COMMUNITY-BASED PARTNERSHIP TO MANAGE PARASAILING RISKS ALONG THE WEST COAST OF FLORIDA

Introduction

The west coast of Florida has environmental conditions that support a significant parasail industry. A 2002 analysis of parasail incidents performed by the United States Coast Guard (USCG) indicated that the west coast of Florida, in particular the area under the responsibility of the USCG Marine Safety Office (MSO) Tampa accounts for 27% of all parasail loss incidents in the United States for the 10-year period from January 1, 1992, through December 31, 2001. Honolulu is the only MSO to exceed the Tampa parasail loss record. Figure 1 shows the national and MSO Tampa 10-year totals of injured persons by types of initiating events. Figure 2 shows a run chart of the MSO Tampa reportable parasail incidents. At the national level, the infrequency of loss incidents (59 incidents for the 10-year period) does not make parasailing a priority safety concern. The historical parasail loss profiles for the nation and the MSO Tampa AOR appear in the four leftmost columns in Table 1. The impact and severity categories correspond to those used by the USCG to characterize significant risks in the marine transportation system.

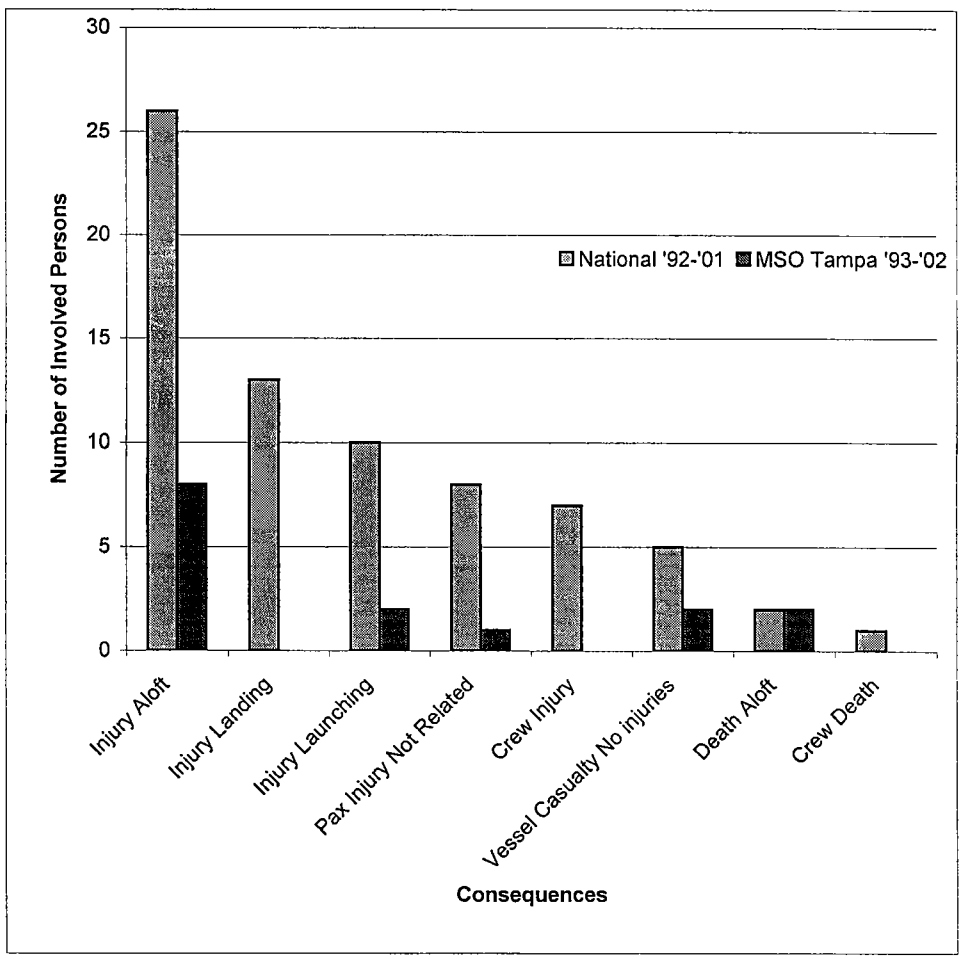

Figure 1. Total Number of Persons Impacted by Parasailing Incidents Nationally and in the AOR over a 10-year Period

