

ST. LOUIS FUSRAP VISION

M. Lyerla, B. Fox
Shaw Environmental Incorporated
110 McDonnell Boulevard, Hazelwood, MO

D. Mueller, S. Roberts, G. Allen
US Army Corps of Engineers, St. Louis District
8945 Latty Avenue, Berkeley, MO

D. Overmohle
US Army Corps of Engineers, Kansas City District
601 East 12th Street, Kansas City, MO

ABSTRACT

Many times the St. Louis project team contemplates what makes us different. Why are we able to maintain production, safety, and cost goals while other sites struggle? This paper pinpoints what sets the St. Louis Formerly Utilized Sites Remedial Action Program (FUSRAP) apart. In the past we have talked about our management strategies, our continuous improvements, and finally our safety culture. This paper will focus on our vision.

The St. Louis Airport Site (SLAPS) and the St. Louis Downtown Site (SLDS) are two mature FUSRAP sites being remediated by the St. Louis District United States Army Corps of Engineers (USACE). Shaw Environmental, Inc. is under contract to USACE to execute the remediation. SLDS remediation was initiated in the fall of 1998 while SLAPS remediation started in the spring of 1999. Site conditions at each location have resulted in remedial decisions that have far reaching cost and production implications.

The SLAPS is located in St. Louis County on 22 acres of open ground adjacent to the St. Louis Lambert International Airport, a Norfolk Southern rail switch yard, and a small stream. Site contaminants include low level concentrations of radium, thorium and uranium. Remediation efforts involve removal of nearly 500,000 cubic yards (cyd) of contaminated soil that must be excavated, loaded, and shipped for offsite disposal. The decision process for remediation focused on how to obtain the highest productivity in terms of volume removed for the least cost.

The SLDS is located near downtown St. Louis in and around the active Mallinckrodt chemical plant adjacent to the Mississippi River and several major railroads. Site contaminants include low level concentrations of radium, thorium and uranium. Remediation efforts involve removal of nearly 100,000 cyd of contaminated soil that must be excavated, loaded, and shipped for offsite disposal. The industrial site is congested and project activities must consider working in and around numerous non-environmental personnel (local businesses, railroad and Mallinckrodt personnel). The decision process for remediation focused on being able to conduct excavation

and transportation and disposal with minimal impact to Mallinckrodt operations, nearby area businesses, and the health and safety of plant personnel.

Here in St. Louis we have always had a vision of high achievement. Each year the bar is set higher and we all strive with everything we have to exceed the goals set forth. We have a mindset of being proactive rather than reactive and constantly evaluate our surroundings to recognize the next issue on the horizon so we are prepared to meet the challenge.

Our vision is reflected in each element of the project from cost and scheduling to safety, from procurement to operations, from engineering to compliance, from radiation safety to project management.

We have vision in our cost approach developing historical trends to forecast and predict in spite of changing corporate systems and structures. We have vision in utilizing new technologies and are doing things like developing palm pilot use for our field technicians. We have vision in our quality approach using lessons learned toward continuous improvement. We have vision in our procurement approach and continue to build alliances, maintain site procurement staff, and involving our contract administrators in site planning activities. We have vision in our compliance efforts and prepare for regulatory changes before they happen while anticipating additional compliance support our client may need beyond our current scope. We have vision in regards to safety and continue to educate our workers and nurture our safety culture. We have vision in our approach to excavation in determining cut-lines that will halt our gross excavation at the appropriate elevation to avoid over-removal of soil while addressing the contamination and speed the final status survey process. Visionary approaches can be found in every aspect of our work.

INTRODUCTION AND BACKGROUND

The St. Louis FUSRAP consists of two active remediation sites. The St. Louis Airport Site (SLAPS) and the St. Louis Downtown Site (SLDS) are two mature FUSRAP sites being remediated by the St. Louis District USACE. Shaw Environmental, Inc. is under contract to USACE to execute the remediation. SLDS remediation was initiated in the fall of 1998 while SLAPS remediation started in the spring of 1999. Site conditions at each location have resulted in remedial decisions that have long term cost and production implications. These two sites can boast a long list of successes, but not without acknowledging their challenges and how those challenges were overcome or dealt with.

