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REVIEW OF WORKING CONDITIONS IN THE OFFSHORE OIL INDUSTRY -1999

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Introduction

Dangerous working conditions have always been a feature of the maritime. But mariners down in the Gulf of Mexico were surprised when a supply boat collided with a crewboat injuring four persons in early morning fog on March 1999.[1] Barely two months earlier, that same supply boat had also collided with another crewboat injuring seven people and killing the master of the crewboat.[2] What struck the mariners most were the many similarities between the accidents. Both accidents occurred at roughly the same time, in the same foggy conditions, and the same spot off of Venice, Louisiana. Many of those mariners wondered if enough attention was being paid to accidents. They also wondered if there was something that could be done to prevent future accidents like them from occurring.

These mariners brought up the issue of safety in meetings with the Gulf Coast Mariners Association. The Gulf Coast Mariners Association (GCMA) is a non-profit organization based in Houma, Louisiana that is dedicated to representing and protecting the interests of working mariners in the Gulf of Mexico. In discussing offshore marine safety where many of them worked, it was clear they believed the offshore industry was very dangerous and that companies and regulators could and should do a better job to protect the livelihood and safety of the mariners that worked in the industry. In response to these talks, the members of the GCMA board voted to study safety in the offshore marine industry.

That report would try and focus on specific questions:

- How dangerous is the offshore industry and how does it compare to the rest of the marine industry. How does it compare to other jobs?
- How many accidents and injuries have happened in the industry? Is there a trend?
- What sort of accidents and injuries are happening?
- Why are these accidents happening?
- What regulatory agencies are involved and what is their role in safety issues?
- What can and should be done to improve safety in the industry?

This is that report. This study is only intended as a preliminary investigation but its findings are shocking. Mariners are almost 20 times more likely to die on the job than the national average making it one of the most dangerous jobs anywhere. Mariners in the offshore are also 2-3 times more likely to be involved in an accident, and 3-4 times more likely to be seriously injured or killed than the average mariner. There is also a potentially serious problem of underreporting by companies making it impossible for the Coast Guard to fully account for the hundreds of accidents that occur each year and therefore make the proper assessments regarding safety. Mariners also describe epidemic problems such as undermanning and fatigue, improper equipment and training, and company policies that de-prioritize safety as a major factor in accidents and injuries. These problems all point to the conclusion that the offshore industry is very dangerous and that for too long, regulator and employers have not paid sufficient attention to mariner safety.

Methodology

Unless otherwise noted, the data is from the Coast Guard Marine Safety Information System (MSIS). The term maritime industry refers to all U.S. flagged, non-recreational vessels. The term offshore service vessel (OSVs) refers

to vessels described by the Coast Guard as engaged in offshore supply vessel service or used for offshore supply or offshore transfer. The term offshore industry refers to the marine segment in which these vessels work. While Coast Guard descriptions do not exactly dovetail with industry definitions, these categories are the best approximations of the anchor handling tugs, supply boats, and liftboats.[3] The term "OSV accident" refers to vessel casualties involving OSVs such as collisions, fires, and so on. OSV injuries and deaths refer to personnel casualties involving workers hurt on these vessels. These categories can overlap. In some cases, OSV accidents may not result in a reportable injury. In other cases, reportable injuries may not be the result of an OSV accident. The term crewmen refers to mariners that actually work the boats and is distinct from those personnel that are passengers, or other functions not related to the vessel operation.

Overview

This study is divided into several sections. The section after examines federal statistics and compares maritime industry occupations to other occupations in the U.S economy. Coast Guard data is then used to compare the offshore industry to the whole maritime industry. A closer look at the industry leaders is taken next. Limitations of the Coast Guard data source are then discussed. Mariners then give their views on the problems of safety. The Coast Guard and the National Transportation Safety Board's roles in promoting offshore safety are described. Finally, a summary is given and recommendations are drawn.

