

The US Army Corps of Engineers Celebrate Safety Program's Effect on Construction Jobsite Safety

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In 1992, the Mobile District of the U.S. Army Corps of Engineers launched a new safety initiative program called Celebrate Safety. The Celebrate Safety Program is designed to build upon the cooperation fostered by partnering between the Corps of Engineers and construction contractors to strive for constant improvement in safety programs and procedures. This paper introduces the history and implementation of the Celebrate Safety Program. A research to determine the effectiveness of Celebrate Safety in the Mobile Distract was conducted using a combination of quantitative and qualitative methods. Results of this study indicate that the Mobile District's Celebrate Safety Program has been, and continues to be, a success in its stated purpose of improving jobsite safety and reducing accidents.

Key Words: Construction, Safety, Safety Incentive Programs, Partnering

Introduction

The United States Army Corps of Engineers' (USACE) overall mission is to provide public engineering and construction services to the Nation. A major part of this mission includes the construction of both civil works and military infrastructure. Over the decades, the Corps' construction mission has evolved from the Corps performing most of the construction with its own employees to almost 100% of the construction effort being contracted out. In other words, the Corps has been transformed from a large construction "company" to a very large construction "manager". In its present role, the Corps serves as the "owners' representative" for projects constructed for the army and air force as well as local, state, and federal governments. These duties are carried out by the construction divisions of the various district offices and include quality assurance, construction schedule management, pay management, design review, equipment and material submittal review, the execution of contract change orders/modifications, and safety oversight.

All contractors who construct projects for the Corps of Engineers are required to comply with Engineer Manual 385-1-1, Safety and Health Requirements Manual (EM 385-1-1). While the requirements contained in EM 385-1-1 are similar to Occupational Safety and Health Administration (OSHA) regulations, in some cases, EM 385-1-1 is more stringent and detailed than OSHA regulations. At the time it was first written, EM 385-1-1 was used as a safety enforcement tool to force contractors to comply with safety regulations. A culture of safety enforcement grew within the Corps concentrated on punishing contractors who failed to comply with the safety requirements contained in EM 385-1-1. Conversely, there was no rewards system for contractors who went above and beyond the minimum requirements. The same was true of the Corps' quality assurance activities. The Corps was more interested in compelling compliance with strict contract specifications than in looking for and rewarding innovation.

This culture began to change in 1988 when the Corps instituted the concept of "partnering" during the construction of Oliver Lock & Dam on the Warrior River in Tuscaloosa, Alabama. Partnering soon spread to other large Corps projects and has been adopted as the recognized way of doing business. An offshoot of partnering was a new spirit of innovation within the Corps. In 1992, Construction Division in the Mobile District conceived and began implementing a new safety program called "Celebrate Safety". The concept behind the program was simple: instead of punishing contractors for failing to comply with safety regulations, the Corps would reward contractors for good and great performance as well as recognize them for innovation. Although a seemingly simple concept, it was considered radical at the time.

Now that the Celebrate Safety program has been in place for almost 20 years, the question should be asked if the program has been effective. The objective of this research is to determine if Celebrate Safety has had a positive effect on accident rates and overall safety on Corps of Engineers construction projects in the Mobile District. In addition, if Celebrate Safety has been a success, this research will try to determine what elements of the program these improvements can be contributed to.

Celebrate Safety Program Overview

The research performed for this paper indicates that the Mobile District's Celebrate Safety Program was unique when it was first conceived in 1992. Since that time, the program has been copied and exported to other districts within the Corps. Savannah District's "Serious about Safety" and Jacksonville's "Safety Pays" programs are two examples. The research indicates there are very few similar safety incentive programs in the private sector. While many, if not most, construction companies utilize some form of safety incentive program, these programs are only company specific and do not cover a large sector of the construction industry. There are, however, a limited number of safety incentive programs in the private sector that do cross company lines.

The purpose of the Celebrate Safety Program is the minimization and/or elimination of construction accidents on USACE project sites. The following are the objectives of the program as stated in the latest version of the Celebrate Safety Manual:

1. Actively share ideas and successes.
2. Promote teamwork with contractors to improve construction safety.
3. Promote safety performance.
4. Develop teams of safety expertise.