Webster defines success as the achievement of something desired, intended, or attempted. Each site in St. Louis has a slightly different measurement of success. Success for SLAPS is measured by maintaining the lowest cost per cubic yard (cyd) possible, preserving the safety culture and resultant safety record, exceeding production expectations, and increasing profits while giving the client more for their money each fiscal year. Success for SLDS is measured by completing investigations and designs ahead of schedule, clearing vicinity properties, preserving the safety culture and resultant safety record, remaining productive while adapting to changing conditions, driving down the cost per cyd, and driving up the profit margins while meeting the client's goals.

Each site has its individual challenges and the visionary approaches involve understanding those challenges in order to adapt, adjust or work with them. The biggest challenge for SLAPS involves exceeding the expectations set by the performance of the previous year. SLAPS has achieved tremendous success in exceeding set production rates each and every year while working within the same funding levels. This success translates into giving the client more for their money year after year. The challenge is keeping it up. Every year the team is driven to find new ways to save time and money while maintaining safety. This becomes harder to do each year as we basically work ourselves out of a job. As we run out of areas to remediate we know we will not continue to ship 1300 plus railcars each year, but the number of shipments out the door has always been our measurement tool. The team is challenged to illustrate their successes in new ways as the project transitions to completion.

The challenge at SLDS is establishing and maintaining good working relationships with the numerous commercial property owners in order to minimize impact on their commercial operations and actually get at the work. The SLDS is located in and around the active Mallinckrodt chemical plant and also includes various surrounding vicinity properties that each have individual property owners that also must be factored in. Most work activities must be coordinated through the USACE, the Mallinckrodt systems, and the individual businesses and property owners. Shaw's challenge is to assist these different factions to reach agreements and/or compromises so we may do our work.

The St. Louis team has taken a visionary approach to overcome the challenges faced. The team recognizes that this vision must be present in all areas of our work and in all staff members.

Vision

What does it mean to have vision? Webster defines vision as the ability to perceive or foresee something, as through mental acuteness. For St. Louis FUSRAP vision is achieved by staying proactive versus reactive. This requires seeing our job in its entirety rather than the pieces and parts active today. We want to foster the attitude that anything is possible; we may just need to think outside the box. Most importantly when we make mistakes or trip up along the way, we strive to put steps in place to avoid such issues from occurring again. With all of this considered, having true vision goes beyond all of these things.

In order to illustrate just how this concept has infiltrated the St. Louis FUSRAP this paper will present visionary approaches that have come from each and every department or group as well as exploring the problems we have encountered along the way.

Exploring the Building Blocks

Creating a culture is much like building a structure. There is a foundation accompanied by many building blocks that go into the final product. The foundation must be steadfast and solid while each block must be strong and square in order to construct a sound building. Along this line we realize that each and every department or group on our team has a part to play in building this visionary structure. Our client is the foundation of this building, and the various departments or

groups represent the blocks in this building: Project Management, Safety, Quality, Operations, Radiation Protection, Engineering, Compliance, Project Controls, and Procurement.

If one were to sit down with the onsite Client Representative and ask why this job is different from other jobs he would have an interesting answer. Vision is truly a mindset and the Client recognizes that the St. Louis FUSRAP staff has a “can do” attitude. He describes the group as a highly motivated staff that develops the culture of vision by talking the talk and walking the walk. This culture requires a functional team with our client as a key player, and living day to day with the concept of “we succeed together or we fail together”. The Client realizes that the only way to get complete buy-in to our ideas and goals is through ownership. Shaw has been successful at selling the project to all personnel including subcontractors and union employees. The Client understands and agrees with the approach that everyone onsite is held responsible for Quality and Safety while also managing costs. Onsite staff must be willing and able to freely express ideas and thoughts, good or bad, without fear of reprimand. Most of all, building this culture requires a certain pride in each individual’s performance. With that endorsement you cannot go wrong, and we recognize that this is the foundation of our success.

