

EXECUTIVE SUMMARY

MEMORANDUM FOR DCMA IRAQ

FROM: DCMAC-JSM, Mr. Paul W. Dickinson, [REDACTED] 1 February 2007

PURPOSE: To set a baseline on the safety status and culture, state the way forward to improve status, and develop the measures and timeline to ensure the process is properly aligned to achieve the mission goals.

DISCUSSION: KBR has a large professional safety staff and institutionalized safety program. However, the program is based upon US OSHA Safety Standards as required by contract, and is substantially non-achievable due to the war environment. Many products and facilities available in Iraq do not meet basic US standards nor a military risk analysis based on a generally acceptable "good enough" standard. The LOGCAP contract process influences KBR to inherit many facilities which are not intended for long term usage. This context indicates current and future high risk for many facilities at various sites. The principle findings are as follows:

Primary safety threat, theater wide, is fire due to the inferior 220 electrical fixtures found throughout Iraq. Improper installation, substandard equipment purchases (such as light fixtures), and heavy usage appear to be the three primary causes of these fires.

KBR control of subcontractor safety programs must be more direct and accountable.

US military and civilian personnel should be provided safety training on 220 volt electrical systems.

Increased safety and risk analysis training is warranted for DCMA Quality Assurance Representatives.

The resultant conclusion is there are four main categories of observed safety problems throughout the theater. The first is the unsafe light fixture electrical hazards noted on many sites. The second is the lack of safety awareness training provided to deploying DCMA personnel; this is noted in the QAR cadre. Thirdly, there are problems with KBR's control of subcontractors' safety programs based upon the number of violations noted. Finally, there appears to be a lack of feedback coordination between the site managers and the KBR Safety Division in implementing identified safety findings. Without aggressive integration and safety awareness, safety will continue to present multiple challenges in Iraq. KBR can benefit

from safety oversight from a customer perspective. This dynamic will cause the company to internally create efficiencies and improve effectiveness.

RECOMMENDATIONS:

Safety support should be continued by full time rotational position(s) or by periodic TDY and DCMA Southern Europe should be tasked to provide major accident investigation support in theater. Periodic safety site visits will allow situational updating and renewed coordination with units, contractors, and DCMA in-country personnel. This presence will emphasize contracted safety program requirements and facilitate adjustments. Recommend the next TDY visit has been tentatively planned to occur during the summer months and to include DCMA Middle East for comparative reasons. To help raise the QAR awareness of safety in theater, a DCMA Basic Contingency Operations Training (BCOT) safety module should be implemented. Finally in preparation for LOGCAP IV, the DCMA Contract Safety Center should de-conflict and coordinate LOGCAP IV safety requirements in the Contract through the delegated CMO to the PCO.

DCMA IRAQ DEPUTY COMMANDER COORDINATION: _____

DCMA IRAQ COMMANDER COMMENTS



**DEFENSE CONTRACT MANAGEMENT AGENCY
DEFENSE CONTRACT MANAGEMENT AGENCY IRAQ**

MNC-I, AMC, LOGCAP
C MAIN UNIT 81400
APO AE 09342-1400



IN REPLY
REFER TO **DCMA Iraq**

18 February 2007

MEMORANDUM FOR COMMANDER DCMA-IRAQ

SUBJECT: DCMA Iraq Safety Assessment

REFERENCES:

- a. LOGCAP III Contract
- b. TASK Orders # 130 and 139
- c. KBR Contractor Safety Plan
- d. OSHA 1910 Series Manual
- e. OSHA Pamphlet 2254, Training Requirements in OSHA Standards and Training Guidelines
- f. National Fire Codes
- g. National Electric Code
- h. Uniform Building Code
- i. AR 385-10, Army Safety Program
- j. EM 385-1-1, US Army Corps of Engineers Safety Manual
- k. AR 385-64, Army Explosives Safety
- l. AR 420-90, Fire Prevention and Protection
- m. Defense Base Act
- n. Interim Audit Report on Inappropriate Use of Proprietary Data Markings by the Logistics Civil Augmentation Program (LOGCAP) Contractor, SIGIR-06-035
- o. High Level Department of Defense (DoD) Action needed to Address Long-standing Problems with Management and Oversight of Contractors Supporting Deployed Forces, GAO-07-145

PURPOSE: The objective is to set a baseline of the safety status and culture, state the way forward to improve status, and develop the measures and timeline to ensure the process is properly aligned to achieve the mission.

BACKGROUND: Following a request from COL Jacques Azemar, Commander, DCMA Iraq, for a technical and contractual safety status assessment of the Area of Operations (AO), the DCMA Contract Safety Center responded. Mr. Paul Dickinson, DCMA Denver Contract Safety Specialist, was identified on 6 November 2006, and

processed through the DCMA International headquarters in Alexandria, Virginia from 13 to 16 November 2006 and arrived in Iraq on 18 November 2006 to provide to review processes and assess the DCMA LOGCAP and Kellogg, Brown, and Root Corporation (KBR) contract safety posture. DCMA Iraq is structured with three area Commanders. These are Central with the "Green Zone" (also called the "International Zone" or just the "IZ"), the North, and the Southern areas. These Commanders were supportive and provided ideas and actions for improving both DCMA and KBR safety posture.