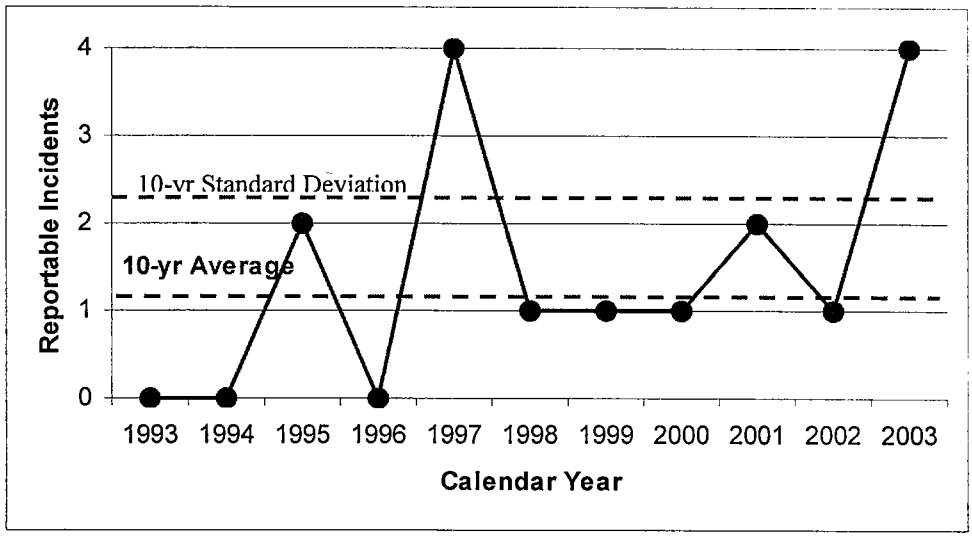

Figure 2. Total Reportable Parasailing Incidents in the AOR by Calendar Year

Table 1. Parasailing Incidents Characterized by Impact and Severity

	Historical Data				Potential Loss Exposure from Data		
National Profile 1992-2001							
Impact	**Below Threshold**	**Minor**	**Moderate**	**Substantial**	**High Potential for Minor**	**High Potential for Moderate**	**High Potential for Substantial**
People	40	7	0	3	11	11	7
Economic	8	0	0	0	1	0	0
Environment	0	2	0	0	0	0	0
AOR Profile 1993-2002							
People	7	0	0	2	2	3	1
Economic	2	0	0	0	0	0	0
Public Reaction	7		2				
AOR Profile 2003							
People	3	0	0	0	2	0	1
Economic	1	0	0	0	0	0	0
Public Reaction	4						

During 2001 a double fatality parasailing incident occurred in the MSO Tampa area of responsibility (AOR) and other reported incidents in the AOR had the potential for more severe consequences (see the three rightmost columns in Table 1). These losses and loss exposures indicated that local action to counter parasail risk in the MSO Tampa AOR was prudent.

Further analysis of historical data was performed to estimate the loss exposure for certain parasailing scenarios (Table 2). This analysis used summary data from all parasail incidents on file with USCG Headquarters between 1992 and 2001 inclusive and incidents reported to MSO Tampa in 2002 and 2003 to estimate the potential for loss beyond what actually occurred. A slight change in the sequence of events/conditions in a scenario could greatly alter its outcome.