Project Management

The building blocks start with project management. Project management decides on the staffing levels, what personnel will be assigned to the project, the equipment needed to do the job, the liaison to the client, the processes and procedures, the methods of execution, and so on. Project management has responsibilities on several levels. There is a responsibility to the staff to provide a safe and effective workplace, to make sure employees have the tools and training to do their job, to develop ownership and employee morale, and to provide rewards for project success. There is a responsibility to the client to provide customer satisfaction, to work within the regulatory requirements, to maintain production and continuous improvement, and to effectively utilize budgets. There is also a responsibility to the company to generate revenue; lead as a shining example to assist in winning new work, and share bright ideas with other projects so successes can be shared. What has been key in St. Louis is the implementation of building cultures and standing behind those cultural concepts. We have successfully built a culture of continuous improvement and this has led to the mindset of doing more for the client’s money each fiscal year. We have successfully built a culture of safety and this has led to outstanding safety records amidst outstanding production rates. We have built a culture of vision and this has helped us work smarter not harder. These cultures have to be cultivated, endorsed, and enforced by the project management in order to succeed.

Project management must support new technologies and concepts to keep the job lean and mean. Last year we were invited to the Waste Management Symposium to talk about our consolidation efforts. The consolidation was a project management initiative calling for shared resources between the two St. Louis Shaw sites in order to save costs. Sharing staff was a huge part of this concept but it also called for sharing equipment such as railcar fleet. The real savings amounted to over \$3M between the two jobs which equates to more work for less money to our client.

This past year we began an initiative to use palm pilots in the field for gathering information. Field Engineers can directly load observations into the palm pilot that later downloads to central

computer systems that anyone can access. This effort has already been implemented and is already saving time, effort, and errors. We appreciate the vision our Project Manager has in supporting new technologies in order to give us better tools to do our jobs. He realizes that it is vital to capture bright ideas that are helping us worker smarter instead of harder.

A new initiative for project management within Shaw involves naming a FUSRAP Director and developing FUSRAP councils. This effort is meant to streamline the FUSRAP jobs since they are all similar. Solutions that work well for one site may also work well for another. The Director has the big picture view from on top knowing the issues for each site and the potential opportunities for sharing. The councils are comprised of the technical people from each site who can periodically discuss activities onsite for brainstorming opportunities and the like. The FUSRAP approach is meant to break down the normal territorial feelings and provide avenues for projects to openly share their successes and failures to make Shaw the “go to” company for FUSRAP work.

Safety

Another vital building block is safety. As previously mentioned safety is being developed as a cultural feature of the FUSRAP approach for Shaw. In St. Louis, safety is a major part of the work. The team approach is critical to this culture and everyone onsite is held responsible and accountable for safety. The DuPont Safety Training Observation Program (STOP) has been implemented and enhanced to fit the activities and culture of the St. Louis sites. All managers, superintendents and even foreman actively participate in STOP, and additional observation cards have been developed to cover activities such as excavation, fueling, office work, general, backfill, loadout, and water treatment. Management supports safety 100%. The Client supports safety 100%. Everyone understands that a solid safety program pays for itself. The focus remains on prevention of accidents. St. Louis has a comprehensive safety incentive program for the team as a whole as well as individual employees. Each month employees receive a team award for zero accidents. Each quarter the site hosts a safety luncheon for zero incidents, and individual employees are given an award for their personal safety record. This program aligns the site safety goals with individual safety goals and builds ownership for safety amongst all staff onsite. The safety committee is another important feature of the St. Louis FUSRAP safety culture. The safety committee is a group of employees comprised of representatives from every group onsite including management, union personnel, compliance, operations, radiation protection, and so on. The committee discusses potential concerns, conducts monthly walk-downs of work areas, and monitors the attitudes onsite. The committee meets once a month. These efforts have allowed management to build real relationships with the field employees to in turn build a true safety culture.