The contract for this work is DAAA09-02-D-0007 issued by the Army Material Command at Rock Island, IL. The work is a services contract set up in the LOGCAP system within the theater and also includes work managed by DCMA Middle East which includes Kuwait, Djibouti, and Afghanistan. This military support work is conducted under periodic Task Orders (TO). TO # 139 was the principal order during the duration of the safety time in Iraq. TO # 130 includes support for the Department of State (American Embassy), primarily in the City of Baghdad International Zone (IZ), also known as the "Green Zone". This contract safety function is rated as a low risk area based upon the quality of facilities and the experienced personnel assigned to it by KBR.

DCMA manning structure is 56 personnel with 22 Quality Assurance Representatives (QARs), 14 Administrative Contract Officers (ACOs), and 4 Property Administrators (PAs). The camps and Forward Operating Bases (FOBs) have both resident and non-resident support. At a significant number of FOBs, a single QAR is the sole DCMA representative or the QAR is a non-resident.

KBR manning seems to run about a 10% + vacancy level and 30% annual turnover in the safety manager/coordinator organization area. Since the beginning of this audit, two KBR safety managers were released and two others resigned. It was undetermined if this created a significant work shortfall. Many employees are former and retired military personnel who have prior experience in the Middle East.

Fourteen forward operating bases (FOBs) and camps (COBs) were visited. At each location, the process was to coordinate with the local DCMA personnel and explain the visit purpose and goal, conduct a visual tour, and then spend significant time with the local KBR safety personnel. Local issues, training, staffing, safety credentials, inspections, and local programs were discussed. The site visit usually toured the local Ammunition Holding Area (AHA), man camps, HAZMAT yard, and living and work areas. In most instances a visit to the local Fire Department was made. An out brief was conducted with both the senior DCMA person and then the KBR Site Manager. This system provided a sense of safety program scope and implementation, and a comparative between locations. A secondary out brief was held upon return to the home base at Camp Victory with the senior KBR safety manager within theater and also the DCMA Commander and/or Deputy. KBR Safety has been receptive to comments and suggestions. On some locations, time on site has permitted a more in-depth solutions based approach to observed safety issues. During the assessment, higher than expected personnel changes have occurred in the KBR safety operational management staff. The KBR Headquarters Office at Camp Victory also provides management for KBR assets in

Kuwait, Djibouti, Afghanistan, Dubai, and Republic of Georgia. A comparative is found in the 30 million man-hours worked in Afghanistan versus the 170 + million man-hours worked here in Iraq and the 19,200 direct hire employees compared to 3,600. The Health, Safety, and Environment Division of KBR are responsible for safety, environment, HAZMAT, vector (pest) control, and the company medics.

SELECTED SITE SYNOPSES:

COB Anaconda – This large well developed supply and support installation is home to the DCMA North Headquarters offices. The KBR safety staff is large, and appears to have great respect in the area. They do not have some requisite background knowledge such as how and where to access the NFPA Fire Codes. A joint follow up review at known problem areas was conducted by DCMA QA, Safety, and KBR Safety with new findings being noted and reacted to overnight. These were improper grounding, fire extinguisher placement, and improper wearing of PPE. During a follow-up visit at the end of the assessment a number of new initiatives were presented. These were geared toward electrical and vehicle safety. The size and importance of this site results in a rating of high safety risk.

COB Spiecher – This is a large under construction installation. During the next year, half of the military construction in Iraq will take place at this installation. A visit to the major military unit, 25th ID, was made to introduce the safety office staff to DCMA and explain how all can benefit via mutual communication and support. In general the KBR staffs are not always aware of the other co-located safety staffs. This was disseminated during the assessment at multiple sites. Similar visits were paid to the USAF Red Horse Unit, and the Aviation Safety cell. During the windshield tour of the camp the safety manager declined to comment on the double fatality fire incident which had occurred on 31 October 2006. Accident documentation was requested without being provided. The burned vehicle and tank were viewed at the destroyed vehicle area. The undersigned was not permitted a close examination per company policy. Pictures were not allowed. The undersigned was told the report was in the Corporate Headquarters in Houston at the Legal office. To date only an interim report has been provided. A KBR Fire study was provided which identified a number of possible root causes and countermeasures which the company had undertaken. However in the body of this study an independent third party study was mentioned. To date this document has not been provided. When asked about local safety initiatives at the site the Safety Manager replied he followed the provided guidance and relative to other disciplines he "stayed in his lane". He further stated that his accidents rates were superior for KBR and less than the industry standard. During a visit to a hard building dining facility (DFAC) construction site, the project manager expressed intense pride in the project as well as stating that he was the safety head on site. At this camp, the undersigned was accompanied by a KBR Government Compliance Representative who took minutes and notes of the visit. This was also the case at Kirkuk, a sub post of COB Spiecher. It was explained this is a company policy yet these were the only two locations at which the policy was applied. Both representatives provided copies of the compiled minutes, which were fair and objective.