The Celebrate Safety Program is designed to build upon the cooperation fostered by partnering between the Corps of Engineers and construction contractors to strive for constant improvement in safety programs and procedures. The program focuses on recognizing outstanding performance and results. This is in sharp contrast to the Corps' safety programs of the past that focused on strict enforcement and sanctions for violators. This is not to say that the Corps no longer strictly enforces the safety requirements of EM 385-1-1, Safety and Health Requirements Manual. It does. However, it had become apparent that strict enforcement can only go so far in improving safety. In other words, safety on Corps projects had reached a plateau. Celebrate Safety was conceived in an effort to take safety on construction sites to the "next level".

Implementing the Celebrate Safety Program involved a major culture change for the Mobile District's Construction Division. In 1992, partnering was still a relatively new concept. The Area Engineers, Resident Engineers, Project Engineers, and Quality Assurance Inspectors of the Mobile Distract were being asked to transition from being "enforcers" to becoming "teammates". As with any change of this magnitude, there was always resistance. Therefore, the creators of Celebrate Safety faced a significant hurdle to overcome to keep the program from becoming just another "flavor of the month" initiative that would soon pass into insignificance.

The individuals credited with coming up with the idea for the Celebrate Safety program are Paul Tucker (former Chief of Construction Division), Mike Rodgers (former Assistant Chief of Construction), and Mike Abeln (current Chief of Construction Division). When asked what the impetus was for initiating Celebrate Safety, Abeln replied: "In the late 1980's and early 1990's we were experiencing 20 plus lost time accidents per year. The old method of punishing contractors for violations after the fact just wasn't working. We decided to use a more positive approach of building safety into the process instead of trying to inspect it in. After all, that was our philosophy with the Quality Assurance three-phase inspection system which had been working for years. It was also decided that it needed to be a grass roots program that changed the culture at the field level, i.e. at the inspector and construction worker level". When asked what he attributed the success of Celebrate Safety to, Tucker stated: "It was and still is a grass roots program. I stayed away from the day-to-day management and let the field people develop and implement the program. We got contractors involved by determining "What's in for me?""

As seen in the statements from Paul Tucker and Mike Abeln, the senior management of USACE Construction Division realized early on that Celebrate Safety could not be a "top down initiative". Therefore, they created a Safety Review Board (SRB) to create, oversee, and manage the program. Senior management retained only the broad oversight functions. The SRB was given almost complete authority to implement, execute and revise the program. The composition of the board has evolved over the years. At the beginning of the program, it consisted of a non-voting Chairman (a Resident Engineer); members from all of the Area Offices in the District (a mix of project engineers and quality assurance inspectors); and a representative from the District Safety Office. Later on, board members recruited from the contractor community were added to take advantage of their perspective. This has improved the program by infusing it with new ideas as well as giving contractors a voice in how to operate and improve the Celebrate Safety. This concept has proved so successful that contractor participation has grown from one contractor board member in 1998 to seven contractor board members in 2010. Including contractors on the Safety Review Board is a natural off-shoot of partnering and has made the program a truly joint effort.

The most visible duty of the SRB is to administer the safety awards program. It is the primary method of recognizing exceptional safety performance. Contractors working on Corps' projects are nominated once a quarter by the Corps project engineer and/or quality assurance inspectors assigned to that project. It was recognized early on that larger contractors would have an inherent advantage in competing for the awards. Also, the Mobile District is responsible for construction in Central and South America. It was recognized that the Latin American Contractors would also be at a disadvantage competing for awards. Therefore, in order to insure fairness and maximum participation in the program, awards were divided into 7 categories: small (<$1 million), medium (>$1 million to $7 million), large (>$7 million to $50 million) and very large (>$50 million) for projects within the continental United States (CONUS); very small (<$250,000), small (>$250,000 to $1 million) and large (>$1 million) for projects outside the continental United States (OCONUS). Another category was added later to recognize major subcontractors for projects. This award category is limited to one winner per quarter for the entire district.

