

## ONE COMPANY'S JOURNEY TO SAFETY EXCELLENCE

M. Davis<sup>1</sup>, R.C. Ramsdell<sup>2</sup>

### ABSTRACT

All too often safety professionals are perceived as “Safety Cops” on jobsites, seemingly working separately from a company’s operations team. In a mature and thriving safety culture, safety departments are elevated to sit at the table with operations as an equal partner, making it possible to have their cake and eat it too - people are going home safe and whole to their families every evening, and the company is performing at an optimal level.

This paper will tell the story of Great Lakes Dredge & Dock Company’s transition from a rudimentary safety approach, to a traditional safety department approach, then on to a transformational safety culture. Statistics will be presented to attest to the company’s success. The paper will highlight some common steps in such a transition, and the new knowledge, skill, and ability gained at each stage by both operations and safety departments as they re-focus on the people and process side of safety rather than relying solely on safety rules and programs to keep their people safe and whole.

**Keywords:** Dredging, culture, operations, transformation, leadership.

### INTRODUCTION

In this article, we discuss how Great Lakes Dredge & Dock Company (GLDD) navigated from a rudimentary safety approach, to a traditional approach based on a safety department, and eventually achieved safety excellence through a transformational safety culture. We will refer to this as a safety journey, because at no point did we stop and say, “Now we are safe.” Rather, our goal is an incident and injury free workplace, and while we have approached it, we are not there. Figure 1 shows three common steps on the safety journey, the focus at each stage, and involvement of different groups within the company.

The authors are not technical safety professionals- an important data point to consider while you are reading a technical paper on safety. As part of GLDD’s journey to safety excellence, we, like other GLDD stakeholders, were challenged with improving our own safety performances and personal commitments to safe operations. We were compelled to write this paper in an effort to share the journey with as many people as we can possibly reach. Sharing our safety journey holds true to the belief that safety is not proprietary work, but rather a gift that should be shared with friends, family, and competitors alike, as we all strive for the same goal: sending everyone home safe and whole at the end of each day.

We use a three-stage safety journey model to describe the safety transformation at GLDD, beginning with a Rules Approach, followed by a Program Approach, and ultimately a Process Approach. The three stages culminate with sustained safety and operational excellence. We will detail what GLDD’s commitment to safe operations looks like, not just at the beginning of the process, but as the organization matured. Through data and real life stories we will reinforce the argument that sustained safety and operational excellence can only be achieved when senior leaders, safety departments, front line managers, and field employees all work together to achieve a safe operational environment through personal commitments to safety.

As you read this paper, we challenge you to consider “*What am I contributing to the safety culture within my company and the industry?*”

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<sup>1</sup> Performance Consultant, The Hile Group, 1100 N. Beech Street, Bldg. 15, Normal, IL 61761, USA, T: +1 309-888-4453, Email: davis@hilegroup.com

<sup>2</sup> Director of Production Engineering, Great Lakes Dredge & Dock Company, 2122 York Road, Oakbrook, IL, 60523, USA, T: +1 630-574-3463, Email: rcramsdell@gldd.com

