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**At McGuire AFB, N.J.:
AFCEE 'A Team' clears way for
C-17 transport hanger complex**

Triad team keeps C-17 project on track

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AFCEE Team Manager

When John Pohl saw the results of water samples collected at the construction site for the new C-17 hangar complex at McGuire AFB, N.J., he said he realized right away that “we had a problem.” But, he added, he knew also that “we had a solution.”

The problem was dramatic, according to Pohl, the environmental flight restoration project manager. The chlorinated solvent perchloroethylene, or PCE, was found in very high concentrations in the groundwater there – high enough, in fact, to require an immediate stop-work order.

PCE is a chemical used in dry cleaning and by industry to degrease metal parts.

But the \$28 million C-17 military construction project was considered a top Air Force priority, and any delay was, in the words of Chris Archer, McGuire's environmental flight chief, “not an option.”

“We got it straight from the top: Come July, we're going to start pouring concrete,” he said. “The C-17 aircraft was scheduled to arrive in June 2004, and it's going to have a hangar.”

To most people this situation would be like being stuck between the proverbial rock and hard place; Archer and Pohl, however, saw it as an opportunity.

“Because of McGuire's past IRP (Installation Restoration Program) experiences, we were looking for new, smarter ways to execute our program,” said Archer.

The “smarter way” was the “triad approach,” a phrase coined by the EPA to describe a supremely logical approach to performing site assessment and remediation activities.

The triad approach emphasizes judgment-based decision-making during field operations – a notion that sounds a lot easier than it is. “We were looking at triad-approach-like ideas for our sites for over two years” said Pohl. “That hard look taught us that the expertise of a core technical team was critical for success.”

Judgment-based decision-making means the ability to change the direction of a site assessment or remediation effort based on real-time data and the interpretation of that data by the core technical team. It is based on careful up-front planning, where the problem and the possible contingencies are carefully considered, and a logical

approach to executing the field effort is designed.

During this planning stage, key stakeholders, and especially regulators, are brought into the discussion as partners rather than adversaries in the process.

“Understanding what the regulators want and getting them to see our concerns, and then working together to reach consensus before we start working—it's hard to argue with that,” said Pohl.

The results of this planning process are captured in a dynamic work plan, or DWP, which is a site-specific document that defines the logic-guiding decisions at a site, and specifies the tools, methods and expertise to be employed during fieldwork.

With the challenge defined, Archer contacted AFCEE to establish a contract with SAIC, a government contractor with a track record for establishing qualified core technical teams and executing triad approach-based projects. “We told AFCEE we wanted the A-Team,” said Archer, “and they got them for us.”

There was just one catch: the contract had to be awarded in two weeks and the entire project completed six weeks after contract award. Definitely not the normal way to do things, but AFCEE, McGuire and the SAIC team made it happen.

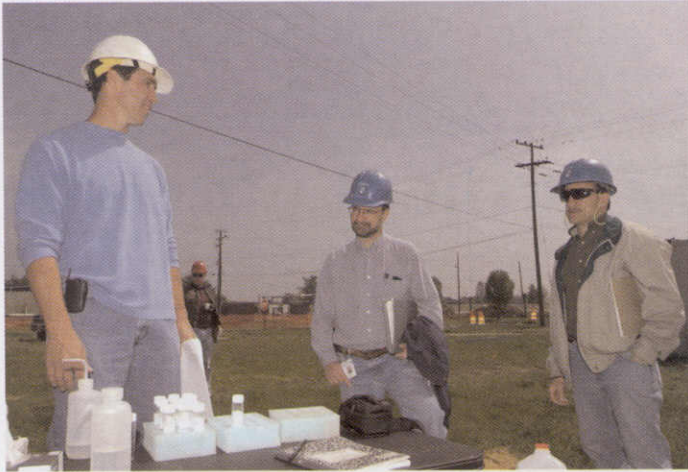
For example, in 14 days of field work 4,500 samples were analyzed for contaminants using the cone penetrometer, 234 soil samples were taken at 34 locations and 160 groundwater samples were collected at 42 sampling locations. In addition, more than 60 soil and groundwater samples were taken for laboratory analysis.