Radiation Protection

On a radiation remediation site, radiation protection goes hand in hand with safety and construction. We can find vision here as well. Our client remains part of our team in this critical area of support. Obviously in efforts to clean up this site we rely on sample data to guide our remediation efforts, confirm our successes, and ensure that we are not exposing our personnel or the public. To assist with getting the information we need USACE has contracted onsite labs at each project location. This eliminates waiting for results and transporting radioactive materials unnecessarily. The USACE labs are there for our objectives. This setup

gives us the critical information we need at a moments notice. Critical samples like final status survey are given priority status so USACE can control the turn around times. When offsite labs are used to verify results we still rely on local laboratories to save on time and money. This also minimizes transportation risks of moving the material.

USACE has also contracted a local group for verification support. This group responds to our requests within 24 hours and this setup provides the answers we need on confirming an excavation and getting a backfill notification as soon as possible. Open excavations equate to water that needs treatment for St. Louis. It is vital that confirmation be done in a timely fashion to save on labor and water treatment expenses. Every hour represents hundreds of dollars.

The Radiation Protection Group (RPG) is actively involved in the excavation process. They work closely with the Operations Group and maintain dedicated technicians to key activities such as surveying behind excavator to avoid rework, guide excavation depths in the field, railcar loading operations, sampling activities, etc. The RPG works closely with Geologists to discover early on potential preferential pathways. They work with Compliance in the development of data quality objectives and sampling strategies. They are included in determining site goals and construction strategies.

Probably the most visionary approach for the RPG is that they have trained several RPG technicians to be Arcview GPS fluent. This means both sites have the capability to go from the field excavation to the computer and produce detailed up-to-date maps of the excavation and contamination in a matter of minutes. Field personnel can have a walkover map in hand in the next hour to continue to guide excavation activities with real time information.

Operations

The Operations of any project is certainly an important building block of the overall structure. Operations as a group must develop a strategy to motivate field hands while involving office support to ultimately complete the actual work. Operations must construct buildings, excavate contaminants, manage water, load transportation vehicles, put up fences, demolish structures, etc. All of these efforts begin with extensive coordination with all factions onsite such as engineering (designs), safety, procurement, quality, compliance, and so on. Obviously effective coordination will begin with effective communication. In St. Louis, the Operations group has developed a variety of methods to increase and improve communication and thus coordination. Before each working day begins, Operations hosts a Plan of the Day (POD) meeting. All site groups are invited and at least one representative from each group normally attends. In this brief meeting, Operations outlines the planned activities for the day. The group discusses the objectives, potential hold ups, and stopping points, necessary input or support from other groups, client expectations, safety concerns, worker concerns, and more. Each attendee walks away with a clear understanding of what support is needed in order to accomplish the objectives and set work priorities. There is also a weekly coordination meeting (“radar screen” meeting) held mostly for the benefit of the professional staff. This meeting allows the Operations group to review upcoming activities with key players and contributors so when the time comes to do the work all of the necessary components have been well thought out and are in place. This equates to having the equipment when you need it, having contracts in place so work can start on time,

having the data you need to make decisions, and having the right people assigned to the right tasks.

For St. Louis communication efforts do not stop there. Union relationships are also valuable and in order to maintain those relationships the Operations Manager meets regularly with union representatives. Union hall representatives are invited to the Quarterly Safety Luncheons and recognized for their organizations contributions to our success. We are fortunate in St. Louis that our work here is solid and has been for over five years now. This equates to a crew with longevity. These folks have the experience we need, the skills we desire and have been developed as part of our family and team who have taken pride of ownership of the St. Louis sties work.

Beyond communication Operations must also continue to improve on our techniques in the field to give our client more for their money. Even small changes can have big impacts to the efficiency of the job. For example rather than hire a subcontractor, Operations maintains a full-time surveyor on staff so surveying can be conducted as the excavation progresses. This improves communication and the team avoids rework. Maintenance onsite is also tracked daily. This includes maintenance on vehicles, equipment, instruments, and more. Problems are found early and corrected before breakdowns result in delays. Our Operations team has set high standards for the equipment we use. All equipment is inspected prior to delivery onsite. Our management team is looking for several different qualities, such as operator comfort. We know that if the operator is comfortable and confident about the piece of equipment he is using, he experience less physical fatigue, have higher morale, and therefore will produce more and work responsibly.

