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Typhoon Offshore Safe and Clean: Authentic Leadership to Produce an Incident and Injury-Free Environment

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Abstract

Chevron and BHP Billiton, together with contractors, successfully completed the offshore installation and start-up of the Gulf of Mexico deepwater Typhoon facility without a recordable injury. The project team provided strong leadership that created an environment for working incident and injury-free. Leadership focused on the health and well being of workers, versus implementing additional Environmental and Safety rules, procedures and programs.

The challenge facing the project was to achieve incident and injury-free performance across multiple companies with multiple interfaces and work scopes. The effort started with a strong commitment from the Project Manager and his project Leadership team declaring that no one would get hurt. The project contractors and Chevron Operations, who all have very good Environmental and Safety programs and performance, were asked to take on this commitment for all workers on the project. Commitment/Orientation workshops were conducted for all employees involved on the project prior to working offshore. This developed a consistent commitment across all companies. Workers' perceptions shifted to a belief that Management really valued their safety, versus holding safety as a high priority influenced by the progress on the schedule. A work environment was created by Supervisors and workers where at-risk work was routinely confronted and corrected. This paper reviews how the Typhoon deepwater project created an environment for incident and injury-free work and completed the project without a recordable injury.

Background

The Typhoon field is located in 2,097 feet of water and straddles Green Canyon blocks 236 and 237 in the Gulf of

Mexico. The Typhoon field was discovered in mid-1998. Chevron and BHP Billiton each are 50% partners in the field, with Chevron being the operator. The Development facilities include a SeaStar Tension Leg Platform (TLP), four subsea wells tied back to the TLP with flexible flowlines and umbilicals, and third party export oil and gas pipelines. The TLP hull is 58 feet in diameter and the main column is 148 feet tall. The topsides are designed for 40,000 b/d of oil, 60 million scf/d of gas and 15,000 b/d of water production. There is one 18-inch steel catenary riser (SCR) for gas export and one 10-inch SCR for oil export.

The scope of installation and offshore start-up encompassed installation of foundation piles, installation of tendons, hull lift/ballast/hookup, oil and gas SCR installation and topsides lift and hookup using a heavy lift vessel. Following the topsides installation, multiple vessels and contractors were on site for 36 days, hooking up the export SCR's to the export pipelines, commissioning the pipelines and installing/commissioning the flowlines and umbilicals between the subsea wells and the TLP. Additionally, during this time, topsides process facilities hookup and commissioning was occurring. Many of the contractors and/or vessels were only onsite for periods as short as 2 days. Over 600 workers were involved in the installation and start-up at the offshore site for a total period of 57 days.

Challenges

Building on Good Safety Performance. Chevron's Deepwater Gulf of Mexico experience has been that general industry practices and company specific programs have been effective in mitigating the potential for serious injuries. Through contractor evaluation and selection, it has been proven that the contractors Chevron normally work with also have effective safety programs in place. These organizations have safety programs including such elements as, clear roles and responsibilities, safe work practices, behavioral safety management, Job Safety Analysis, etc.

The Owners Project Leadership expected good safety performance. However, they desired incident and injury-free performance. They had confidence the high hazard work, which involved much planning and heightened awareness, would be done without injury. However, their experience had been that the everyday type of incidents (tripping, cuts from

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knives in the galley, pinched fingers, etc.) was where people might get hurt. They were challenged with how to prevent those types of injuries, feeling that the workers' safety focus and awareness would not be as high in the routine tasks as with heavy lifts, etc. They realized that adding more systems, processes and rules was not the solution to this challenge.

Multiple Interfaces During a Short Duration. Added to this challenge was the short time-span of the actual offshore installation phase (see figure 1). Multiple contractors would be onsite simultaneously, but many of them would be on location for only a few days at a time. Interfaces between contractors would need to be managed while rotating many different workers through the project site. Each contractor would bring their own safety programs and culture with them to the project. The international representation of marine vessels and specialist contractors would add the challenge of multiple languages and cultures to performing the project activities. Also, the export pipeline installation and hookup activities would be conducted by multiple contractors in the employment of the pipeline company, not under direct contract with the owners.