Table 2. Loss Exposure Associated with Types of Loss Scenarios Based on Historical Data

Types of Loss Scenarios	Frequency of Effects				Risk Index Number (RIN)
	Impact to People is Less Than Minor*	Impact to People is Potentially Minor	Impact to People is Potentially Moderate	Impact to People is Potentially Substantial	
1. Towline failure • Fall from height • Rider jolted • Passenger struck	1	3	1	4	61
2. Exposure to excessive environmental conditions • Towline or other parasail equipment fails • Fall from height • Water landing • Rider dragged through water	2	3	2	2	61
3. Power failure • Water landing • Entanglement	0	0	2	1	60
4. Improper procedure • Excessive height • Shore landing	1	2	1	1	61
5. Inadequate lookout for navigation • Collision	1	0	2	0	5
6. Inadequate control of towline • Parasail equipment failure • Fall from height	2	0	1	0	5
7. Launch failure • Fall from height • Boat landing	1	0	1	0	5
8. Parasail equipment failure • Water landing	1	2	0	0	1
9. Inadequate lookout for parasail • Dragged through water • Entanglement	1	1	0	0	1
10. Retrieval failure • Rider struck	1	1	0	0	1
11. Inadequate warning for passengers	4	0	0	0	0
12. Inadequate guarding	2	0	0	0	0
13. Inadequate crew training	1	0	0	0	0

*Numbers in the shaded area are below the severity threshold used for computing the risk index number; therefore do not affect the RIN value.

In January 2004 MSO Tampa hosted a parasail vessel workshop to: (a) promote commercial parasail safety; and (b) provide an opportunity for the USCG and parasail industry to meet, partner, and share safety recommendations. About 122 parasail industry stakeholders from around the nation and the Caribbean participated. In February 2004 a tiger team of parasail operators, manufacturers, and USCG representatives met to develop a set of risk countermeasures (safeguards) that would form the basis of a voluntary parasail vessel examination program in the MSO Tampa AOR. The 12 participants used the Passenger Vessel Association (PVA) 10-step risk management process and considered three general safety concerns as described in Table 3. The process suggested 12 safeguards, and MSO Tampa representatives recommended two more. All appear in Table 4.

Table 3. General Areas of Safety Concern

Major Safety Concern	Focus Areas
Equipment Reliability	• Parasail rigging (yoke, winch, brake, and towline) • Vessel systems (propulsion and auxiliary power systems, hull and bilge systems, communication and navigation equipment)
Safe Operation	• Parasail launch, tow, and recovery (operating and emergency procedures, height and payout limits, crew training, and customer safety briefings/warnings) • Vessel navigation (situational awareness)
Safe Environment	• Weather awareness • Launch and recovery path/zone clearance for the parasail and the vessel

The U.S. parasail industry is primarily made up of small passenger vessels, both documented and uninspected. Through a voluntary examination process, similar to the USCG Commercial Fishing Vessel Safety Program, responsible parasail operators could receive information and third-party safety inspections. Those local operators who met all the requirements of the MSO Tampa voluntary examination would receive a decal signifying their conformance with safe practices. MSO Tampa hopes to begin offering the voluntary examinations by summer 2004.

The voluntary examination provides one activity that alone might be less than adequate in mitigating risk in this highly competitive, extreme sport industry. During the January 2004 workshop, participants expressed concern about rogue operators who "pushed the envelope" to attract customers. They also noted that compliance could be costly, making responsible operators charge more for safe rides, which would be economically disadvantageous. Thus a more holistic approach that applies many activities to motivate safe behaviors is recommended. Table 5 summarizes possible risk management activities. Table 6 restates the possible risk management activities by stakeholder involvement.