Another key operational approach for St. Louis is the differences between gross excavation and guided excavation. The SLAPS project has a high water table onsite and water management is especially critical during high precipitation periods. It is vital to stay above the water table as much as possible and when it cannot be avoided, the work must move quickly to limit the amount of groundwater infiltration that must be managed and most often treated prior to release. The gross excavation operation is conducted to remove the majority of the contamination to a level just above the water table. Guided excavation limits the amount of area opened at greater depths to chase the last of the contamination in the bottom of an excavation area while minimizing the surface area that is seeping groundwater into the work area.

Engineering

The Engineering group is critical to the planning and design of the work. They are also instrumental in solving problems. Engineering must be an active member of the project team to maintain a cohesive team allowing us to easily transition from office plans to field implementation. Our Engineering group invests in face-to-face communication with the client and must stay in tune with their expectations and requirements to ensure the level of customer satisfaction we desire. Engineering must anticipate problems, keep things simple wherever possible, think outside the box to solve complexities, and maintain contingencies so we don't have all of our "eggs in one basket", so to speak. For example, at SLDS we may plan to execute an activity at a specific vicinity property. With design completed, and construction imminent, the property owner may decide we cannot have access for six months. Engineering must

maintain designs and work plans for contingency work to keep our employees going when things don't go the way we plan. Engineering must work hand in hand with Operations so the appropriate communications can be made to the client and Shaw corporate as the schedule evolves and unfolds.

Engineering also has communication challenges to deal with. Here in St. Louis, a communication strategy has been put in place to assist in involving the necessary groups and individuals as early as possible. Engineering regularly meets with Procurement to review scopes of work that effect upcoming procurement actions. If Procurement remains in the loop, Engineering can set realistic expectations for putting necessary contracts in place and meeting the procurement requirements the first time around to avoid delays. The main Engineering focus for the St. Louis FUSRAP is design. Designs are vital to address the challenges of the work. Engineering coordinates with the Geologists to address preferential pathways in the designs. Engineering coordinates with Operations to ensure that the designs produced are optimized for construction efficiency while also effectively addressing problems that arise during construction. Engineering works with the geologists and the RPG to delineate the gross excavation line and to define estimates of the actual depths to the extent possible. Engineering must focus on construction alternatives (like soil nailing) when traditional methods (like shoring) won't work.

The bottom line is that Engineering must produce quality documents for site use when construction begins while actively participating in the "maintenance" of these plans throughout construction. The department has developed a database to track and disseminate the status of all documents in the system to all team members as well as a check print procedure to ensure their quality in order to produce accurate and timely site documents. Engineering coordinates with Quality to develop and maintain procedures, to provide a "heads up" on deliverables, and more.

Engineering also plays an important role in post construction documentation. Engineering prepares the remedial action summary that becomes part of the official Post-Redial Action Report (PRAR). In doing that, Shaw engineers compare actual results to original designs and discuss lessons learned. These experiences are considered in the preparation of future designs to improve the process.

Quality

In the USACE system all activities are centered on Quality. For the St. Louis FUSRAP this means that Quality must be involved in every deliverable produced for the client. With this in mind everything onsite is funneled through the Quality group before going on to the client. The Quality manager must review all purchase requisitions in order to decide which purchases require discussion with the USACE representative. All completed work requires Quality inspection before it is deemed complete. Each railcar prepared for shipment must be inspected by Quality to ensure all requirements have been met. Quality is involved from start to finish – from preparatory meetings to follow-up and final inspections of accepted work.

