 minutes in trace of the Rangers.<sup>106</sup> One C-141 was configured as a hospital ship and the other with airline passenger seats for the care and movement of both the hostages and JTF out of Iran.<sup>107</sup>

---

<sup>99</sup> Kyle, 181.

<sup>100</sup> Ibid.

<sup>101</sup> Ibid.

<sup>102</sup> Kyle, 182.

<sup>103</sup> The trucks used to transfer the assault force would utilize false walls to hide the force while executing the approach routes to the objective areas.

<sup>104</sup> Kyle, 181.

<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> Ibid.

Triggering Delta's assault, Colonel Beckwith would transmit an execution code word that would also coordinate the arrival of the AC-130 gun ships and the Ranger's assault on Manzariyeh airfield in preparation for the extract process.<sup>108</sup> Once the assaults were underway at the U.S. Embassy and Ministry of Affairs, Colonel Beckwith would call the RH-53D helicopters to lift from their hide site and proceed to pre-arranged extraction sites.<sup>109</sup> The extract plan required four helicopters to proceed to the Amjadih soccer stadium across the street from the U.S. Embassy.<sup>110</sup> Additionally, two helicopters were to fly to an extraction site near the Ministry of Affairs.<sup>111</sup> Delta Force would move from their assault positions to the extract points to board the helicopters under the protective cover provided by the AC-130 gun ships. Following successful assaults and extract of the hostages and assault forces, the helicopters were to proceed to Manzariyeh airfield for link-up with the MC-130s and C-141s.<sup>112</sup> The hostages, Delta force, and the helicopter crews would board the C-141s while the Rangers would board the MC-130s for departure.<sup>113</sup> At this point, to avoid the footprint, time, and security factors in refueling the helicopters, the RH-53Ds would be left in place at Manzariyeh airfield.<sup>114</sup>

The plan was detailed and thorough, but placed considerable weight on the successful completion of sequential events. In the continuum of war, the risk was that the plan tied achievement of strategic objectives to a single tactical outcome. As stated by Liddell Hart, "[t]he military objective should be governed by the political objective,

---

<sup>108</sup> Kyle, 183.

<sup>109</sup> Ibid.

<sup>110</sup> Ibid.

<sup>111</sup> Ibid.

<sup>112</sup> Kyle, 184.

<sup>113</sup> Ibid.

<sup>114</sup> Ibid.



subject to the basic condition that policy does not demand what is militarily . . . impossible.”<sup>115</sup> This judgment is sometimes an extremely challenging call.<sup>116</sup>

---

<sup>115</sup> Jablonsky, 69.

<sup>116</sup> Ibid.

## Chapter 3

### Operation Eagle Claw

By the end of March 1980, a number of contributing factors indicated that diplomatic options had effectively run out. The political situation in Iran was deteriorating rapidly as the Ayatollah gained more power over the ruling Revolutionary Council, and there were growing indications that the well-being and very lives of the hostages were increasingly at risk.<sup>117</sup> As a result, President Carter convened the National Security Council on 11 April 1980 to discuss the viability of a military option. On this date, the complete JTF 1-79 plan was briefed to the president and received his approval.

The ability to rescue our people being held hostage, which did not exist on November 4, 1979, was now a reality. Our plans had been reviewed by the highest military leaders and key government officials and been stamped APPROVED, with high probability of success.<sup>118</sup>

Much conjecture has been made over the percentage for success involved in the plan authorized by the President and JCS.<sup>119</sup> Differing opinions on mission chance of success were influenced by egos, backgrounds, and personal experiences. These percentages really represent an attempt to tangibly quantify a decision involving intangible variables. If data supports a particular action there is no decision. However, the intangible realm provides no measurable substance for analysis and will continue to challenge leaders at every level. Regardless of the differing estimates, the relevant issue is that the final decision maker, President Jimmy Carter, believed the chances of success outweighed the involved risks.

---

<sup>117</sup> Strasser, 25.

<sup>118</sup> Kyle, 200.

<sup>119</sup> Paul B. Ryan suggests in his book that the mission had a 60-70 percent chance of success. In his book, Colonel James H. Kyle, USAF suggests a 96 percent chance of success.

Following the President's approval of the plan, JTF 1-79 moved from training locations to execution points throughout the Middle East, Indian Ocean, and Gulf of Oman.<sup>120</sup> The established planning date for execution was 24 April 1980, but the date represented only a planning mark based on the time necessary to deploy JTF forces and the start of the best possible window related to available hours of darkness and ambient temperatures in Iran.<sup>121</sup> Starting eleven days prior to execution, elements of the JTF began the challenging task of deployment without being detected.<sup>122</sup> Deployment would be achieved through the disguised flow of aircraft, equipment, and personnel designed to mask the true objective. The airflow had actually been operational for months in an effort to establish a pattern of flights, diplomatic clearances, and over-flight requests that would create a picture of routine operations.<sup>123</sup> During this phase, the helicopter crews were flown to USS Nimitz in the Gulf of Oman to rendezvous with their RH-53Ds. Additionally, MC-130s and EC-130s moved to Masirah, Oman, and KC-135s, AC-130s, MC-130s, and C-141s were deployed to Wadi Kena. This process may be the only visible application of operational art involved in the hostage rescue plan and set the stage for execution.

On 24 April 1980 the order was given. "Message from Commander Joint Task Force (COMJTF), 'Foreman': EXECUTE MISSION AS PLANNED. GOD SPEED."<sup>124</sup> Months of training on PVS-5 Night Vision Goggles, precision long-range navigation, desert landings, Rapid Ground Refueling (RGR), and Delta's ground operations were to be tested on this night. At approximately 1930 (local time) eight RH-53Ds lifted from

---

<sup>120</sup> Kyle, 202.

<sup>121</sup> Seiffert, interview.

<sup>122</sup> Kyle, 205.

<sup>123</sup> Kyle, 204.

<sup>124</sup> Kyle, 235.

USS Nimitz in the Gulf of Oman and pressed for the shoreline of Iran.<sup>125</sup> Mission planning should have identified that initial vulnerabilities in the operation involved the extreme demands placed on the RH-53 helicopters. The aircraft was the best selection among existing capabilities to travel the distances required by the realities of geography and then accomplish the critical lift capability required to covertly insert the Delta assault force.

In-flight refueling probes existed on the RH-53D aircraft and the JTF helicopter crews were qualified and proficient in conduct of day and night in-flight refueling.<sup>126</sup> However, in-flight refueling was not a viable option for the rescue mission. Elimination of the use of in-flight refueling revolved around the lack of C-130 aircraft configured to conduct such a service.<sup>127</sup> The amount of fuel necessary in conduct of flight operations at the distances required in the rescue mission exceeded the number of existing C-130s configured to provide the fuel. As a result, the JTF was forced to utilize a ground-refueling scenario which significantly increased the risk associated with helicopter refuel requirements. Unfortunately, the fixed-wing airspeeds, range capabilities, and vertical takeoff and landing technology of a tilt-rotor aircraft were also not available and remain years in the future even today because of the delays in the V-22 program. The reality is that on 24 April 1980 the best available match of aircraft capabilities and aircrew preparation were brought together on aboard USS Nimitz and launched in support of an American effort to achieve the return of 53 of its citizens held against their will by a hostile nation.

---

<sup>125</sup> Seiffert, interview.

<sup>126</sup> Ibid.

<sup>127</sup> Ibid.

The preferred scenario would have had the helicopter aircrews flying the same aircraft that they had trained with during preparation for the mission. However, the operational security issues surrounding the mission necessitated that, concurrent with training, eight aircraft be pre-positioned in theater to avoid raising any suspicions at execution time. During mission preparation, aircrews trained with a mixture of RH-53D, CH-53D, and CH-53A models.<sup>128</sup> The ergonomic layout of instrumentation in the three models of the H-53 was somewhat different, but the flight characteristics of the aircraft were virtually identical and all aircrew accumulated sufficient RH model familiarity during the training phase.<sup>129</sup> Over the 5½ months of preparation dedicated to already very experienced and talented aircrew, a series of full-scale rehearsals, including all elements of the JTF, were conducted.<sup>130</sup> During these exercises and additional individual element training, effort was made to parallel the distances, potential flight conditions, expected flying time, and anticipated pressures of the actual mission.<sup>131</sup> By execution time, there was a great deal of confidence among all members of the JTF that the mission would be successful.<sup>132</sup>

In the months preceding mission execution, the mission RH-53s were maintained and exercised aboard USS Nimitz by the HM-16 Navy mine sweeping squadron.<sup>133</sup> A covert supply network had been established within the Naval supply chain that provided sufficient priority of necessary aviation parts to ensure operational readiness of all 8 mission RH-53s.<sup>134</sup> The established mission abort criteria dictated the availability of 8

---

<sup>128</sup> Ibid.

<sup>129</sup> Ibid.

<sup>130</sup> Ibid.

<sup>131</sup> Ibid.

<sup>132</sup> Ibid.

<sup>133</sup> Ibid.

<sup>134</sup> Ibid.

helicopters departing USS Nimitz, 7 helicopters going “feet-dry” from the Gulf of Oman into Iran, 6 helicopters departing the Desert One refueling site, and 5 helicopters departing the hide sites on night two.<sup>135</sup> Extraordinary efforts were made to ensure that all eight aircraft were in mission capable status on 24 April 1980.<sup>136</sup>

The mission aircraft were flown exactly as maintained by the Navy HM-16 squadron with two exceptions. First, the aircraft Engine Air Particle Separator (EAPS) systems, designed to enhance engine life by removing sand and debris from engine intake air, were removed in an effort to increase engine power output.<sup>137</sup> In accomplishing their purpose, EAPS systems cause a reduction in engine power output that is generally acceptable under normal operating conditions. In the case of the hostage rescue mission, operations at the very extremes of temperature, density altitude, and mission weight necessitated the selection of maximum power available as apposed to long-term preservation of the engines. It should be noted that removal of the EAPS was not related to any in-flight aircraft maintenance problem and did not contribute to the mission abort. Secondly, while aboard USS Nimitz and just days prior to the actual mission execution, all 8 RH-53s were painted with a low infrared (IR) paint scheme to minimize their visibility against the desert landscape.<sup>138</sup>

With the crews utilizing the PVS-5 Night Vision Goggles, the eight helicopters flew low over the water as they proceeded towards the coastline of Iran. The flight crossed the Iranian coastline at 100’ Above Ground Level (AGL) and had achieved the

---

<sup>135</sup> Ibid.

<sup>136</sup> Ibid.

<sup>137</sup> Ibid.

<sup>138</sup> Ibid.

cloak of secrecy required of the mission.<sup>139</sup> The only aircraft problem at this point was an intermediate gearbox chip light experienced by the number eight aircraft.<sup>140</sup> This caution indication is activated when contactors in the aircraft tail rotor drive train detect the existence of metallic flakes in drive-train lubricating fluid. The indication itself is not considered a discrepancy, but with secondary indications can be the precursor to a drive-train failure. In this case, there were no secondary indications and the aircraft continued safely all the way to Desert One. (See Graphic 1)

Shortly before the departure of the RH-53s, the first MC-130 carrying the Desert One security teams, truck drivers, interpreters, combat control team, and advisors took off from Masirah, Oman.<sup>141</sup> The number 2 and 3 MC-130s, scheduled to launch an hour in trace of lead, carried the remaining elements of the Delta assault force.<sup>142</sup> The tragic and happenstance collision of two aircraft at Desert One was almost first played out in the early minutes of mission execution on the tarmac at Masirah, Oman. The number 2 MC-130 launched at 1905 (local Time) as scheduled, but because of a compressed parking arrangement and poor sequencing of aircraft his wingman nearly clipped wingtips with another aircraft on the apron and was delayed approximately 5 minutes while other aircraft were taxied for departure.<sup>143</sup> The delayed departure of number 3 C-130s at Masirah had no adverse impact on the rescue mission as a whole and only resulted in a modification of the planned formation and flight leadership of the C-130 aircraft.<sup>139</sup> However, if a near mishap can occur within the controlled environment of an established

---

<sup>139</sup> Ibid.

