

II. Conduct of the air war

N.B. As per the [disclaimer](#), neither the ICRC nor the authors can be identified with the opinions expressed in the Cases and Documents. Some cases even come to solutions that clearly violate IHL. They are nevertheless worthy of discussion, if only to raise a challenge to display more humanity in armed conflicts. **Similarly, in some of the texts used in the case studies, the facts may not always be proven;** nevertheless, they have been selected because they highlight interesting IHL issues and are thus published for didactic purposes.

[Source: Human Rights Watch, “Off Target: The Conduct of the War and Civilian Casualties in Iraq”, 2003, footnotes omitted, online <http://www.hrw.org>]

[...]

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Many of the civilian casualties from the air war occurred during U.S. attacks targeting senior Iraqi leaders. [...]

Coalition forces took significant steps to protect civilians during the air war, including increased use of precision-guided munitions when attacking targets situated in populated areas and generally careful target selection. The United States and United Kingdom recognized that employment of precision-guided munitions alone was not enough to provide civilians with adequate protection. They employed other methods to help minimize civilian casualties, such as bombing at night when civilians were less likely to be on the streets, using penetrator munitions and delayed fuzes to ensure that most blast and fragmentation damage was kept within the impact area, and using attack angles that took into account the locations of civilian facilities such as schools and hospitals. [...]

Synopsis of the Air War

The war in Iraq started at 3:15 a.m. on March 20, 2003, with an attempt to “decapitate” the Iraqi leadership by killing Saddam Hussein. This unsuccessful air strike was not part of long-term planning but was instead a “target of opportunity” based on late-breaking intelligence, which ultimately proved incorrect.

The major air war effort began at approximately 6:00 p.m. on the same day with an aerial bombardment of Baghdad and the Iraqi integrated air defense system. During the early morning hours of March 21, Coalition air forces attacked targets in Basra, Mosul, al-Hilla, and elsewhere in Iraq. On the night of March 21, precision-guided munitions began destroying government facilities in the Iraqi capital. The air war shifted to attacks on Republican Guard divisions south of Baghdad after the sandstorms of March 25 stalled the ground offensive, but the bombardment of Baghdad continued. U.S. forces hit telecommunications facilities on the night of March 27.

Daylight bombing in Baghdad began on March 31, and elements of the Republican Guard around the city bore the brunt of the aerial assault aimed at paving the way for U.S. ground forces. The bombing of government facilities largely ceased by the morning of April 3 when the airport was taken, but attacks on Republican Guard units continued. On April 5, close air support missions flew over Baghdad to support ground combat. The same day, the United States bombed the reported safe house of Ali Hassan al-Majid (known as “Chemical Ali”) in Basra. On April 7, air attacks targeted Saddam Hussein and other Iraqi leaders in Baghdad. On April 9, Baghdad fell.

Collateral Damage Estimates

The U.S. military uses the term “collateral damage” when referring to harm to civilians and civilian structures from an attack on a military target. Collateral damage estimates [CDE] are part of the U.S. military’s official targeting process and are usually prepared for targets well in advance. Since the CDE influences target selection, weapon selection, and even time and angle of attack, it is the military’s best means of minimizing civilian casualties and other losses in air strikes. [...]

U.S. air forces carry out a collateral damage estimate using a computer model designed to determine the weapon, fuze, attack angle, and time of day that will ensure maximum effect on a target with minimum civilian casualties. Defense Secretary Donald Rumsfeld reportedly had to authorize personally all targets that had a collateral damage estimate of more than thirty civilian casualties.

Asked how carefully the U.S. Air Force reviewed strikes in Iraq for collateral damage, a senior U.S. Central Command official responded, “with excruciating pain.” He told Human Rights Watch,

[T]he primary concern for the conduct of the war was to do it with absolutely minimum civilian casualties...The first concern is having the desired effect on a target. . . . Next is to use the minimum weapon to achieve that effect. In the process, collateral

damage may become one of the considerations that would affect what weapon we had to choose... All of the preplanned targets had a CDE done very early in the process, many months before the war was actually fought... For emerging target strikes, we still do a CDE, but do it very quickly. The computer software was able to rapidly model collateral effects.

