

**From Dogs to Eagles:
Leading an Organization into Safety Excellence**

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Note: The views expressed in this paper are solely those of the authors. They do not reflect the views of URS Corporation or the US Government.

Summary

This is a story about the journey of one project from a starting point of a very high incident rate in 2006 to a 2011 incident rate of 0.74. The project currently employs over 1100 people that perform heavy rebuild on wheeled and tracked heavy vehicles for the US Army. The challenges on this project are many; we (as a contractor to the Government) do not control the working conditions, production schedules, or work practices. We work side by side with our government customer supplementing a workforce of about 5,000 government employees. In many regards, working in these conditions is a manager's worst case scenario; a project with high risk, a high rate of personnel turnover, limited controls of the work processes, and high expectations regarding safety performance.

To overcome the problems in safety performance, the project team had to recognize that there was a problem with business as usual, and then gain our customers' cooperation in helping to address shortfalls in safety practices.

This is a story of leadership commitment, persistence, and triumph in the face of overwhelming obstacles. The end result is a combined Government and contractor organization that has excellent safety performance, tremendous costs savings, and is being recognized for safety excellence.

Introduction

The Red River Army Depot (RRAD, or the Depot), located in Texarkana, Texas, has been operated continuously from 1941. The Depot serves many functions including munitions manufacturing and the rebuilding of wheeled vehicles (trucks) and tracked vehicles (tanks, armored personnel carriers, and other weapons platforms). The facility is spread over a large area and has over a million square feet of storage and production structures. The facility has between 5,000 and 7,000 workers on site on any given day.

To understand the challenges intrinsic in this type of work, you must appreciate that the Government does not always have high expectations for safety performance of contractors. Some contracts are bid on a "Lowest Cost" premise that typically does not take into account impacts of higher workers compensation premiums or workforce inefficiencies due to injuries. As a contractor, we strive to win work based on published requirements put forth in the Request for Proposal. It was these standard practices in proposing work, and contracting that allowed URS to accept a contract to provide skilled labor to the Red River Army Depot for vehicle repairs and rebuilding (reset) where very little intrinsic or exigent safety performance expectations were established.

To meet the increased vehicle wear and tear, as well as combat and training damage that resulted from the increased use of vehicles due to the wars in Iraq and Afghanistan, the Army established contracts to provide qualified personnel to supplement the approximately 5,000 US Government civil service workers at the Depot. The use of contractors for labor is done to control costs, but it also provides a temporary workforce that can serve as a recruiting base for positions that come open at the Depot.

The contract workers supplement the existing workforce. This means that production lines to rebuild a truck would have civil service workers and supervisors overseeing the work practices and activities of contractor workers.

In 1995, URS won the RRAD contract to provide workforce augmentation personnel. This contract specified that URS provide qualified mechanics and other facility support personnel on an as-needed basis. The positions to be filled had extensive requirements for qualifications. Typically we are required to provide vehicle mechanics; in some cases we were asked to provide other skills including electricians, welders and other trades. The Site Manager's primary challenge is to recruit and hire hundreds of people on short notice. In 2003, 2004, and 2005, the average employee headcount remained below 300. **Figure 1** depicts the average employee headcount from 2006 on.

The project was initially viewed simply as a body shop where we find and hire qualified personnel. How the personnel were used and managed by the customer was a secondary consideration. This approach worked initially, but problems soon emerged. Shortly after the Contract was awarded and staffing was implemented, we began to see a significant number of personnel that we had just hired were in turn being hired by our customer. We also began to see a high frequency of recordable injuries amongst our workforce.

Turnover. Since 2006, URS has hired over 2800 people for the Red River Army Depot project. Our headcount in 2011 was approximately 980 people. One of the realities of this project is that the customer will hire some of our best people. This is due to the fact that civil service workers have a slightly increased salary scale than our contract allows, and the benefits (including pension) are substantially better than the company provided benefits.

For each person we hire into a position, we have to hire nearly three people. Primarily this is due to the customer hiring personnel to fill their openings; the contractor's employees can be observed, and they can identify personnel with the requisite skills and work performance to fill their workforce needs. Turnover creates a challenge for us in terms of our ability to properly bring people on with company required safety, ethics, human resources, timesheet, and other training requirements.