<sup>140</sup> Ibid.

<sup>141</sup> Kyle, 235.

<sup>142</sup> Kyle, 236.

<sup>143</sup> Kyle, 240.

<sup>139</sup> Ibid.

airfield, it highlights the challenge of unplanned aircraft moves in an austere environment like Desert One.

At approximately 2030 (local Time), the lead C-130 experienced the first elements of suspended dust known as haboobs.<sup>140</sup> Through use of the aircraft FLIR, the C-130 crew was able to maintain contact with the ground and as a result did not feel that it was necessary to break radio silence to inform other mission elements of the event.<sup>144</sup> Approximately a half hour later, the lead MC-130 encountered a second dust cloud, this time more dense than the first.<sup>145</sup> Again the crew was able to utilize on-board systems to navigate the phenomena, but elected to send a Satellite Communication (SATCOM) message informing all mission elements of the density of the second dust cloud.<sup>146</sup> The message never reached the helicopters.<sup>147</sup>

Approximately 140 miles inside Iran, the helicopter flight continued what appeared to be a picture perfect mission when helicopter number 6 experienced a Blade Inspection Method (BIM) indication suggesting an imminent main rotor blade failure.<sup>148</sup> (See Graphic 2) The BIM system was used to detect possible cracks in the aircraft main rotor blades through the monitoring of pressure changes in the nitrogen blade filler.<sup>149</sup> In accordance with written emergency procedures, previously discussed with the Commander of the JTF, the crew chose to land the aircraft and executed an uneventful

---

<sup>140</sup> Kyle, 246.

<sup>144</sup> Kyle, 247.

<sup>145</sup> Kyle, 248.

<sup>146</sup> Kyle, 249.

<sup>147</sup> Seiffert, interview.

<sup>148</sup> Kyle, 249.

<sup>149</sup>NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D*. (Washington, DC: Department of the Navy. 1 August 1975), 1-19.



precautionary emergency landing (PEL) in a dry lakebed inside Iran.<sup>150</sup> Upon landing, the crew conducted a visual inspection of the rotor blade in question and confirmed the indication of a potential blade failure.<sup>151</sup> In compliance with planned mission procedures, the number 8 helicopter accompanied the emergency aircraft during its precautionary landing and facilitated the recovery of the number 6 helicopter crew following the decision to abort the aircraft.<sup>152</sup> With its additional cargo and personnel aboard, the number 8 helicopter again resumed flight maintaining the helicopter count one above the required number for continuing the mission from the Desert One refueling site.<sup>153</sup>

Approximately 20 minutes ahead, the lead helicopters were experiencing the initial elements of the suspended dust.<sup>154</sup> Inside the dust cloud, visibility was reduced to such a degree that the helicopter crews were unable to maintain visual contact with wingmen and often experienced spatial disorientation known as vertigo.<sup>155</sup> As conditions worsened and aircrew vertigo caused aircraft unusual attitude situations, the flight began to separate and crews maneuvered between 25' AGL and 9,000' Mean Sea Level (MSL) in unsuccessful attempts to clear the hazardous conditions.<sup>156</sup> When flight conditions did not improve, the number 1 and 2 helicopters reversed course in an effort to regain visual flight conditions and reconstitute the flight of seven aircraft somewhere on the desert floor.<sup>157</sup> (See Graphic 3) However, the number 3, 4, 5, 7 and 8 helicopters had lost sight of the leading section and continued into the dust storm.<sup>158</sup> Following a 20 minute period

---

<sup>150</sup> Seiffert, interview.

<sup>151</sup> Ibid.

<sup>152</sup> Ibid.

<sup>153</sup> Ibid.

<sup>154</sup> Ibid.

<sup>155</sup> Ibid.

<sup>156</sup> Ibid.

<sup>157</sup> Ibid.

<sup>158</sup> Ibid.

on the desert floor, during which time Lieutenant Colonel Seiffert determined weather conditions at Desert One and mission status through the JTF headquarters, the number 1 and 2 aircraft again resumed flight towards Desert One.<sup>159</sup> (See Graphic 4)

In the flight ahead, helicopter number 5 was experiencing extreme difficulty.<sup>160</sup> Inside the dust storm, the aircraft experienced failure of its Aircraft Heading Reference System (AHRS), TACAN, and portions of the Automatic Flight Control System (AFCS). With the looming requirement to navigate through the 9,800' MSL Darband Mountains prior to arriving at Desert One and the near impossibility of maintaining controlled flight and navigating with reduced flight instrumentation, the number 5 crew reluctantly elected to abort the mission and return to USS Nimitz.<sup>161</sup> The electrical failures experienced by the number 5 crew also coincided with a go/no go point with respect to fuel remaining for successful return to USS Nimitz.<sup>162</sup> The number 5 helicopter did successfully return to USS Nimitz, but landed critically low on fuel.<sup>163</sup> With the abort of the number 5 aircraft, the minimum number of required helicopters continued to the Desert One refueling site.

At approximately 1045 (local Time) the lead MC-130 landed safely at Desert One.<sup>164</sup> The Desert One site was little more than a clear surface on the desert floor divided by a rudimentary dirt road into northern and southern landing areas, and was chosen because of its strategic value associated with remote location and advantageous proximity to the day two hide sites for both the Delta Force and helicopter assets.<sup>165</sup>

Remotely controlled marking lights, placed a month earlier in a daring reconnaissance

---

<sup>159</sup> Ibid.

<sup>160</sup> Ibid.

<sup>161</sup> Ibid.

<sup>162</sup> Ibid.

<sup>163</sup> Ibid.

<sup>164</sup> Kyle, 259.

<sup>165</sup> Richard L. Kiper, *Great Raids in History: From Drake to Desert One*, (New York: Sarpedon Publisher, 1997), 305.

effort, facilitated the blackout landing of the C-130 aircraft.<sup>166</sup> Immediately following the landing, the onboard security and control teams deployed to establish roadblocks and activate an expeditionary TACAN utilized to guide all remaining aircraft into Desert One.<sup>167</sup>

Almost immediately following the landing of the lead MC-130, an Iranian Mercedes bus, traveling in a southwesterly direction, arrived on the road dividing the Desert One site.<sup>168</sup> The bus was immediately and effectively detained by the assigned security crews, but presented a unique and ironic situation as the bus contained 44 Iranian passengers who were now present at the fulcrum of a covert effort to release of 53 American citizens.<sup>169</sup> Shortly thereafter, a gasoline truck approached Desert One from the southwest.<sup>170</sup> When the driver of the truck ignored the efforts of a security post to stop the vehicle, security crews resorted to firing an anti-tank weapon which caused an explosion as it ignited inside the cylindrical gasoline trailer of the vehicle.<sup>171</sup> The driver of the gasoline truck climbed free of the wreckage and safely escaped in a following Iranian pick-up truck.<sup>172</sup> In keeping with President Carter's wishes that loss of life be kept to a minimum, it should be noted that no Iranian citizens were harmed in the security measures imposed at Desert One.

After a delay on the desert floor where it was confirmed that helicopters 3, 4, 5, 7 and 8 had continued in the dust storm, helicopters 1 and 2 resumed the challenging flight towards Desert One. While enroute, helicopter number 2 experienced a failure of its

---

<sup>166</sup> Kyle, 257.

<sup>167</sup> Kyle, 259.

<sup>168</sup> Ibid.

<sup>169</sup> Ibid.

<sup>170</sup> Kyle, 262.

<sup>171</sup> Ibid.

<sup>172</sup> Ibid.

second stage hydraulic system which provided hydraulic pressure to one of its two primary Hydraulic Flight Control Systems.<sup>173</sup> The failure originated from a crack in a hydraulic fitting perpetuating complete loss of second stage hydraulic fluid and cavitation of the systems hydraulic pump mounted on the aircrafts accessory gearbox.<sup>174</sup> However, in testimony to their dedication to mission accomplishment, the crew of the number 2 helicopter elected to continue on to Desert One. A minimum communication plan had been in effect from takeoff which mandated elimination of inter- and intra-flight radio traffic in order to preserve operational security inside Iran. The lead C-130 had not reported its first experience with the dust storms and the aborting crews of helicopters number 6 and 5 had remained silent for the same reasons. The debilitating situation in helicopter number 2 was not publicized until landing at Desert One.<sup>175</sup>

Slightly after midnight at Desert One, all C-130 refuelers were in position and waiting with engines at idle.<sup>176</sup> Because of the dust storm conditions, the helicopter flight had experienced considerable delays and actually arrived 45 minutes to 1 hour and 40 minutes late.<sup>177</sup> Helicopters 3 and 4 were the first to arrive and were positioned behind C-130 number 4 on the northern portion of Desert One. Upon arrival, the helicopters experienced “brown out” landing conditions due to the soft and loose surface composition in the landing zone.<sup>178</sup> Helicopter 7 arrived approximately 15 minutes after the lead section with helicopter number 8 another 20 minutes in trace.<sup>179</sup> Helicopter number 7 positioned behind the number 5 C-130 on the southern portion of Desert One

---

<sup>173</sup> Seiffert, interview.

<sup>174</sup> Ibid.

<sup>175</sup> Ibid.

<sup>176</sup> Kyle, 272.

<sup>177</sup> Seiffert, interview.

<sup>178</sup> Ibid.

<sup>179</sup> Ibid.

and helicopter number 8 positioned behind the number 6 C-130 to the south of helicopters 3 and 4. Approximately 20 minutes in trace of helicopter 8, helicopters 1 and 2 arrived at Desert One. Helicopter number 1 positioned north of the road behind the number 6 C-130 and helicopter number 2 positioned south of the road behind the number 5 C-130. (See Graphic 5) Presentation of the Desert One arrival time of each helicopter may appear trivial, but the information highlights the level of planning consideration given to allow for unexpected delays in transit to Desert One. Despite the delayed arrival of the helicopters, sufficient time, in terms of darkness, remained to refuel and fly the second leg to the hide sites.

As the helicopters took on fuel, the crew of helicopter number 2 reported the severity of its problems. The flight leader, Lieutenant Colonel Ed Seiffert, USMC, confirmed the system failure and forwarded an aircraft abort decision to the Desert One site commander, Colonel James H. Kyle, USAF.<sup>180</sup> With five helicopters remaining, the JTF had fallen below the 6 helicopters required to continue from Desert One. Queries were made to the commander of Delta Force, Colonel Charlie Beckwith, USA, as to whether he could reduce his force requirements to continue with just 5 helicopters. However, the problematic environment inside the Embassy and Ministry of Affairs precluded Beckwith from curtailing his force. Through use of SATCOM, Colonel Kyle reluctantly transmitted an abort requirement to the JTF Headquarters which actually went all the way to the President. Within minutes the President made the abort decision.<sup>181</sup>

Because of this decision, the remaining 5 helicopters needed enough fuel to return to the USS Nimitz. However, because the C-130 tankers had been idling for almost 2

---

<sup>180</sup> Ibid.

<sup>181</sup> Ibid.

hours in waiting for the helicopters to arrive, remaining fuel for the C-130s and the helicopters was becoming an issue. It was determined that the number 4 C-130 would have to depart immediately to prevent falling below fuel requirements for its return leg. Additionally, the number 4 helicopter was in need of 3,000 pounds of fuel because it had been receiving its fuel from the critically low number 4 C-130.<sup>182</sup> To facilitate the departure of the number 4 C-130, helicopters 3 and 4 were required to displace to provide maneuver and takeoff space. It was decided that helicopter number 3, the outside and northern most helicopter, would displace first with the number 4 helicopter following in trace. Helicopter number 4 was to then reposition behind the number 6 C-130 to receive fuel for return to USS Nimitz.<sup>183</sup> (See Graphic 5)

The number 3 helicopter, piloted by Major Jim Schaefer, first attempted clearing the area by ground taxi. However, ground taxi procedures proved ineffective and a guided hover taxi was elected.<sup>184</sup> Positioning a ground guide between the helicopter and the C-130, the number 3 helicopter lifted into a hover and immediately experienced expected “brown out” conditions. The ground guide’s lighted wand was visible to the pilots forward of the helicopter, but the ground guide, with the lighted wand in hand, moved toward the C-130 to escape the dust cloud created by the helicopters rotor wash. As a result, the lighted wand, the only existing hover reference point to the helicopter crew, became a false reference point as it now directed the aircrew towards the very obstacle they wished to avoid. Following what was believed to be direction by the

---

<sup>182</sup> Kyle, 294.