Strikes with high collateral damage estimates received extra review. According to another senior CENTCOM official,

CENTCOM came up with a list of twenty-four to twenty-eight high CDE targets that we were concerned about... They had a direct relationship to command and control of Iraqi military forces. These [high CDE targets] were briefed all the way to Bush. He understood the targets, what their use was, and that even under optimum circumstances, there would still be as many as X number of civilian casualties. This was the high CD target list. There were originally over 11,000 aim points when we started the high collateral targeting. Many were thrown out, many were mitigated. We hit twenty of these high collateral damage targets.

Strikes against emerging targets also received review although the process was done much more quickly. U.S. Army Major General Stanley McChrystal, vice director for operations on the Joint Chiefs of Staff, explained the situation in this way:

There tends to be a careful process where there is plenty of time to review that [the targets]. . . . [T]hen we put together certain processes like time-sensitive targeting. And those are when you talk about the crush of an emerging target that might come up, that doesn't have time to go through a complicated vetting process... [T]here still is a legal review, but it is all at a much accelerated process because there are some fleeting targets that require a very time-sensitive engagement, but they all fit into pre-thought out criteria. [...]

Emerging Targets [...]

Emerging targets develop as a war progresses instead of being planned prior to the initiation of hostilities. They include time-sensitive targets (TSTs) that are fleeting in nature (such as leadership), enemy forces in the field, mobile targets, and other targets of opportunity. [...]

Flawed Targeting Methodology

[...] The United States identified and targeted some Iraqi leaders based on GPS coordinates derived from intercepts of Thuraya satellite phones. Thuraya satellite phones are used throughout Iraq and the Middle East. They have an internal GPS chip that enabled American intelligence to track the phones. The phone coordinates were used as the locations for attacks on Iraqi leadership.

Targeting based on satellite phone-derived geo-coordinates turned a precision weapon into a potentially indiscriminate weapon. According to the manufacturer, Thuraya's GPS system is accurate only within a one-hundred-meter (328-foot) radius. Thus the United States could not determine from where a call was originating to a degree of accuracy greater than one-hundred meters radius; a caller could have been anywhere within a 31,400-square-meter area. This begs the question, how did CENTCOM know where to direct the strike if the target area was so large? In essence, imprecise target coordinates were used to program precision-guided munitions.

Furthermore, it is not clear how CENTCOM connected a specific phone to a specific user; phones were being tracked, not individuals. It is plausible that CENTCOM developed a database of voices that could be computer matched to a phone user.

The Iraqis may have employed deception techniques to thwart the Americans. It was well known that the United States used intercepted Thuraya satellite phone calls in their search for members of al-Qaeda. CENTCOM was so concerned about the possibility of the Iraqis turning the Thuraya intercept capability against U.S. forces that it ordered its troops to discontinue using Thuraya phones in early April 2003. It announced, "Recent intelligence reporting indicates Thuraya satellite phone services may have been compromised. For this reason, Thuraya phone use has been discontinued on the battlefields of Iraq. The phones now represent a security risk to units and personnel on the battlefield." It is highly likely the Iraqi leaders assumed that the United States was attempting to track them through the Thuraya phones and therefore possible that they were spoofing American intelligence.

The United States undoubtedly attempted to use corroborating sources for satellite phone coordinates. Based on the results, however, accurate corroborating information must have been difficult if not impossible to come by and additional methods of tracking the Iraqi leadership just as unreliable as satellite phones.

Satellite imagery and signals intelligence (communications intercepts) apparently yielded little to no useful information in terms of targeting leadership. Detection of common indicators such as increased vehicular activity at particular locations seems not to have been meaningful. Human sources of information were likely the main means of corroborating the satellite phone information in tracking the Iraqi leadership. A human intelligence source was reportedly used to verify the Thuraya data acquired in the attack on Saddam Hussein in al-Mansur, described below. But the source was proven wrong. Human sources were also reportedly used to verify the attack on Ali Hassan al-Majid in Basra, as well as the strike on al-Dura that opened the war. Given the lack of success, it seems human intelligence was completely unreliable. [...]

