

**Status of the Intelligence Community's Study of
Potential Exposure of Coalition Soldiers to
Chemical, Biological, and Radiological Agents**

A Statement for the Record

by

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to the

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of Gulf War Chemical and Biological Incidents

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We are happy to be given the opportunity today to provide an update on the Intelligence Community's studies on the issue of potential chemical, biological, and radiological exposures to Gulf war veterans. The results of our lengthy efforts will be published soon—hopefully by year's end--in three reports covering each topic. We believe these assessments will be useful to those charged with determining what role exposure to chemical, biological, and radiological agents could have had related to veterans' illnesses. By carefully examining Iraq's extensive programs for weapons of mass destruction (WMD) to uncover releases and evaluate potential troop exposure, our work supports and complements that of Dr. Rostker and his OSAGWI staff.

Using information from the UN Special Commission (UNSCOM) and all other sources, we are near completion of a comprehensive analysis that provides important new details on exposure issues. Of note, our analysis on this issue would not have been possible without cooperation by the UNSCOM, whose understanding of Iraq's WMD programs is substantial because of its long access to Iraq and to information on Iraq's programs.

Chemical Agents

Let me turn to our latest assessments in each of the three exposure areas—chemical, biological, and radiological—and provide you with our plans for the future. Our research continues to indicate that Iraq did not use chemical agents against Coalition troops. Furthermore, it is unlikely that Iraq used chemical agents against Shiite rebels in areas near Coalition troops immediately following Desert Storm. We still assess that troop exposure to

chemical agent occurred only as a result of inadvertent destruction of nerve-agent-filled rockets at the Khamisiyah pit. That event resulted in a low-level of exposure—specifically, at or above the general population limit dosage.

Khamisiyah Pit. On the basis of new UNSCOM information and a subsequent re-evaluation of the pit release, we now assess that the amount of agent released from the pit was less than that modeled in 1997. Some might recall that during that modeling activity we had stated that for any area of uncertainty, we used the worst case assumption in order to provide the epidemiologists with the most useful information for their studies.

Of note, however, last year UNSCOM performed a very thorough search and excavation of a one kilometer area around the pit, locating only one quarter of the nearly 500 rockets we had estimated were damaged there in 1997. In addition to the scarcity of rockets found, a revised assessment is supported by several factors:

- Discussions with the 60th Explosive Ordnance Demolition unit's executive officer, who oversaw operations at the pit, indicate that many explosive charges were placed less optimally than previously assumed.
- UNSCOM accounting and photography have indicated a much smaller number of rockets were destroyed.
- Photographs by soldiers also show a smaller percentage of damaged rockets.

The smaller release--especially when coupled with environmental degradation that we had not been able to calculate before the modeling in 1997—would

probably result in far fewer troops exposed compared to 1997 estimates. But again I ask that you remember that we had provided that model under extremely tight deadlines and with the purpose of providing the epidemiologists with an area for closer examination. Recall that we used the union—not intersection—of five different modeling approaches so that we could define the area in which the epidemiologists should focus their attention to determine whether they could find any increased incidents of illnesses reported. Our new information would be of particular value if the epidemiologists have found any correlation within the larger plume.

Khamisiyah Bunker 73. Similarly, we have revisited the previously assessed releases at other sites—often aided by new UNSCOM information—to refine those estimates. We now estimate—in most cases—that less agent was released, primarily because more precise data is now available; that is, instead of using worst case assumptions when confronted with uncertainties, we have been able to input more accurate information. For example, we now believe the amount of agent released from Khamisiyah Bunker 73 was less than half our 1996 estimate. This is based on subsequent UNSCOM confirmation that fewer damaged rockets were present in the bunker. Furthermore, we previously estimated agent in the rockets was 100 percent pure, whereas we now know it was about 50 percent pure at the time of the destruction. The smaller release leaves unchanged our assessment that troops were not exposed from the release of nerve agent from Bunker 73.

Reassessment of Other Possible Releases. We have also reassessed releases at Al Muthanna Bunker 2, Muhammadiyat, and Ukhaydir.

- The Al Muthanna Bunker 2 release is much lower than previously assessed because UNSCOM indicates fewer nerve-agent-filled rockets were in the bunker and the agent was impure because they were from the Iran-Iraq war period.
- Two releases occurred at the Muhammadiyat Depot: a nerve agent release from DB-2 bombs that we now assess is smaller and a mustard release from bombs whose analysis is incomplete but involves more bombs than previously assessed. At this time we do not expect the release of mustard from the Muhammadiyat depot to have been large enough to cause contamination to reach Coalition troops.
- For Ukhaydir, on the basis of a thorough UNSCOM inspection of the site last year we now assess there was not a release from 155-mm mustard shells. UNSCOM performed a thorough search of the Ukhaydir area where the rounds were located in 1997 and did not find evidence of destruction or contamination that we would expect from damage to the shells. Examination of the bomb damage near the stacks indicated the explosions were near misses and caused no release.