<sup>183</sup> Ibid.

<sup>184</sup> Kyle, 295. In his book, Colonel Kyle writes that the number 3 helicopter had experienced damage to its front nose wheel and therefore could not successfully ground taxi as a method of clearing the path of the C-130. In an interview with the Helicopter Flight Leader, Colonel Ed Seiffert, it was revealed that the damaged nose wheel did exist, but the difficulty with ground taxi related more to the depth of the sand and dust at Desert One causing a “brown out” condition in the immediate area around the helicopter.

ground guide, the number 3 helicopter drifted forward and right where it crossed over the left side of the number 4 C-130.<sup>185</sup> Now above the C-130, the helicopter began a sliding descent causing its rotors to impact the C-130s wing and fuselage. Tragically, the mishap took the lives of 8 men. Exploding ordnance from both mishap aircraft caused damage to 3 other helicopters as they refueled near by. Due to aircraft damage, all remaining JTF members abandoned their damaged aircraft and were loaded on the remaining 3 C-130s for extraction. (See Graphic 6)

In the aftermath of the abort of Operation Eagle Claw, a group of distinguished flag officers, headed by Admiral J. L. Holloway III, USN (Ret.), was asked by the Joint Chiefs of Staff to conduct a full review and analysis of the military issues associated with the mission.<sup>186</sup> The review group analyzed 23 separate issues associated with the rescue attempt and identified 11 major items as influential to the failed outcome.<sup>187</sup> The 11 items are listed below.

1. Operational Security.
2. Independent review of plans.
3. Organization, command and control, and the applicability of existing JCS plans.
4. Comprehensive readiness evaluation.
5. Size of the helicopter force.
6. Overall coordination of joint training.
7. Command and control at Desert One.
8. Centralized and integrated intelligence support external to the JTF.
9. Alternatives to the Desert One site.
10. Handling the dust phenomenon.
11. C-130 pathfinders.

---

<sup>185</sup> Lenahan, 143.

<sup>186</sup> United States. Joint Chiefs of Staff. Special Operations Review Group. *Rescue mission report*, (Washington, DC: Joint Chiefs of Staff, 1980), 1-2. The Review Group consisted of Admiral James L. Holloway III, USN (Ret.), Lieutenant General Samuel V. Wilson, USA (Ret.), Lieutenant General Leroy J. Manor, USAF (Ret.), Major General James C. Smith, USA, Major General John L. Piotrowski, USAF, and Major General Alfred M. Gray, Jr., USMC.

<sup>187</sup> *Rescue Mission Report*, Annex B, 65.

As stated previously, the Review Group focused only on the military issues associated with the rescue mission failure. However, it is evident that the direct connection between political initiatives and military tactical outcome in the rescue mission consumed the operational level organization requiring the acceptance of considerable risk at the strategic level. This occurrence is not unlikely in terrorist scenarios were the President or his National Security Advisor will interact directly in the operational level.<sup>188</sup> In this case it seems imperative that the military course of action selected be well integrated with an operational plan that anticipates possible outcomes and provides supporting and sequential action. When the strategic defensive strategy proved insufficient and offensive strategy did not exist, a “Hail Mary” effort was employed in hopes of salvaging a desperate situation.

---

<sup>188</sup> Jablonsky, 53.



## Chapter 4

### DISCUSSION

The fact that the decision for mission-abort was caused by an insufficient number of mission capable helicopters at Desert One, it appears logical to suggest that attempting such a mission required employment of greater than 8 helicopters. However, the following data will demonstrate that pre-mission mathematical percentages, available but not provided to the mission planners, theoretically support the mission planning estimates of 8 helicopters. Presentation of this data does not suggest a statistical approach to warfighting. On the contrary, it is an academic tool for analysis of the material assets essential to successful completion of a mission littered with intangible variables. In reality, use of 8 helicopters was a subjective decision among mission planners based on their operational experience and consideration of anticipated reliability, logistic supportability, shipboard space limitations and operational security.<sup>189</sup>

A review of HM-16 RH-53D 3M (Maintenance, Material, Management) data for the 45 days prior to mission execution serves as basis for analysis of estimated aborts.<sup>190</sup>

HM-16 / USS NIMITZ 8 MSN A/C	Datum
Total Flight Hours	<b>208</b>
Total Flights Scheduled	<b>79</b>
Pre-flight aborts	<b>5</b>
In-flight aborts	<b>8</b>
Pre-flight abort rate per 100 flights	<b>6.3</b>
In-flight abort rate per 100 flight hours	<b>3.8</b>

$$\frac{\text{Pre-flight aborts (5)}}{\text{Total flights (79)}} = \frac{X}{\text{(per 100 fts)}}$$

$$X = 6.3$$

$$\frac{\text{In-flight aborts (8)}}{\text{Total flt hrs (208)}} = \frac{X}{\text{(per 100 flt hrs)}}$$

$$X = 3.8$$

<sup>189</sup> Seiffert, interview.

<sup>190</sup> Ibid.

Additionally, review of Navy RH-53D fleet 3M data over an 18-month period, ending 31 December 1979, provides similar pre-flight and in-flight abort rates to those experienced by the 8 JTF aircraft prior to mission execution.<sup>191</sup>

<b>NAVY FLEET WIDE RH-53D (30 A/C)</b>	<b>DATUM</b>
Total Flight hours	<b>8811.7</b>
Total Flights aborted	<b>841</b>
Pre-flight aborts	<b>555</b>
In-flight aborts	<b>286</b>
Pre-flight abort rate per 100 hours	<b>6.3</b>
In-flight abort rate per 100 hours.	<b>3.3</b>

It must be noted that the pre-mission, in-flight abort rate for the 8 JTF aircraft, measured at 3.8 aborts per 100 flight hours, was higher than the 3.3 in-flight aborts per 100 flight hours experienced by the Navy fleet wide. This difference is attributed to an increased number of Functional Check Flights (FCF), with mandatory abort requirements, utilized in preparing the 8 JTF aircraft for mission execution.<sup>192</sup> For purposes of analysis within this paper, the data utilized includes the FCF abort rate to present the highest anticipated in-flight abort rates for the 8 JTF aircraft. The following table applies the original HM-16 pre-flight and in-flight abort rates to the JTF helicopter mission profiles as they apply to the helicopter mission abort criteria of 8 helicopters off the ship, 7 across the beach, 6 out of Desert One, and 5 out of the hide site.

<b>Application of Pre-flight and In-flight Abort Rates to JTF Helicopter Mission Profiles</b>				
<b>EVENT</b>	<b>ABORT RATE</b>	<b>TIME OF EVENT (ALL AIRCRAFT)</b>	<b>APPLIED ABORT RATE</b>	<b>AIRCRAFT REMAINING</b>
SCHEDULED	N/A	N/A	N/A	<b>8</b>
T/O USS NIMIZ	6.3 per 100 flights	N/A	0.5	<b>7.5</b>
ENROUTE TO DESERT-I	3.8 per 100 flight hrs.	5 + 00 (total 37.5 flight hrs.)	1.425	<b>6.075</b>
ENROUTE TO HIDE SITE	3.8 per 100 flight hrs.	2 + 00 (total 12.15 flight hrs.)	0.4617	<b>5.6133</b>
T/O HIDE SITE	6.3 per 100 flight hrs.	N/A	0.3536379	<b>5.259624</b>

<sup>191</sup> Ibid.

<sup>192</sup> Ibid.

The far right column of the previous table presents the statistical application of pre-mission abort rates to the selection of 8 RH-53D aircraft. Statistically, the selection of 8 aircraft should have proved sufficient. In reality, the maintenance failures experienced during mission execution paralleled failures experienced during mission training and were not uncommon among Navy fleet wide aircraft.<sup>193</sup> However, poor meteorological history of the Iranian desert and failure to forecast the dust phenomena resulted in the in-flight abort of the number 5 helicopter and introduced a factor that burdened anticipated material failure rates.

The existence of the suspended dust phenomena cannot be overlooked in discussion of the number 5 helicopter abort. The debilitating visual conditions caused by the storm negated the visual acuity provided by NVGs and forced all 7 remaining helicopter crews to utilize aircraft instrumentation to maintain balanced flight. Within the dust storm, neither the NVGs nor the reduced instrumentation caused by the failed electrical power supply in helicopter number 5 provided more than the minimum spatial orientation requirements to keep the aircraft in balanced flight while navigating the treacherous Darband Mountains enroute to Desert One. In contrast, without the existence of the dust phenomena, the crew of the number 5 helicopter, utilizing NVGs, would have been able to maintain visual contact with the ground and other aircraft in the flight and continue the mission with minimal difficulty.<sup>194</sup>

In his book, the guts to try, Colonel James H. Kyle, USAF (Ret.) questions the abort decision of the number 6 helicopter by suggesting that JTF BIM abort procedures were overly cautious in comparison with Air Force and Navy dictum for a similar

---

<sup>193</sup> Ibid.

<sup>194</sup> Ibid.

indication.<sup>195</sup> The H-53D BIM system is designed to detect pending blade failure which may result in catastrophic loss of aircraft and crew.<sup>196</sup> At the time of the rescue mission attempt, Sikorsky data indicated that the H-53D aircraft had experienced 31 blade spar cracks with verified BIM system indications and 3 fatal CH-53D crashes due to blade failure without preceding BIM indications.<sup>197</sup> However, the RH-53D with an improved BIM system had never experienced a blade spar crack following a verified BIM indication.<sup>198</sup> Additionally, Sikorsky H-53 blade fatigue data, released in 1974, predicted that an H-53 blade with a spar crack could be expected to maintain structural integrity for up to 79 hours at specified airspeeds and a maximum gross weight of 42,000 pounds.<sup>199</sup> “In 1974 as a result of the Sikorsky data, the US Air Force directed that the H-53 not be flown in excess of five hours beyond BIM indication at or below 130 KTS or for more than two hours above 130 KTS.”<sup>200</sup>

The graph below provides a synopsis of the Sikorsky blade integrity projection.<sup>201</sup>

<b>FORWARD AIRSPEED (@ 42,000 pounds)</b>	<b>TIME FROM CRACK TO BLADE FAILURE</b>
100 Knots	79.27 hours
120 Knots	27.47 hours
130 Knots	15.13 hours
140 Knots	8.73 hours
150 Knots	5.63 hours
160 Knots	3.33 hours
170 Knots	2.43 hours

Since Sikorsky projection data is based on a 42,000 pound aircraft baseline, questions related to blade integrity at aircraft weights above 42,000 pounds are left unanswered.

---

<sup>195</sup> Kyle, 333.

<sup>196</sup> NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D*. (Washington, DC: Department of the Navy. 1 August 1975), 5-27.

<sup>197</sup> Seiffert, interview.

<sup>198</sup> Rescue Mission Report, 44.

<sup>199</sup> Ibid.

<sup>200</sup> Rescue Mission Report, 45.

<sup>201</sup> Rescue Mission Report, 44.

The established maximum gross weight for the H-53D aircraft was 42,000 pounds, but during minesweeping operations the RH-53D would routinely operate in the 45,000 pound range.<sup>202</sup> In conduct of Operation Eagle Claw, the 8 JTF RH-53Ds were authorized, by Commander Naval Air Systems Command (COMNAVAIRSYSCOM) to operate up to 47,500 pounds.<sup>203</sup> This waiver was obtained to facilitate the lift requirements of Delta Force in conjunction with the large amount of fuel required to travel the distances involved with the rescue mission. Applying the Sikorsky projected blade fatigue information and ignoring a BIM warning, the number 6 helicopter would have flown approximately 3 hours enroute to Desert One in the turbulent conditions of the dust phenomena. It would then have been loaded with Delta Force and fuel to attempt another 2-hour flight to the night-one hide sites at a maximum gross weight of 47,500 pounds. The lack of specific Sikorsky data concerning blade fatigue for H-53D operations in excess of 42,000 pounds heightens concern for continued operation of an aircraft at the very limits of its structural design. In this case, pending failure of the indicated blade can never be indisputably proven because the crew consciously elected to follow written RH-53D BIM warning procedures, but continuing the mission with a known blade problem may have resulted in a catastrophic failure of the rotor blade when the aircraft was fully laden with Delta Force and maximum fuel. Interestingly, 30 days following the hostage rescue attempt an RH-53D experienced its first recorded blade spar crack following a BIM warning indication.<sup>204</sup>

In contrast to the abort of helicopter number 5, the loss of second stage hydraulic pressure and subsequent abort of helicopter number 2 was not a consequence of the dust

---

<sup>202</sup> Seiffert, interview.