Ineffective Battle Damage Assessment

The U.S. military's targeting methodology includes assessing the effectiveness of an attack after it is completed. Battle damage assessment (BDA) is considered necessary to evaluate the success or failure of an attack so that lessons learned can be applied and improvements made to future missions. BDA is carried out during a conflict as well as at the cessation of hostilities. Effective BDA can reduce the danger to civilians in war by allowing corrective actions to be taken.

Although air strikes on Iraqi leadership repeatedly failed to hit their target and caused many civilian casualties, no decision was made during major combat operations to stop this practice. [...]

Case Studies of Attacks on Leadership Targets [...]

Al-Tuwaisi, Basra

U.S. aircraft bombed a building in al-Tuwaisi, a residential area in downtown Basra at approximately 5:20 a.m. on April 5, 2003, in an attempt to kill Lieutenant General 'Ali Hassan al-Majid. Al-Majid, known as "Chemical Ali" because of his role in gassing the Kurds in the 1988 Anfal Campaign, was in charge of southern Iraq during the recent war. Initial British reports indicated that al-Majid was killed in the attack. CENTCOM later reversed this claim and changed al-Majid's status back to "at large." Coalition forces ultimately captured al-Majid on August 21, 2003.

U.S. weapons hit the targeted building in the densely populated section of Basra, but the buildings surrounding the bomb strike – filled with civilian families – were also destroyed. Human Rights Watch investigators found that seventeen civilians were killed in this attack.

The homes of the Hamudi and al-Tayyar families sat on either side of the building bombed by American forces. The homeowners gave Human Rights Watch conflicting reports of possible Iraqi government activity in the targeted building. 'Abd al-Hussain Yunis al-Tayyar said there were members of the Iraqi Intelligence Service, or *Mukhabarat*, staying there, while 'Abid Hassan Hamudi said it was vacant. Both denied any Iraqi leadership presence, as did all others interviewed. Al-Tayyar, Hamudi, and their families never saw al-Majid in the area.

In the early morning hours of Saturday, April 5, al-Tayyar, a 50-year-old laborer, went to his garden to get water. Moments later an American bomb slammed into the targeted house next door, destroying his house as well. He picked himself up and immediately began to search the debris. He spent the rest of the day working to pull the dead bodies of his family from the rubble of his home, finally reaching his dead son at 4:00 p.m. [...]

'Abid Hamudi told Human Rights Watch that there were two bombs in the attack. The first bomb missed its target and slammed into the road a few hundred meters away, while the second hit the targeted home, also reducing his home to rubble. Hamudi was able to save three people, his daughter and her two sons, a five-year-old and six-year-old, all of whom were injured in the blast. The other ten people in his house perished. [...]

The size of the crater suggests that the weapon used in the April 5 attack was a 500-pound laser-guided bomb, the smallest PGM available. A second crater in the street a few hundred meters away, which is consistent with the crater found in the home, supports the assertion that the first bomb missed and was soon followed by another.

The collateral damage estimate done on the target appears to have allowed for a high level of civilian damage. This attack may have been approved due to the perceived military value of al-Majid. Had smaller weapons been used, however, many civilian lives may have been spared. A senior CENTCOM official told Human Rights Watch that the U.S. military needs smaller munitions with lower yields that will reduce collateral damage.

Al-Karrada, Baghdad

On April 8, Sa'dun Hassan Salih lifted his nephew's two-month-old daughter, Dina, from the grass in front of the smoking hole that had been her home. She was alive, both arms and legs broken, but she was orphaned. Her family had been staying in Salih's home in the affluent al-Karrada neighborhood of Baghdad, secure in the belief that such a densely populated area of the city would not be targeted. But they would often return to their home, one mile (1.6 kilometers) away, to get some clothes or other things they needed. "That night they went home to get some belongings," said Salih. "We all felt safer together as a family. If we were going to die, we would die together. But no one would bomb a home. My nephew was the last to leave the house, around 9:00 p.m., in his car. That is the last time I ever saw him."

Minutes later, two bombs, seconds apart, destroyed Zaid Ratha Jabir's home and those inside. Incredibly, Dina survived. She was blown out of the home by the blast and now lives with Salih and his wife, 'Imad Hassun Salih. At first they were filled with grief, but now they are angry. "The Americans said no civilians were targeted," said 'Imad. "I don't understand how this could happen."