The evaluation criteria for the quarterly and annual contractor safety awards are the same for each category. The evaluation criteria are as follows:

1. Safety Management
2. Implementation of On-site Accident Prevention Plan (APP)
3. Complexity of the Project
4. Safety Record on the Project
5. Contractor Safety Innovations

In addition to the quarterly and annual contractor Celebrate Safety awards, there are other award programs designed to recognized excellence in safety. The Zero Accident Award is presented to contractors that have completed a project with no lost-time and no OSHA recordable accidents. In addition, contractors receiving the award must have demonstrated a commitment to providing a safe workplace for their employees. In other words, contractors who disregard safety and are merely lucky do not receive the award. The Million Man-Hour Club was an award developed for the purpose of recognizing Mobile District Construction Area/Resident Offices and contractors that execute over one million consecutive man-hours of work with zero lost time accidents. Like the Zero Accident Award, only those government construction field offices and contractors who have demonstrated leadership and a commitment to excellence in the area of safety are allowed in the Million Man-Hour Club. Lastly, the "Lucky Dog" Award is presented to individuals or crews that prevented or minimized an accident, injury, and/or property damage by following proper safety procedures. An example of a "Lucky Dog" award winner would be a worker who slipped and fell from a roof but was wearing a safety harness and lanyard that prevented him from falling to ground thus escaping serious injury. This award is not presented to the merely lucky. Rather, it is presented as recognition to individuals who made their own good luck to eliminate or lessen injury and damage when an incident occurred by following proper safety procedures and/or wearing the proper personal protective equipment.

In the case of all the safety awards detailed above, the actual awards that are presented are all very low cost. The quarterly awards consist of a framed certificate and the annual awards are wooden plaques. The Zero Accident Award is a framed certificate. Members of the Million Man-Hour Club are listed on a bronze plate attached to a wooden plaque

hung in the Mobile District Office and receive a framed certificate. As part of the effort to foster cooperation between contractor and government employees, nominations for Celebrate Safety awards could only be submitted by the USACE project engineers and/or inspectors working on the project. To encourage participation, USACE employees are given small cash awards for submitting nominations.

The overall goal of the Celebrate Safety Program is to foster a cooperative working relationship between USACE and its construction contractors in regards to safety in the spirit of partnering. Unlike many government programs that are implemented periodically only to see interest wane after a few months, Celebrate Safety has lasted for almost 20 years. This longevity can be attributed to the fact that at its inception, the leaders in Construction Division in the Mobile District made it a "grass roots" program rather than a top down mandate. They allowed a group of relatively junior team members set the rules and implement the program in its early stages. This gave the program credibility with the rank and file. This is a mindset and management approach that continues to this day and is a primary reason for the program's longevity and continued high participation rates.

Literature Review

A review of the literature on related subjects reveals that the Corps of Engineers Celebrate Safety Program is somewhat unique. At its core, Celebrate Safety is an incentive program that attempts to motivate USACE construction contractors to improve their individual safety programs thereby reducing lost time accidents and fatalities. While company safety incentive programs are nothing new and becoming increasing common in all types of industries, including construction, Celebrate Safety is different in that it is a government sponsored program designed to improve safety performance in an entire sector of the construction industry. However, since it is an incentive program, much of the research done on the formulation and effectiveness of safety incentive programs applies to Celebrate Safety. In recent years, there has been a debate as to whether safety incentive programs are effective in reducing accidents. Advocates of safety incentive programs insist that incentives are essential in promoting safe work practices. In their view, incentives build and maintain employee interest in a company's safety program. In addition, incentives provide motivation for workers to work more safely. The idea is that working safely is a learned behavior and that when workers see their peers using safe work practices, they are more likely to work more safely themselves. Instead of punishing bad behavior with disciplinary action or sanctions, incentives reinforce good behavior through positive reinforcement (Prichard, 2001).