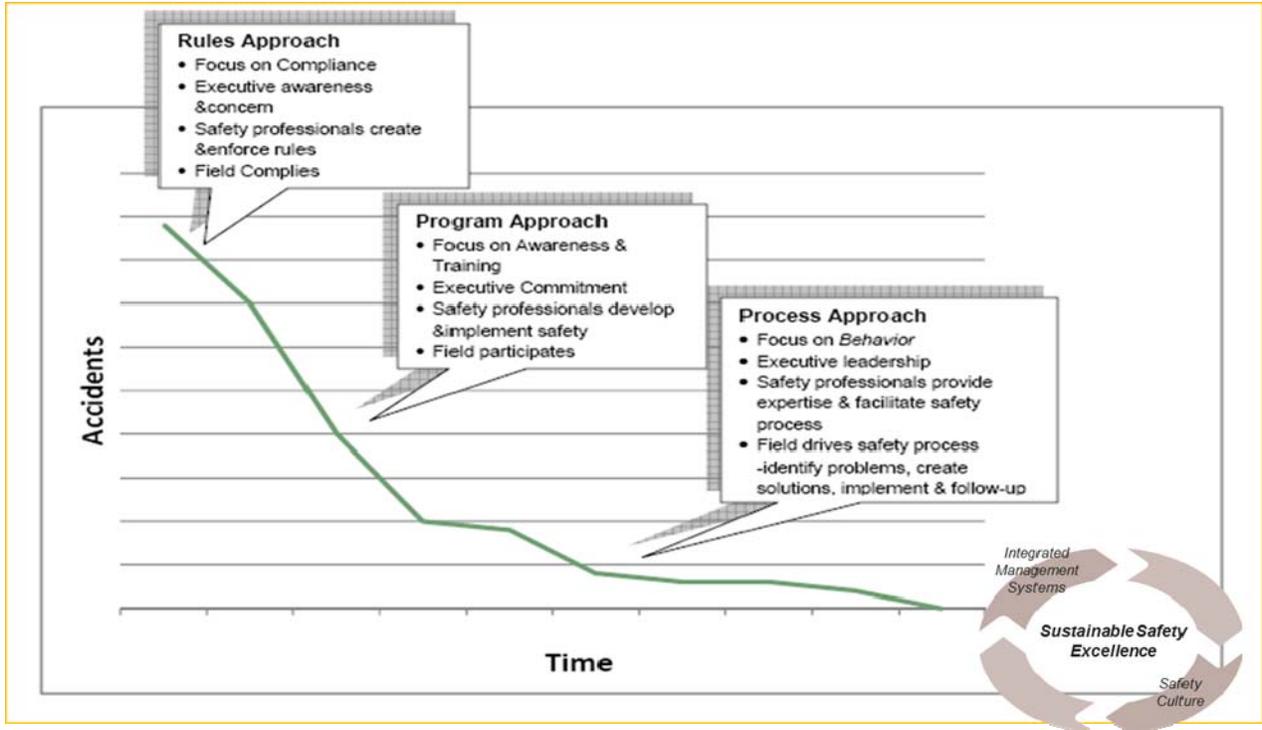


Figure 1. Stages of the Safety Journey.

**GREAT LAKES DREDGE & DOCK COMPANY’S SAFETY UP TO 2004**

Circa 1996, GLDD recognized a need for improvement in our standards for safety, and we began working towards these improvements.

GLDD had a typical traditional safety structure, centralized around a formal Safety Department. The safety professionals were tasked with running the safety program, implementing various vessel safety management systems, and standardizing rules and policies. During these notable shifts in our traditional safety structure from 1996 to 2004, we had a 50% decrease in the Company’s Total Recordable Incident Rate (TRIR), and we really thought we had dredging safety figured out!

Table 1. Great Lakes Safety Journey From 1996 to 2004.

<b>1996</b>	Started to develop formalized <b>Safety Department</b>
<b>1999</b>	Implemented <b>Responsible Carrier Program</b> (Tugboats) Input EM 385
<b>2001</b>	Implemented <b>International Safety Management Code</b> (Hopper Ships)
<b>2002</b>	Implemented <b>Dredging Safety Management Program</b> (All Operations)
<b>2004</b>	Significant <b>progress</b> ; Safety Department (staff of 9); Implemented <b>standardized</b> procedures, policies, and <b>GLDD-wide</b> safety manual; Safety Training

**Step 1: Rules Approach**

Under the Rules Approach to safety, the organization was strictly focused on the structure of the safety program. The company was focused on compliance with regulatory and client requirements in order to do business. Individual executives were aware of safety and felt concern, particularly when faced with severe incidents. Lower level

employees were left with complying with the Safety Department rules and governmental regulations because they *had to*, not because they necessarily *wanted to*.

During the Rules Approach, the culture was still focused on Safety Department professionals tasked with being “Safety Cops,” strictly present for rules enforcement. In this environment, safety was viewed strictly as the Safety Department’s to enforce. Unless a Safety Department professional was present, operations leaders lacked accountability measures for holding their people to safe performance. Without Executives setting an example, front-line employees were taught to prioritize performance, with little regard to safety. This created an environment where safety professionals were at best tolerated and at worst seen as adversaries.

To be clear, we are in no way being critical of the time during the Rules Approach of our journey. We often look back to that time and remark “You don’t know what you don’t know” – we were doing the best we could with the information and experience we had. Employees were aware of the need to work safer, and no one intentionally set out to injure people. We had to get the rules and Safety Department structure in place before we could successfully continue to the next stage. These sentiments are illustrated perfectly in one front-line manager’s comments, recorded during a safety training, “*I realized that the hurry-up, rush-and-get-it-done, going-crazy didn’t help. It hurt people. But it was hard to stop because of so many years like that.*”

### **REACHING OUT TO POPULARIZE SAFETY**

In 2005, we began to realize that, even though we had made significant gains in reducing our TRIR, we were still hurting people. GLDD reached out to JMJ Associates and partnered to create an Incident and Injury-Free® safety culture, commonly referred to as IIF. The IIF safety aims to create marked, long-lasting shifts in project and organizational safety (JMJ 2017).