The Offshore marine industry

Since a growing proportion of the earth's natural gas and crude oil is produced out at sea, the offshore marine industry is absolutely crucial. Around the clock, offshore service vessels bring critical supplies like drilling fluids, ferry crews and other workers, move drilling rigs, place anchors, and innumerable other tasks. These vessels make possible the exploration, drilling, and production that fuel the planet and keep it running.

The domestic offshore industry is heavily concentrated in the Gulf of Mexico, primarily offshore Louisiana, with a few offshore outposts scattered in Alaska and California. The Louisiana stretch of the Gulf of Mexico alone produces a fifth of all domestically produced natural gas, putting it just behind onshore Texas as the leading domestic gas-producing region. And the percentage of oil produced domestically that comes from the offshore is increasing as new discoveries are brought online.

Offshore service vessels come in a variety of sizes and capabilities from the smaller crewboats and the brawny anchor handling tug supply (AHTS) boats, to the fast twin-hulled SWATH boats and the multi-legged lift boats. The offshore marine industry employs an estimated 12-15 thousand people, the majority of which work on supply boats, the "workhorse" of the offshore industry, and crewboats.

The offshore market is fairly consolidated with a handful of companies dominating the market. Those companies are primarily industry leaders Tidewater and Seacor Smit, followed by the smaller companies Edison Chouest, and Trico.

Mariner Safety: It is not easy being a mariner.

According to the Coast Guard, 230 people are reported dead every year from accidents involving non-recreational, marine vessels. Another 1,800 persons are reported injured. According to the casualty records of those persons killed or injured, about three out of five work on the boat as crewmen.[5] The majority of non-crew deaths involve passengers and employees.

Even more surprising is the comparison of death rates between mariners and other occupations. According to the Department of Labor's most recently released statistics, workers in the marine transportation occupations are 20 times more likely to die from an occupational injury than the national average![6] Mariners are more than twice as likely to die as a construction worker is, over three times as likely as a truck driver is, and over 6 times as likely as a police officer. *(See Graph: Maritime workers are 20 times more likely to die at work than the national average).* While safety and working conditions have gradually improved over time in many other industries, in maritime, the estimated rate of fatalities increased 50% between 1994 and 1997. A closer look at the subcategory "sailors and deckhands" which excludes captains and mates shows even more shocking results. The death rate is almost 30 times the national death rate! These figures alone should set off alarm bells throughout the industry. Looking at the offshore industry specifically shows that it is even more dangerous than the industry average.

Disproportionately high number of deaths and injuries in the offshore.

It is important to keep in mind that the offshore industry is a small segment making up a minor fraction of the

entire U.S fleet. Yet, the offshore marine industry represents a disproportionately large number of the injuries and deaths. Coast Guard records show there are about 1,100 offshore service vessels. *See pie chart: OSVs make up only 1.5% of non-recreational, US. flagged fleet.* Offshore service vessels make up only 1.5% of the maritime industry, yet they are involved in 3% of all injuries and 4% of all deaths. This crudely means that people in the offshore are two to three times more likely to be injured or killed as should be expected from the number of vessels.

Of all personnel injured or killed in OSV-related accidents, two out of three are crewmen.[8] Therefore, the majority of persons injured or killed on OSVs work the boats, but mariner safety is also very important to the passengers they transport. Of those non-crewmen killed or injured, three out of five of them were employees, one in five worked on platforms, and another one in ten were passengers.[9]

Average Number of Casualty Events in a Year	**12**
Allisions (Bridge & Port Strikes)	41
Losses of Control	22
Collisions	20
Groundings	16
Structural Failures	11
Fires	10
Floodings	9
Personnel Casualties 13	8
Pollutions	7
Losses of Power	4
Sinkings	4
Abandonments	3
Not listed, Explosions, Removals	2
Capsizings	2

OSVs were involved in 13-14% of all accidents involving persons reported killed or injured in the Gulf. However almost 70% of all OSV deaths and 60% of OSV injuries occurred in the Gulf. This reflects not only the geographic concentration of the industry but also that the dangers of the offshore industry disproportionately affect the Gulf families and communities most of the mariners live in.