<sup>203</sup> Ibid.

<sup>204</sup> Ibid.

phenomena. The RH-53D NATOPS Flight Manual dictates that, in the case of a first or second stage hydraulic failure, the pilot in command should land the helicopter as soon as possible to avoid the possibility of failure to the remaining system.<sup>205</sup> “Failure of both the first and second stages of the flight control systems will result in a loss of control of the helicopter.”<sup>206</sup> Loss of a first or second stage system does not suggest an expected failure of the redundant system. However, failure of one system establishes controllability reliance on a single hydraulic system. In the case of the number 2 helicopter, operations at 47,500 pounds, the very limits of gross weight, the lives of the crew and Delta Force would have been placed solely on reliability of the first stage hydraulic system. Similar to the BIM indication in helicopter number 6, the second stage hydraulic pump and associated repairs could not have been accomplished at Desert One even if the specific replacement parts and tools were available. The timeline of execution would not have facilitated the movement of the helicopters and Delta Force to the hide sites prior to sunrise.

Any discussion of the aircraft mishap at Desert One must be separated from the mission abort criteria. The tragic sequence that occurred during helicopter refueling at Desert One was subsequent to the mission abort decision, but is often misinterpreted as the cause of mission abort. It is difficult to recreate the events of the mishap scene particularly because the circumstances never allowed proper investigation of the crash site, but contributing factors can be directed at environmental conditions. The soft surface and dusty conditions experienced at Desert One produced extremely challenging

---

<sup>205</sup> NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D*. (Washington, DC: Department of the Navy. 1 August 1975), 5-40.

<sup>206</sup> *Ibid.*

landing conditions as a helicopter's rotor wash created "brown out" conditions in close proximity to the desert surface.<sup>207</sup> These same environmental conditions challenge U.S. forces operating in Afghanistan today. Additionally, the seasonal ambient temperatures of the Iranian desert in combination with sufficient elevation to create a high Density Altitude (DA), placed the helicopters at the upper limits of power available from their engines.<sup>208</sup>

In the case of the mishap RH-53D, degraded visual conditions and a false hover reference point combined to place the helicopter over the fuselage of the C-130. Previous refueling produced a helicopter gross weight at approximately 42,000 pounds prior to loading Delta Force and associated equipment.<sup>209</sup> Desert One ambient temperature was approximately 25-28 degrees Celsius with a Pressure Altitude (PA) of 4000 feet.<sup>210</sup> Applying Desert One ambient temperature and PA to a DA conversion Chart indicates a calculated DA of 6200 feet (See Chart 1). Utilizing RH-53D engine performance charts, engine torque available estimates of 106 % are obtained at 100% Power Turbine speeds (13600 RPM) (See Chart 2). Ambient temperatures of 33-35 degrees Celsius existed above and behind the C-130 due to heated engine exhaust vapors behind the C-130 wing.<sup>211</sup> Applying an ambient temperature of 33 degrees Celsius to an RH-53D engine performance chart projects a maximum of 99 % torque available to the helicopter while hovering over the C-130 (See Chart 2).

---

<sup>207</sup> Seiffert, interview.

<sup>208</sup> Density altitude is defined as pressure altitude corrected for free air temperature.

<sup>209</sup> Seiffert, interview.

<sup>210</sup> Ibid. Ambient temperatures and Pressure Altitudes were obtained from cockpit indications in Lieutenant Colonel Seiffert's helicopter during mission execution.

<sup>211</sup> Ibid. Ambient temperatures and Pressure Altitudes were obtained from cockpit indications in Lieutenant Colonel Seiffert's helicopter during mission execution.

Utilizing RH-53D Indicated Torque Required charts, projections of helicopter hover torque requirements were made to determine if required hover torque exceeded estimated torque available. Applying a 42,000 pound aircraft at 6200' DA to an Indicated Torque Required chart for Hover in Ground Effect (HIGE) at 10' Above Ground Level (AGL), produced a requirement of 93 % indicated torque, well within the power ability of the helicopters engines (See Chart 3).<sup>212</sup> However, the tail of a C-130 is approximately 38' tall placing the helicopter closer to a 40' AGL hover altitude. Applying the same aircraft and DA data to an Indicated Torque Required chart for HIGE at 40' AGL, produced a hover requirement of 115 % indicated torque (See Chart 4). This torque requirement exceeds by 9 % the estimated helicopter torque available value of 106 %. When the increased temperature associated with C-130 engine exhaust is applied, helicopter torque available drops to 99 %. Since the torque requirement to HIGE at 40' AGL remains 115 % indicated torque, a delta of 16% exists with respect to the estimated 99 % torque available over the C-130 (See Chart 4). Charts 5 and 6 are provided to demonstrate that as hover altitude increases, indicated torque requirements increase.

Like the pre-mission and in-flight abort rates of the RH-53Ds, the above calculations are estimates of the engine performance capabilities of the JTF aircraft. However, the performance charts used parallel current calculation methods utilized by aircrew in estimation of platform performance capabilities with respect to elevation, temperature, winds, and aircraft weight. The above data suggest that helicopter number 3 experienced a "settling with power" condition in which the power required to hover

---

<sup>212</sup> HIGE is hovering in the zone where ground effect reduces power required. This is usually within one rotor diameter of the hover surface. HOGE is hovering at a height where ground effect creates no reduction in power required. (HOGE is approximately 77' AGL for the H-53D)



above the C-130 exceeded the power available from the engines based on existing environmental conditions.<sup>213</sup>

Power required exceeding power available becomes dangerous to the crew and the helicopter when operating in close proximity to obstructions where the pilot may not have enough altitude/maneuvering space to recover prior to impacting an obstacle. This condition can be aggravated by rotor droop and loss of tail rotor effectiveness associated with excessive power demands. Indications to the pilot of settling with power are an uncommanded descent with torque at maximum allowable and/or rotor droop and possible loss of tail rotor effectiveness.<sup>214</sup>

Furthermore, the hover path of the number 3 helicopter was the direct result of following anticipated directional control provided by the lighted wand of the ground guide. Why the ground guide moved toward the C-130 is uncertain, but movement of the hover reference point placed the number 3 helicopter in a position from which the laws of physics would not allow the crew to recover.

Discussion of pre-flight and in-flight abort rate estimates, as well as specific helicopter aborts, does not change the fact that the JTF fell short of the required number of aircraft at Desert One. However, presentation of calculated abort estimates and explanation of the specific material failures demonstrates that the abort of helicopters 2 and 6 fell within reasonable pre-mission abort rate estimates and mission training experiences. During training the helicopter crews had been introduced to challenging flying and meteorological conditions, but nothing could have prepared them for the challenges associated with the haboob. It was the existence of the dust phenomenon in combination with the instrumentation failure on helicopter number 5 that ultimately and adversely altered predicted and acceptable material losses.

---

<sup>213</sup> NAVAIR 01-230HMA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, CH-53D*. (Washington, DC: Department of the Navy. 1 January 1997), 11-1.

<sup>214</sup> Ibid.

## SUMMARY & CONCLUSION

Following WWII, U.S. response to Soviet Communist expansion involved selection of Iran as a location from which to secure stability in the Middle East. In facilitating U.S. security interests as well as access to Iranian oil, the U.S. associated itself with the oppressive regime of Shah Mohammed Pahlevi. Internal Iranian resentment grew in response to the Shah's iron fist leadership and unequal distribution of Iranian oil wealth. U.S. support of the Shah's regime and perceived negative western influence also drew criticism fueled by the Islamic cleric Ayatollah Khomeini. At the beginning 1979, the revolutionary wave inside Iran forced the Shah into exile and dissolved U.S. security policy in the region.

Suffering from terminal cancer, the Shah was permitted entrance to the U.S. in order to receive critical medical treatment. Believing the U.S. would assist the Shah in returning to power, Iranian Islamic radicals stormed the U.S. embassy in Tehran and took 53 American diplomats hostage in the name of Khomeini. For release of the hostages, the radicals demanded return of the Shah to stand trial in Iran, return of the Shah's wealth to Iran, an official apology from the U.S., and a U.S. promise of termination of interference in internal Iranian affairs.<sup>215</sup>

The Carter Administration initiated diplomatic efforts in resolution of the crisis, but in late 1979 interest in a military option elevated as diplomatic avenues appeared closed. On 24 April 1980, the U.S. launched a secret hostage rescue mission into Iran which was terminated when 3 mission helicopters aborted due to mechanical failure and the existence of an un-forecast dust storm. Two of the helicopter aborts mirrored failures

---

<sup>215</sup> S. Marshall, "Hostage Crisis In Iran," URL: <http://www.mcps.k12.md.us/schools/einsteinh/delavan/history/forpolicy/marshall.htm>, accessed 20 December, 2001.

experienced during mission rehearsals, but the un-forecast dust storm contributed to abort of the third helicopter already experiencing a failure to critical instrumentation. Over the years the tactical failure has received extensive criticism. However, the plan was tactically feasible. The greater failure existed in risking American honor and interests in the Middle East as well as the safety of the hostages on a single tactical outcome. In launching the rescue mission, President Carter discarded other limited but more feasible military options that could have supported international diplomatic pressure on Iran. Additionally, the hostage rescue mission lacked integration with an overall operational design capable of anticipating and responding to potential outcomes.

The hostage rescue mission exhibits a deficiency in operational planning that plagued the U.S. military following the Vietnam experience. Selection of Iran as a source of regional strength during the Nixon presidency was also a failed policy. The fall of the Shah shattered the framework of U.S. security investment in the Middle East and disclosed the absence of a viable military strategy from which to orchestrate an appropriate military response in the region.

Despite media comparison of the hostage rescue mission to the successful Israeli and German operations of the late 1970s, a more appropriate military template might have been, as suggested by former Secretary of State Cyrus Vance, the Angus Ward incident.<sup>216</sup> The Angus Ward incident involved seizure of the U.S. consular staff in Mukden at the end of WWII and, like the Iranian hostage crisis, required response from the Joint Chiefs of Staff concerning military application.<sup>217</sup> However, in response to the Ward Incident, the Joint Chiefs acknowledged the thorny political and military

---

<sup>216</sup> Vance, 408.

<sup>217</sup> Ibid.

environment associated with a direct military response. In this case, the Joint Chiefs stated that the Department of Defense could, without risk, assist Department of State with transportation requirements, but suggested that direct military application could not ensure the safety of the hostages and could possibly lead to war.<sup>218</sup>

Considering the location and circumstances of American hostages inside Tehran, Iran, it is probable that even a successful rescue mission would have involved the death of hostages and Iranian citizens.<sup>219</sup> Vance also suggested that following a successful rescue mission the Iranians could have simply obtained new hostages from any number of American journalists inside Iran.<sup>220</sup> Early efforts to obtain the support of allies in conduct of legal and economic sanctions were less than fruitful. Most nations unanimously denounced Iranian actions, but were less than enthusiastic concerning implementation of economic restraints. However, on 22 April 1980 the U.S. received commitment from its European and Asian allies to apply sanctions against Iran beginning 17 May 1980.<sup>221</sup> In light of this newfound support, unilateral military action by the U.S. risked hard fought support from allied nations and actually endangered U.S. credibility. The reality was that the tactical execution of the rescue mission, although feasible, in itself did little to support U.S. interests in the Middle East and in its failure probably protracted eventual diplomatic resolution of the crisis. In this sense, tactical failure was only the tip of a submerged iceberg projecting from looming operational and strategic deficiencies damaging to military viability in response to the hostage crisis.