Our focus on building an IIF culture meant implementing IIF language and principles into everything that we did. Rather than our Safety Department making employees safe by enforcing the rules, all employees were challenged with becoming responsible for their own *and* each other’s safety. This meant that we needed to set clear expectations around safety at all levels of the company, with management and employees having mutual expectations and responsibilities. This two-way relationship is crucial, both to give employees permission to act safely, and provide the example that that is the expectation.

#### **What Employees Can Expect from Company Leaders**

In an IIF culture, employees need management that acts. This means backing employees’ decisions when it comes to safe behaviors. If an employee stops a task for a safety reason, they can count on being backed up by management. Management is also responsible for quick responses – if an employee brings up a safety concern, it is addressed promptly, and without blame. If there is an injury, we conduct an incident investigation in such a way that the person is not solely blamed for the injury. Instead, we use the injury as a learning experience so that we can eliminate the next potential injury. This emphasizes that safety is not about a TRIR number on a chart in the corporate office, but rather about getting the process right and safe. This is not to say that we do not hold our people accountable for safe performance – but recognizing and correcting unsafe situations is more important than blame.

#### **Front-line Supervision That Acts**

As we continued in our safety journey, it became clear that our front-line supervisors were key to the process. As the bridge to field employees, we needed to get front-line supervisors trained and involved in every aspect of safety to keep the process moving forward. This took the form of challenging them with correcting unsafe behaviors in the moment and taking an active management role in safety on every job, every day: a classic case of leading by example. This ties back to Executive action, as front-line supervisors take their cues from upper management even more than the members of their team. If the leaders of the company turn a blind eye to safety when it is convenient, or place blame without fixing problems, supervisors will push production over safety.

#### **Behind All the Action: Personal Commitment**

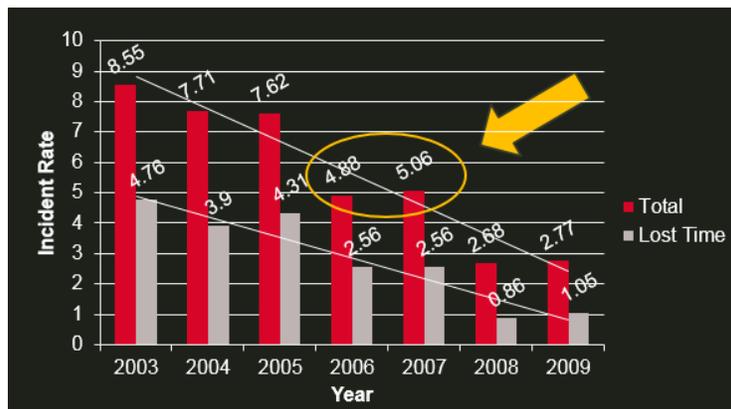
At every level in the Company, from the CEO to the new-hire, our approach to safety lies in expecting and empowering the individual to have a personal commitment to safety. This takes shape as correcting unsafe behaviors immediately as well as acknowledging and celebrating safe behaviors. Personal commitment also relies on employees possessing the ability to make safety central in all tasks, and looking out for one another.

'Rules' that were previously effectively optional became truly mandatory. An important early example of this was in the use of personal protective equipment (PPE). In previous years, hard hats and life vests were required under the rules, but were likely to be left behind unless a Safety Officer was present. Under the Rules Approach use of these became nearly 100% and GLDD added a requirement of 100% safety glasses. The safety glasses would have been considered unnecessary in most circumstances, but increased awareness of hazards, willingness to comply with measures to mitigate them, and knowledge of management support made this an easy rule to implement because managers and employees alike pushed and reminded each other to comply.

## Step 2: The Program Approach

The implementation of IIF into our culture brought us steadily into the next phase of our safety journey, the Program Approach. Our evolution into the Program Approach is further described in the second box of Figure 1. Employees were trained and expected to take part in safety. Rather than viewing safety as a business requirement, Executives were visibly committed to the program. Safety professionals started to be seen as a resource to be welcomed rather than an impediment to avoid.

With the Program Approach, GLDD was successful in further driving down the number of incidents, but it only took us so far. Figure 2 illustrates the path of the GLDD's Total Recordable Incident Rate (TRIR) during our safety journey through 2009. This statistic measures how many employees out of 100 will be injured each year. We made large initial gains in TRIR, and while the lower level was sustainable, further gains did not materialize. While there was a shift away from Safety Department-led safety toward operations-driven safety, there wasn't a clear sense of "What's next?" or "Did we do it?" Not knowing what else to do, the positive energy that generated necessary and significant advances in safety didn't build on itself. Safety gains became more difficult to achieve, and despite the fact that we had great systems, procedures, and training in place, people were still getting injured. Something was missing and frustration was setting in. We didn't know how to break through to the next level in safety performance.