This planned construction and past accident history results in a high safety risk for this installation.

FOB Kirkuk

This former regime Air Force Base is a well developed and managed installation and can be considered in a sustainment mode. The KBR Safety office is very experienced and comfortable with their relationship with COB Spiecher. The AHA for the installation has a Department of Defense Explosives Safety Board (DDESB) site approval. This is unusual for a theater of operations such as Iraq. This was explained to the DCMA ACO, 1LT Harms, who was briefed by the undersigned and then the Air Force NCOIC from Explosives Safety. She was then able to explain to the LOGCAP LSO and KBR why the proposed location for the fuel dispensing point had to be moved across the street and out of the quantity distance explosives arc (QD). Two pallets of unsecured helium cylinders were coordinated for removal to proper storage. This installation also has a small AFCAP contract which is providing "prime power" on half of the base by a contractor, Resources Management Services Inc. (RMS). This critical facility was rated as low safety management risk

FOB Falcon - This is a former regime military area which has only basic services. In some places oil crude oozes up to the ground surface and the off gassing is a potential safety and health hazard. The new QAR is aggressively attempting to develop strong working relationships. A recent RPG attack ignited much of the ammunition holding area and the resultant blast wave destroyed much of the KBR Living Support Area (LSA). Numerous personnel changes have reduced the KBR teamwork level. The working relationship between the Site Manager and KBR Safety Manager is poor. The Safety Manager, while experienced, was judged as not proactive and defensive. The fuel tank at the PX was found ungrounded and with an improper ladder to it. A generator electrical power feed line was on the ground in an observed vehicle traffic area. These are two of a number of observed electrical issues noted. No local safety initiatives were provided thus resulting in a rating of high risk.

Kalsu - This is a basic FOB. Many tents are still in use for living and work areas. The DFAC is new and meets new higher standards. A good cooperative relationship exists between the QAR and KBR management including the Safety supervisor. KBR safety supervisor was competent and proactive. A meeting with the Department of Army Civilian (DAC) military brigade safety manager was useful and will lead to further cooperation and leveraged efforts. A recent soldiers living area fire was found to be caused by heat from a video game and an inferior non-rated power strip. This was found to be a theater wide pervasive problem. The three offices agreed to work together to remove them from sale on the FOB. This effort was brought to the attention of the MNC-I safety staff (based out of Fort Hood, Texas) for a more theater wide application. A trash fire which occurred during the visit revealing a number of issues which the resident QAR is in the process of addressing. It is noted that a verbal CAR had been issued by the QAR predicting the fire scenario. KBR was aggressively addressing the noted issues resulting in a moderate safety rating.

Taji— This is a camp on an old Iraq army installation. It is a mature, open, and well run installation. The safety staff is smaller than most KBR staffs but is well balanced and experienced. One of the HSE coordinators carry's a rating as a Certified Safety Professional (CSP). The site manager is involved with safety and maintains coordination with DCMA. Utilities are managed by RMS under an AFCAP contract. Issues in this area are described below:

A safety review at Camp Taji, IRAQ on 29 December 2006 revealed serious safety management issues within the Readiness Management Support L. C. (RMS) Company located on FOB Taji. RMS provides Department of Public Works (DPW) activities at this location. During the assessment by the undersigned with the DCMA office at the camp and KBR personnel the circumstances of a small electrical fire were made known. The site was visited. A light fixture was found melted and broken on the floor of a metal frame and siding concrete floor warehouse type structure which had been converted to military barracks housing. These will sleep 240 soldiers and have one large door exit at each end. The fixture was burned and evidence of soot contamination was noted. Six to ten ceiling tiles were damaged and will need replacement. Burning plastic typically emits toxic vapors of undetermined variety further complicating the safety hazard. As the incident investigation had not been completed no substantiated cause had been determined. The following is suggested or potential causes: 1. overheated or defective light ballast ignited as has happened within the theater in the past. 2. The fixture overheated. It was an enclosed fixture designed for wet environments. 3. Holes in the roof allowed water to permeate the fixture or wiring causing a short or overheating. 4. Improper installation. Other similar smoldering and fires have occurred in the recent past. A meeting with the on-site RMS Safety person, Mr. Darwin Campbell, took place later in the day. He indicated the supply system was being screened for other like fixtures. He did not know how many had been already installed. He stated he was waiting for the WSI fire incident report before recommending any corrective actions to his Deputy Site Manager. Mr. Campbell did not appear to have a sense of urgency. He agreed that providing a corrective plan of action was acceptable. Review of the AFCAP Task Order 5205, Statement of Work, Item 3.3 states "...the contractor shall comply with...National Electric Code (NEC)...". It is concluded that violations of the NEC are likely. Worksite Safety is covered in Item 3.4. The RMS Site Specific Safety Plan (SSSP) is a draft dated 18 October 2006. An estimated final approval date was not provided. RMS is in the process of proactively changing all suspect lights and the DCMA onsite CA is monitoring the safety issues.