---

<sup>218</sup> Vance, 489.

<sup>219</sup> Vance, 410.

<sup>220</sup> Vance, 410

<sup>221</sup> Vance, 408.

Since 1961, U.S. diplomats, servicemen, and private citizens have been targeted in sixty-six separate hostage, kidnapping, or hijacking incidents conducted by foreign governments, nation states, and international terrorist groups.<sup>222</sup> The sixty-six incidents in 41 years equate to 1.6 such incidents each year. This data suggests that all U.S. Presidents could potentially be faced with at least one situation of this nature during each year of their terms of office. Presentation of this data is not intended to suggest that every international hostage or kidnapping, involving a U.S. citizen, parallels the Iranian hostage crisis of 1979-81. However, the data does demonstrate the relevancy of the subject and the frequency of its occurrence.

On 11 September 2001, the U.S. experienced a tragic and deadly terrorist attack which killed just under 3,000 Americans and citizens of 61 separate nations, leveled the World Trade Towers and damaged the Pentagon. With tactical aircraft now patrolling our skies, let us not forget that the events of 11 September began with the hijacking of 4 U.S. airliners carrying U.S. citizens. Shortly following the terrorist acts of that morning, executive order authorized employment of U.S. tactical aircraft against aircraft under terrorist direction. This event demonstrates that the time continuum associated with a terrorist act may require the President to participate directly at the operational level. The critical decision involves risk verses gain.

Although the current backdrop is quite different from the crisis faced by former President Carter and the U.S. military in 1980, the lessons of 1980 are particularly applicable. In 1980 the U.S. was deeply embroiled in a Cold War standoff with the Soviet Union while Iran and Iraq battled over regional security issues. However, the hostage crisis in Iran came to the forefront of U.S. focus and political and military

---

<sup>222</sup> United States Marine Corps, 4<sup>th</sup> MEB (AT) Information Paper, Appendix I.

response lacked connection with existing vital interests in the region and poorly integrated all elements of national power. In 2002, the U.S. is involved in a war against terrorism currently focused on Afghanistan. Despite the issue of hostages, President George W. Bush and the U.S. military have remained focused on the global issues associated with the security of American citizens at home and abroad. In response, the Bush Administration has swiftly and effectively gained coalition backing thereby facilitating comprehensive legal and economic pressure while leading the military initiative.

## Bibliography

- Acree, Cliff M., Major, USMC, *The Iranian Hostage Rescue Mission: What Went Wrong?* Washington DC: National Defense University, Armed Forces Staff College, 1984.
- Beckwith, Charlie A., Colonel, USA (Ret.) and Donald Knox. *Delta Force*. New York: Harcourt Brace Jovanovich, 1983.
- Field Manual (FM) 100-5. *Operations*. Washington, DC: Department of the Army. May 1986.
- Gilbert, Stephen P., *U.S. Security Interests In The Persian Gulf Area*. Alexandria, VA: Defense Documentation Center, Defense Supply Agency, 1973.
- Gordon, Craig L., "US-Iranian Relations and the Hostage Crisis." URL: <http://147.4.150.5/~cgordon1/iranhostagae/htm>. accessed 28 September 2001.
- Graham, Robert, *Iran: The Illusion of Power*. New York: St. Martin's Press, 1978.
- Gross, Woolf P., *Twin Dilemmas: The Arabian Peninsula and American Security*. Carlisle Barracks, PA: Strategic Studies Institute US Army War College, 1981.
- Heidal, Mohamed, *Iran: The Untold Story*. New York: Pantheon Books, 1982.
- Jablonsky, David, "Strategy and the Operational Level of War: Part I." *Parameters Journal of the US Army War College Vol. XVII No. 1* (Spring 1987): 65-76
- Jablonsky, David, "Strategy and the Operational Level of War: Part II." *Parameters Journal of the US Army War College Vol. XVII No. 1* (Summer 1987): 52-67
- Jordan, Hamilton, *Crisis: The Last Years of the Carter Presidency*. New York: G. P. Putnam's Sons, 1982.
- Kemp, Geoffrey, *Forever Enemies? American Policy & The Islamic Republic of Iran*. NW Washington, DC: The Carnegie Endowment For International Peace, 1994.
- Kuniholm, Bruce R., *Persian Gulf and United States Policy: A Guide to Issues and References*. Claremont, CA: Regina Books, 1984.

- Kyle, James H. Colonel, USAF (Ret.), *the guts to try*.  
New York: Orion Books, 1990.
- Lenahan, Rod, *Crippled Eagle: A Historical Perspective of U.S. Special Operations 1976-1996*. Charleston, SC: Narwhal Press, 1998.
- Marshall, S., "Hostage Crisis In Iran." URL:  
<<http://www.mcps.k12.md.us/schools/einsteins/delavan/history/forpolicy/marshall.htm>>. accessed 20 December 2001.
- NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D*. Washington, DC: Department of the Navy. 1 August 1975.
- NAVAIR 01-230HMA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, CH-53D*. Washington, DC: Department of the Navy. 1 January 1997.
- O'Neil, Bard E., *Insurgency & Terrorism Inside Modern Revolutionary Warfare*. McLean, VA: Brassey's (US), Inc. 1990.
- Palmer, Michael A., *Guardians of the Gulf: A History of America's Expanding Role In The Persian Gulf, 1833-1992*. New York: The Free Press A Division of Macmillan, Inc., 1992.
- Palmer, Michael A., *On Course to Desert Storm: The United States Navy and the Persian Gulf*. Washington, DC: Naval Historical Center Department of the Navy, 1992.
- Rubinstein, Alvin Z., *The Great Game: Rivalry in the Persian Gulf and South Asia*. New York: Praeger Publishers, 1983.
- Ryan, Paul B., *The Iranian Rescue Mission: Why It Failed*. Annapolis, MD: Naval Institute Press, 1985.
- Seiffert, Edward, Colonel, USMC (Ret.), Eagle Claw Helicopter Flight Leader, interviewed by author, 15 November 2001.
- Southworth, Samuel A., *Great Raids in History: From Drake to Desert One*. New York: Sarpedon Publisher, 1997.
- Steele, William M., Lieutenant Colonel, USA, *The Iranian Hostage Rescue Mission: A Case Study*. Washington DC: National Defense University, National War College, Office of Dean of Faculty, March 1984.
- Strasser, Steven, "A Mission Comes to Grief In Iran."  
*Newsweek*, 5 May 1980. 24-36.



Strong, Robert A., *Working In The World: Jimmy Carter and the Making of American Foreign Policy*. Baton Rouge, LA: Louisiana State University Press, 2000.

Treverton, Gregory F., "The Fall Of The Shah."  
Kennedy School of Government, President and Fellows of Harvard University, 1988.

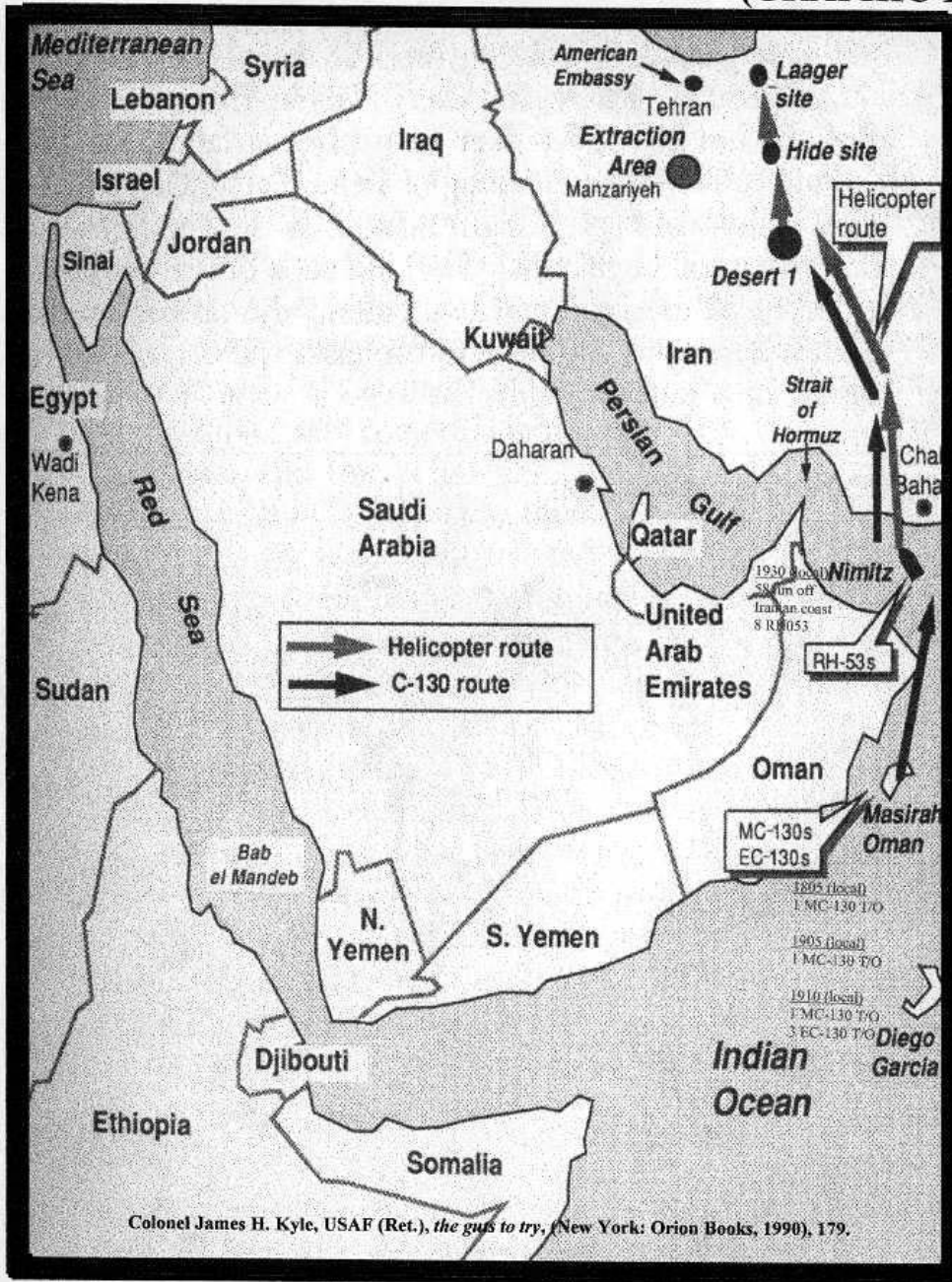
United States. Joint Chiefs of Staff. Special Operations Review Group, *Rescue mission report*. Washington, DC: Joint Chiefs of Staff, 1980.

Vance, Cyrus, *Hard Choices: Critical Years In American Foreign Policy*.  
New York: Simon and Schuster, 1983.

Watson, Russel and David C. Martin, "Who Lost Iran? The Postmortem Begins."  
*Newsweek*, 28 April 1980. 24-25.