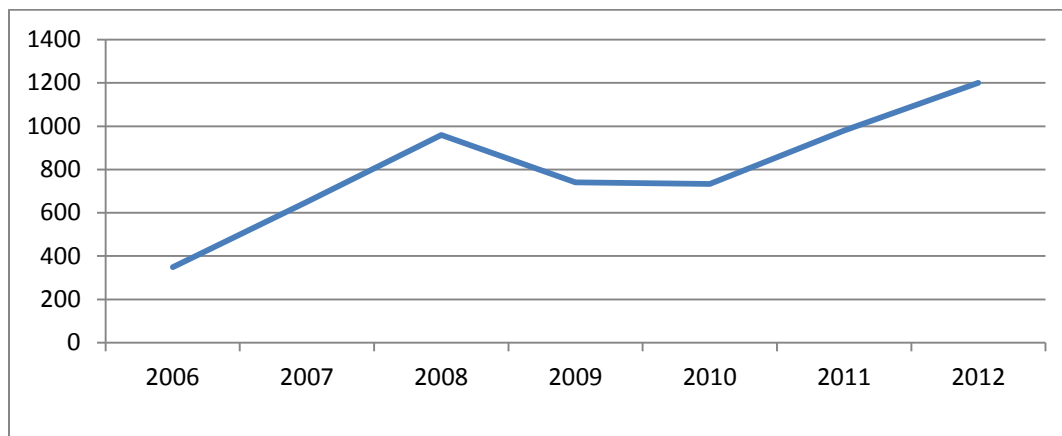


Figure 1; Average URS employee headcount at Red River Army Depot from 2006 through 2011 (2012 estimated).

Injury Rate. Between 2003 and 2006, this project suffered an average of 62 recordable injuries each year. This number of injuries meant we had an incident rate varying between 11 and 15 each year. During this time frame, there was virtually no oversight or accountability within the Company business units for safety performance. Indeed, safety performance was not considered a significant business metric within the Federal services sector of the Company until 2006. Additionally, our customer did not hold us accountable against any defined safety metric.

In 2006, several things changed. URS brought in a new Site Manager (SM) for the RRAD project, Mr. Billy Harrist (co-author of this paper). Billy in turn, hired Ms. Earlene Farley as a Safety Manager for the project (co-author). Simultaneously, as part of the integration of a the

legacy Federal services businesses by URS a few years earlier, the Company started a robust safety program within the Federal services business (of which the RRAD project was a component) with the goal of reducing the recordable incident rate. As part of the Company's efforts to improve safety performance in this business unit, Mr. Mike de Bettencourt was hired as the Safety Director over this business (co-author).

What quickly became visible to Billy Harrist was that the RRAD project was, in terms of safety performance, one of the worst performing projects in the Company. By the middle of 2006, Mr. Harrist had been on the project for a few months and realized that his project needed to improve its safety performance dramatically. He sought assistance locally by hiring a Safety Manager, (Earlene Farley), and soliciting help from the business unit safety manager Mike de Bettencourt.

In 2007, Mr. Harrist and the project team requested that URS provide additional training for RRAD project Supervisors. This resulted in Mr. Rick Callor (co-author) conducting several site visits and training sessions to meet the emerging need. Mr. Rick Callor is the Safety Training Manager for URS Energy and Construction, a separate business unit within URS. Mr. Callor's participation reflected a company-wide effort to support the RRAD project.

"URS Federal Services has an uncompromising commitment to Health, Safety and Environment (HSE) for our employees, clients, contractors and residents in the communities we work."

*Randy Wotring, President of URS Federal Services
Statement of Commitment to Safety Performance*

Challenges

To turn safety performance around, Billy Harrist and Earlene Farley recognized that the business they were in had to be fundamentally redefined to include safe performance as a core competence of the project. Early efforts to define the problem were done at both the project level and Federal service business unit level. These efforts were lead by Earlene Farley as the RRAD project Safety Manager, and supported by several URS safety professionals from various Company business units. Discussions and ideas to address the problems took several months to develop, and strategies and tactics for safety program improvement were designed and approved by Mr. Harrist as SM, with supporting approvals from the business unit management chains for implementation in 2007.