Reported injuries generally declined in the last seven years.[1]

However, twelve injuries were already reported in the first three months of 1999, suggesting that 1999 may show a marked increase from the 1998's total of 22. Although the number of reported injuries has fallen overall, this trend is not seen in the number of OSV-deaths. The years 1997 and 1998 recorded the highest number of fatalities in the study. *(See area graph of Offshore injuries and deaths, 1992-1998).*

The constant rolling and pitching motion of ocean waves and work on wet, slippery surfaces make falls the most common cause of OSV injury. The need to transport and move heavy steel pipes, food, and other supplies to and from offshore structures either manually and mechanically also contributes to the number of mariners injured by objects striking them. In fact, workers are more than twice as likely to be injured by object strikes on OSVs as other mariners. (See Pie Chart: Falls and object strikes were the primary causes of personnel injuries).

Back injuries were the single largest type of bodily injury, making up 1 in 5 of all injuries. The hand was the next largest part injured making up 16% of all cases, and head and neck injuries made up 1 in 9 of the injuries reported. These injury types critically emphasize the need for proper personal protective equipment as well as mechanical equipment like cranes and other devices that help mariners lift heavy objects to prevent costly and debilitating back injuries.

Of fatalities, asphyxiation, diving accidents, and falls respectively were the single largest causes of deaths. These incidents essentially describe drowning, a danger that mariners constantly face. (See Pie Chart: Drowning is the primary cause of death among mariners).

High Rates of OSV vessel accidents not getting any better.

Unlike injuries, the number of reported OSV accidents did not fall over time. 1998 posted one of the highest numbers of vessel accidents in this time period in spite of a general downturn in the oil market that kept many OSVs from working. For the seven year period studied, the number of vessel casualties involving OSVs generally floated between a 100 and 140 each year. (See Line Graph: OSV vessel accidents generally the same over time).

Since accidents usually are made up of a series of smaller events, the Coast Guard often refers to the "casualty events" that comprise it. For instance, a vessel can lose control causing it to collide with another vessel, in turn causing one of the boats to sink. This example lists three separate casualty events, each event part of the same accident or casualty case. Striking objects – allisions,[11] collisions, and groundings accounted for almost half of all casualty events involving OSVs. The majority of those strikes were allisions, making up a slight majority. (See Pie Chart: OSV Casualty Events by Type). The number of strikes has increased over time, with the most marked increase in allisions. (See Area Chart: Strikes increasing over time). Because allisions already account for the largest number of casualty events, it is alarming that there has been a general increase in the number of occurrences.

Strikes and other events are not uncommon. In an average year, there was a strike reported every 6 days.

The market leaders: The "Big 4"

The offshore service industry is fairly consolidated with a few companies that dominate the market. Tidewater

is the market leader with the largest fleet of OSVs in the Gulf. Most of Tidewater's 170 boats in the Gulf are supply boats giving it the leading market share for supply boats by a large margin. Seacor has the second largest vessel fleet in the world, operating some 30 supply boats and 140 crewboats in the Gulf, making it the niche leader for crewboats. Trico is a smaller player in the Gulf with about 70 supply boats, including some liftboats. Edison Chouest has a smaller fleet of OSVs but has been positioning itself to be the niche leader for larger deepwater supply boats. Chouest currently has about 40 boats in the Gulf and is building more.

Together, these four companies drive the offshore Gulf industry making up 34% of the OSVs. Tidewater has the largest market share of OSVs operating one in five of the vessels, followed by Seacor and Trico, then Chouest. Many OSVs are operated by smaller companies. According to the Coast Guard, 40% of the OSVs are registered to companies with less than 10 in their fleet. Because these four companies are the largest and drive the market, it's useful to look at their accident histories.

These four companies make up 38% of all OSV personnel deaths, 30% of all injuries, and 41% of all OSV vessel accidents. For these four companies, their OSV personnel death and vessel accident rate is slightly higher than the rest of the OSV industry while the industry rate is slightly lower.