St. Louis FUSRAP has gone beyond the USACE 3 phase inspection approach and has implemented a forth phase of final inspection. Shaw has also assigned a Shaw Quality representative to partner with the USACE Quality representative. These two individuals spend several hours together every day so the Shaw Quality Manager has a clear understanding of the

issues the client will be tuned in to. This method allows us to head things off before they become issues that will appear on a Non-Conformance Report. This approach enhances our team building efforts onsite.

Compliance

The Compliance Group has a variety of responsibilities on the St. Louis FUSRAP sites. Compliance manages the sampling efforts for both projects including preparing sampling plans and data quality objectives, collecting samples, packaging samples, transporting samples, etc. Compliance also manages the data management process for both sites to supply the day to day information needed to make decisions in the field. The Compliance group oversees the function of HAZCOM maintaining a database with all product MSDSs, approving all products before use, and maintaining site inventories for chemical products. Compliance is also responsible for understanding and interpreting regulatory requirements as they relate to site activities.

Compliance must be proactive to remain visionary. Typically this means scanning proposed rules to determine their impact to site operations so we can minimize that impact. Sometimes however being visionary means assisting our client with complex regulatory challenges. Recently our client was faced with disposal of several mercury drums and the estimated cost for disposal was nearly \$100,000. The Compliance Group was able to physically evaluate the waste, review the regulatory requirements, utilize an alternative treatment standard, and send the drum for disposal for a fraction of the estimated cost. The final cost was \$1,800.00 versus the \$100,000.00 original estimate. This savings amounted to more money that could be spent on FUSRAP activities in the current fiscal year.

Procurement

Procurement is another building block in our structure. On a government job detailed procurement actions are required to get the materials we need and the service contracts required in place before the work must be done. In St. Louis we have been fortunate enough to maintain onsite procurement staff completely focused on the needs of our projects. This approach gives us the ownership required on sites like ours. The onsite procurement staff procures around \$20M per year for the two projects.

Since Shaw has control of both sites now we have altered our procurement strategies to combine efforts and procure like needs for both jobs. We can now develop one request for proposal and do two awards. This saves time and money for like needs. Shaw has also moved toward building alliances company wide to take advantage of potential discounts when combining the needs of several projects to entice vendors to participate with their lowest prices. For example last year we completed and utilized a transportation alliance that allows any Shaw site to go directly to our three alliance contenders and avoid costly and timely procurements. This alliance saved over \$900,000 for the St. Louis projects alone. To build on this concept Shaw has taken the same approach for laboratory support and is considering this strategy for radiation technicians for FUSRAP as well.

Procurement is also part of the communication process onsite. The Procurement staff attends the Operations meetings so they know what work is on the horizon and what needs will be priority. They work closely with Engineering for the timely development of work scopes and detailed

contracts. In fact, every group onsite spends time with procurement to ensure that the project needs are appropriately planned and precise in contract execution.

Project Controls

Last but certainly not least, Project Controls (PC) is the final building block to be discussed. PC is responsible for tracking and reporting the money in and out of every project. They establish budgets, reconcile expenses, determine profits, develop schedules, and evaluate the status of the job in financial terms.

In St. Louis, the PC staff has been successful in using historical cost data to develop trends for forecasting in spite of changes to the accounting systems over the past 5 years. The Contractor, now SHAW Environmental Inc., has undergone a series of evolutionary developments. The SLAPS was originally contracted to Stone & Webster Engineering. Stone & Webster ended up in bankruptcy and was purchased by the Shaw Group. The SLDS was originally contracted to The IT Group. IT also ended up in bankruptcy and was also purchased by The Shaw Group. Shaw later formed SHAW Environmental Inc. in order to house the new expansive environmental division of the company. Through these changes the St. Louis PC staff dealt with various changes to the accounting systems as the company name on the door kept changing.

Today the St. Louis FUSRAP accrual systems are so precise that timesheets completed by each employee are recorded before they are even 12 hours old. This preciseness allows the client to accurately forecast where we are in our available funding so additional work can be planned as soon as feasible.