On the other hand, there are many critics of safety incentive programs. The critics point out that incentive programs rely on the theory that accidents are the fault of workers and their unsafe behaviors and not due to systemic safety issues in the workplace. An individual's concern for his own safety should be incentive enough to work safely and avoid dangerous work practices. One major concern of safety professionals is that safety incentive programs do not actually improve safe behavior but only change the number of accidents that are reported. In order words, incentive programs may cause accidents to go unreported so that workers remain eligible for incentive payment or prizes (Goodrum and Gangwar, 2004). In this way, incentive programs can become a form of bribery. They can be seen as a calculated attempt to control behavior. As such, incentives can become negative motivation by making people feel they are being manipulated by management. This is such a serious concern that OSHA has questioned the use of safety incentive programs. David Michaels, assistant secretary of labor for OSHA stated in a recent interview that he is taking a close look at company-sponsored incentive-based safety programs that give out prizes if a work site stays accident-free. He said that the programs can discourage workers from reporting safety and health problems. "We believe that's a violation of OSHA regulations", he said. "We're taking a hard look at it" (Sixel, 2010). Aside for the problem of potential under reporting of injuries, many experts also question the effectiveness of safety incentive programs to improve behavior and reduce injuries on the jobsite. In 1998, OSHA conducted a study through an independent agency, Dennison Associates, to review the performance of safety incentive programs across multiple industries. In their conclusion, Dennison Associates found no direct link between safety incentive programs and the reported number of injuries (Goodrum and Gangwar, 2004). Other experts have concerns about whether the effectiveness of incentive programs, to the extent that they are effective, diminishes with time. This concern of the effect of time on the effectiveness of safety incentives have been confirmed in several studies. One study found that safety incentive programs do indeed affect the safety performance of construction companies but that it took 3 to 4 years for the benefits to be realized. After that, the positive effects were not permanent and diminished over time (Gangwar and Goodrum, 2005).

Despite the many critics of safety incentive programs, there are more experts who advocate the use of incentives than not. Obviously, every industry and every company within an industry is different. Therefore, there is no "one size fits

all" incentive program for every situation. However, it is generally recognized that there are some basic principles that lead to successful incentive programs:

1. Behavior that is reinforced (incentivized) will occur more frequently than behavior that is not reinforced.
2. Punishment (reprimands, fines, dismissals) are ineffective ways of preventing unsafe behavior.
3. It is easier to change behavior than it is to change peoples' attitudes because attitudes involve three elements (thinking, feeling, and the intention to act and behaviors only involve one element, the behavior). However, when safe behavior is rewarded and increases as a result, attitude is more likely to change as well. This helps create a culture where the norm is to be safe (Downing and Norton, 2004).

As can be seen above, there is an ongoing debate concerning both the effectiveness and appropriateness of safety incentive programs. There is anecdotal evidence as well as detailed research to support both sides of the argument. However, it is generally accepted that at least some safety incentive programs have been successful in reducing the occurrence of accidents on construction sites. What the seemingly contradictory evidence indicates is that safety incentives can be effective if they are properly planned, executed, and constantly monitored. The importance of constantly updating incentive programs to insure they do not become irrelevant cannot be overlooked. Based on the entire body of research on the subject, it is reasonable to state that safety incentive programs like Celebrate Safety can be quite effective but also require a significant amount of time and effort to maintain their effectiveness.

Methodology

The research to determine the effectiveness of Celebrate Safety is based on both quantitative and qualitative methods. The quantitative data comes mainly from Corps of Engineers safety statistics compiled from Mobile District construction projects as well as national safety statistics from the Bureau of Labor Statistics (BLS). The statistics from BLS are compiled from accidents from the construction industry throughout the United States. Compiling and analyzing this quantitative data provides evidence whether or not the Celebrate Safety Program has been effective in lowering the accident rates on project sites in the Mobile District.

Comparing the accident rates of the Mobile District with national accident rates will show whether or not any decline in the rate of accidents in the Mobile District is attributable to the Celebrate Safety Program or is merely part of a larger national trend. The quantitative measure selected to analyze the accident rate trends for this research is Lost Work Day (LWD) Accident Frequency Rate or simply the Frequency Rate. The Frequency Rate is a term used by the Corps of Engineers to describe how often accidents occur based on the number of man-hours worked and is defined below:

Frequency Rate = (# of Lost Work Day Accidents X 200,000 Man-Hours)/Man-Hours Worked