In assessing the challenges and conditions that the RRAD project team had to overcome, the team identified the following challenges and conditions:

- We did not control the work activities, the work areas, and the tools and processes involved in the work on the vehicles.
- Injuries to workers or others caused by organization activities was not viewed as a significant issue.

- The costs of injuries (direct costs in terms of replacement workers, medical and disability costs; and indirect costs in terms of investigation costs, workers compensation insurance premiums, and other latent costs) were not fully appreciated by management.
- The project financials were significantly restricted in the ability to introduce significant time allocations for training and equipment that might be appropriate for reducing risks. This meant that even though injuries were causing substantial losses, our ability to spend time and resources on safety programs was limited as our workers had to be on the production line in order to be paid.
- The customer was not initially aligned with our goals to reduce injuries if we were to gain bandwidth in safety training and supervisory efforts to reduce at risk behaviors.
- The URS RRAD project team needed external support in the safety discipline to design changes that would affect behaviors and decision making as the project staffing did not provide for adequate resources to make the necessary changes.
- Turnover of personnel due to hire by the Depot was something that would remain constant (high).

Initial Effort (2007)

The Site Manager, Mr. Harrist, identified initiatives and strategies that would be implemented in the next few years to improve safety performance. To that end, the efforts in the first year (2007) were designed to be foundational changes in approach that we would build on in the years ahead. These initiatives started with one fundamental need: *Connecting with the customer's Safety Management team at RRAD.*

Previous to this, the customer approached the safety of their civil service workforce as their problem; and the contractors (like URS) were entirely responsible for their safety programs. No crossover efforts were attempted or considered between the customer and our project team. In most cases, work on the shop floor where customer and contractor personnel were working side by side in integrated teams had no overt safety programs covering all workers for all work activities in an effort to manage risk. This was a purely reactive environment; when an injury occurred the work center would assess the accident causes, and each entity would implement changes. This generally meant that the contractor's staff and managers were not involved in developing or implementing changes to work processes. The effectiveness of this arrangement was unsatisfactory.

To address this disconnect, the URS Site Manager, Safety Manger and project team made a deliberate effort to connect and align with the Customer's safety team. The customer's safety team was (coincidentally) under pressure to improve their safety processes by their superior command, and the synergies of efforts that crossed customer and contractor organizations soon became apparent as a win-win solution for all concerned.

The efforts of the collaboration between URS and the customers' safety organization started to address fragmental concerns about:

- Personal Protective Equipment (PPE) and clothing standards. By standardizing PPE requirements in work areas, the customer supervisors and URS supervisors could hold all employees (civil service and contractors) accountable to the same standard. Billy Harrist and Earlene Farley noted that PPE compliance went from sporadic to reliably compliant in a short period of time. This had an immediate effect on reducing eye and hand injuries. Mr. Harrist also changed the uniform requirements to eliminate hand jewelry, required pants (no shorts), required sleeved shirts, and required shirts to be tucked in. This reduced hazards due to moving and rotating machinery catching on jewelry and loose clothing.
- Near Miss Reporting. The URS near miss program was implemented, and initially rolled out to Supervisors where they were required to report near miss incidents on a set frequency. When opportunities to reduce risk were identified, the URS project team brought these ideas to the customer safety staff, who in turn brought the ideas to operations with the Depot. Changes implemented made a difference, and over a period of a couple months our Near Miss reporting processes were pushed by the Depot into their supervisors and workforce as a best practice. In 2008, an integrated Depot employee/URS employee Near Miss reporting and analysis process resulted in higher risk activities being identified and effectively mitigated. This had the result of a reduction in injuries.
- New Hire Orientation. To set expectations of the workforce, and in light of the high rates of turnover, Mr. Harrist and his team recognized that the best time to calibrate an employee was in the new hire in-processing. They expanded the new hire orientation period from four hours to twelve hours, and ingrained a rigorous review of safety procedures. Additionally every new hire session (held once each week) was conducted by the Site Manager, with over two hours of discussion about expected behaviors regarding personal protective equipment, near miss reporting, Stop Work authority, and proper tools for the job. This revised on-boarding is attributed with setting very high expectations with the employees that we will not tolerate non-compliance with requirements affecting safety, and every injury was a failure.
- Established weight limits for materials handling. The Site Manager set a maximum weight to be handled by one employee at 50 pounds. Anything above this required mechanical assistance or another helper. This resulted in more attention being paid to materials handling work activities, and reduced back injuries and other muscle strains by over 40%.
- Established safety incentive programs for employees and Supervisors who were able to work as individuals and teams without injuries. These incentives were designed to reward teamwork and risk mitigation. Some of the incentives were financial (an increase in hourly salary for supervisors whose team went a month without a recordable injury); and there were group recognition based (pizza events, safety tokens that can be redeemed for company jackets and hats, etc...).