Planning and Preparation

Creating the Vision for Incident and Injury-Free. The Project Manager started with a vision of an incident and injury-free project. Since this involved more than a systems approach, he knew this had to be both a process to develop and a goal to achieve. The first step was to have key project team members and contractors buy into the vision. Leadership from the various companies needed to genuinely own this vision in order to make a difference. Achieving this ownership involved multiple conversations during which Leadership determined and aligned on the objectives for the project.

Leadership wanted to start with a culture where all people from all companies complied with regulations, processes and procedures. On top of that, people who would take the initiative to stop at-risk work, regardless of company lines or the individual's position, would characterize the environment. Those approached would be open to and act on this coaching. The environment would also be one that highly acknowledged safe work behaviors and practices. To create this work environment, a leadership approach was needed that focused on people and their families (see figure 2). The approach also needed to be perceived by the workers as personal and caring. The Project Manager realized the project team needed support to impact this "subjective" side (see figure 3) of safety and partnered with JMJ Associates to create an incident and injury-free offshore project.

Integrating the Subjective Side to Safety

Managers from Chevron, BHP Billiton, the project's major contractors and the export pipeline company's representative formed a Safety Leadership Team (SLT). The team consisted of senior Project Managers and focused on providing safety leadership to create and communicate the project's objectives

and to plan the activities that reinforced the objectives. The team's purpose was to impact workers through:

- Owning and communicating the project's Environmental and Safety objectives
- Building genuine, harmonious relationships between all organizations and individuals
- Creating a culture of acknowledgement and recognition for Environmental and Safety efforts and accomplishments
- Sharing information, lessons learned, etc.
- Keeping a finger on the pulse of the project
- Working issues and interfaces

The next step was to conduct confidential interviews with key managers, workers and supervisors from across all the companies. Approximately 40 people were interviewed to identify the commonly held perceptions of the project's challenges. The three themes identified from the interviews were:

- Worker's lack of belief in Management's commitment to safety versus schedule
- Sustaining awareness and commitment for incident and injury-free over the life of the project
- Coordinating across interfaces of multiple crews and vessels working to set up and commission the platform

The Safety Leadership Team developed and implemented a plan to address the themes identified from the interviews.

Leadership - Creating the Environment for Injury Free Performance

Broader and Deeper Management Commitment. The SLT started with involving a wider group of key managers and supervisors from the owner companies and the construction contractors. A two-day Leadership Safety Workshop was conducted with approximately 75 managers and supervisors two months prior to starting work offshore. The workshop focused on identifying the individual and organizational commitment needed to have an incident and injury-free project. During the workshop, the individual managers and supervisors were asked to make genuine commitments to incident and injury-free performance. The nature of these commitments was personal, not because they were managers and supervisors.

Workers – Getting to Experience the Human Side of Management.

To demonstrate Management's intentions for safety and to enroll all the workers in a commitment to incident and injury-free, four-hour Commitment/Orientation workshops were developed. All workers who would be working offshore would participate in one of the eighteen workshops. This helped address perceptions that Management was more concerned with cost and schedule than the workers' individual safety. The four-hour Commitment/Orientation workshops were designed to create an opportunity for workers to hear a deeper management commitment for safety. Creating this new perception with the workers required Management to listen and speak differently. Workers needed to perceive that safety is a deep personal value of

Management. Many workers expect managers to say, "Safety is number one" however, their experience has been that production or schedule is the real priority on the job. For the workers to perceive a deeper Management commitment, they needed to hear and experience managers as caring for them personally. They didn't need to hear buzzwords, slogans, policies, procedures and statistics. In the four-hour sessions, the workers heard individuals in Management talk about their authentic commitment to no one getting hurt.

The workshops provided Management an opportunity to have a conversation with the workers about what is really important to them. They discussed the personal impact of an injury and about their value for the health and well being of the workers and their families. This created a relationship allowing the workers to experience the individual manager's commitments to people's safety as more than a slogan or the politically correct thing to say. The "Remember Charlie" video was used as a tool for promoting these conversations.