**Figure 2. Safety Performance Plateau.**

## REDOUBLED EFFORTS IN SYSTEMS SAFETY

Troubled by the plateau, we made a system-wide decision to redouble our efforts in safety. With the help of Hile Group's *Transformative Safety*® approach, we were able to build, embed, and depend upon operations-driven safety, supported by the Safety Department.

In a traditional safety approach, a safety professional would fix safety performance problems by giving employees new skills, knowledge, abilities. In a *Transformative Safety*® approach, performance problems are addressed by:

- Giving clear performance specifications
- Providing sufficient resources (time, materials, applications, etc.)
- Giving specific performance feedback
- Providing performance incentives including recognition, dinners, and opportunities for people who have been deeply involved in safety to move to the top of the promotion list



They include deep dives into safety data, table top drills to anticipate safety challenges for new and existing projects, division-specific report outs on safety initiatives, and professional safety development for all members. Each department within the company also has a dedicated SLT that meets more frequently than the Corporate SLT and functions as a smaller, more-focused group, tackling safety issues that are department-specific.

### ***Project Launch Meetings***

In keeping with our commitment to safety on every job, every day, we overhauled our Project Launch Meetings to focus on how we will complete the project safely. While planning is still covered in these meetings, it is with the full knowledge that safe performance is the first goal, and that proper planning is an integral part of safe performance. In the meetings, we include our subcontractors (often at our cost) and clients. It's considered so important to have these conversations that we halt our work and spend the money to have everyone gather in one place for a consistently reinforced safety message.

### ***Safety Action Plan***

Each departmental SLT creates annual Safety Action Plans (SAP) that detail the specifics of how safety will be acted upon by each department throughout the year. The SAPs become our guidance for each year's safety work, acknowledging and embracing that safety is a journey requiring continual efforts and improvement. They push the responsibility for developing the safety program and improving our culture to each department, helping us move closer every second to a culture where operations is driving the safety.

### ***Multiple Cause Incident Analysis***

All recordable incidents, high hazard Near Misses, and mechanical incidents over a pre-established monetary loss are studied further in a Multiple Cause Incident Analysis (MCIA) process. This approach to Root Cause Analysis does not stop at apparent surface level causes, but instead repeatedly asks "Why?" until the systemic issues are laid bare. Each MCIA establishes Corrective Actions that go beyond addressing surface level causes to mitigate further hazard or damage.

### **Step 3: The Process Approach**

All of the new norms we have created surrounding safety have planted us firmly in the third stage of our safety journey, the Process Approach, detailed in the third box of Figure 1. Our Process Approach is characterized by safety being integrated in all planning and management. Executives and managers lead the way by pushing for and facilitating analysis and improvement on a continuous basis. While safety professionals provide support and technical knowledge, employees at all levels of the company are engaged in sustaining and improving our culture. Accountability has played a pivotal role in the Process Approach, setting the expectation for safe operations at every level of the organization. We often remark that "*You get the level of safety you're willing to walk past,*" which challenges each and every one of us to focus on safe behaviors every step of the way.

## **SUSTAINMENT IS FRACTAL**

We talk about sustaining our safety culture in terms of a fractal, illustrated in Figure 4, and defined as "any of various extremely irregular curves or shapes for which any suitably chosen part is similar in shape to a given larger or smaller part when magnified or reduced to the same size" (Merriam Webster 2017). Essentially, our safety culture (i.e. shapes) exists at both the small-scale and large-scale levels in the same company (i.e. object). The fractal sustainment concept is characterized by the known that we cannot leave any part of the organization out in regards to our safety culture. Ultimately, we have come to realize that there is no such thing as safety culture, it has just become our *culture*.



**Figure 4. Fractal.**

### **CONCLUSIONS**

Prior to embarking on our safety journey, we were unintentionally putting people in harm's way, with predictable and often tragic results. Through the process of carefully and thoughtfully navigating the Rules, Program, and Process Approaches to safety excellence, we have seen a dramatic reduction in our TRIR, illustrated in Figure 5. Most importantly, we have seen the direct impact of sending more of our people home safe and whole. We have challenged ourselves with achieving a TRIR of sub-1 in 2017/18, and the fractal sustainment concept will help us achieve this goal, ensuring each part of the organization is doing the same thing on their own scale.