Results in 2007. The end result in 2007 was a reduction of over 50% from the recordable injury rate of 2006. *Figure 2* depicts the Recordable Incident Rate History at RRAD for the URS project team.

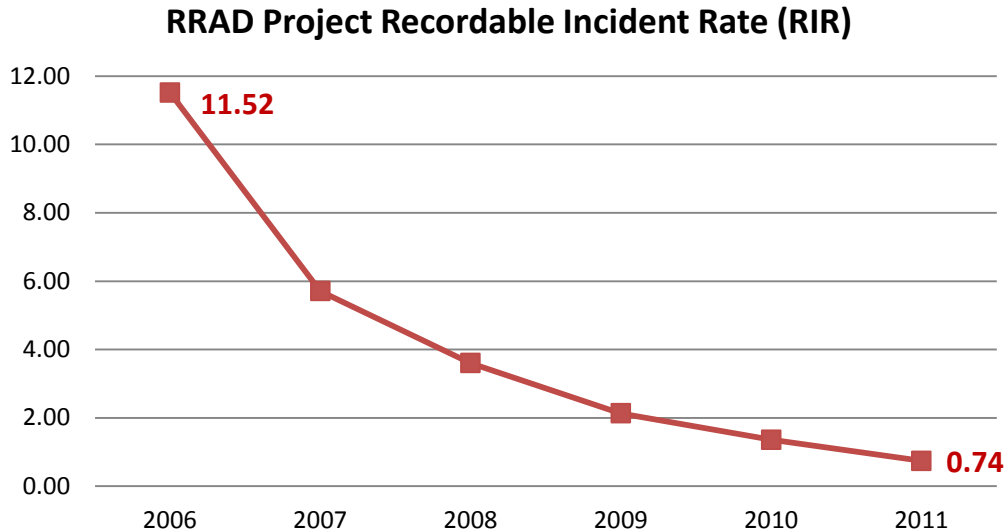


Figure 2. Recordable Incident Rate for URS RRAD Project.

Costs Savings. Understanding the cost of a typical non-fatal workplace injury is a bit abstract. A generally accepted number is referenced by the National Safety Council¹, with costs per injury stated as \$53,000 in direct costs (cost paid by the employer or insurance carrier to cover lost wages, medical costs). Indirect costs are typically 2-5 times the direct costs and include the cost of replacement workers, incident investigation, loss of productivity, and other somewhat less tangible expressions of inefficiency caused by an injury². Using a conservative factor of three, the indirect costs of an injury are \$159,000. Our cost savings due to reduced injuries at our RRAD project in 2007 alone were substantial; we saved \$530,000 in direct costs, and over \$1.5 million in indirect costs.

Follow on Effort (2008 through 2011)

In the following years after the initial effort in 2007, Mr. Harrist and Ms. Farley updated and revised the safety initiatives in an effort to continue to reduce injuries and grow competence. This was done with a high degree of cooperation with the RRAD Government Safety Manager, as each initiative would be rolled out in concert to the degree possible. Some of our project initiative could not be implemented by the customer's organization, and these would be discussed in advance to assure minimum disruption to the improving relationships and performance. New initiatives were developed to address recurring injuries and trends, and included:

- *Elimination of open blade knives.* The Company implemented this requirement into its safety procedures in 2007, and saw a reduction in hand injuries of over 58% in 2008.
- *Enhanced injury management program.* Working with a local clinic, the Site Manager and Safety Manager sought to reduce recordable injuries through over treatment including prescription medication for minor injuries, and prescribed restrictions and days away when accommodations on the job were available and encouraged. This reduced

recordable cases significantly and also reduced workers compensations costs by over 25% in one year.