While not all the accidents are from their offshore operations, the majority are. Chouest's OSVs and seismic vessels accounted for 85% of all accidents. Seacor's crew and OSVs accounted for 93%. Trico's OSVs accounted for 82%. Tidewater's OSVs accounted for 66% of its accidents with its towboats and tugs adding another 16%.

The following table lists the accident events involving the Big 4. (The next largest OSVs companies are Ensco and Hvide, then Cardinal and Sea Mar).

Total Reported Casualty Events by Tvpe,1992-1998				
Type	**Tidewater**	**Seacor**	**Chouest**	**Trico**
Allision	94	60	8	29
Collision	53	22	2	11
Fire	23	9	3	7
Flooding	14	6	3	6
Grounding	47	16	1	11
Loss Power	10			1
Loss Control	60	14	3	9
Personnel Casualties	62	72	16	33
Pollution	147	45	32	40
Sinkings & Capsizing	7	1		2
Structural Failures	20	8	1	9
Other, NEC	10	2		1

In general the number of accident types corresponds to the size of the company fleet. Hence Tidewater had the most reported accidents and Chouest has the fewest of this group.

Summary of statistical findings

Hence, in spite of being only a fraction of the maritime industry, the dangerous nature and rigorous demands the offshore industry places on its mariners have made it one of the most dangerous segments of maritime. Coast Guard statistics largely show that the number of OSV accidents reported has stayed roughly the same, in spite of a modest increase in object strikes, particularly by allisions. The statistics also show that although the number of OSV injuries reported has declined the number of deaths has not. In fact, the last two years not only recorded some of the highest numbers of deaths seen, it also shows the lowest number of injuries ever reported. These peculiarities force the question: Are fewer injuries actually occurring or are they simply not being reported? How reliable are these statistics?

The limitations of the Coast Guard data

The Coast Guard's Marine Safety Information System (MSIS) is the only source of information usable for comparing and analyzing accidents and injuries in the maritime industry and between specific types of vessels. Yet it is fraught with problems. One of the principal purposes of the MSIS is to enable the Coast Guard to investigate the causes of marine casualties and analyze the data in order to identify measures that will improve marine safety. In 1994, the Coast Guard studied the casualty investigation process and found numerous shortcomings with the system. They concluded that much of the information was "inaccurate, unreliable, and incomplete. [04]

They also found that because of the lags between the occurrence of a casualty and USCG notification of it, the time required to perform an on-scene investigation, and the logistics of getting to the scene, few casualties were actually investigated on-scene or in a timely fashion. Moreover, because casualty investigators were also regarded as enforcers, the report found that many of those being investigated were less than "forthcoming" in their depiction of the accident.

Federal regulations dealing with marine casualties are also vague in their descriptions of what "reportable" injuries are. A reportable injury is one that requires professional medical treatment beyond first aid and renders the individual unable to perform routine duties. Yet first aid is defined to allow nearly everything, including repeated visits that do

not require "medical care," even if a physician provides that treatment. Moreover reports are not required for "personnel seeking treatment after leaving the employment of the vessel." [5] These wide guidelines allow for almost any injury that doesn't require evacuation and does not physically incapacitate an individual to remain unreported. Because of these threshold levels, the Coast Guard considers any injury to be a "serious marine incident."

Although there are potential civil penalties and actions of misconduct that can result from a failure to report bona fide casualties, the chance of discovery is slight. As the Coast Guard allows companies and industries greater latitude to self-police themselves, fewer resources are spent on making sure that vessels pass basic safety checks and inspections. Companies have little incentive to report injuries, fearing liability and greater insurance premiums. Individual mariners may have even less incentive to report fearing retribution from their employers. Since much of the MSIS data comes from self-reporting, the combination of these factors is likely to result in serious underreporting.

Underreporting may also be the unintended result of company safety policies. To understand why, it is instructive to look at Tidewater's safety practices. A recent article states that offshore marine company, Tidewater Inc. claimed to have 96 lost-time accidents in fiscal year 1995 (ending March 31) and only 10 lost-time accidents in 1999.[16] The Coast Guard's MSIS however finds that for Tidewater and its subsidiaries' only 9 or 10 injuries and three deaths were reported in Tidewater's 1995 fiscal year. In 1999, one injury is reported.