Table 4. Suggested Safeguards

Short Title and Description of Suggested Safeguards
O1 – Based on the vessel size, service, and type, the vessel has (a) passed the voluntary USCG uninspected passenger vessel (UPV) examination or (b) obtained the required USCG certificate of inspection (recommended by USCG representatives).
O2 – The company has an auditable qualification program for the vessel's USCG-licensed captain. The company has written certification of each captains' qualification to operate the vessel, in particular for parasail operations (i.e., launch, tow, and retrieval).
O3 – The company has an auditable crew qualification program for parasail operations and keeps all critical equipment operating instructions in a location that is readily accessible to the vessel crew. The company requires that the crew be periodically trained in safe parasail operations, which include how to properly match equipment to the parasail rider. The company has written certification of crew qualifications and requires logging of instructions and drills. Training logs include date, topic, instructor, and participants.
O4 – The company enforces policy for safe operations that includes having launch and retrieval restrictions based on (a) forecast weather conditions and (b) distances to other traffic and geographic hazards. Company limits conform to local ordinances or when none exist, the PAPO standard. The company requires logging of weather for morning and afternoon operations.
O5 – The company restricts parasail operations to a safe height (typical maximum height is 500 feet) and angle (typical angle is no more than 41 degrees). Company limits conform to restrictions set by the FAA or local ordinances whichever are more restrictive. When no government restrictions exist, company limits conform to PAPO standards. The company permits no more than 800 feet of towline on the parasail winch.
O6 – The crew maintains positive winch control during line payout and retrieval. The towline is secured to the winch drum by a non-mechanical means. The towline has end-of-line indicators. As measured from the point at which the towline is secured to the winch, a distinctive visual marking will warn when the last 100 feet and 50 feet of the towline is paid out. The marking is such that it does not harm the integrity of the towline.
E1 – The crew has ready access and is familiar with maintenance instructions. Critical equipment, the winch, towline, towline roller system, yoke, and sails are maintained in accordance with appropriate manufacturers instructions or PAPO standards. The company requires weekly trimming of 12 inches from the end of the towline that attaches to the parasail yoke. The company requires the logging of maintenance and repairs.
E2 – The company requires a designated competent person (typically the vessel captain) to periodically inspect critical equipment within the timeframe specified by the manufacturer(s). This includes a visual inspection of the towline for frays, flat spots, and other evidence of weaknesses. When doubt exists about the condition of the towline, the competent person seeks guidance from the manufacturer and the company replaces the towline as recommended. The company does not use a towline beyond a service life of 365 days. The company requires the logging of the inspections, their findings, and the dates towlines are replaced.
E3 – The company uses towline with a minimum tensile strength of 4,800 pounds. Towlines should be fitted with non-metallic chaffing devices and appropriate knots. The company uses a towline roller system that has at least one fairlead.
E4 – When not in use, parasail equipment is stowed in a manner and location that will not affect the reliability of the equipment.
E5 – The vessel has adequate railing and padding of guarding to reduce contact hazards to passengers (recommended by USCG representatives)
E6 – The vessel has at least one reliable VHF radio that can (a) monitor NWS forecasts and (b) send/receive and monitor Channel 16.
E7 – The company has invested in a winch system, which has technology that facilitates positive control (i.e., the winch has a hydraulic brake and a towline leveling system).
AO1 – The company has emergency procedures for parasailing. The crew is periodically trained in emergency procedures for parasailing. The company requires logging of instructions and drills, which includes date, topic, instructor, and participants.

Table 5. Possible Activities for Managing Parasailing Risks

General Strategy	Risk Management Activities
Spread loss exposure responsibility out among different entities	• Ask local authorities to get involved in regulating/permitting parasailing operations (i.e., set operating limits and enforce those limits). Possibly engage the CGAUX and other patrolling USCG assets to observe and report unsafe practices/violations. • Ask insurance companies to use verifiable conformance with industry best practices (e.g., meeting the requirements of the USCG voluntary examination or PAPO Operating Standards and Guidance) in determining company premiums.
Transfer – make others accept loss exposure responsibility	• Help customers self-select safer operators by informing the customers of parasailing safety concerns and what to expect from a safe operator.
Avoid - terminate activities that involve the highest risks	• Provide feedback systems for reporting safety complaints to the permitting authorities and insurers to alert them of unsafe operations that should be suspended/terminated. Help permitting authorities develop guidelines for suspending/terminating operator permits.
Reduce the risk	• Implement a voluntary safety examination and training outreach for the local parasail operators that will educate and test them on best practices. Establish a periodic voluntary safety recertification program.