- *Implemented Job Safety Analysis program.* The JSAs were initially targeted at higher risk activities. Over time they were applied to all work activities. The JSAs were developed initially by URS supervisors and workers. Over time, the JSAs were incorporated into the Depot's normal work processes.
- *Implementation of Safety Observations.* Safety Observations were a way for a work team to self-assess their conformance to safety standards (i.e. use of PPE, materials handling practices, etc...), normal work practices, and effectiveness at managing risks. The Safety Observation program was set up on a quota system initially (number required to be completed per team each week). The safety Observations required the work teams to debrief the observations made by a member of their team before the next shift. The teams began to identify methods to further manage and mitigate risks, and their ability to recognize and mitigate hazards conditions and unsafe work practices improved markedly.
- *URS Safety Manager became a part of the Red River Army Depot's Voluntary Protection program committee.* This paid dividends as it indicated we were a team mate with the Depot in moving the safety program forward. As the Depot improved safety processes, we would likewise see fewer injuries in our workforce as our personnel benefitted from improvements in the workplace just as much as the civil service workforce. RRAD is on a path to attain VPP certification in late 2012. The RRAD VPP initiatives put in place have been incorporated into the URS project including the "Passport training and Preparedness" program, an initiative that raised expectations concerning injury prevention and Stop Work responsibilities.
- *Safety Management Standards.* The RRAD project team integrated over 60 URS Safety Management Standards into the safety plan for the project. This impacted a wide range of program elements including heat stress, hand safety, respiratory protection, and many other risk areas. Changes include the incorporate of the URS 4-Sight task analysis tool which helps teams asses and manage risks associated with daily tasks.
- *Safety Trained Supervisor (STS) Certification.* The Board of Certified Safety Professionals' STS certification program has been a cornerstone strategy in improving safety performance across URS. URS believes that the STS certification program increases project manager competence across URS as preparation required to test for this certification assures line managers are competent in the safety requirements. By publicly recognizing the attainment of the certification, we instill confidence and a high degree of safety competence across the organization. In 2008, Mr. Harrist required that all RRAD project Supervisors attain STS certification within one year. To support this effort, he sponsored several two day safety training sessions centered around the OSHA 10-Hour General industry class. This training was intended to jump-start the employee's study efforts for those preparing for the STS certification. Mr. Harrist also opened the classes up to RRAD Government Supervisors in an effort to help the customer improve safety competence in their organization. The training sessions were conducted by Mr. Rick Callor, a URS training expert, and were given high marks by the attendees. All attendees were given OSHA 10-hour cards, and URS personnel who finished the STS certification successfully were recognized with a Company engraved STS wrist watch presented in front of their peers.

- *Additional Safety Training for Supervisors.* In an effort to continue to grow competence and confidence in safety program expectation by Company Supervisors, the Site Manager required all Supervisors to complete a 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training course and a First Aid/Cardiopulmonary Resuscitation (CPR) training course. The HAZWOPER course bolstered our Supervisors’ understanding of respiratory protection, heat stress, and a few other more complex aspects of the safety program. The First Aid/ CPR course was intended to allow Supervisors to better understand and manage minor injuries.
- *Safety Intern.* In 2009, URS sponsored on a “Safety Intern” from a College with a substantial safety program for three months to assist in Safety Program updates and process improvements. The intern was assigned to the Project Safety Manager Earlene Farley, with solid results developed in trending incidents, identifying compliance issues, and identifying gaps in program implementation.
- *Employee involvement.* The RRAD project encourages employee participation in safety communication including developing a poster contest for “Why I Work Safe”. These types of communications initiatives make the safety message more relevant and peer based. This pays dividends in worker’s awareness as they pay attention to, and look forward to seeing the new communications.

Results. Between 2008 and 2011, our RRAD project reduced the incident rate by over 35% each year. In 2011; the RIR for this project stood at 0.74. **Figure 3** depicts the percentage reduction between 2006 and 2011 year over year.