According to Salih, there were no obvious military targets in the area. He speculated that a bitter family rival lied to the Americans. He said, "Perhaps someone wanted to kill them because of jealousy and told them [the Americans] Saddam or one

of his men were there. But my family had no dealings with the regime. We hate Saddam.” A Department of Defense official told Human Rights Watch that Saddam Hussein’s half-brother Watban was the intended target of this air strike, and that he was identified through poor communications security. This was likely a Thuraya intercept. Watban was eventually captured near the Syrian-Iraqi border near the end of the war almost a week later.

[...]

Al-Mansur, Baghdad

On April 7, a U.S. Air Force B-1B Lancer aircraft dropped four 2,000-pound satellite-guided Joint Direct Attack Munitions (JDAMs) on a house in al-Mansur district of Baghdad. The attack killed an estimated eighteen civilians.

U.S. intelligence indicated that Saddam Hussein and perhaps one or both of his sons were meeting in al-Mansur. The information was reportedly based on a communications intercept of a Thuraya satellite phone. Forty-five minutes later the area was rubble. [...]

Pentagon officials admitted that they did not know precisely who was at the targeted location. “What we have for battle damage assessment right now is essentially a hole in the ground, a site of destruction where we wanted it to be, where we believe high-value targets were. We do not have a hard and fast assessment of what individual or individuals were on site,” said Major General McChrystal. [...]

This strike shows that targeting based on satellite phones is seriously flawed. Even if the targeted individual is actually determined to be on the phone, the person could be far from the impact point. The GBU-31s dropped on al-Mansur have a published accuracy of thirteen meters (forty-three feet) circular error probable (CEP), while the phone coordinates are accurate only to a one-hundred-meter (328-foot) radius. The weapon was inherently more accurate than the information used to determine its target, which led to substantial civilian casualties with no military advantages. U.S. military leaders defended these attacks even after revelations that the strikes resulted in civilian deaths instead of the deaths of the intended targets. One said that the strikes “demonstrated U.S. resolve and capabilities.” [...]

Preplanned Targets [...]

Dual-Use Targets [...]

Electrical Power Facilities

The United States targeted electrical power distribution facilities, but not generation facilities, throughout Iraq, according to a senior CENTCOM official. He told Human Rights Watch that instead of using explosive ordnance, the majority of the attacks were carried out with carbon fiber bombs designed to incapacitate temporarily rather than to destroy. Nevertheless, some of the attacks on electrical power distribution facilities in Iraq are likely to have a serious and long-term detrimental impact on the civilian population.

Electrical power was out for thirty days after U.S. strikes on two transformer facilities in al-Nasiriyya. Al-Nasiriyya 400 kV Electrical Power Transformer Station was attacked on March 22 at 6:00 a.m. using three U.S. Navy Tomahawk cruise missiles outfitted with variants of the BLU-114/B graphite bombs. These dispense submunitions with spools of carbon fiber filaments that short-circuit transformers and other high voltage equipment upon contact.

The transformer station is the critical link between al-Nasiriyya Electrical Power Production Plant and the city of al-Nasiriyya. When the transformer station went off-line it removed the southern link to all power in the city, which was then totally reliant on the North Electrical Station 132. Although the carbon fiber is supposed to incapacitate temporarily, three transformers were completely destroyed by a fire from a short circuit caused by the carbon fiber. The station’s wires seemed to have been melted by the intense fire. Human Rights Watch was told that the transformers would have to be replaced and the entire facility rewired.

On March 23 at 10:00 a.m., the United States attacked North Electrical Station 132. Hassan Dawud, an engineer at the station when it was attacked, said a U.S. aircraft strafed the facility, destroying three transformers, gas pipes, and the air conditioning, which brought the entire facility down as components that were not damaged by the attack overheated. Damage to the transformers and air conditioning were clearly visible, including large holes in the walls consistent with aircraft cannon fire. Further north in Rafi on Highway 7, Human Rights Watch found a transformer station with significant damage from air strikes, including at least one destroyed transformer.

From its investigations, it is unclear to Human Rights Watch what effective contribution to Iraqi military action these facilities were making and why attacking them offered a definite military advantage to the United States, and in particular how they supported the ground operations in al-Nasiriyya. [...]