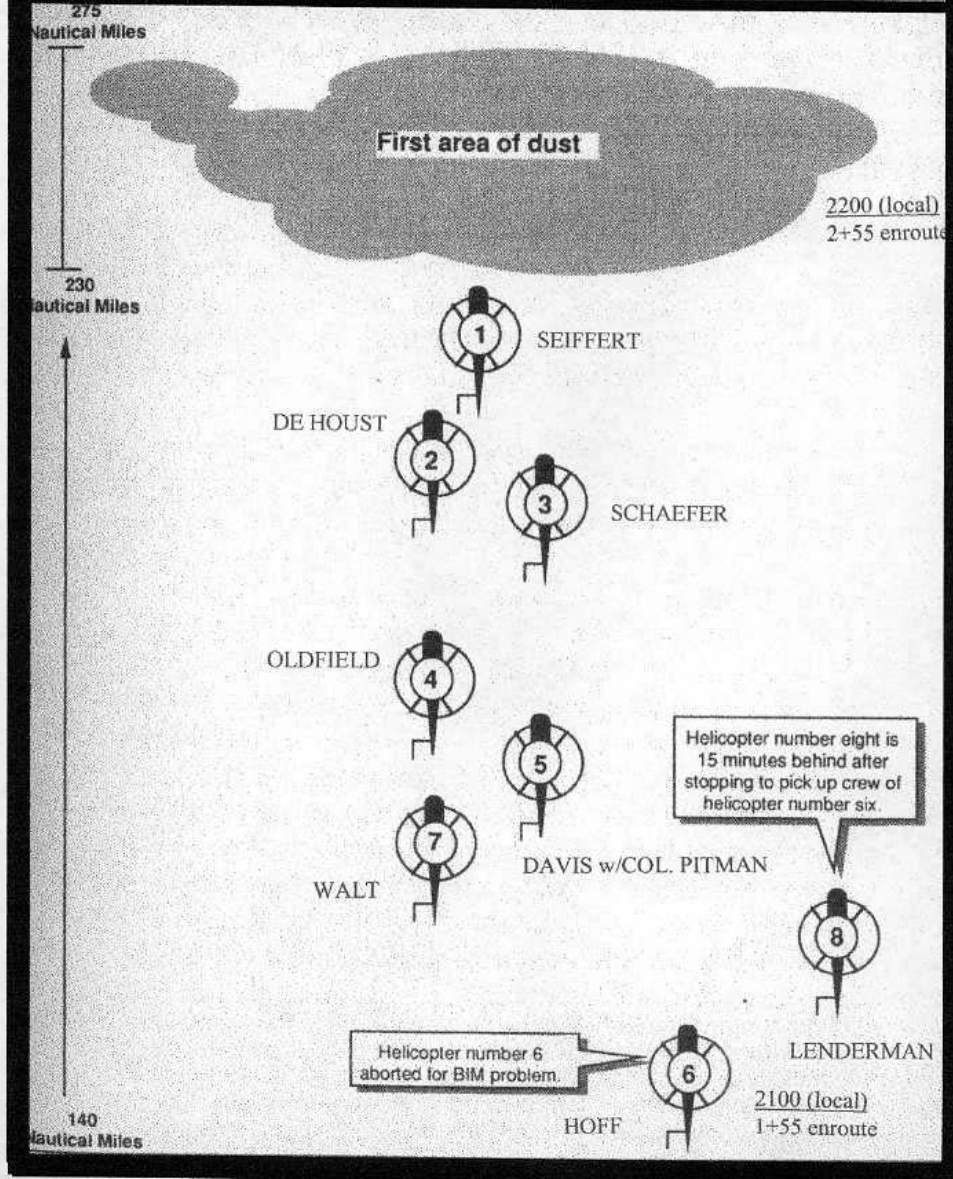
Zonis, Marvin, *Political Dimensions of US Relations With Iran and Saudi Arabia in the 1980's*. Carlisle Barracks, PN: Strategic Studies Institute US Army War College,  
1983.

# ROUTING NIGHT ONE (GRAPHIC 1)



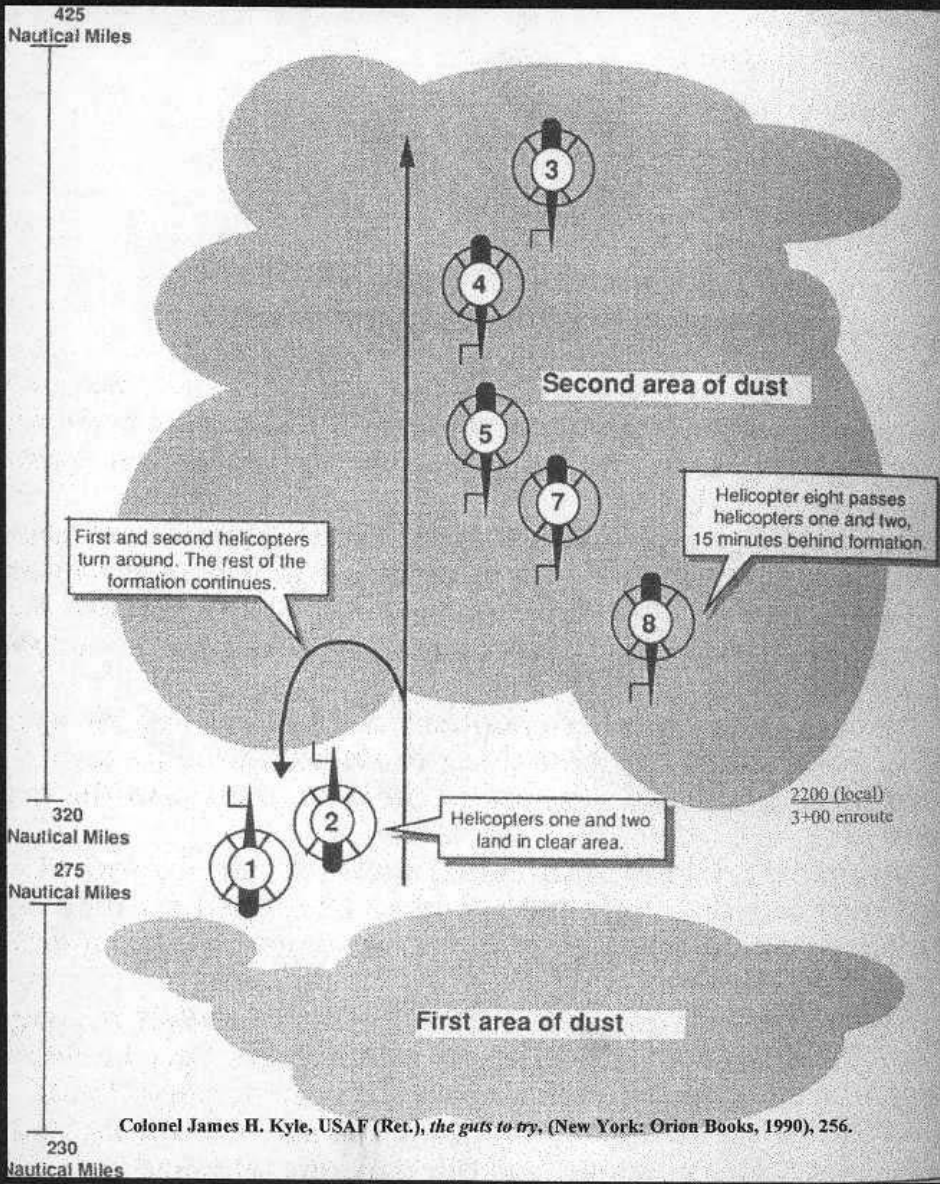
# Helicopters Encounter Dust

## (GRAPHIC 2)



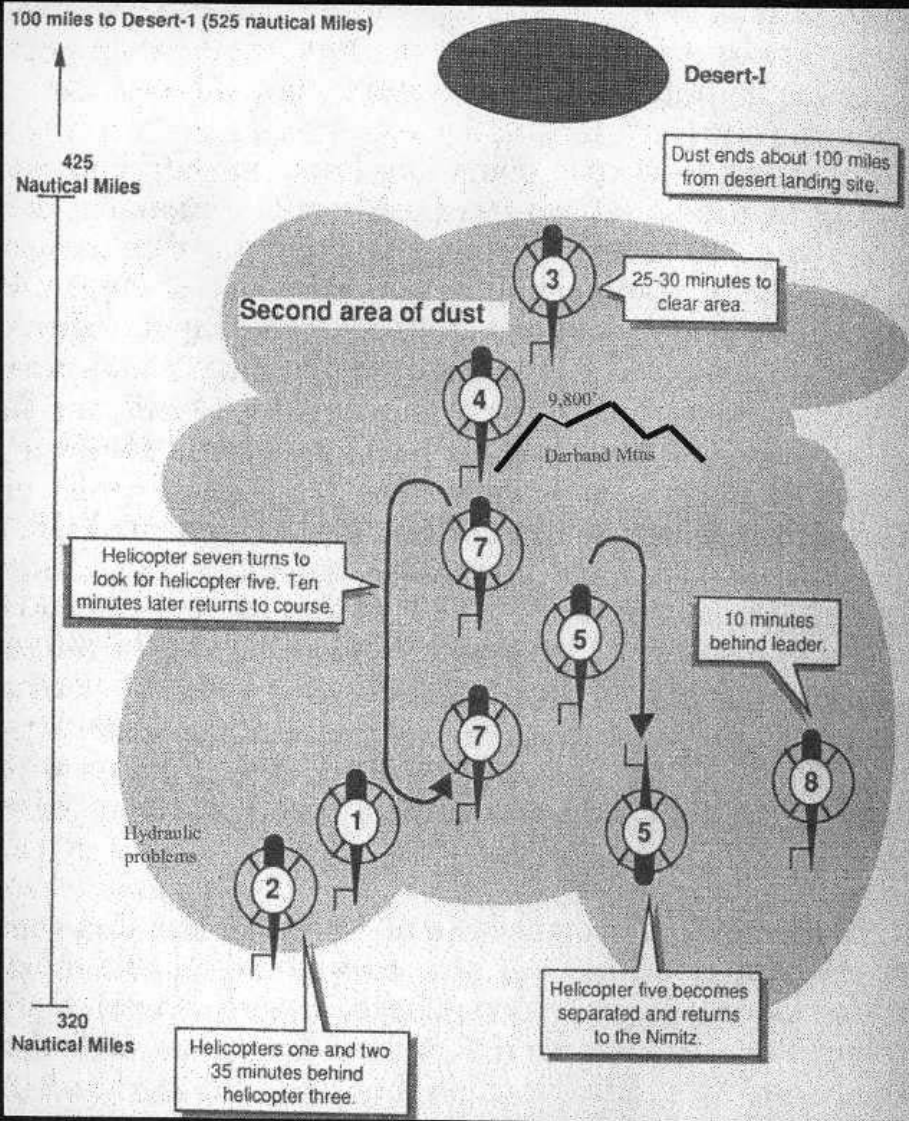
Colonel James H. Kyle, USAF (Ret.), *the guts to try*, (New York: Orion Books, 1990), 253.

### Helicopters in Second Area of Dust (GRAPHIC 3)



### Helicopter 5 Turns Back

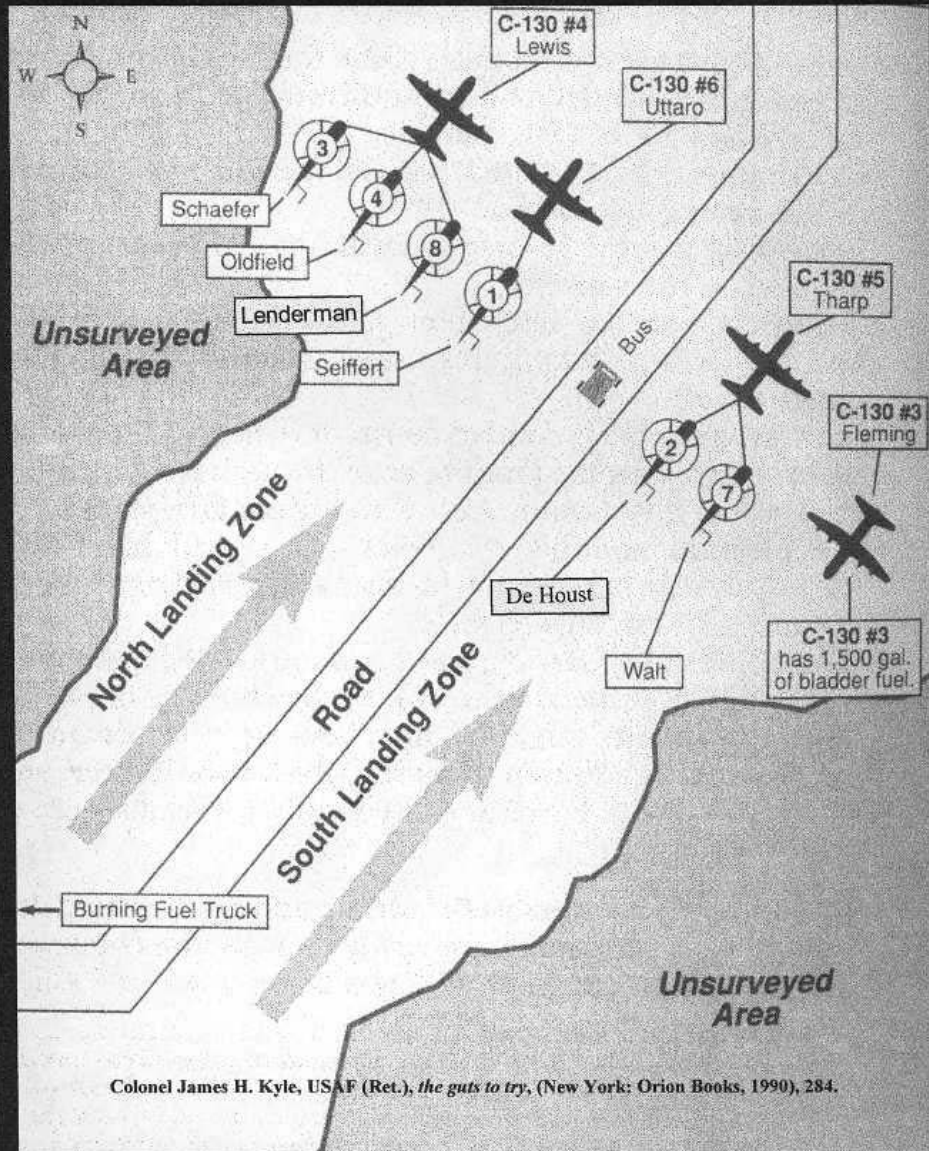
### (GRAPHIC 4)