The 200,000 Man-hour constant in the above equation is derived from the man-hours worked by 100 workers in one year (100 workers x 40 hrs/week x 50 weeks/year = 200,000 man-hours). Therefore, the Frequency Rate is a measure of how many lost work day (LWD) accidents occur per 100 workers per year. OSHA and the Bureau Statistics (BLS) use the term "Incidence Rate" to describe how often accidents occur based on the number of man-hours worked. However, the method for calculating the Frequency Rate and the Incidence Rate is identical. Therefore, comparing the Mobile District's Frequency Rate with the national Incidence Rate is appropiate. For several years, the Mobile District has touted the effectiveness of the Celebrate Safety Program by simply the counting the reduction in the number of lost work day accidents. While the number of lostwork day accidents has indeed declined since the start of the program in 1992, merely counting the number of accidents is not considered to be a scientifically sound method of evaluating jobsite safety. The number of accidents is a function of exposure hours or the number of man-hours worked. Therefore, a much more sound method of measuring jobsite safety is to look at the Frequency Rate of lost work day accidents which takes the exposure hours into account.

The qualitative data for this research comes mainly from two surveys containing questions about the Celebrate Safety Program as well as some general safety questions. The first survey was given to Corps of Engineer employees who work mainly on construction sites such as Area Engineers, Resident Engineers, Project Engineers,

and Quality Assurance Inspectors as well as Operations Division employees who manage dredging contracts and/or operation and maintenance contracts. The other survey was given to employees of construction companies (company owners, project managers, superintendents, and safety managers) who participate in the in the Celebrate Safety Program. This qualitative data will give some insight from the individuals who participate in the program whether or not they think it is effective. It will also provide information from the individuals why they think Celebrate Safety is effective in improving jobsite safety and reducing accidents.

Preliminary Results and Analysis

After the quantitative data and surveys were collected, the results were tabulated and analyzed. This paper only reports the preliminary results and analysis of the quantitative study. A comprehensive report of the research results and analysis will be addressed in a forthcoming journal article.

The quantitative evidence indicates that lost work day accidents in the Mobile District have indeed declined since the inception of the Celebrate Safety Program in 1992. Figure 1 below shows the decline in the number of lost work day accidents from 1992 to 2010. Figure 1 also shows the relatively high accident rates for the Mobile District prior to 1992.

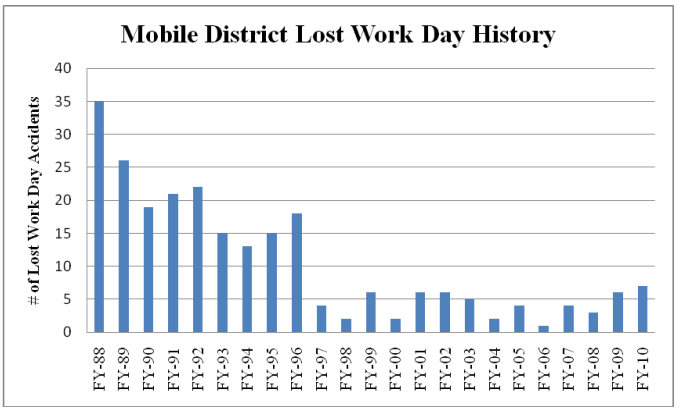

Figure 1: Number of lost work day accidents in the Mobile Dsitrict by fiscal year

Although Figure 1 shows a decline in the number of annual lost work day accidents since 1992, merely counting the number of accidents is not considered to be a scientifically sound method of evaluating jobsite safety since the number of accidents is directly related to the number of exposure hours. Therefore, analyzing the Frequency Rate of accidents provides a much more accurate picture of construction job site safety. Figure 2 below shows the Frequency Rate for lost work day accidents for construction projects in the Mobile District.

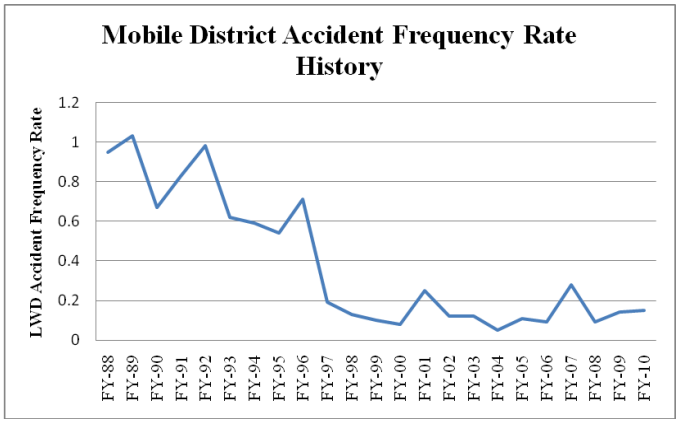

Figure 2: Lost work day accident frequency rate in the Mobile District by fiscal year.