[...] No one died as a direct result of the power loss, but the hospital’s generators were taxed to their limit and it had to do away with some non-critical services to ensure the wounded were given basic treatment. [The director of al-Nasiriyya hospital] also stated that the loss of power created a water crisis in the city.

[...] [T]he water was often contaminated because the power outage prevented water purification. This led to what Dr. 'Abd al-Sayid termed "water-born diarrheal infections."

[...]

Cluster Bomb Strikes

[...] These munitions are area weapons that spread their contents over a large field, or footprint. Because of the dispersal of their submunitions, they can destroy broad, relatively soft targets, like airfields and surface-to-air missile sites. They are also effective against targets that move or do not have precise locations, such as enemy troops or vehicles. [...]

The majority of the Coalition's cluster bombs were CBU-103s, which had been deployed for the first time in Afghanistan. This bomb consists of a three-part green metal casing about five-and-a-half feet (1.7 meters) long with a set of four fins attached to the rear. The casing, which contains 202 bomblets packed in yellow foam, opens at a pre-set altitude or time and releases the bomblets over a large oval area. The CBU-103 adds a Wind Corrected Munitions Dispenser (WCMD) to the rear of the unguided CBU-87, which is designed to improve accuracy by compensating for wind encountered during its fall. It also narrows the footprint to a radius of 600 feet (183 meters).

The CBU-103's bomblets, known as BLU-97s, are soda can-sized yellow cylinders. Each one of these "combined effects munitions" represents a triple threat. The steel fragmentation core targets enemy troops with 300 jagged pieces of metal. The shaped charge, a concave copper cone that turns into a penetrating molten slug, serves as an anti-armor weapon. A zirconium wafer spreads incendiary fragments that can burn nearby vehicles. This type of bomblet was the payload for 78 percent of the reported U.S. cluster bombs; CBU-87s and CBU-103s both contain 202 BLUs. When used as cluster munitions, the AGM-154 JSOW contains 145 BLUs and the TLAM carries 166 BLUs.

In Iraq, the Coalition used cluster bombs largely for their area effect and anti-armor capabilities. A CENTCOM official explained that common targets included armored vehicles or, when used with time-delay explosives, the path of thin-skinned vehicles. "I know that some were used in more built-up areas, but in most cases they were used against targets where there were those kinds of equipment – guns, tanks," he said. [...]

The U.S. Air Force reduced the danger to civilians from clusters by modifying its targeting and improving technology. Apparently learning a lesson from previous conflicts, the Air Force dropped fewer cluster bombs in or near populated areas. While Human Rights Watch found extensive use of ground-launched cluster munitions in Iraq's cities, it found only isolated cases of air-dropped cluster bombs. As a result, the civilian casualties from cluster bomb strikes were relatively limited. According to a senior CENTCOM official, air commanders received guidance that one of their objectives was to minimize civilian casualties. "In the case of preplanned cluster munition strikes, I am more confident that concern for collateral damage was very high," he said. Less care went into strikes on emerging targets in support of ground troops. The CENTCOM official explained that B-52 bombers would carry a variety of munitions and loiter over the battlefield. If a ground commander called for support and cluster bombs were the only option left, the commander might accept them for his target. "As the battlefield unfolds and the sense of urgency on the ground goes up, my personal opinion is the urgency of the ground commander may be more for protection of his forces. Therefore choosing the optimal weapon is less important than getting a weapon on target," the official said.

When the Air Force did not avoid populated areas, cluster bomb strikes caused civilian casualties. The Baghdad date grove was located immediately across the street, on at least two sides, from Hay Tunis, a densely populated, residential neighborhood. Nihad Salim Muhammad was washing his car when the bombs hit. During the strike, the bomblets injured several people on his street, including four children. Around midnight on April 24, the U.S. Air Force dropped at least one CBU-103 on al-Hadaf girls' primary school in al-Hilla. The strike killed school guard Hussam Hussain, 65, and neighbor Hamid Hamza, 45, and injured thirteen others, according to Hamid Mahdi, a 30-year-old butcher who lived across the street. The manager of the school said there were dozens of paramilitary troops in the neighborhood at the time of the strike. While the Air Force minimized civilian harm by dropping the bombs at night, the incident shows the dangers of dropping clusters in populated areas. [...]