Because the safety issues noted appear to be short term this installation is rated as a moderate risk facility.

COB Al Asad

This large modern and well defended former air base in Anbar Province is growing and KBR has a typical staff at this location. There is one DCMA QAR who is well known and respected. This installation has a combination of Army, Air Force, Navy, and Marine

assets. The airfield has a variety of assets. In October 2006 an electrical problem caused the then largest DFAC in theater to burn down. The construction at both the replacement and a temporary DFAC were viewed with a number of safety issues noted. It was agreed that with the pending construction of four living support area (LSA's) more DCMA and KBR personnel were required to monitor the construction projects. Water was noted inside some light fixtures for a soon to be opened temporary eating area. The proposed solution was to drill drain holes in the light covers may not have addressed the root causes for the issue. The facility was opened early without a complete inspection by the QAR. Two days later a light fixture burned a small hole in the facility thus closing it until all of the light fixtures could be changed and checked. A "mermite" eating facility maintained by the Marines and in a building, not inspected by KBR local safety nor electric shop personnel, caught fire and burned due to an overloaded circuit during the first day onsite. The WSI fire department had noted these electrical issues during a recent fire safety inspection, however the KBR electrical staff had not received the report as yet. The QAR took efforts to improve the lines of communication during the visit. Finally, the evening prior to departure, a shower unit in the local "Seabees" compound caught fire due to a suspected electrical problem. During the back brief at KBR HQ, a number of electrical safety planned initiatives were provided. This facility is scheduled to grow in the coming year with four LSA's being built. This will tax the safety and quality staffs and results in a rating of high risk.

Liberty Fire Department

On 2 December 2006, the Camp Liberty Fire Department was visited. This is a full US type fire station with two pumper apparatus. It is operated by Wackenhut Inc., Palm Springs, FL under a subcontract from KBR as a strategic partner. The office has all of the appropriate equipment to include the National Fire Protection Association (NFPA) Codes on disk. Certain frequently used codes are on hand in paper format. There are two fire stations at Camp Victory and one station at Camp Slayer which is contiguous. This station is operated by KBR. These departments do not appear to have a formal and practiced support agreement. The Sather Airfield, also known as Baghdad International Airport (BIAP), fire department is operated by the US Air Force. Station personnel questioned the practice of a KBR safety person checking fire extinguishers at the station on a monthly basis and stated the fire department checks all camp fire extinguishers monthly per NFPA guidelines. This would seem to be a redundant practice. Following the DFAC fire at Al Asad, the Wackenhut Fire Chief required inspections of all generator fuel points. Again, this was partially redundant and could have been coordinated for policy and process clarity.

KBR MANAGEMENT ASSESSMENT: For safety initiatives by KBR, the solution or identified fixes must be scheduled and completed by the Operations Division. At this point it appears safety can not monitor a given situation except by requesting a status report from Operations. Some of the values in having a contractor assume former military structures and duties are lost. It is further exacerbated by the tendency of many in KBR to refer to their function as "staying in their lane". The continued presence of DCMA Contract Safety personnel will continue to reduce these administrative barriers

through cross coordination of issues. This allows for a small crisis to stay minor if it can be solved at as low a level as possible. Only then is the issue provided as a theater wide "lessons learned" scenario. The monitoring of the KBR Consolidated Hazard Inventory Management Program (CHIMP) log has revealed a number of safety related items which have been rectified at the local level. KBR HQ Safety now has safety CHIMP notification processes which will early-on highlight safety issues to management. KBR Safety has a process to ensure these are resolved.

KBR has an extensive data collection system. Review of accident data shows a downward trend for both injuries and motor vehicle accidents for the last twelve months. When combined with the increase in man-hours and miles driven, it is a significant figure. The actual numbers for accidents shows Iraq having slightly less accidents (78%) than the other KBR Middle Eastern sites as based upon the value of contracts. These numbers are attributed the requirement to include hostile action injuries in the data. This would include 7 of the 12 company incurred fatalities last calendar year. Fires in Afghanistan occur slightly more than Iraq (40% of total) but the more austere conditions and the more severe weather create that expected dynamic. As in Iraq electrical fires are a leading cause however at fewer rates than Iraq. This is attributable to the use of 110 volt power sources. Motor vehicle accidents occur more in Iraq (37% of total) but these include hostile action accidents. Analysis is provided to management with recommendations however the extreme up tempo of the environment precludes critical operational response at some levels. Corrective actions at facilities are inhibited by the extended logistics chain. There are seven American Society of Safety Professionals (ASSE) Certified Safety Professionals (CSPs) among the KBR staff. Others are known to have World Safety Organization (WSO) and Board of Environmental Auditors Certifications (BEAC) credentials. Overall the staff is competent; however the local Program Site Manager is the primary supervisor/rater of safety personnel, which limits the independence and somewhat the proactive functioning of the safety staff. The KBR accident investigation process has been questioned. The final report for any major accident is routed through the corporate legal office in Houston, Texas before being released. Also a concern is the uneven flow of pertinent safety lessons learned within KBR and throughout the command. Facilitating this process has been an ongoing goal with progress being made during this assessment. Other entities coordinated with include, but are not limited to, MNC-I, COE, AFFES, 25 ID, 9th CAV, US Embassy, and Navy Safety personnel assigned to IRAQ. It is noted that KBR has been challenged by frequently being tasked to solve issues not their making, i.e. preexisting facilities and operations, with some subcontractors not connected to KBR have been observed not adhering to known safety standards. Within KBR, a recent safety initiative has been to conduct a management review of their assigned subcontractor safety management programs. Substantially, these programs are with non English speaking companies from countries with a less effective safety culture. The undersigned agrees with KBR that this will enhance safety within the contracted areas functions.