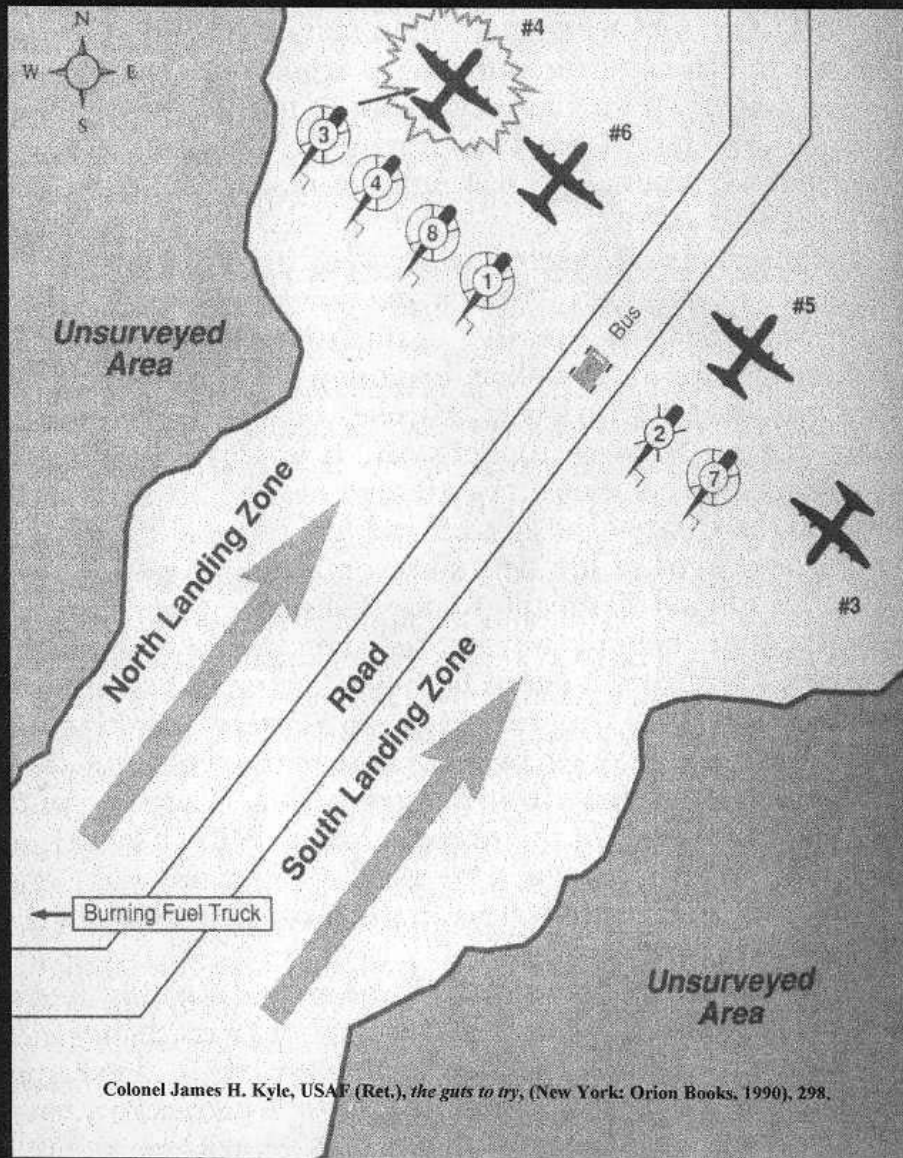
# Aircraft Refueling Positions

# (GRAPHIC 5)



Colonel James H. Kyle, USAF (Ret.), *the guts to try*, (New York: Orion Books, 1990), 284.

Helicopter Collision with C-130 (GRAPHIC 6)



Colonel James H. Kyle, USAF (Ret.), *the guts to try*, (New York: Orion Books, 1990), 298.



DENSITY ALTITUDE

CHART 1

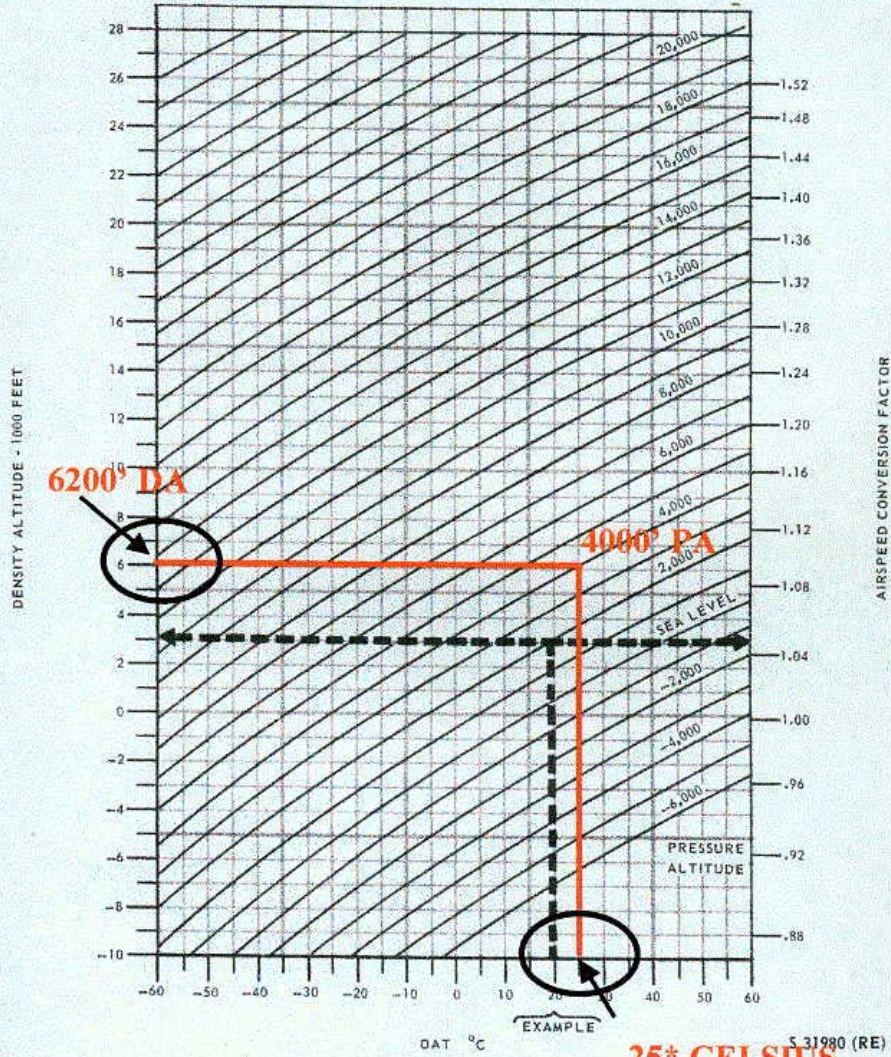


Figure 11-3. Density Altitude

25\* CELSIUS  
GROUND TEMP

NAVAIR 01-H53AAA-1. Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D. (Washington, DC: Department of the Navy, 1 August 1975), 11-8.



ENGINE PERFORMANCE 765°C T<sub>5</sub>  
 100% N<sub>1</sub> 13,600RPM  
 MAXIMUM POWER

CHART 2

INSTALLATION LOSSES INCLUDED  
 MODEL: RH-53D (11N)  
 DATA AS OF: 1 AUGUST 1975  
 DATA BASIS: ENG MFR SPEC

ENGINES: (2) T64-GE-415  
 FUEL GRADE: JP-/JP-5  
 FUEL DENSITY: 6.5/6.8 LB/GAL

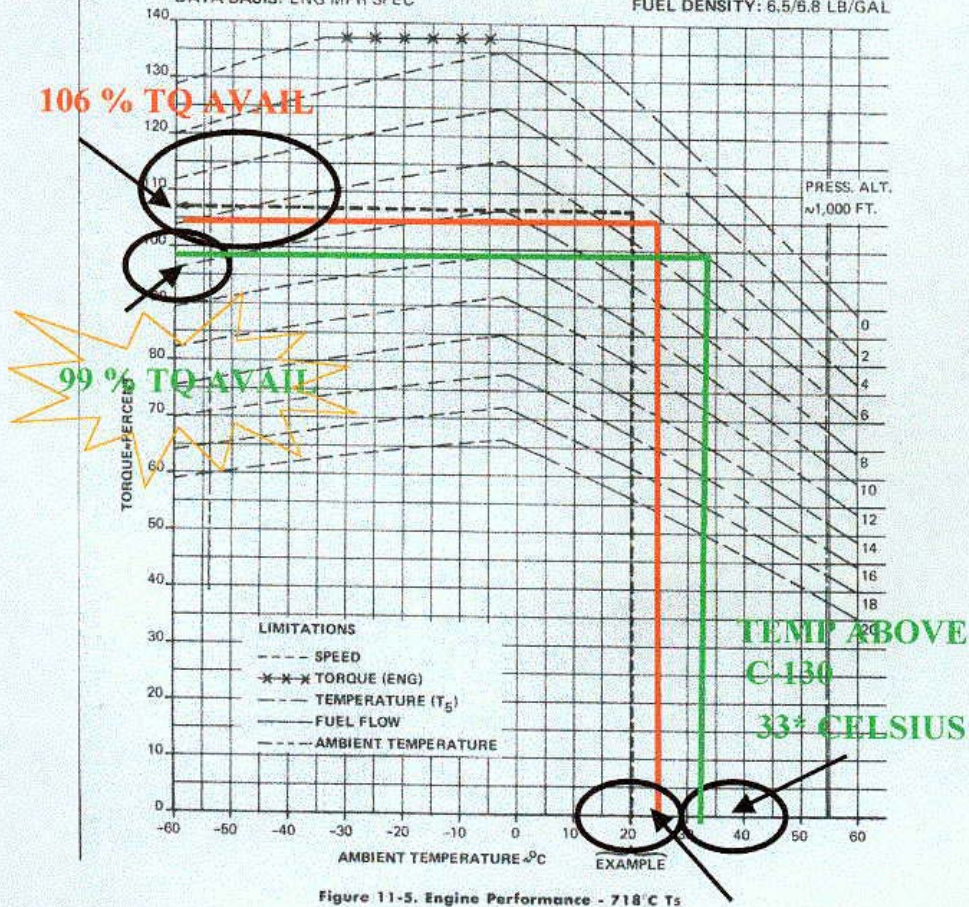


Figure 11-5. Engine Performance - 718°C T<sub>5</sub>

11-10 Change 1

**25\* CELSIUS  
 GROUND TEMP**

NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D.* (Washington, DC: Department of the Navy, 1 August 1975), 11-10.