Managers listened to the concerns of the workers; especially the concern that once the job got underway offshore, the pressure for first oil would take over and lead to short cuts and potentially injuries. Managers listened and appreciated the workers point of view without being defensive or minimizing their concern. The managers asked the workers to tell them if they perceived this to be happening so they could address it head on.

Workers Get the Bigger Picture. The workshops also included a discussion on how a worker's perception to risk influenced their actions. They discussed how an experienced worker could overlook or "fall asleep" to hazards, while a newer worker may see danger everywhere (see figure 4). By understanding and respecting each perspective, the workers gained a healthy respect for the hazards and how to prevent injuries.

Another way these workshops sent a different message to the workers was by including a project overview. This was also well received as it gave the workers a sense of the big picture and how they fit into it. They had a better sense of what they were trying to achieve versus "doing another job."

Workshops - Just in Time Delivery. The workshops were delivered "just in time," during the mobilization of the work, prior to deploying all those who would be working offshore. To deliver this many workshops, "just in time" and at many different locations, required extensive coordination and scheduling. Significant time was spent organizing the timing and details of the workshops.

Workshops were conducted on a heavy lift vessel, a flowline/umbilical installation vessel, dive support vessels, work boats, at hotels and at fabrication yards when people were mobilizing prior to going offshore. Meeting the objective to have everyone participate in a workshop required having sessions multiple times for each vessel to cover each crew and crew rotation and at all times of the day, including nights, holidays and weekends. The sessions were conducted in space available, typically in the galley on the vessels and in

conference rooms if at an onshore location. Additionally, several agenda formats were needed to fit into contractors work schedules.

A key factor to the effectiveness of these workshops was owner and contractor Management being present and participating with the workers in all workshops. One way the individual managers were seen as personally caring was through the use of stories about their experiences.

Reinforcing and Sustaining the Incident and Injury-Free Environment

Demonstrating Managements Values Offshore. The Commitment/Orientation workshops allowed the workers to experience a deeper commitment to safety on this project than on others on which they had worked. Leadership had a new opening in which to coach and influence the workers. The leaders then had to demonstrate this commitment as the project progressed to sustain the environment of safety being a value. Managers were seen on the job reinforcing their commitment to people's safety, versus being seen as "checking up on job progress." They took time to listen, acknowledge and to support workers. They talked about safety in terms of people, not statistics.

During the installation, there was a regulatory inspection finding about an extension cord on a walkway. The workers hung the cord overhead with wire ties, which satisfied the agency. Later, a Project Onsite Coordinator (POC) came upon the situation and talked to the workers about it. He thanked them for taking care of the agency's concern. He further explained that he did not want to see anyone get hurt and the workers actions supported this commitment. The workers expressed concern that the movement of the TLP would cause the wire to cut through the insulation on the extension cord. The POC thanked them for sharing their concern and asked them to get more suitable ties. He praised them for raising the concern and the actions taken. He later presented awards to those workers in a public forum.

Offshore supervisors also demonstrated their commitment to incident and injury-free on daily basis. JSA's were conducted in a manner to have the workers create and own the safe work plan, versus being told how to do it safely. Supervisors stopped at-risk work and supported the workers when they stopped at-risk work. In one case, a worker stopped and expressed concern to a Supervisor who had descended a ladder with a clipboard in his hands. The Supervisor thanked him and committed to not doing that again. The next day, the worker received public recognition for taking action.

Supervisors also participated in walk arounds with the workers, publicly recognizing people who were working safely. When Management and Supervision discovered they left unintended perceptions about the importance of schedule and production, they took time to restate their commitment to workers' safety and clarify their intentions for safe production and schedule performance.

Supervision focused on coaching people to do the right/safe things. When they saw someone who was working

at-risk, they used it as an opportunity to communicate their commitment and to raise the level of expectation and awareness, not to place blame.

A few workers did not respond to this approach. Through several conversations with them, it became apparent that these few workers did not embrace the project's safety objectives. These workers were replaced, even though they were known as "productive" employees. By taking this stand, Management reinforced their commitment to creating a work environment that valued safety. Many workers later said this action to remove workers who were recognized as not working safely was a clear demonstration of project commitment to the injury free initiative. The workers expressed their respect for "Management" standing behind the injury free vision. Workplace morale improved and the workers took an even greater part in self-motivating the workplace safety focus.