Table 6. Suggested Risk Management Activities Sorted by Stakeholder

Description of Suggested Risk Management Activities
MSO Tampa-enabled activities
Operator-focused activities
• Best practices guidance
• Random check of operators for conformance to best practices
• Voluntary safety examination promotion and implementation
Customer-focused activities
• Awareness posters on risks and what to look for in a safe parasail operator
• Safety complaint telephone number
Local government-enabled activities
• Require and issue permits to operators o Location restriction o Time restriction o Weather restriction o Height of flight restriction o Verification of insurance o Responsible operator endorsement (PAPO Seal of Safety)
• Random check of operators to verify operations are within permit limitations
• Require posting of customer safety information
• Revoke or suspend operators for permit violations
Operator association-enabled activities
• Certification of responsible operators (issuance of PAPO Seal of Safety)
Local chambers of commerce/Better Business Bureau-enabled activities
• Customer awareness campaign
• Service complaint telephone number
Insurer-enabled activities
• Premiums based on safety performance record
• Require current PAPO Seal of Safety

Workshop Objective

MSO Tampa will host an April 2004 workshop of community stakeholders to begin building a partnership to manage parasailing risks. The workshop will review the importance of the suggested safeguards and ways that stakeholders can detect and influence safety performance within the parasailing industry. The workshop will also review measures that MSO Tampa may implement to track the success of this partnership.

Approach for Building a Community-based Partnership to Manage Parasailing Risks

Table 7 lists the process steps for building a community-based risk management strategy. MSO Tampa working with risk engineers from ABS Consulting began analyzing possible strategies using this process. The workshop will review and validate this effort.

Table 7. Process Steps for Building a Risk Management Strategy

Steps to building a set of activities to manage parasailing risk
1. Determine the safeguards that are needed to eliminate or reduce potential loss scenarios. Estimate the risk affected by these safeguards.
2. Determine activities that could ensure that the safeguards are implemented.
3. Map the activities to the safeguards. Estimate each activity's potential impact based on its ability to detect or react to safeguard deficiencies.
4. Evaluate the effectiveness of the activity to cause corrective action. In other words, how well can the activity influence safety performance improvements?
5. Evaluate the feasibility and cost of the activity.
6. Prioritize activities by (a) potential impact, (c) feasibility, and (d) cost.

Figure 3 summarizes the results of process step 1 performed by the MSO Tampa marine casualty investigator.

The MSO Tampa marine casualty investigator considered suggestions listed in Table 6 to propose specific activities to detect or react to safeguard deficiencies (step 2). Table 1-1 in Attachment 1 maps the proposed activities to the safeguards and scores their ability to detect or react to safeguard deficiencies (step 3). The scoring criteria are defined in Table 8. Workshop participants will be asked to review the proposed activities and validate the scores.

Then the investigator considered how well each proposed activity might influence safety performance within the parasail industry in the MSO Tampa AOR, the time it would take involved stakeholders to implement each activity, and the cost to implement each activity. This effort completed steps 4 and 5. Table 1-2 in Attachment 1 summarizes the results of those steps. The scoring criteria are defined in Tables 9, 10, and 11. Workshop participants will be asked to review and validate the scores.