There are many possible explanations for this. Some of the accidents recorded may have occurred on foreign vessels not under the jurisdiction of the Coast Guard. Some of Tidewater's lost time injuries may not be "reportable" by Coast Guard standards. However the ratio of one injury reported for every 10 lost work-time cases shows that there are many more serious injuries than would seem from the MSIS.

The decline in accidents recorded may not be due in fact to a better safety program but a program that actually results in poorer accounting. For instance, their safety program for example penalizes "operating areas" $175,000 for lost time accidents and facilities $25,000 for recordable injuries that do not result in lost time. The program also provides bonuses to operating units with lower numbers of reported injuries. These monetary penalties and rewards may have the unfortunate result of creating a tension that keeps personnel from being forthcoming about all the accidents and provide incentives for personnel to report fewer than actual accidents to the company, rather than improving company safety.

There are also other indicators of potential under reporting but perhaps the most is the number of court cases involving mariners suing companies for redress for injuries they sustained on the job.

Maritime injuries and the Jones Act

Federal law under the Jones Act provides benefits to workers who are injured on seagoing vessels in navigable waters. Benefits include maintenance, that is daily pay to workers who are unable to work pursuant to a doctor's order, and cure which means medical care, including hospital and drugs. The Jones Act however pits workers against their employers for address of their injuries.

What is most striking about the Jones Act and safety is the sheer number of cases involving mariner injuries. In 1998 alone, there were many cases involving mariner injuries filed against Tidewater in the state of Louisiana alone. This number exceeds the total number of injury cases recorded in the MSIS involving all OSVs!

These figures suggest that the real number of accidents involving the Big Four companies, is very large and the accidents cited in courts and those found in the MSIS are just the tip of the iceberg. Mariners may not file injury cases because they are afraid of tackling the judicial system, do not have enough money, may not even know that they can, or a whole host of other reasons. Some employers have threatened the jobs of injured mariners seeking to file, and tried to keep them from finding out how they can exercise their legal rights.

Personal Injury Cases filed in Louisiana Federal and Local Courts,				
Primary Accident Description	**Tidewater**	**Seacor**	**Trico**	**Chouest**
Falls	74	9	9	10
Crushed by an Object	10	7	2	2
Collisions, Injuries resulting from	15	2		1
Back Injuries	28	4	17	4
Deaths	7	1	2	
Injuries from Personnel Basket	16	6	3	
Struck by an Object	22	4	1	2
Injuries from being thrown	15	2		3
Other Injuries	14	1		3

Although some of these injuries may not have reached the "reportable" requirement hurdle, a quick reading of the case complaints showed not only a large number of injuries in absolute terms but also a large number of cases involving reportable casualties that are not in the MSIS. For example, out of 22 identified cases where a mariner was suing Tidewater for injuries that occurred as a result of a collision, only three appeared in the MSIS. These cases offer a peak at a much larger universe of cases. Not all the cases in Louisiana were

pulled, none of the cases in the other states were, and this only includes those cases where the events were described in the court complaints.

Hence this study can at best only serve to point out the tip of the iceberg. To reduce the number of accidents, it's important to ask the basic questions why they are happening.

Mariners talk about safety at sea: Why its dangerous

It has been estimated that 60-80% of marine casualties are caused by human related errors.[17] While not dismissing the responsibilities of mariners to operate their vessels responsibly, mariners point out that company practices are very important. "Every one says safety is job one, but few companies actually practice it," said one mariner. The most commonly heard complaints from worker interviews all stem from working conditions. They are fatigue, undermanning, lack of training, improper equipment, and lax company attitudes on safety.

Worked 'til Bone-Tired: Fatigue

In response to Department of Transportation (DOT) efforts on the issue of fatigue, the Coast Guard began addressing the issue of mariner fatigue but the majority of those efforts focused only on safety management personnel, masters, and pilots associations skipping working mariners and doing little to bring employers on board.