The KBR Standard Operating Procedures documents are lengthy and do have safety integrated into numerous sections. DCMA QAR's indicated that they were largely complete and representative of the discussed subjects and requirements. The approved

KBR safety manual is what one expects of a large multifunctional corporation. The manual does not fully address the numerous unusual situations, modifications, and deviations that occur in a harsh climate during a war as is the case in Iraq. Deviations are not documented nor approved either before or after implementation. For example, most fire extinguishers provided are not U/L approved as required by contract in a second level reference to Army Regulation 420-90, Fire Prevention and Protection. However, many meet the British Standard or follow National Fire Protection Association (NFPA) 10, Portable Fire Extinguishers, guidelines. These should be considered as a suitable substitute. Since the primary power is 220/240, application of American standards is difficult. Applying the OSHA CFR 1910 series safety standards is a challenge for the war posture required at most installations. It is understood that all camps are to be considered temporary. Purchasing and installation of camp equipment was made using these "fast track" guidelines and as the installations mature facilities and equipment are wearing out. An example is found in the many broken office chairs which are worn after 2-3 years. This has created safety issues in some equipment and ergonomic issues for some personnel. The extensive use of generators will quickly require more purchases of new generators as the expected lifecycle time is reached.

T.O. # 139, page 13, requires a deliverable on 31 August 2007 of a "Consolidated Safety Department Report". No other guidance has been provided by the LOGCAP office. DCMA and KBR can provide data for this line item but format and contents need to be further defined by the PCO. Future coordination with the PCO is anticipated to clarify this task.

LOGCAP III, Task Order #139 was activated on 1 September 2006. Included are safety requirements for adherence to the United States Occupational Safety and Health Act (OSHA) standards without any discussion of existing conditions. Administratively, OSHA requires much that is unattainable in this environment, and therefore a lower level of safety should be available assuming appropriate risk analysis techniques or Operational Risk Management (ORM) have been used. The beginning of LOGCAP IV will provide a critical time for safety to define the next areas of emphasis and with the contractors to define how these will be accomplished. It is anticipated that 30-45 days after the post award conference will be the target time for an ideal DCMA safety management review. It will allow each contractor to define their own plan within the scope of work given. This multiple contractor situation will require additional DCMA Contract Safety personnel during the post award meetings to administer this phase due to proprietary concerns. Recommend that at least one of the on-site people be a senior manager for the policy and plans expertise. LOGCAP IV, while a challenge, will be an unprecedented opportunity to insure safety risk management processes are integrated into all work types. Each contracted service provider will have a work plan, with a safety plan, and QA SOPs for review. Combining this review together, even if a large task, can leverage the impact of the minimal safety staffing. The solicitation for LOGCAP IV was previously issued and closed on 13 October 2006. Further action will occur in 2007. This contract will differ from previous ones and, the impact upon safety will be a potential challenge. A small amount of work was reviewed which was funded under the AFCAP (Air Force Contingency Activity Program) program. Except for the DPW work

at FOB Taji no issues were noted. The Taji contractor, RMS, has serious safety management shortcomings which were previously addressed in this report and onsite.

AMMUNITION HOLDING AREAS: During the assessment, KBR provided an AHA study completed by KBR Security personnel. COL Azemar directed the undersigned to review and comment on the study. This led to coordination with MNC-I III Corps lead safety personnel to ensure the DCMA issues were considered in any solutions promulgated by the military theater command. This paper was partially prompted by an attack on an AHA and subsequent detonation of US military Class V storage which destroyed a substantial portion of the adjacent KBR Life Support Area (LSA). While no fatalities occurred, disruptions to the KBR support mission occurred. The study was based upon available data and had a number of false assumptions and incorrect analysis but did reveal actual serious concerns with the proximity of some AHAs and LSAs. The root problem was that the quantity distance (QD) arcs from the AHA frequently extend out and affect the facilities within the arc. The standard fragmentation arc is 1,250 feet. Since this is for low angle high velocity fragments the use of "T-Walls", "Texas-Walls", and hardened buildings mitigates the hazard to some degree. During this same time, a visiting explosives safety team from the US Army Technical Center for Explosives Safety (USATCES) was in Iraq. They assessed the conditions at AHAs areas within theater and were in-country studying all aspects of the theater explosives storage safety situation. This study directly affects DCMA and KBR due to the continued presence of facilities within explosives quantity distance (QD) arcs for blast and fragmentation. There is evidence that the relocating of either the AHAs or LSAs having already reduced the hazards at a number of the locations. Results were briefed to the DCG with action directed to reduce amounts of unneeded munitions, provide barricades, and compartmentalize the stores with the appropriate separation distances to prevent propagation. In Afghanistan, a similar survey was conducted in August by the Department of Defense Explosives Safety Board (DDESB).