Coaching Observations and Feedback. The SLT and the consultant performed regular coaching and observation visits offshore. These were not inspections or audits that identified unsafe conditions (see figure 5). Through conversations with workers and Supervision, attending key meetings, etc., they identified perceptions that could be barriers to working without injury. The consultant provided feedback to the offshore supervision to help them understand how "subjective" issues might constrain safety performance.

Additionally, project Environmental and Safety Representatives were on site during the entire offshore work to assist offshore supervision, by conducting training, monitoring and coaching. They focused on building solid relationships with the workers to uncover barriers to working safely and to reinforce the project's value for the safety of individuals.

Rewarding Safe Behaviors. The SLT had developed a recognition program for all workers, which included mementos to recognize workers safe work practices versus, incentives to get them to work safely. These served as a reminder of the project team's value to safely performing work. This was different from previous programs that had been used in the past that gave cash awards, etc. if an individual or team worked without an injury. The SLT felt that offering an incentive for not having injuries might cause the workers to not fully report them in order to get the award. More importantly, they wanted to reward the behaviors that would produce an incident and injury-free project. This was a strong message to the workers about what was really important to Management. By building a program that rewarded behaviors, the SLT felt they could support the workers in doing all of their work safely throughout the project. Additionally, everyone who participated in the Commitment/Orientation workshops received a travel bag with the project logo.

Management Support is Critical. All of this was possible due to the support from the Owner Project Manager throughout the project. The owners and contractors readily made their people available for workshops, planning and

coaching. The Project Manager personally participated in many of the workshops, including at night, on holidays and weekends. He proactively acknowledged individuals and companies for their contributions to the safety objectives.

Results

The Typhoon TLP Installation, Hookup and Commissioning was completed in 57 days. 121,088 man-hours were expended and there were ZERO recordable injuries on the project.

At the end of the project, many of the workers commented that this project had been a positive experience for them. They recognized this project had demonstrated a new level of safety performance and had yielded a high level of job satisfaction for workers at all levels.

Lessons Learned

The Typhoon project key lessons learned for an Incident and Injury-Free performance are as follows:

- Developing a culture for incident and injury-free performance within the project requires Leadership's authentic and personal commitment. This commitment needs to be backed up by Leadership's behaviors to impact workers' perceptions.
- Commitment needs to be spoken about in terms of people, versus metrics or statistics.
- The contacts and personal interaction of all levels of Project Management and Supervision demonstrate to the workers the true commitment to the effort. In this project, more focus on training and coaching all the supervisors would have assured more uniform personal involvement and demonstration throughout the project team.
- Injury free performance is more than simply having good safety programs. Good programs are an essential foundation, however injury free performance involves the workers giving their discretionary participation to safety at a level they may have never been asked to give before.
- To get the desired level of involvement from all workers, it is necessary to enroll all of the participants in the effort. Small groups (up to 50 people), when properly facilitated, allows for open discussion of commitments, past experiences and a sincere invitation from a "person" in Leadership, versus a Manager who is giving a safety speech.
- The Commitment/Orientation workshop for the workers is most effective if done just prior to start of work.
- Recognition, appreciation and praise of "safe" behaviors, practices and teamwork are essential to create and sustain an incident and injury-free culture. Awards should not be part of an announced plan of incentives for achieving milestones. The awards give workers a visible reminder of the commitment of Management.
- Coaching people who do not exhibit the project's safety values is needed to understand their perspective. When someone does not respond to coaching and they repeatedly

demonstrate their intention to not conform, they need to be removed from the worksite. This also can have an immediate positive impact on safe working practices and morale throughout the workforce.