Despite some improvements in technology, one of the Coalition's major failings with cluster bombs was use of outdated cluster bombs. Both the United States and United Kingdom continued to drop older models that are highly inaccurate and unreliable. [...]

III. Conduct of the ground war

[...]

Ground-Launched Cluster Munitions [...]

Coalition use of ground-launched cluster munitions far outstripped the use of air-dropped models. CENTCOM reported in October that it used a total of 10,782 cluster munitions, which could contain between 1.7 and 2 million submunitions. [...]

Civilian Harm

Al-Hilla endured the most suffering from the use of ground-launched cluster munitions. Dr. Sa'ad al-Falluji, director and chief surgeon of al-Hilla General Teaching Hospital, said 90 percent of the injuries his hospital treated during the war were from submunitions. In the neighborhood of Nadir, a slum on the south side of the city, every household Human Rights Watch visited suffered personal injury or property damage during a March 31 cluster attack. On the day of the strike, the hospital treated 109 injured civilians from that neighborhood, including thirty children. According to local elders, the attack killed thirty-eight civilians and injured 156. During a visit on May 19, Human Rights Watch found dozens of mud brick homes with pockmarked walls and holes in the roof from shrapnel. Male residents pointed to wounds on their legs and pulled up their shirts to reveal chest and abdominal wounds. In the house of Falaya Fadl Nasir, for example, the strike injured three people, his two children, Mahdi, 18, and Marwa, 10, as well as Imam Hassan 'Abdullah. One grenade pierced the roof of his home, causing a fire inside. Hamid Turki Hamid, 36, a dresser in the hospital, said his son and a friend were in the street when the attack began. After bringing in his son, he returned to gather his neighbor's child. "That's when the bomb exploded, when I was injured," Hamid said. [...]

U.K. forces caused dozens of civilian casualties when they used ground-launched cluster munitions in and around Basra. A trio of neighborhoods in the southern part of the city was particularly hard hit. At noon on March 23, a cluster strike hit Hay al-Muhandissin al-Kubra (the engineers' district) while 'Abbas Kadhim, 13, was throwing out the garbage. He had acute injuries to his bowel and liver, and a fragment that could not be removed lodged near his heart. On May 4, he was still in Basra's al-Jumhuriyya Hospital. Three hours later, submunitions blanketed the neighborhood of al-Mishraq al-Jadid about two-and-a-half kilometers (one-and-a-half miles) northeast. Iyad Jassim Ibrahim, a 26-year-old carpenter, was sleeping in the front room of his home when shrapnel injuries caused him to lose consciousness. He later died in surgery. Ten relatives who were sleeping elsewhere in the house suffered shrapnel injuries. Across the street, the cluster strike injured three children. Ahmad 'Aidan Malih Hoshon, 12, and his sister Fatima, 4, both had serious abdominal injuries; their cousin Muhammad, 13, had injuries to his feet. Hay al-Zaitun, just east of al-Mishraq al-Jadid, suffered casualties from cluster munitions that landed there on the evening of March 25. Jamal Kamil Sabir, a 25-year-old laborer, lost his leg to a submunition blast while crossing a bridge near his home with his family. He spent eleven days in the hospital. His nephew, Jabal Kamil, 22, took shrapnel in his knee. Jamal's pregnant wife, Zainab Nasir 'Abbas, still had shrapnel in her left leg in May because doctors were afraid to remove it during her pregnancy. A neighbor, Zaitun Zaki Abu Iyad, 40, was killed when cluster grenades landed on her home. [...]

It appears that most if not all of the strikes described above were directed at legitimate military targets. Human Rights Watch saw tanks and artillery positions located in neighborhoods, and witnesses described the presence of Iraqi forces. Nevertheless, the United States and United Kingdom made poor weapons choices when they used cluster munitions in populated areas. Such strikes almost always caused civilian casualties, in the case of al-Hilla numbering more than one hundred, because the weapons blanketed areas occupied by soldier and civilian alike with deadly submunitions that could not distinguish between the two. [...]