We acknowledge that the safety journey will look different for everyone regarding the specifics of where they begin, how they arrive at their personal commitments, and how their companies tackle tough cultural transformations. However, regardless of company size, budget, and maturity, if you want to achieve safety excellence, operations must be firmly imbedded into your safety culture, creating a concept we like to call "The Big Hug and the Bottom Line." Essentially, caring for and protecting your people is not only the moral thing to do, it just makes good business sense (and cents!).

Now, ask yourself, "*Where am I in my safety journey?*" We encourage you to think of where you are not just in terms of numbers of people being injured, but in terms of how policies, procedures, behaviors, and attitudes are evolving in your company to create sustainable safety excellence.

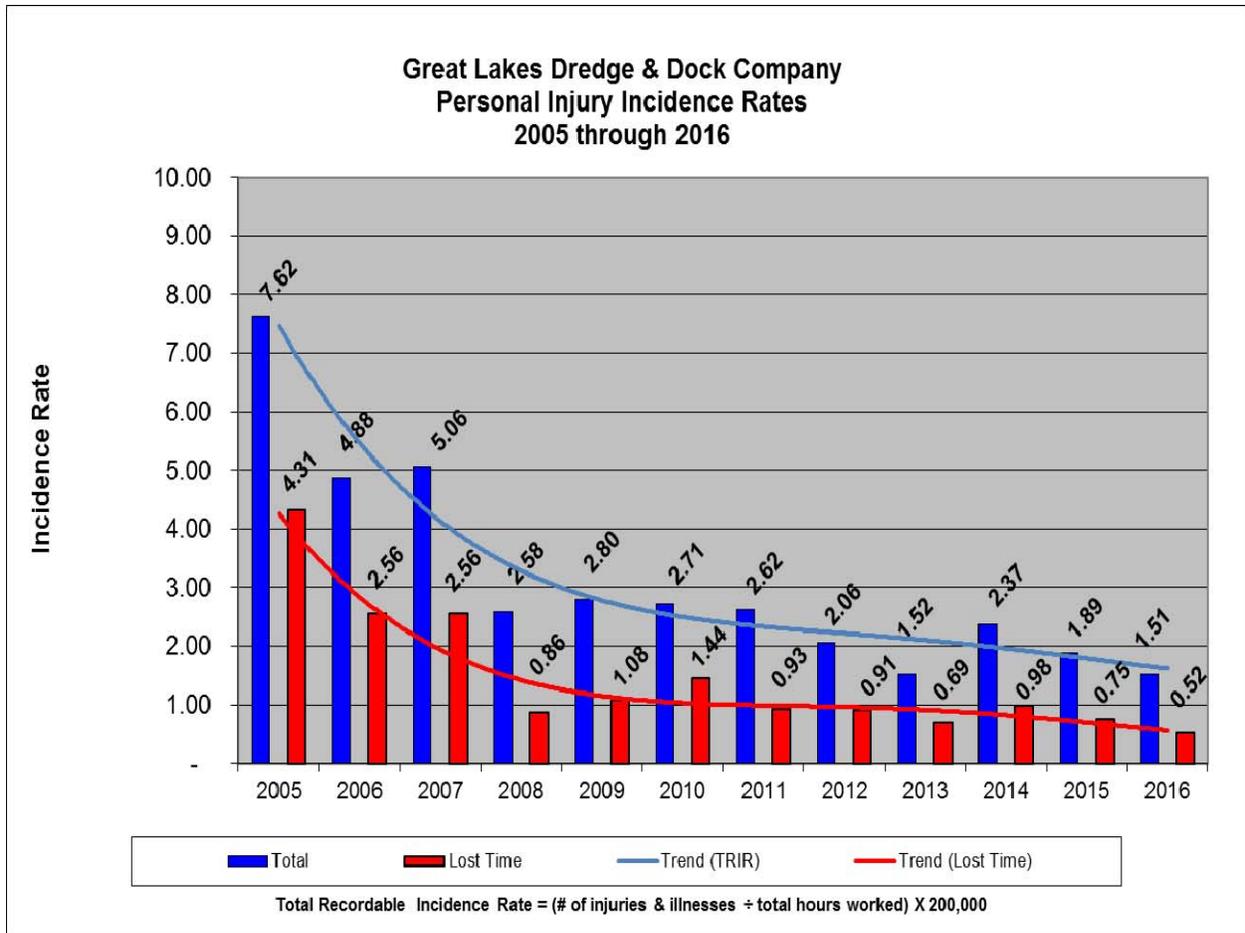


Figure 5. Great Lakes Dredge & Dock Company Personal Injury Incidence Rates 2005 through 2016

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