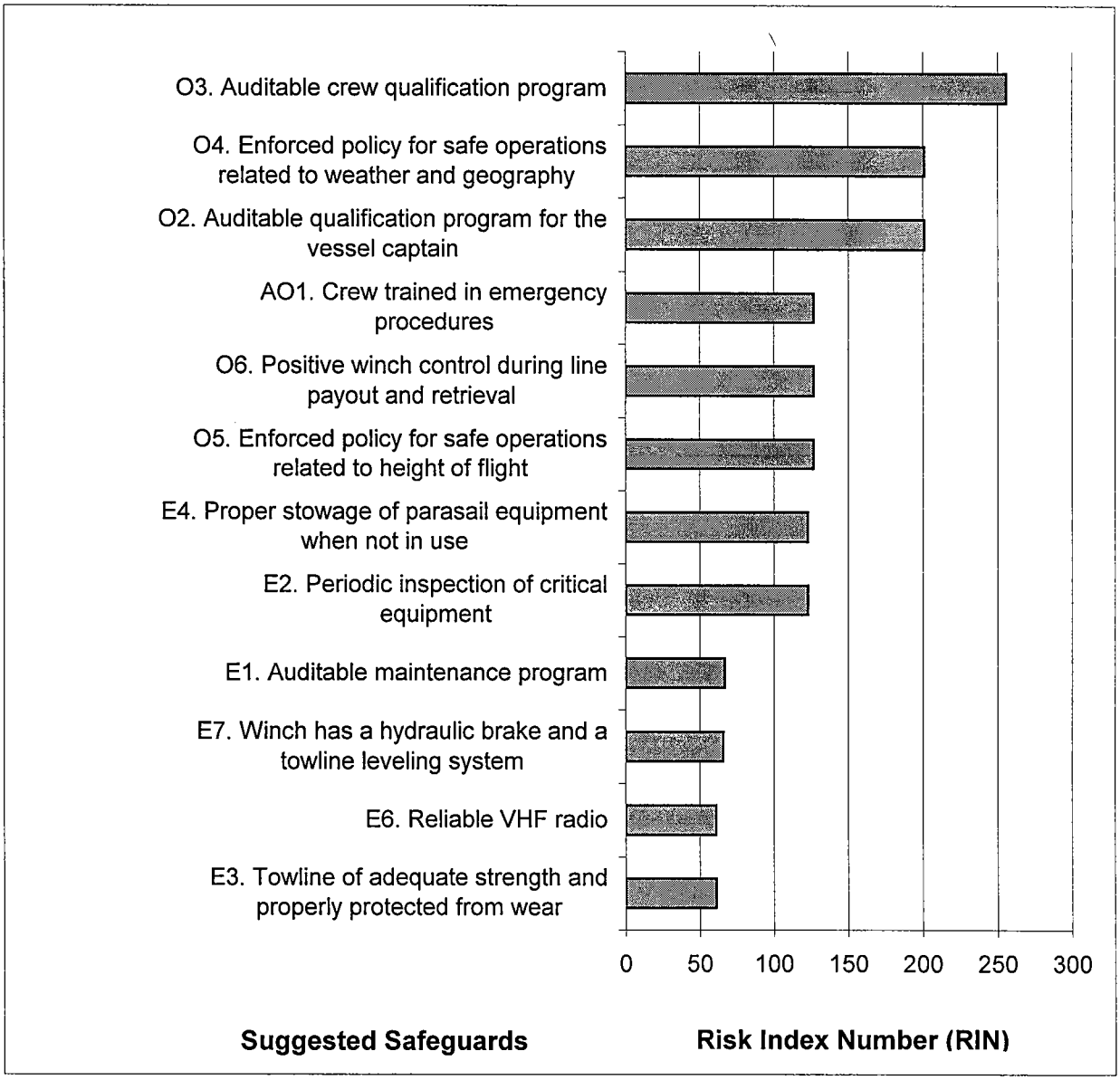

Figure 3. Risk (RIN) That May Be Affected by Suggested Safeguards

Table 8. Criteria for Scoring the Ability of an Activity to Detect or React to Safeguard Deficiencies

Term	Definition	Potential Risk Impact
High	Activity addresses **from 75% to all** elements that make up the safeguard.	More than 30% change in RIN (**Use 50% as a benchmark**)
Medium	Activity addresses **from 50% up to 75%** of the elements that make up the safeguard.	Between 3% and 30% change in RIN (**Use 10% as a benchmark**)
Low	Activity addresses **from 25% up to 50%** of the elements that make up the safeguard.	Between 0.3% and 3% change in RIN (**Use 1% as a benchmark**)
Very Low	Activity addresses **less than 25%** of the elements that make up the safeguard.	Between 0% and 0.3% change in RIN (**Use 0% as a benchmark**)

Table 9. Criteria for Scoring the Effectiveness of an Activity to Cause Corrective Action (i.e., Ability to Influence Safety Performance Improvements)