"I love my job and I love the company I work for but sometimes it seems like we're doing things that just don't make sense. I can't get rotated out like I'm supposed to sometimes. More than a few times, I've had to work three straight shifts. By the end of that I'm bone tired and about to start hallucinatin' but I'm trying the hardest I can" complained one mariner. A 1998 survey of mariners working in the towing and offshore industry in the Gulf revealed that almost 80% of those surveyed had not received any training in recognizing fatigue or dealing with the problem. Two-thirds said that they worked more than 80 hours a week.[18] Under these conditions, it's no surprise that fatigue is a common contributing cause of accidents.

Stretched Thin: Undermanning

Mariners also complain about undermanning of vessels. One mariner noted that "I seen the Certificate of Inspection saying what guys we need on the boat but the Company says that we don't need'em. I sure think I need'em sometimes," says ■, an Ordinary Seaman (OS). Mariners also reported that the newer boats, even though technologically advanced, need more people on board. ■■ of offshore supply boat company Edison Chouest says that the new OSVs are very impressive but "they just have so much going on, you need more people to work 'em not less. They're just so big."

Undermanning also is often a key safety concern in regards to watchkeeping forcing already fatigued people to vouch for the safety of the entire crew for extended periods without an available relief.

Lack of Training

Lack of proper training was also an issue. "I've worked for Tidewater for 25 years and I've only had one safety meeting. They tell me I can go take a course or whatever but they say I have to pay for it myself," says ■■■. They also noted that because of inadequate training by the company or the lack of qualified personal, the practical knowledge and skills of some people working on the boats was limited in essence effectively reducing the qualitative manning of the boat and causing a hazard for all on board.

Lack of training affected them in other ways too. Some of the cargo carried on OSVs is hazardous materials like drilling fluids yet many mariners felt they lacked the training in how to deal with them or how to respond to emergencies involving them.

Lack of Proper Equipment

Oftentimes the absence of necessary equipment means that mariners must use brawn to perform work best accomplished by machinery. For instance, one OS said that "I hurt my back so bad all I wanted to do was roll around in pain on the deck after I tried moving some stuff around that we should have had a crane to do."

Companies also often fail to supply the necessary personal protective gear. One mariner joked that it was difficult to get everything from gloves, rubber boots, and fire extinguishers, to toilet paper and spoons.

Company Attitudes

■■■■, an Able Seaman (AB) from Raceland, Louisiana summed it all up when he said "It's not really enough to say that safety is a priority. The company newsletter mentions safety in every issue, but what you need is a company

that really puts it in practice. A company that won't tell you to run in the fog, one that trains the dispatchers so they understand what it is they're asking you to do under what conditions, one that ain't bowing down to the company man when he says something stupid, and one that won't try to knock you over the head when you tell me that there's something dangerous on the boat that needs to be worked on. It's all basic stuff, a company policy where the bottom line isn't the only line."

The Coast Guard

There are two primary agencies that focus on marine safety. The Coast Guard is the principal agency that deals with mariners.[19] Among their many charges, the Coast Guard investigates and prosecutes marine casualty cases, enforces regulations, and performs inspections and examinations of vessels and licenses. As the Coast Guard is responsible for accomplishing these objectives, it is also responsible for their non-accomplishment. Most of the offshore marine industry is under the authority of the 8th District of the Coast Guard, specifically the New Orleans Marine Safety Office (MSO). The New Orleans MSO is the busiest of all the Coast Guard's MSOs.

To be sure, the Coast Guard hasn't turned a blind eye to the offshore, issuing several thousands of dollars in civil penalties to the Big Four companies for pollution spills coming from their OSV operations. However the total amounts of fines are laughable to these companies since they routinely bring in hundreds of millions of dollars in revenue each year. The Coast Guard should do more to show that it takes its stewardship of the marine environment and safety seriously.