Targeting and Technology

U.S. forces screened ground cluster strikes through a computer and human vetting system. The Third Infantry Division's artillery batteries were programmed with a no-strike list of 12,700 sites that could not be fired upon without manual override. The list included civilian buildings such as schools, mosques, hospitals, and historic sites.

Officers of the Second Brigade said they strove to keep strikes at least 500 meters (547 yards) away from such targets although sometimes they cut the buffer zone to 300 meters (328 yards). In general, they also required visual confirmation of a target before firing, but in the case of counter-battery fire, they considered radar acquisition sufficient. The latter detects incoming fire and determines its location, but it cannot determine if civilians occupy an area.

The Third Infantry Division established another layer of review by sending lawyers to the field to review proposed strikes, a relatively recent addition to the vetting process. "Ten years ago, JAGs [judge advocate general attorneys] weren't running around [the battlefield]," said Captain Chet Gregg, Second Brigade's legal advisor. The division assigned sixteen lawyers to divisional headquarters and each brigade. Lead lawyer Colonel Cayce, who served at the tactical headquarters, reviewed 512 missions, and brigade JAGs approved additional attacks, which were often counter-battery strikes. Although less controversial strikes, such as those on forces in the desert, were not reviewed, Cayce said, "I would feel pretty confident a lawyer was involved in strikes in populated areas." Commanders had the final say, but lawyers provided advice about whether a strike was legal under IHL. Cayce said his commander never overruled his advice not to attack and sometimes rejected targets he said were legal.

While the review process involved a careful weighing of military necessity and potential harm to civilians, limited information and the subjectivity of such an analysis meant it was "not a scientific formula." The first challenge was to determine the risk to their forces. "The hard part is how many casualties we will take. It's a gut level, fly by the seat of your pants. There's no standard that says one U.S. life equals X civilian lives," Cayce said. Then lawyers had to evaluate the threat to civilians. In the case of counter-battery fire, they had to make the judgment without knowing if civilians were present in the target area at the time of the strike; they relied instead on pre-war population figures. Cayce acknowledged the danger of cluster strikes on populated areas and said that he tried to limit them to nighttime. "I was hoping kids were hunkered down, hoping with artillery fire they were not out watching," he said. [...]

The no-strike lists included certain civilian structures but not residential neighborhoods. Forward observers either ignored or failed to see civilians in populated areas. U.S. military lawyers did not challenge the proposed strikes although they raise serious

concerns under IHL's proportionality test. [...]