The SLAPS routinely ships 12 railcars per day. When you consider that one railcar represents ~\$10,000 in costs totally \$120,000 per day, a simple rain delay has a huge impact to the financial forecast. In the Midwest even the weatherman cannot accurately guess what Mother Nature will do. We have learned to incorporate an element of weather uncertainty in our forecasting to minimize the variances. When impacts are looming the PC staff stay on top of the changes hour by hour.

After the dust settled on the corporate buyouts, the St. Louis projects were suddenly both contracted to the same company. What was once two separate sites, contracted to two separate companies, with two separate sets of staff was now one big happy family. This situation actually presented an opportunity for Shaw and their client. By consolidating the two sites, costs could actually be shared saving both jobs considerably. The following year was a painful one while implementing consolidation strategies. In the end, the PC staff was able to calculate an overall savings of about \$3M between the two jobs. The two projects now share costs for staffing levels, railcar fleet, and facilities that allows both jobs to do more each year for the same budget.

Weathering the Storms

All buildings must be designed to weather certain structural challenges such as storms, earthquakes, hurricanes and the like. Here in St. Louis, we have had to weather unpredictable challenges along the way.

In 2004, the St. Louis Shaw sites took a significant and totally unforeseen blow. An anonymous letter was sent to our client making claims that several employees onsite were using and distributing illegal substances. The first reaction was one of total disbelief. The site has maintained a strict drug testing program for years. This was a program that went far above and beyond Shaw corporate requirements as well as USACE contract expectations. It was difficult to believe that drug problems could still exist in the drug free environment we felt we had created.

USACE asked Shaw site management to respond to the claim and resolve any issues. Still confident that the claims had to be false, Shaw set up employee drug testing for 25% of the site population. If zero issues were uncovered with the 25% tested, the team agreed that the claims would be declared false. Management felt confident the claims would be discredited. Unfortunately the 25% testing revealed that the letter held some truth. It was discovered that a small group of employees were actively using illegal substances and using urine from other non-using individuals to beat the testing procedures. In a moment our safety efforts, our management strategies, and all our teaming exercises seemed for naught. The client immediately requested 100% testing of all site employees and a corrective action plan from Shaw management.

The second round of testing was completed without any additional surprises. The problem was contained, the offending employees were released, the drug policy onsite was reiterated, training for supervisors was completed, and observed drug tests were mandated from that point on. The site team was confident that the problem had been addressed swiftly and comprehensively, but the impact to employee morale could not be ignored. It was discovered that only a small number of employees were actively involved in the scandal, but management was also faced with the possibility that other employees knew this was going on and failed to report it. Employees who were not involved were insulted that they were being associated with those who were. Suddenly the team environment we had work so hard to develop was at risk.

The next quarterly safety luncheon was tense and uncomfortable. The Operations Manager opened the luncheon with his expressed disappointment in the situation. He felt that even though our safety record was in tact allowing us to celebrate, it was impossible to miss the irony. USACE refused to attend the luncheon all together and the union staff was angered at the lack of faith in the remaining staff onsite saying they were being punished for the actions of others.

Shaw's corrective actions satisfied the client and efforts to rekindle the team spirit continued. The Project Manager has orchestrated several town hall meetings to allow all employees onsite to voice questions or concerns directly to him for honest answers and discussion. This has helped to open the lines of communication and dispel rumors. There hasn't been one incident of drug test problems in the months following this ordeal. The team weathered the storm and the cultures that existed prior to this event remained standing.

A Solid Structure

In the end the building blocks outlined have been put together to create a solid structure. Much like actual construction today this building must remain flexible enough to weather the storms while strong enough to last for years to come. Our client remains our unfaltering foundation

WM'05 Conference, February 27-March 3, 2005, Tucson, AZ

while our vision makes up the building blocks as a mindset that has allowed us to construct this solid visionary culture.

SHAW Environmental Inc. plans to utilize this blueprint on other projects while architecturally redesigning the differences we see from one site to another. Shaw hopes to be the “go to” company for all FUSRAP work in the future utilizing our experience to offer our client much more than a competitive price.