The site turned out to be more complicated than officials had originally thought because of its complex groundwater zones and because there was no single “hot spot” that contained the contamination.

In the end, the team was able to get the site fully characterized one day ahead of schedule. As a result of the environmental assessment, roughly 500 cubic yards of unsaturated zone soils were targeted for excavation.

More importantly, however, the team determined that natural attenuation – the process by which naturally occurring microorganisms break down contamination – was already taking place at the site. So, in the true spirit of the dynamic work plan, the team members decided to come up with some parameters to track the natural attenuation process.

Based on these results, state and federal regulators gave conditional approval for an interim remedial action



Dr. Joel Hayworth of HES, Inc., left, core technical team leader with the AFCEE subcontractor, discusses fieldwork with Jeff Story, center, and John Pendergrast, both with the New Jersey Department of Environmental Protection. John Pohl, with red hat in the foreground, is the McGuire AFB environmental flight restoration project manager. Using the decision-making process called the "triad approach," officials were able to complete the environmental assessment of a complex contaminated site one day ahead of schedule.

plan to include natural attenuation monitoring as the primary cleanup action – thus avoiding major, intrusive and time-consuming remedial efforts that could impact the C-17 project's schedule. With regulator approval, 12 natural attenuation-monitoring wells were installed at the site just a few weeks after the assessment was completed.

The success of the C-17 project has not gone unnoticed. In June, Maureen Koetz, Air Force deputy assistant secretary for the environment, safety, and occupational health, visited McGuire AFB and was briefed by Archer on the project.

"We need to take this Air Force wide as an AFCEE initiative," Koetz said at the conclusion of the briefing.

Other kudos have followed from the success of the project, including this message to Archer from Col. Bobbie Griffin, chief of Air Mobility Command's Environmental Programs Division: "Great job to the whole team that is making the plan/schedule a reality. Good on ya!"

"And just like Hannibal said in the other 'A-Team' (the TV show) – I love it when a plan comes together!" concluded Archer. ■

AFCEE helps in shuttle recovery effort

When the space shuttle Columbia was lost in February, federal authorities were concerned that the public and the environment might be exposed to potentially hazardous materials that were aboard the craft.

As the lead organization in the recovery efforts, the Federal Emergency Management Agency, or FEMA, delegated the environmental aspects of the work to the Environmental Protection Agency, which has a role in the national government's Federal Response Plan.

However, when FEMA's involvement in the recovery ended in April, the National Aeronautics and Space Administration turned to AFCEE for assistance in continuing the collection of space shuttle material.

Although search teams were no longer operating, people living in the areas affected by the disaster were still calling in daily, reporting that they had found what looked like space shuttle debris and asking for help in getting the material off of their property.

The break up of the spacecraft spread debris over a wide field that stretched from North to East Texas and into Louisiana. In the Lone Star State, where the bulk of the material fell, the recovery area has been divided into four zones corresponding to the county seats located in the area: Corsicana, Palestine, Nacogdoches and Hemphill.

In addition to material collection, NASA wanted assistance also in transferring the data it had accumulated in the recovery efforts to its computer network for continued analysis.

In May, AFCEE assumed responsibility for shuttle material collection. The center is overseeing the work done by Weston Solutions, Inc., an AFCEE environmental contractor.



A Weston Solutions employee performs an air-monitoring evaluation on a piece of debris from the space shuttle Columbia. (Photos courtesy Weston Solutions, Inc.)

The procedure in place works this way:

When a member of the community or local authorities locate an object they believe came from the space shuttle they call a NASA hotline to report the finding. Space agency officials confirm that the debris is related to the shuttle and classify it either as a "hot" or "standard" item. A team is then dispatched to recover the object.

How something is handled depends on its classification. A