As already noted, Figure 2 depicts only accident data from construction sites in the Mobile District, not the entire Corps of Engineers. The above chart shows a relatively high accident frequency rate from 1988 through 1992. It then shows a rather sharp decline in accidents between FY 92 (the first year of the program) and FY 97. Since FY 97, the Frequency Rate has remained very low. The only years that the Frequency Rate rose above 0.20 was FY 01 (0.25) and FY 07 (0.28). In the remaining years, the Frequency Rate hovered around 0.10. This data supports the Gangwar and Goodrum study that concludes that it takes 3 to 4 years for safety incentive programs to take hold and for their benefits to be realized. However, it contradicts their findings that the positive effects are not permanent and diminish over time. To the contrary, the reduction in LWD accidents in the Mobile District has remained in effect since 1997.

There is, however, the possibility that the decline in the Frequency Rate of accidents in the Mobile District could be attributable to an overall trend in improvement in safety on construction jobsite. It is generally accepted that there is been an overall improvement in construction jobsite safety over the last 20 years. The following is a comparison of the Frequency Rates for projects in the Mobile District versus the national average Incidence Rate for construction LWD accidents as compiled by the Bureau of Labor Statistics (BLS):

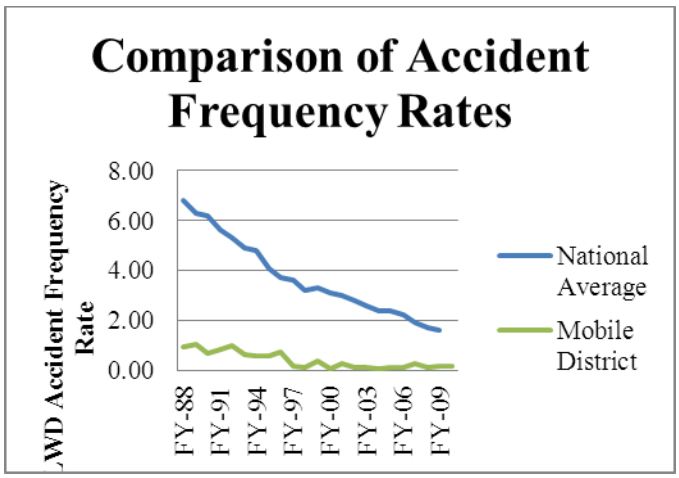

Figure 3: Comparison of the lost work day accident Frequency Rate for the Mobile District with the national lost work day Incidence Rate.

Figure 3 shows there has been a national trend toward decreasing LWD accidents on construction jobsites since the early 1990's. However, the table also reveals a striking contrast between the occurrences of accidents on the Mobile District's construction jobsites when compared to the national average. The accident rate on the Mobile District's projects was much lower than the average construction jobsite in the United States for all years going back to 1988. Looking at the raw data as depicted in Figure 3, it would appear that the national Incidence Rate is falling faster than the accident Frequency Rate for the Mobile District. However, Figure 3 is visually deceiving because of the large spread between the relative frequency rates. Figure 4 below is a scatter plot of the ratio of the Mobile District's Frequency Rate (MFR) and the national Incidence Rate (NIR) or simply MFR/NIR:

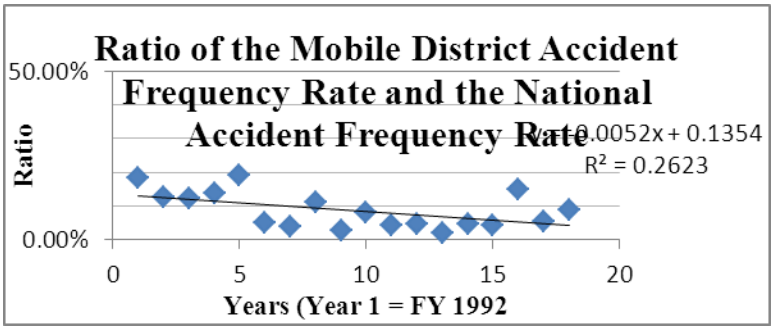

Figure 4: Scatter plot of the ratio of the lost work day accident Frequency Rate for the Mobile District and the national lost work day Incidence Rate.