Discussion

1. How do you qualify the conflict? Are the rules of Protocol I on the protection of the civilian population against the effects of hostilities applicable? Are the same rules applicable to air- and ground-launched attacks against land targets in Iraq? ([GC I-IV, Art. 2](#); [P I, Arts 1](#) and [49\(3\)](#))
2.
 - a. What rules of IHL could be violated by the described targeting based on satellite phone-derived geo-coordinates? Is firing weapons based on such targeting perforce indiscriminate? Are the precautionary measures an attacker must take respected? ([P I, Arts 51](#) and [57](#); [CIHL, Rules 11-21](#))
 - b. What are the legal ramifications of the suggestion the Iraqis may have been using deception techniques to thwart Americans attempting to use satellite phone coordinates for targeting? May such a deception violate IHL if it leads to civilian casualties? Should the U.S. be absolved from its responsibility for casualties if such deception led to civilian casualties? ([P I, Arts 51\(7\) and \(8\)](#) and [58](#); [CIHL, Rule 97](#))
 - c. Were the measures the United States used to corroborate satellite phone coordinates sufficient to meet its obligations under IHL? What constitute "feasible" measures to verify a target? What factors have to be taken into account when evaluating the feasibility of verification measures? If the attacking party attempts to corroborate but its sources are wrong, does that affect your assessment of the legality of the strikes? ([P I, Art. 57](#); [CIHL, Rules 15-21](#))
 - d. Given repeated failures to hit the intended targets using satellite phone coordinates and corroboration, does IHL impose an obligation to refrain from this practice? What if corroboration is improved? What would be reliable information for such attacks? ([P I, Art. 57](#); [CIHL, Rules 15-21](#))
 - e. Do you agree with Human Rights Watch that targeting based on satellite phones is "seriously flawed"? Why or why not?
3.
 - a. Are electrical power facilities legitimate targets? Is there a definite military advantage to incapacitating electrical transformer stations for a period of a few hours? Why would the Coalition target distribution facilities rather than generating facilities? Was the method used to incapacitate electrical power facilities appropriate? ([P I, Arts 52](#) and [57](#); [CIHL, Rules 7-10](#) and [15-21](#))
 - b. Is it material to the legality of the strikes whether anyone died as a direct consequence of the attacks? Must the fact that hospitals could not treat some cases because of power shortage be taken into account? The risk of "diarrheal infections" due to the impossibility of water purification stations to function without electricity? ([P I, Arts 51\(5\)\(b\)](#) and [57\(2\)\(a\)\(ii\) and \(iii\)](#))
4.
 - a. Regarding the attack at al-Tuwaisi, Basra: if there were members of the Iraqi Intelligence Service in the targeted building, would that make the building a legitimate military objective? ([P I, Arts 52\(2\)](#))
 - b. Would the proportionality evaluation be affected if there were intelligence officials, but no "high value leadership targets" in the building? Must the proportionality evaluation be based upon the actual or the expected use of the target? What rules govern the possibility that the expected use does not correspond to the actual use of the objective? ([P I, Arts 51\(5\)\(b\)](#) and [57\(2\)\(a\)](#))
5. What rules of IHL are material in evaluating the legality of the attack at al-Karrada, Baghdad?
6.
 - a. Was the planning of the attack on the house in al-Mansur, Baghdad, sufficient to satisfy an attacking party's obligations under the principle of distinction and its obligation to take precautionary measures? ([P I, Arts 51](#) and [57](#))
 - b. Was the main question whether the target was a military objective, whether expected civilian casualties were excessive or whether precautions in attack were taken? What precautionary measures were relevant? ([P I, Arts 51, 52](#) and [57](#))
 - c. If the attacking party is targeting an individual (who is a combatant), but is unsure which individual is at the targeted location, is the attacking party in a position to properly evaluate the proportionality of the attack? ([P I, Arts 51\(5\)\(b\)](#) and [57\(2\)\(a\)\(iii\)](#))
7. Is it lawful to drop older models of a bomb when a more accurate and reliable model exists? Is there an obligation under IHL to acquire smaller munitions that will reduce collateral damage? More precise weapons? If a party has them, must it use them? Is it sufficient to use the smallest weapon available that can meet the objectives of the attack, or is an attacker precluded from making an attack if the damage would be excessive? ([P I, Art. 57\(2\)\(a\)\(ii\) and \(iii\)](#))
8.
 - a. Are cluster bombs indiscriminate weapons by their nature? Are there instances in which cluster bombs may be used without violating IHL? In which circumstances might it be appropriate to use cluster bombs? ([P I, Arts 51\(4\), \(5\)\(b\)](#) and [57\(2\)\(a\)\(ii\) and \(iii\)](#))
 - b. If, as Human Rights Watch states, "most if not all" of the ground-launched cluster bomb strikes were directed at legitimate military objectives, may those strikes nonetheless have violated IHL? If so, how? As a precautionary measure, is it sufficient to use cluster bombs only at night to comply with IHL? Even in densely populated areas? ([P I, Arts 51\(4\), \(5\)\(b\)](#) and [57\(2\)\(a\)\(ii\) and \(iii\)](#))
 - c. Does the U.S. procedure for screening ground cluster bomb strikes as described conform to the obligations IHL imposes on an attacker? Why may U.S. military lawyers not have challenged some proposed strikes that Human Rights Watch suggests "raise serious concerns" under the proportionality test? What precautions did the Coalition take to minimize the effects of attacks in general? Are such precautions sufficient?
9. What are the advantages and the risks of involving lawyers in battlefield targeting decisions as described in this case?
10. Would a "standard that says one U.S. life equals X civilian lives" be necessary? Would such a standard concern the evaluation whether an attack must be expected to lead to excessive civilian casualties or the evaluation whether

(additional) precautionary measures are feasible? Do the risks for U.S. soldiers matter at all when evaluating respect for IHL? ([P I, Arts 51\(5\)\(b\)](#) and [57](#))

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