BCOT TRAINING: The key to DCMA safety observations in the AO are the QARs who have daily contractor interface. A basic level safety briefing conducted at the BCOT course or in the computer based pre-training would emphasize safety as an area of required interest during the tour of duty within theater. This is especially appropriate for the volunteer Air Force QARs who serve a four month rotation under the SAF program. Virtually all are not QARs by profession. The block of instruction for BCOT could ideally be presented by a Contract Safety Manager (CSM), but could be presented by a thoroughly briefed instructor. A full 50 minute block is preferred. A draft set of slides will be prepared and coordinated within 90 days. These will also be provided for a computer based training format. Besides the safety written into the QAR audit sheets there is a wealth of other mission oriented safety material available in theater. There are currently 75 DCMA Quality Assurance (QA) Audit Checklists published and most have safety line items listed for the multitude of functions. This is a superior example of safety integration into the mission. KBR also adheres to this methodology but to a lesser degree because application does not always follow policy.

BCOT Training Highlights should include but are not limited to:

Explain Contract Safety, and role in CCAS
LOGCAP IV and Safety
OSHA rules and concepts
Contractual Requirements
Composite Risk Management Techniques
KBR Safety Manual
KBR Management Organization and QAR Safety POC
Vehicle safety
Fire Prevention and Protection
Safety Symbols
Electrical safety with 220 volt emphasis
Flammables
Explosives Safety Overview
Iraq specific items
General safety items: PPE, weather, Labor camps, HAZMAT, etc.
POCs

Future safety resources for DCMA Iraq should include consideration of the Safety and Occupational Health Division personnel headed by Mr. Lloyd Roberts. His group includes Industrial Hygiene which would provide a unique perspective on the application of this services contract, and its reliance on OSHA and US Army safety program requirements. Proposed Basic Contingency Orientation Training (BCOT) safety briefing materials will be coordinated through this office for the "Health" aspects, as a minimum.

The KBR SOP 6B, Ammunition and Explosives Storage Operations Standard Operating Procedure, LOGCAP III, approved 05/26/03, contains reference to US Army explosives standards. However, the contract specifies the DoDI 4145.26-M, DoD Contractors' Safety Manual for Ammunition and Explosives. Numerous other contradictory safety clause references were identified and brought to the attention of the LOGCAP office in Iraq. The LOGCAP solicitation safety clause issues and contradictions will be coordinated through DCMA Phoenix via the DCMA Contract Safety Center.

POWER STRIPS: During the assessment an issue related to fire safety was brought to the attention of DCMA. The AFFES sales system had allowed non nationally recognized testing laboratory approved power strips (ie. Underwriters Laboratory (U/L)) to be sold in the PX proper and the concessionaire markets found on many of the installations. Additional action documentation is attached. In summary, the issue was coordinated with the AFFES Iraq General Manager located at Camp Victory and with the military safety lead at MNC-I (III Corps). All agreed the issue was valid and steps would be taken to upgrade the quality of electrical items sold and used on base. KBR has produced awareness media to ensure awareness of the issue. Individual camps have also mounted safety publicity warnings of this continuing real safety threat. At the end of the assessment it had become clear that changing this equipment usage would be a long term project.

CONCLUSION: The area covered by DCMA Iraq and KBR is large, dynamic, and dangerous. This makes safety within the context of the overall mission a major challenge. The findings described show a safety posture improving but still with challenges. The significant findings show a safety threat theater wide created by the poor quality electrical fixtures procured and installed, sometimes incorrectly, thus resulting in a significant number of fires. KBR's own study of this issue shows a systemic problem not limited to one or two installations. The electrical situation risk is further increased by the sub-standard electrical power strips sold by the on-base concessionaires. The KBR safety posture is large but reactive. KBR excels in crisis management and an attitude of "getting it done" and then moving to the next problem without verifying the completing of all corrective actions. The corporate posture is also limited by a culture of independence rather than interdependence. Safety is a command culture and must be integrated into all job skills and levels by actions. This also influences subcontractors which KBR must control. Site visit observations indicate that some contractors connected to KBR were not following basic safety principals. KBR safety influence is somewhat limited by the separate camp safety managers reporting to the camp managers. The KBR Theater Safety Manager is a manpower, technical, and coordination channel. At this level, the impact of analysis is inhibited by corrective actions being passed to KBR Operations for implementation without a requirement to report back completion to safety. There is no closed loop system in place. As this report was being completed actions were taking place at KBR to some of the barriers to direct safety influence. Positive progress in other areas has been noted during the duration of this visit. KBR accident losses have been reduced by 37% during the past year with further reductions anticipated. A KBR study was able to track and verify the correlation between the number of site manger visits out in COB/FOB work locations and the reduction of work place accidents over a ten month period. This has resulted in management emphasis on such visits. From 17-19 January all KBR senior safety managers including Afghanistan met at Camp Anaconda, Balad, Iraq to discuss their issues, goals, and challenges. This was a first of a kind meeting which will increase networking and aid in the overall efforts. For DCMA, the key will be the strengthening of the training provided to the QARs who are in effect DCMA's principal representatives at the camps in Iraq.