Term	Weight	Definition
Activity Effectiveness Scores		
High	100%	By conducting the activity we anticipate all or nearly all parasail operators to conform, maintain reliable safeguards, and thus significantly impact parasailing risk
Medium	50%	By conducting the activity we anticipate the majority of parasail operators to conform, maintain reliable safeguards, and thus moderately impact parasailing risk
Low	10%	By conducting the activity we anticipate a minority of parasail operators to conform, maintain reliable safeguards, and thus slightly impact parasailing risk
Levels of Certainty		
High		The majority of the participants judged that the level of effectiveness of the activity was not significantly influenced by variations in activity execution.
Low		The majority of the participants judged that the level of effectiveness of the activity could be influenced by variations in task execution.

Table 10. Criteria for Scoring the Feasibility of Implementing an Activity

Term	Weight	Definition
High	5	The activity can be fully implemented immediately or within 1 month.
Medium	3	The activity can be fully implemented between 1 and 6 months.
Low	1	The activity may take longer than 6 months to fully implement.

Table 11. Criteria for Scoring the Cost of Implementing/Maintaining an Activity

Term	Weight	Definition
High	1	The activity requires additional resources that are beyond the control of the organization.
Medium	3	The activity can be accomplished with prioritizing and/or restructuring of current organizational work and funds.
Low	5	The activity is affordable with current personnel and funding.

The final step of this building process prioritizes activities based on their perceived risk impact and ability to be implemented. Figure 4 is a tool that will be used to help prioritize stakeholder activities. Figure 4 uses the preliminary data produced from the pre-workshop analysis performed by MSO Tampa. The graph implies that the leftmost activities (i.e., USCG safety consulting, local government permitting, USCG observations, local government observations, and customer awareness campaigns) should be pursued but their implementation will likely take time. It also notes that the easier to implement activities will likely have limited impact on the safety performance of the parasail industry as a whole. Note that the graph is subject to change based on data derived during the workshop.

Participants will be asked to consider supporting the activities that they have as a group reviewed and validated. Figure 4 will be updated to reflect changes in priority. A preliminary action plan will be outlined to identify specific stakeholder needs, likely milestones, and appropriate action officers.

Approach for Building a Measurement System

Table 12 lists the process steps for building a measurement system. MSO Tampa working with risk engineers from ABS Consulting began analyzing possible measurements using this process. The workshop will review and validate this effort.

Table 12. Process Steps for Building the Measurement System

Steps for building a set of measurements to assess the impact of the risk management strategy
1. Involve stakeholders
2. Define the issues of interest to the stakeholders
3. Describe the usefulness of existing measures
4. Determine what actually needs to be measured. Obtain agreement of the stakeholders. • What metrics might best monitor the issues of interest? • How useful are the metrics? • Does the combination of metrics provide a successful measurement system?
5. Examine and establish techniques to obtain measurement data

The measurement system needs to be built by those personnel and organizations (i.e., stakeholders) that will supply the data, collect the data, and use the data to judge the effectiveness of the risk management strategy. Table 13 lists the likely stakeholders who may contribute to measurement and their possible roles.