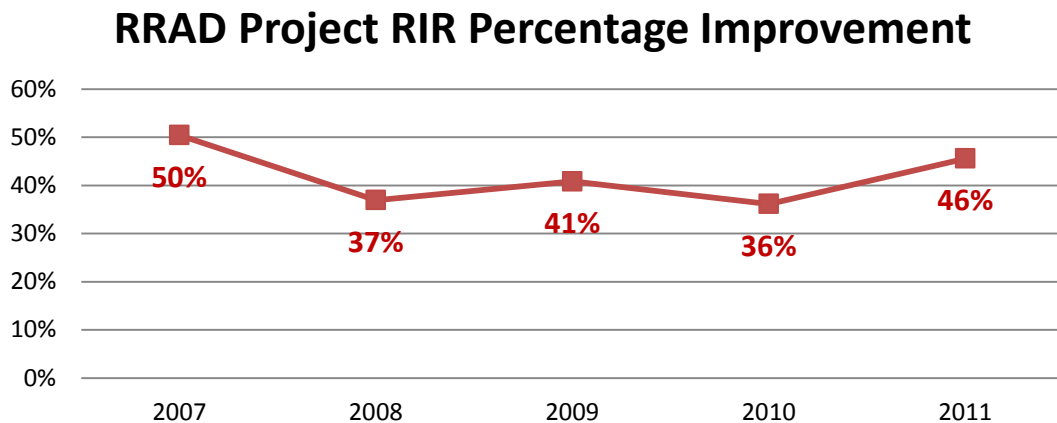


Figure 3. Percentage reduction in injuries at the URS RRAD project between 2006 and 2011, year over year.

In financial terms, URS spent 90% less on injuries in 2011 for this project than we were spending in 2006. Roughly speaking, we are saving \$2.9 million dollars each year against a 2006 baseline for direct costs on injuries. For indirect costs, we are saving \$8.7 million dollars each year against a 2006 baseline.

The Government customer is now seeking OSHA Voluntary Protection Program certification, and we are committed to encouraging and supporting that effort. The URS project will seek VPP certification once the RRAD organization has attained VPP Star, expected to be later in 2012.

At a working level, long standing problems in areas like industrial hygiene, fall protection, and electrical safety are now better able to be addressed jointly by the RRAD customer and our project team. The result is collaboration, excellent safety performance, and a highly effective learning organization well on its way to VPP certification.

Conclusion

This project faced significant challenges in safety performance in 2006. Our management team, as contractors to the Government, had limited ability or authority to control the work processes, facility, equipment, and intrinsic turnover challenges intrinsic in this work at the RRAD. Initially, our ability to improve safety performance was viewed with a lot of skepticism, and task seemed insurmountable. The safety program in place now on the URS RRAD project is not unusual or exotic. It has the same requirements of protective equipment, work planning, and protocols to reduce risk as most others. What is unique is the leadership commitment and focus to take on the challenges, push on the status quo, and partner with our customer in such a way that we found win-win solutions for the Government customer and ourselves.

The efforts of the SM, Safety Manager, and project team to identify challenges and work to overcome these despite pressure on recruiting and production were instrumental in changing the culture of the project. Partnerships with the customer leadership and safety teams helped identify areas of mutual interest and benefit. This included training, near miss reporting programs, enhanced protective equipment requirements, joint development of Job Safety Analysis, and many other safety program components.

The number of injuries we have prevented by reducing the incident rate from over 11 in 2006 to 0.74 in 2011 means we have greatly reduced risk to both our employees and the Government employees of RRAD. The millions of dollars we have saved preventing injuries made our organization more competitive in the Federal services business, and a better value for both our Government customer and the American tax payer.

End Notes

1. National Safety Council, Estimating the Costs of Unintentional Injuries, 2009 data:
http://www.nsc.org/news_resources/injury_and_death_statistics/Pages/EstimatingtheCostsofUnintentionalInjuries.aspx
2. Safety Management Group Injury Cost Calculator:
<http://www.safetymanagementgroup.com/injury-cost-calculator.aspx>