Civil Penalties Issued to Big 4, 1992-1997		
Company	**# of Civil Penalties**	**Total Amount Paid**
Chouest	8	$13,500.00
Seacor	20	$21,075.00
Tidewater	6	$1,500.00
Trico	1	$2,375.00

For instance, while partnerships with individuals and organizations with common goals is a good way for the Coast Guard to be responsive, it is critically important that enforcement agencies like the Coast Guard maintain the highest possible standards when it comes to mariner safety. For example, the Coast Guard in the 8th District and the Offshore Marine Services Association (OMSA), an industry group, formed a task force to develop recommendations regarding the implementation of the 1995 amendments to the Standards for Training, Certification and Watchkeeping (STCW) Convention as applied to OSVs. The task force proposal however was almost entirely "coordinated by OMSA" and the culmination of that effort was a plan that would have reduced the number of hours spent on lectures, labs, and assessment for STCW certification from 522 hours to 359, a 31% reduction in time. The task force proposal would have, among other things, eliminated "lifeboatman" training, intermediate first aid, and cut in half the amount of training time devoted to emergency procedures. [20] OMSA, in its own words, was working to protect the industry from what they regarded as unnecessary and expensive regulatory requirements. Those requirements may save lives however.[21]

The 8th District has also spearheaded efforts such as the Streamlined Inspection Program (SIP), which gives away the responsibility of vessel inspections to vessel owners. Instead of the traditional Coast Guard inspection, the SIP allows certain personnel to conduct the majority of the required inspections. The Coast Guard then performs occasional inspections of "critical" vessel systems to verify the accuracy of the records. This considerably reduces the amount of onboard time necessary for Coast Guard inspectors. The Coast Guard notes however that "the SIP may not be suited for every company. This Program is intended for companies regardless of size, which have an absolute commitment to safety and which employ capable and dedicated vessel operating personnel.[22] Although it is premature to evaluate the effectiveness of the SIP for the offshore industry and the Coast Guard has yet to study this also, this study casts some doubt on the abilities of some companies to self-regulate themselves and fairly report their deficiencies.

The 8th District's heavy workload and an industry partnership that deemphasizes enforcement have combined to create a policing agency that hasn't sufficiently policed the offshore industry.[23]

The National Transportation Safety Board

The National Transportation Safety Board (NTSB) is an independent federal agency that has the authority to investigate marine accidents. The NTSB has no regulatory or enforcement authority and can only recommend corrective actions in order to prevent accident reoccurrences. The NTSB has the authority to perform "safety studies" on certain segments of the marine industry that seem prone to an above average number of accidents. As this study is only intended as a preliminary work, the NTSB should conduct a thorough safety study of the offshore marine industry. A useful study would pay attention to the concerns raised by mariners such as fatigue, manning, and equipment. The study would also examine the way that reporting is done and determine the quality and scope of the

data reported. The NTSB should also examine industry sponsored safety programs to determine the best programs to promote mariner safety.

Summary

In general, the marine industry is very dangerous and mariners are almost 20 times more likely to be killed on the job than the national average. Within the maritime sector, the offshore industry makes up a small segment. A disproportionately large number of accidents and injuries are attributed to the offshore industry, however. The Coast Guard statistics show that OSVs are 2-3 times more likely to be involved in a vessel accident and 3-4 times more likely to be involved in a personnel injury or death. Since 1992, there have been over 60 reported deaths and 340 reported injuries in OSV-related accidents. The majority of these injuries were due to falls. The majority of the deaths are due to drowning. If anything, the total number of accidents and injuries are seriously underreported. Most vessel accidents involve boats striking other boats, ports or facilities, or the ground. Roughly two out of three of all accidents involving OSVs occurred in the Gulf of Mexico.

There are a large number of companies that own OSVs however most are small, holding just a few boats each. There are few companies that drive the market.

Conclusion

OSVs play a vital role in the national economy. However, not enough attention has been focused on the dangers of their work. Rampant numbers of OSV injuries and accidents seemingly go unreported. Overworked, under-resourced, and too closely partnered with the industry it polices, the Coast Guard has left its watch with regard to offshore safety.