Figure 4 clearly shows that the Mobile District's accident frequency rate has declined at a faster rate than the national average since 1992, the year Celebrate Safety started. Were it not for the small spike in Mobile's frequency rate in FY 07, the difference in rate of decline would be even more pronounced. This relationship is confirmed by a regression analysis of the frequency rate data.

Based on the above quantitative data, it is apparent the LWD accident frequency rate for the Mobile District has declined at a significantly faster rate that the national average since 1992. Also, the only major change in the Mobile District's overall construction safety program has been the implementation of Celebrate Safety. Therefore, it is safe to conclude that Celebrate Safety has made a tangible difference in construction job site safety as demonstrated by the dramatic and sustained decline in the LWD accident frequency rate over the last 20 years.

The Celebrate Safety Survey of the qualitative study for Government Employees was distributed to approximately 250 individuals. The survey was distributed at the annual Celebrate Safety Conference as well as via email to all employees in the Mobile District's Construction Division. Of the 250 surveys distributed, 40 individuals returned completed surveys for an approximate response rate of 16%. The Celebrate Safety Survey for Contractors Employees was distributed to approximately 200 individuals. This survey was distributed at the annual Celebrate Safety Conference as well as via email to several contractors who were known to have participated in Celebrate Safety. Of the 200 surveys distributed, 36 individuals returned completed surveys for an approximate response rate of 18%. Results and analysis of the qualitative data will be addressed in a forthcoming journal article.

Conclusion

Based on the quantitative and qualitative data, it is apparent Mobile District's Celebrate Safety Program has been, and continues to be, a success in its stated purpose of improving jobsite safety and reducing accidents. The quantitative data detailed above clearly shows the following:

1. The number of lost work day accidents in the Mobile District has declined significantly since the start of Celebrate Safety in 1992.
2. The frequency rate of lost work day accidents has fallen sharply since the Celebrate Safety was implemented.
3. For the period 1992 though 2009, the lost work day accident frequency rate in the Mobile District has declined at a faster rate that the national average lost work day accident frequency rate for construction.

The only substantive change in the Mobile District's construction safety program since 1992 has been the implementation of Celebrate Safety. Therefore, it is safe to conclude that Celebrate Safety has made a tangible difference in construction job site safety on construction projects as demonstrated by the dramatic and sustained decline in the lost work day accident frequency rate over the last 20 years in the U.S. Army Corps of Engineers' Mobile District.

References

BLS (US Bureau of Labor Statistics) (2010). *Industry injury and illness data*, Retrieved from http://www.bls.gov/iif/oshsum.htm

Downing, D.R., & Norton, R. (2004, January 1). Safety incentives: myths and realities. *Occupational Safety & Health*, Retrieved from http://ohsonline.com/articles/2004/01/safety-incentives-myths-and-realities.aspx.

Gangwar, M., & Goodrum, P.M. (2005). The effect of time on safety incentive programs in the US construction industry. *Construction Management and Economics*, 23, 851-859.

Goodrum, P.M., & Gangwar, Manish. (2004). Examination of the effectiveness and long-term impact of safety incentive programs in construction. *Proceedings of the ASSE professional development conference and exposition Las Vegas*. http://onepetro.org/mslib/servlet/onepetropreview.

Goodrum, P.M., & Gangwar, M. (2004, July). Safety incentives a study of their effectiveness in construction. *Professional Safety*, Retrieved from http://www.asse.org/foundation/research/docs/foungrnt_july04_goodrum.pdf.

Mobile District, Initials. U.S. Army Corps of Engineers, (2010). *Celebrate safety program management manual* Retrieved from http://www.sam.usace.army.mil/cd/celsafe/celsafe.html

Prichard, R. (2001, April). *Safety incentive programs: a critical assessment*. Retrieved from http://www.irmi.com/expert/articles/2001/prichard04.aspx

Sixel, L.M. (2010, April 14). *Labor secretary stresses worker safety*. Houston Chronicle.

Smith, T.A. (1997, May). What's wrong with safety incentives? *Professional Safety*, 44.