Acknowledgements

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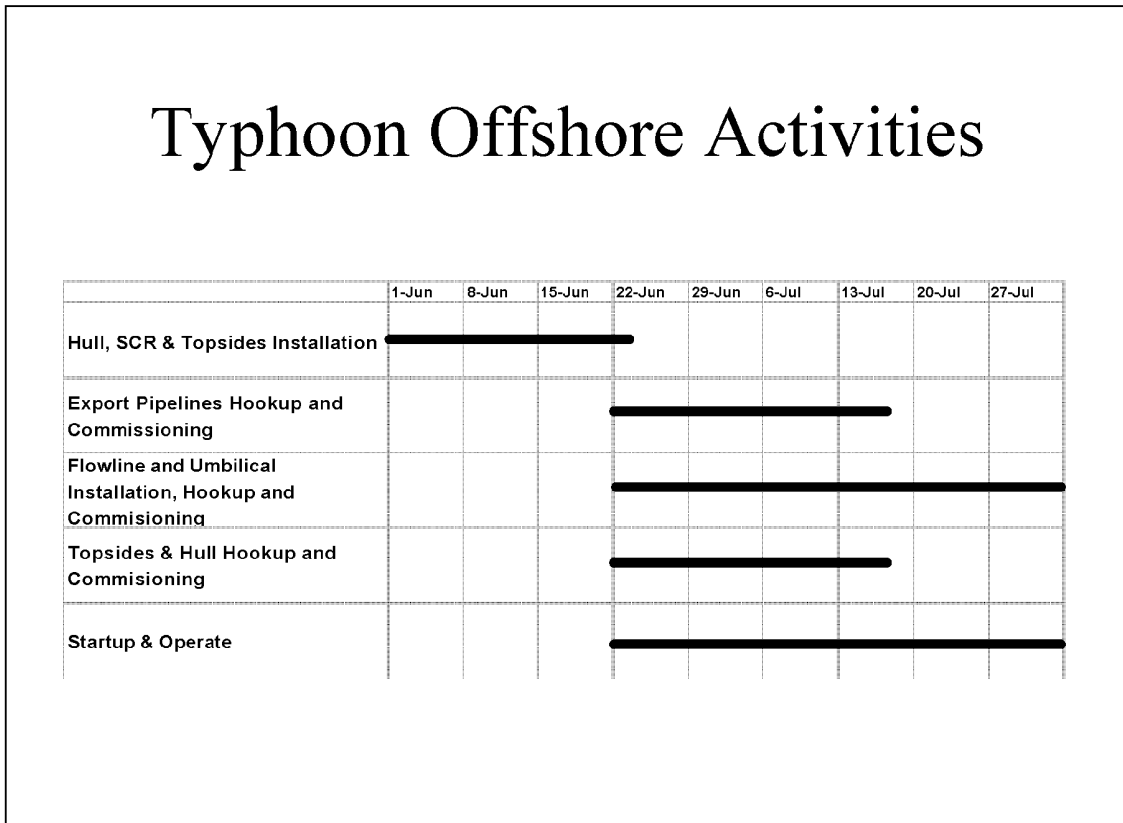