RECOMMENDATION: Rotational full time safety support can be justified as the camps and FOBs move to a more mature sustainment mode. The pending implementation of LOGCAP IV, with its multiple providers, will generate a series of safety challenges and opportunity. Prior interface with the buying command can reduce contractual safety issues and clarify the requirements. To avoid conflicting in theater command demands, two personnel are suggested, one for Iraq and one for DCMA Middle East to include the southern portion of Iraq. This area is the Tallil, Cedar, Echo, Bucca, Basera, and Scania FOBs. This is based upon the known contract levels at present which are roughly 80:20/Iraq:Middle East. If only one on-site position is approved then it should reside in the DCMA Iraq headquarters with a concept plan of one third time support to DCMA Middle East. This will include the considerable travel time for Middle East support. Actual routine time in this area will be less so as to be able to support major accident response and investigation. Initiatives, publicity, and lessons learned would be shared throughout the entire AO where applicable. The key would be to

coordinate, facilitate, and leverage safety assets. It is believed that data was lost after the two recent major fires. A secondary result of an on-sight safety subject matter expert focal point will be the reduction of Correction Action Requests (CARs) written by theater field personnel. Reference is made DCMA Iraq Memorandum, Subject: Corrective Action Requests (CAR) guidance, dated 31 October 2006. Experience during the assessment site visits was that these provided multiple safety subject training opportunities for both QARs and ACOs. Solving the electrical issues requires a multifaceted approach involving training of all personnel on the differences of using 220 power sources. The common use of power strips, many of inferior if not dangerous quality, will need command backing to mandate their use be curtailed. Some individual camps are attempting this action.

WAY AHEAD: The recognition of FTE personnel and monetary shortages within DCMA may lead to support being a combination of periodic temporary duty (TDY) and "reach back" capability. Two personnel should be available for this mission. Camp Victory - Iraq is where KBR Headquarters is located for the entire DCMA Iraq and DCMA Middle East theater. This will facilitate knowledge transfer, situational awareness, and to coordinate a unified approach to the contractor. Preliminary concept is for a four week TDY in July or August, which is soon after both region commanders have changed and around the projected implementation time of LOGCAP IV. This is a Commander DCMA Iraq request with the undersigned's familiarity with the theater. Coordination of this process has begun with a favorable response. Likewise, the case for additional safety training in the BCOT course was delineated above. Advocacy for this proposed one hour block of instruction is again a doctrinal responsibility of DCMA Contract Safety. For KBR safety, staff positioning within the organization should be looked at with a goal to speed response times to defined problems. Finally, the increased safety presence will highlight the discipline and thereby raise awareness thus reducing accidental losses.

Point of contact for this action is the undersigned at DCMA Denver, [REDACTED] or [REDACTED]@dcma.mil. Mail address is DCMA Denver (Mr. Dickinson), P.O. Box 25586, Denver Federal Center, Building 16, Denver, CO 80225-0586.

PAUL W. DICKINSON
Contract Safety Specialist
DCMA Contract Safety - Midwest

Attachments:

1. KBR Incident Report - Camp Speicher
2. KBR Incident Report - Camp Al Asad

cc:

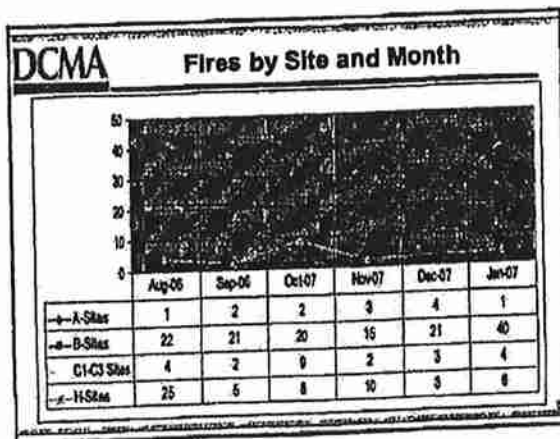
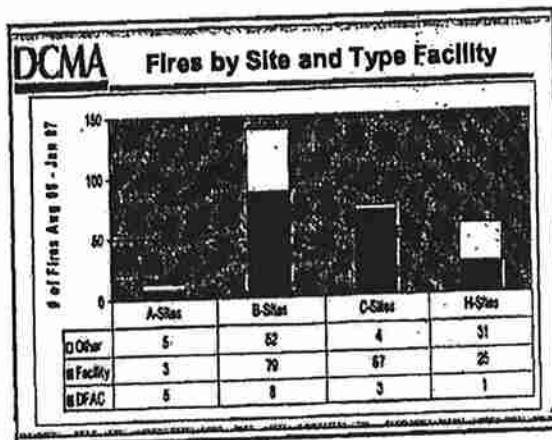
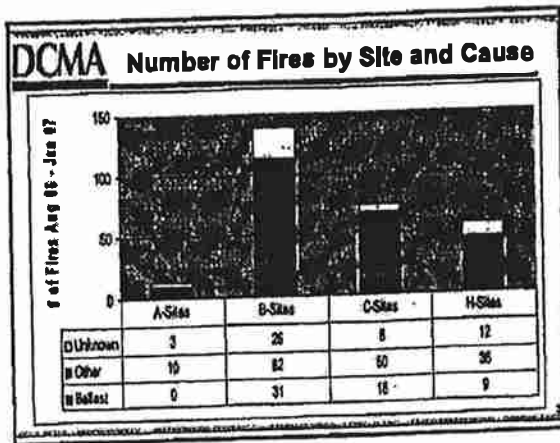
DCMA Iraq - Deputy
Contract Safety Center (Mr. O'Kane)
DCMA International (Mr. Pappas)
DCMAC-CSM (Mr. Ursery)