INDICATED TORQUE REQUIRED TO HOVER IN GROUND EFFECT  
10 FT WHEEL CLEARANCE  
100% N<sub>r</sub>  
STANDARD TEMPERATURE

MODEL: RH-53D  
DATA AS OF: 1 AUGUST 1975  
DATA BASIS: ESTIMATED

### CHART 3

ENGINES: (2) T64-GE-415  
FUEL GRADE: JP-4/JP-5  
FUEL DENSITY: 6.5/6.8 LBS/GAL

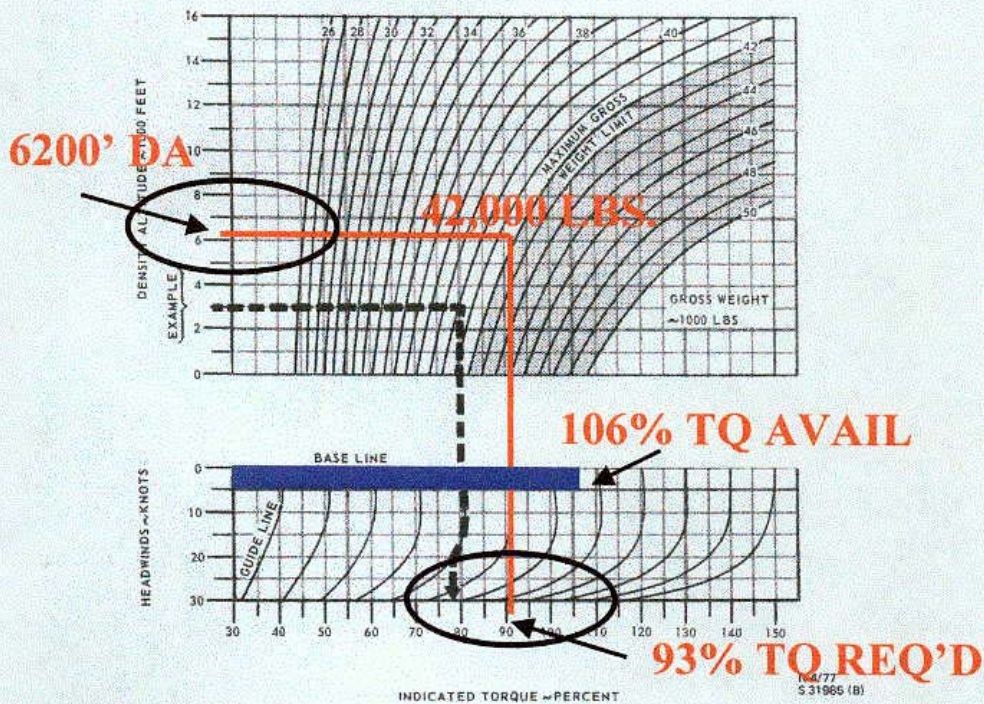


Figure 11-8. Indicated Torque Required to Hover in Ground Effect - 10 Feet

Change 1 11-15

NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D.* (Washington, DC: Department of the Navy, 1 August 1975), 11-15.

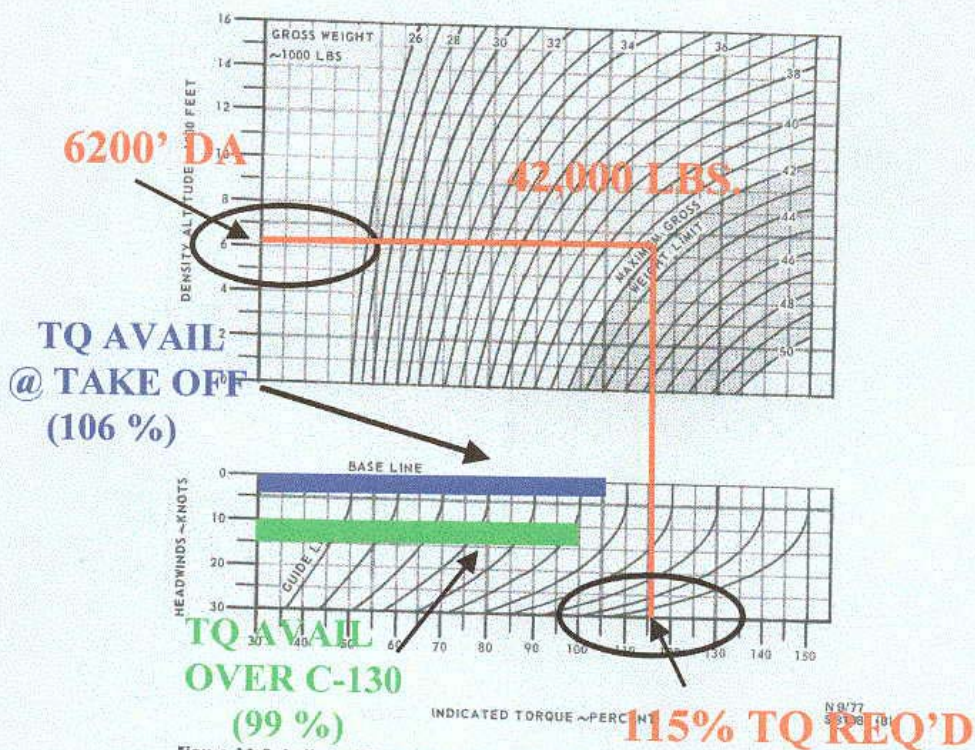


INDICATED TORQUE REQUIRED TO HOVER IN GROUND EFFECT  
40 FT WHEEL CLEARANCE  
100% N<sub>1</sub>  
STANDARD TEMPERATURE

MODEL: RH-53D  
DATA AS OF: 1 AUGUST 1975  
DATA BASIS: ESTIMATED

### CHART 4

ENGINES: (2) T64,GE-415  
FUEL GRADE: JP-4/JP-5  
FUEL DENSITY: 6.5/6.8 LB/GAL



11-16 Change 1

NAVAIR 01-H53AAA-1. Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D. (Washington, DC: Department of the Navy, 1 August 1975), 11-16.



INDICATED TORQUE REQUIRED TO HOVER IN GROUND EFFECT  
70 FT WHEEL CLEARANCE  
100% N<sub>r</sub>  
STANDARD TEMPERATURE

MODEL: RH-53D  
DATA AS OF: 1 AUGUST 1975  
DATA BASIS: ESTIMATED

### CHART 5

ENGINE: (2) T64-GE-415  
FUEL GRADE: JP-4/JP-5  
FUEL DENSITY: 6.6/6.8 LB/GAL

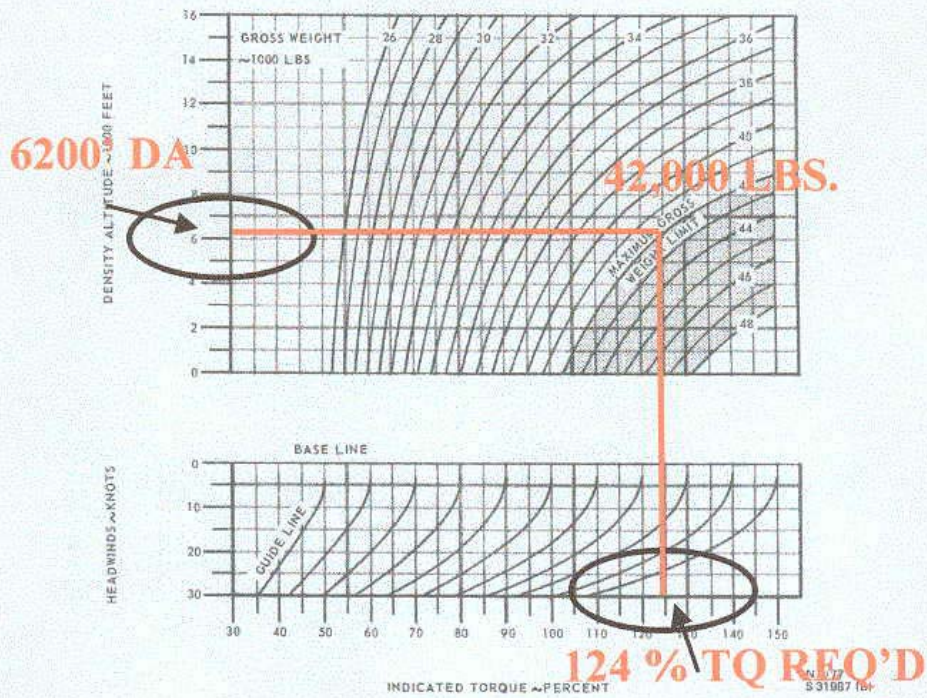


Figure 11-10. Indicated Torque Required to Hover in Ground Effect - 70 Feet

Change 1 11-17

NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D.* (Washington, DC: Department of the Navy, 1 August 1975), 11-17.

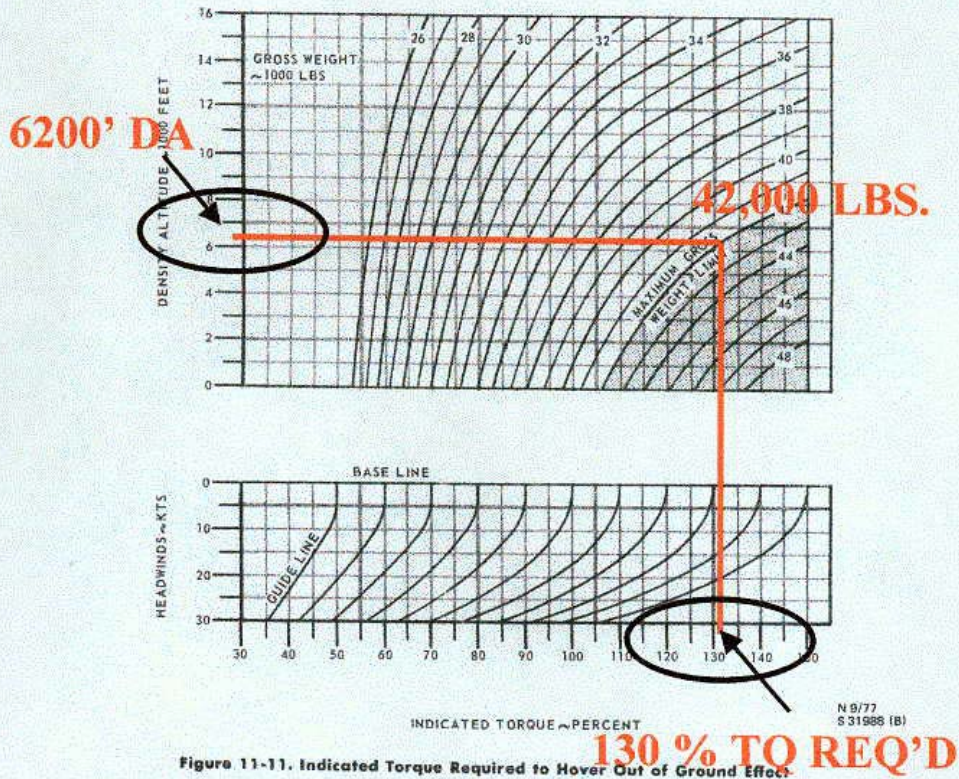


INDICATED TORQUE REQUIRED TO HOVER OUT OF GROUND EFFECT  
100% N<sub>r</sub>  
STANDARD TEMPERATURE

MODEL: RH-53D  
DATA AS OF: 1 AUGUST 1975  
DATA BASIS: ESTIMATED

# CHART 6

ENGINES: (2) T64-GE-415  
FUEL GRADE: JP-4/JP-5  
FUEL DENSITY: 6.5/6.8 LB/GAL



## 11-18 Change 1

NAVAIR 01-H53AAA-1. *Naval Air Training and Operating Procedures Standardization Program (NATOPS), Flight Manual, Navy Model, RH-53D.* (Washington, DC: Department of the Navy, 1 August 1975), 11-18.