Figure 1

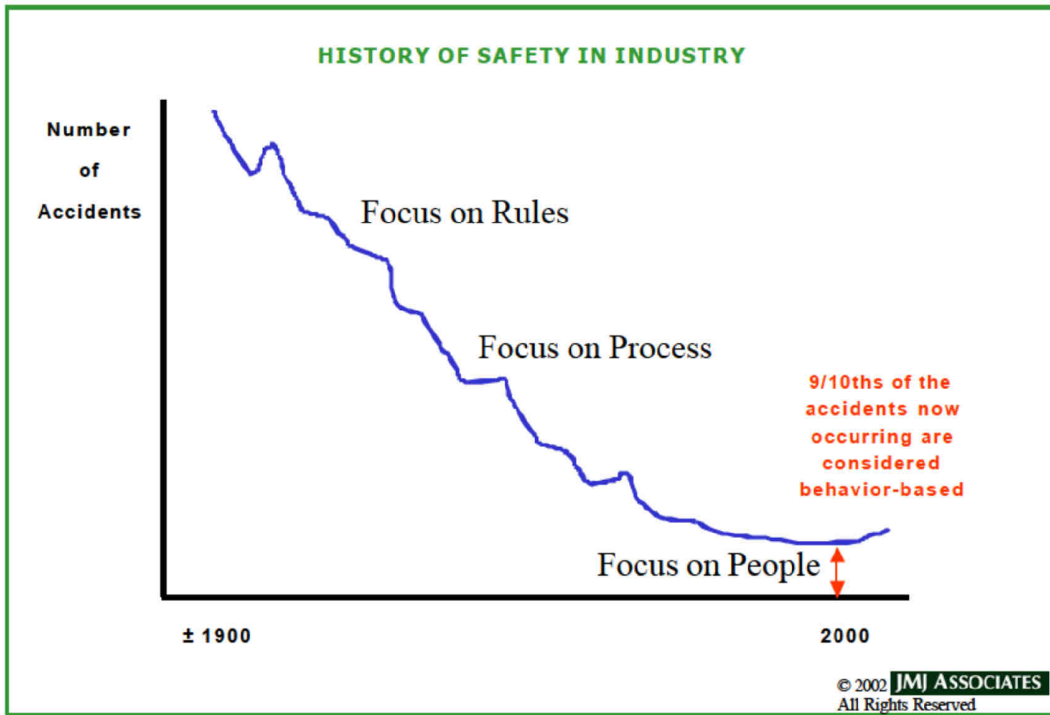


Figure 2

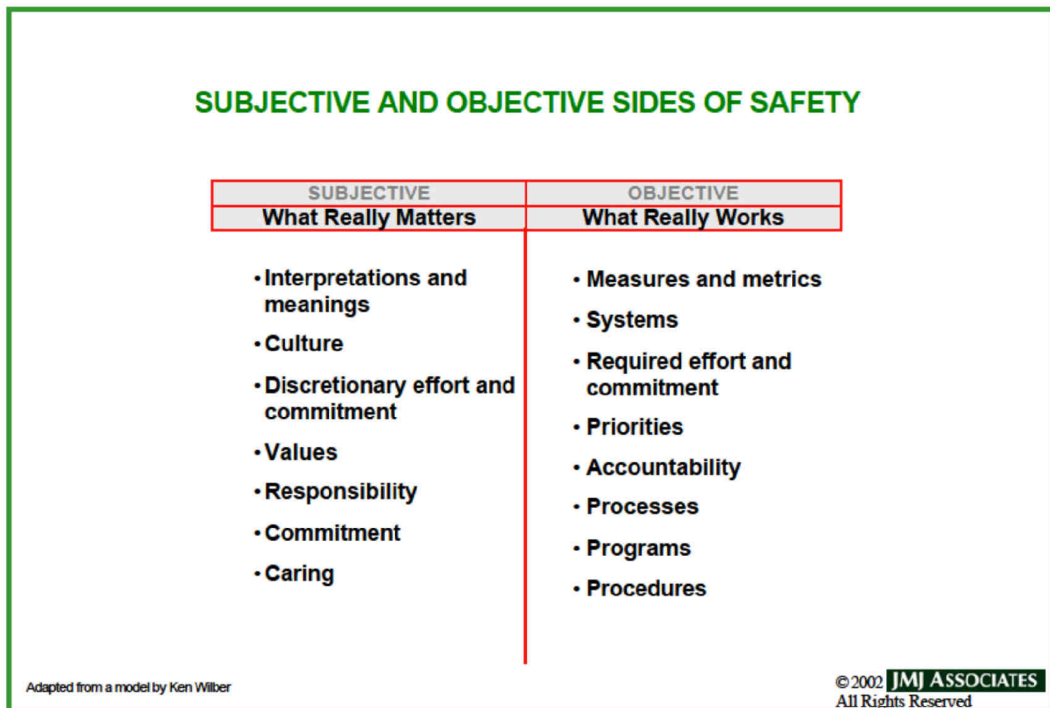


Figure 3

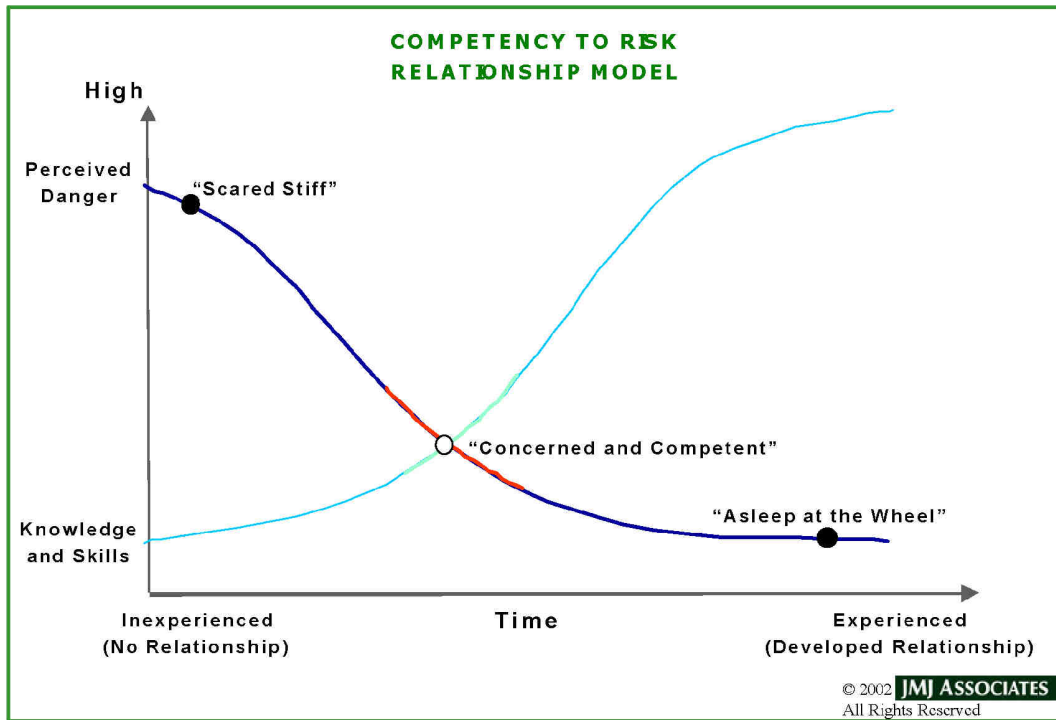


Figure 4

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| <p style="text-align: center;">TYPHOON OFFSHORE LEADERSHIP
FOR INCIDENT AND INJURY FREE
ON SITE TIP SHEET</p> <ol style="list-style-type: none"> 1. Be sincere. Do not do this as a "check the box activity." (Workers will smell this immediately.) 2. Do not spend your visit talking; primarily, spend your visit <u>listening</u>. Ask provocative questions and then shut up and listen. For instance, ask, "What most gets in your way of doing your job?" or "what is your idea(s) on how we can avoid incidents and injuries on the jobsite?" or "if you could change anything about working here ... what would you change?" 3. Build Relationships, get to know people, let them get to know you. Shake hands and make eye contact. 4. Let the worker(s) know who you are and what the purpose of your visit is (and what it is not). Do not have the visit show up as an inspection. 5. Do not make the workers wrong during the visit. Don't argue or debate. 6. Do declare your personal commitment to the elimination of worker injury because you want all workers to return to their families safely. | <ol style="list-style-type: none"> 7. Do acknowledge the frustrations the workers are facing (walk a mile in their shoes). 8. Do acknowledge the workers — for work safely, for doing good work, or for anything which is worthy of acknowledgment. 9. Speak up at pre-shift meetings; speak about what you are committed to. 10. Use personal testimonies to demonstrate your commitment. 11. Don't talk about statistics, talk about safety in terms of people. 12. Promote teamwork, talk about supporting other contractors. 13. STOP at risk work. "I have a concern about your safety, can we talk about it?" 14. You will be known by how well you Listen. 15. Follow through on promises, let them know what will be done by when. 16. Carve out 15 minutes a day to be in the galley to listen to concerns etc. 17. Leave them feeling that they would like to work with you again. 18. Do thank the workers for spending time with you and speaking honestly. |
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Figure 5