DCMA Notes

- I asked for data from the installation KBR safety/fire departments for August 06 - January 07.
- B-sites had the most fires at 139 (includes Al Asad and Fallujah); C-sites were next with 74; H-sites = 67; A-sites = 14
- Of the 17 DFAC fires reported through January, only 3 have undetermined/unknown causes. The rest were caused by electrical shorts or "failure to clean & maintain."
- Anaconda had no ballast fires, as they were the first camp to detect the overheat condition and install spacers.
- Overheating/faulty ballasts accounted for 22% and 23% of the fires at the B & C sites, respectively.
- While most of the facility fires were due to electrical shorts or overheating, there was no real trend. The cause of fires in some reports was just classified as "electrical."

DCMA Notes

- "Other" in the "Fire by Site and Type Facility" chart means a storage area, generator, vehicle, or grass fire.
- I did include vehicle fires in the total number, because some of them did have "human" causes.
- Sites C7-C8 did not provide the data by month, so I did not include them in the site-by-month chart.
- Al Asad did not provide reported fires for August, so I could only plot it for Sep-Jan in the site-by-month chart.
- Site data does not include the H-S DFAC fire on 5 Feb, or the DFAC (ilt-grill fire at Al Asad on 14 Feb. These fires are still under investigation. If you count the month of February (so far), we would have had 19 DFAC fires since August (almost 5 DFAC fires each month).
- The number of fires at the B-sites has gone down this month (so far).



DCMA DFAC Fire Descriptions

- 5 Aug 06; Spelcher: Electrical fire at Eagle's Nest DFAC, caused by wiring to Grill #1
- 30 Aug 06; Anaconda: Floor mixer smoking at DFAC-2, caused by failure to inspect & maintain
- 3 Sep 06; Fallujah: Fire at DFAC caused by overloaded electrical outlet
- 5 Sep 06; Anaconda: Smoking coffee machine, caused by failure to inspect & maintain
- 1 Oct 06; Fallujah: Electrical fire, caused by overloaded electrical outlet
- 2 Oct 06; Spelcher: Electrical fire, caused by ballast

DCMA DFAC Fire Descriptions

- o 3 Oct 06; Fallujah: Electrical fire, caused by short in AC unit.
- o 5 Oct 06; Anaconda: Electrical fire in Convoy Café dishwashing area, caused by failure to inspect & maintain.
- o 31 Oct 06; Al Asad: DFAC #3 total destruction of kitchen/warehouse area; speculation that fire resulted from electrical malfunction in cooler/freezer unit on NW side of food prep area.
- o 31 Oct 06; Speicher: Eagle's Nest fire near power generators, cause unknown.
- o 6 Nov 06; Anaconda: Light fixture/ceiling tile fire adjacent to kitchen area in DFAC #1, no fault.
- o 30 Nov 06; Al Asad: Bathroom fire in DFAC #1, caused by wiring to hot water heater.

DCMA DFAC Fire Descriptions

- o 1 Jan 07; Al Asad: Wooden add-on to Camp Hog Mermite Café catches fire, caused by electrical overheat/short due to compressed cord.
- o 4 Jan 07; H4: Fire at SERKA DFAC caused by electrical short.
- o 13 Jan 07; Anaconda: Exposed insulation under roof surface ignited by sparks during roof construction, while removing roof material with a grinder. No fault.
- o 20 Jan 07; Fallujah: Fire at DFAC #2 caused by electrical short.
- o 26 Jan 07; Al Asad: Smoking breaker panel at "Pops" DFAC, caused by compressed wire bundles.

DCMA DFAC Fire Descriptions (February 2007)

- o 6 Feb 07; H5: Burning odor detected at DFAC during dinner service. Fire department quickly extinguished a small electrical fire in a ceiling light fixture; cause is still under investigation.
- o 14 Feb 07; Al Asad: Tilt-grill fire at DFAC 1.1; Halon system was triggered and extinguished the fire. Under investigation.