Thus, we assess that troops were not exposed to even low level chemical agent contamination from these locations.

Other Possible Releases. We have continued to look for additional possible releases from Coalition bombing and have found two additional potential

release events—one likely and the other uncertain—at Al Muthanna and Al Walid, respectively. In both cases, exposure was unlikely.

- At Al Muthanna we conducted a thorough review of the facility to test our previous assessment that there were no bombing-induced releases other than the previously mentioned nerve agent release from Bunker 2. We concentrated on the possibility of agent releases from the production and filling areas. After discussions with UNSCOM, we have determined that there was likely a slow release of mustard agent from its production facility. We believe no troop exposure was involved due to the small size of the release and the 400 kilometers-plus distance to Coalition troops. UNSCOM and other information does not support a release from the nerve agent production facilities, the filling area, or the bulk agent storage area.
- It is unclear whether a Coalition bombing incident at Al Walid Air Base could have caused a CW agent release. Iraq had told UNSCOM that R-400 bombs filled with a binary nerve agent component—alcohol—had been destroyed at Al Walid by a fire caused by Coalition bombing. Alcohols are not considered highly toxic; however, last year UNSCOM uncovered information indicating that some R-400 bombs could have been filled with another binary component needed to form nerve agents. UNSCOM informed us that photos taken on a 1992 inspection showed several R-400 bombs which apparently burst from internal pressure, something UNSCOM considered unlikely if the bombs were only filled with alcohol. In addition, UNSCOM had information

indicating that 12 R-400 bombs were filled with GB/GF agent at an unidentified deployment site. We have examined available photos and find them inconclusive. We will be unable to determine whether a release occurred at Al Walid unless new information becomes available. Our previous modeling indicates exposure to Coalition troops is unlikely due to Al Walid's great distance from troops, combined with the low amount of agent that would have escaped from a dozen burning bombs.

Iraq also destroyed chemical weapons after the end of the war, but we have insufficient data on these events to determine whether releases occurred. Again, all destruction areas were very distant from Coalition troops, so troop exposure would have been unlikely. Finally, we assess that inadvertent releases from leaking munitions or Iraqi accidents did not expose Coalition troops to CW agents. Postwar UNSCOM inspections detected contamination from leaking or damaged munitions at six facilities, ranging from a barely detectable release from a 155-mm mustard round at Khamisiyah to 100 155-mm mustard shells burned at an unknown location.

Our study of chemical weapons has also resulted in several other conclusions on chemical agent exposure:

- Additional large releases of chemical agent from Coalition actions are unlikely. This is based on UNSCOM accounting of Iraq's chemical weapons, especially chemical artillery, and the assessed low likelihood that Iraq would try to hide damaged weapons.

- Furthermore, we have been unable to identify any chemical agent releases that would account for reports by Coalition troops—through alarms or ground observations—of chemical agent detections.

Biological Agents

Regarding biological and radiological agents, we can now say with high confidence that veterans were not exposed to Iraqi biological agents or radiation contamination as a result of either Iraqi weapons use or Coalition military action. According to UNSCOM, Iraqi biological production facilities were not damaged by aerial bombing and Iraq protected its biological munitions by burying them in the open or hiding them in a tunnel. Of note, we cannot exclude the possibility that biological-agent-filled bombs were among the binary R-400 bombs destroyed at Al Walid. UNSCOM has established that the R-400 bomb was used for both chemical and biological agent fill. However, we assess that UNSCOM information on the R-400 bombs declared destroyed by the Coalition is insufficient to justify a release because there is no clear evidence of a black stripe—signifying a biological agent fill—on these bombs

Radiological Agents

Regarding Iraqi radiological agents, we have uncovered no source of radioactive material or mechanism for spreading radiological contaminants to friendly troops. This is not surprising, based on our understanding of Iraq's nuclear program, the location of Iraqi nuclear facilities far from Coalition ground forces, and the apparent localization of any contamination. A comprehensive review of intelligence reporting and other information

indicates Iraq did not use nuclear or radiological dispersal devices or deploy these weapons during the Gulf war.

In summary, we assess the exposure of US troops to chemical, biological, or radiological agents is probably limited to the low-level chemical agent exposure from the Khamisiyah Pit release. As already stated, any future modeling of the contamination from the Pit explosion is likely to indicate fewer potential troop exposures than in 1997, due to a smaller release and natural environmental agent decay.

The Intelligence Community will continue to refine its assessments by seeking and examining new information if it becomes available. Our reports on exposure, summarizing our years of research, will be published as soon as they are completed. OSAGWI will use this information to support its own efforts and conduct any modeling it deems necessary. Thank you for your attention. I will now address your questions.