In general, the lessons learned from this study specific are as follows:

- It is difficult to understand and analyze marine safety without reasonable data. The MSIS data should be improved to more fully capture the extent of accident and injury that occurs. It should also be improved to allow the calculation of rates or trends that are necessary to compare safety in the industry and determine how it has been changing.
- The Coast Guard should rigorously enforce its regulations with regard to manning, reporting and others that impact mariner safety.
- Coast Guard partnerships should also work to create the safest marine environment and not shield companies and the industry from higher safety standards for mariners.
- The results of this study are preliminary ones. Much more needs to be done.
- OSV accidents are costly to human life and property. Accidents exact other costs as well. High accident rates potentially reduce productivity, strain labor management relations, create high turnover, raise insurance premiums, reduce customer loyalty, injure company reputations, negatively affect state, local, and federal permitting, reduce stock prices, and a host of other undesirable costs to business. Taking proactive steps to accident prevention will not only save lives but it will help create better companies, and a better offshore industry.

END NOTES

[1] "Four hurt when boats hit on river: small vessel hits supplier," The Times-Picayune, March 26, 1999. [2] "One dead, two hurt in crash near Venice," The Associated Press State & Local Wire, January 21, 1999; and USCG MSIS 1999:

[3] Coast Guard definitions are similar but not the same as industry definitions. The Coast Guard MSIS does not differentiate between vessels working and not working, and does not note region of operation, factors that industry analysts do take into account. Coast Guard and industry definitions of vessel types, and hence markets, also do not exactly coincide.

Supply boats, anchor handling tugs, utility boats, and liftboats are generally categorized in the Coast Guard database as vessels used in "offshore supply vessel" service. However it is much more difficult to define the offshore crewboat market. For instance, the Coast Guard alternately describes Seacor's crewboats as passenger vessels used for passenger purposes as well as offshore ones. The passenger category however is immense and includes many vessels and companies that neither operate offshore crewboats nor operate in the Gulf. Therefore although Seacor's annual report claims that it operates one-third of the smaller utility and crewboats in the Gulf, in the MSIS, Seacor's position with regard to the passenger market is very small.

[4] Personnel casualty cases involving U.S-flagged, non-recreational vessels from 1992-1998.

[5] Consists of persons with the status of steward department, deck and engine crews, deck and engine officers, masters, and tankermen.

[6] 1997 Census of Fatal Occupational Injuries. Department of Labor.

[7] According the Coast Guard, as of June 1999, there were some 969 U.S flagged vessels with valid documentation that

performed offshore supply vessel service. There are another 200 vessels that were used for offshore supply and offshore transfer purposes

8. Between 1992-1998.
9. The records are not clear if for whom the "employees" work.
10. Reported injuries should in almost all cases be assumed to be serious. The Coast Guard only requires injuries be reported if the person is required to seek repeated medical care beyond first aid. Because of this, the Coast Guard regards all reportable injuries as serious marine incidents.
11. Allisions are boat strikes with bridges or ports.
12. Between 1992 and 1998.
13. Refers only to personnel casualties that occur as a result of a vessel casualty
14. U.S. Coast Guard Marine Casualty Investigations and Reporting: Analysis and Recommendations for Improvement. Coast Guard Research and Development Center. Groton, CT. August 1994.
15. 46 Code of Federal Regulations 4.05-1(a)(6). And USCG website "What's A Reportable Marine Casualty" at http://www.aloha.net/-msohono/wcr.htm
16. "Program causing ebb in lost-time accidents," Business Insurance. September 27, 1999. Pg 3.
17. Perrow, 1984 cited from U.S. Coast Guard Marine Casualty Investigations and Reporting: Analysis and Recommendations for Improvement. Coast Guard Research and Development Center. Groton, CT. August 1994.
18. National Association of Maritime Educators Newsletter #74, September 1998. Pgs. 16-18.
19 OSHA has jurisdiction on uninspected vessels with regard to safety. OSVs are inspected vessels.
20. Report of the USCG/OMSA Task Force on the Implementation of the 1995 Amendments to the STCW Convention as Applied to Offshore Supply Vessels.
21. Source: OMSA
22. Source: USCG.
23. http://www.uscg.mil/d8/Divs/M/000D8M.HTM