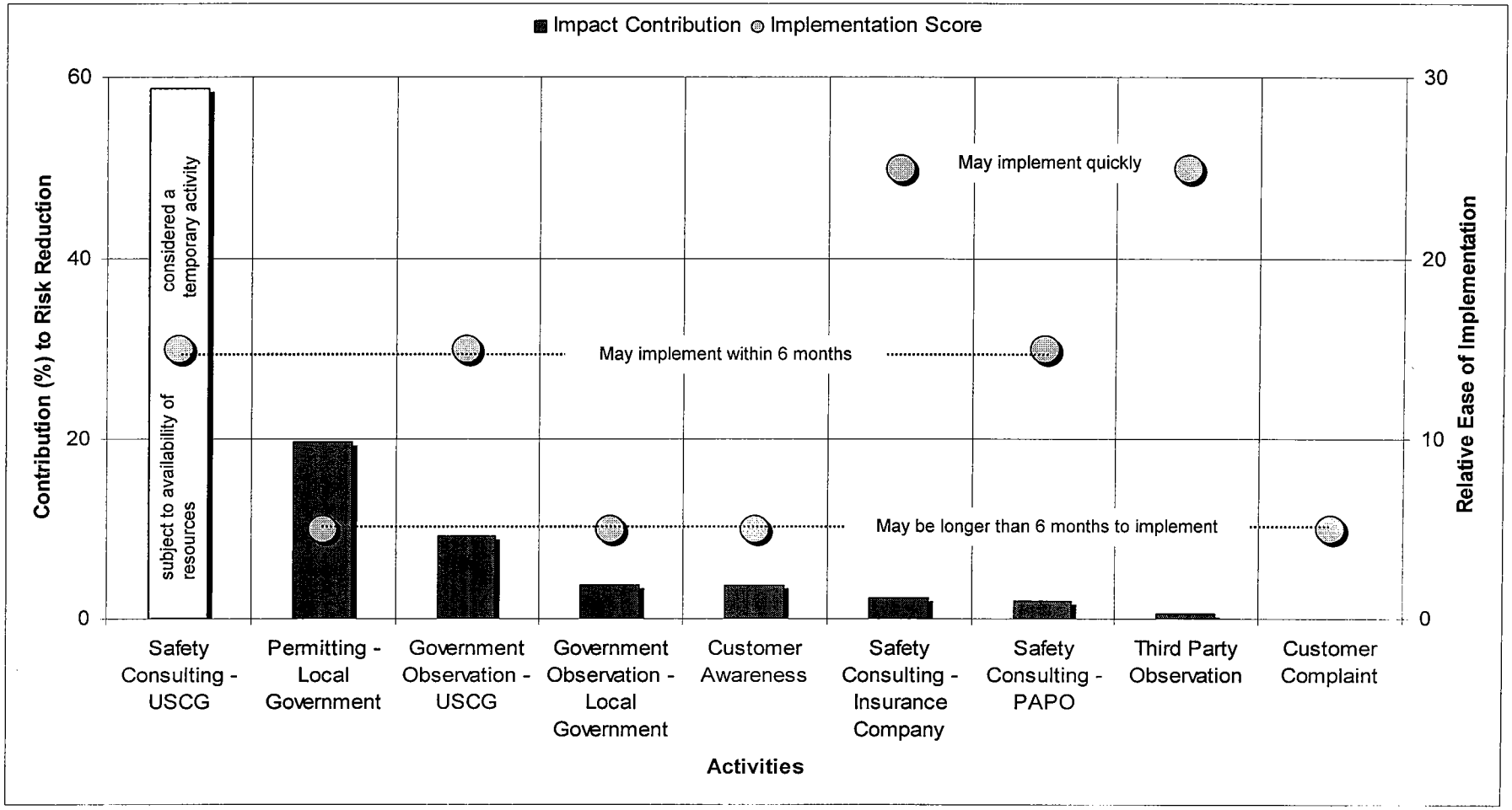

Figure 4. Potential Impact of and Effort Required to Implement Suggested Safeguards Based on Preliminary Data

Table 13. Likely Stakeholders and Their Roles

Likely Stakeholder	Possible Role		
	Decision Maker	Data Entry Support	Conduit for Data
Operator	Taking safe action	• Number of rides • Report of incidents	• Logbooks
PAPO		• Seal of Safety issued	• List of current seals
Insurer	Pricing insurance	• Claims processed	Unknown
Parasail Customer		• Observations • Complaints	
Local Tourism Board or Better Business Bureau			• Records of complaints and follow-up
Local Government	Permitting operations	• Permits	• Office records
Local Enforcement Authority		• Permit violations • Patrolling observations	• Docket • Interview of officers
State Government	Regulating industry		
Stations		• Patrolling observations	
CGAUX		• Patrolling observations • Dockside surveys	• Compiling data from multiple sources
Group			• Compiling station data
MSO	Determining safety emphasis areas	• Voluntary examination results	• Analyzing data from multiple sources

Issues of interest are those factors that influence how the stakeholders judge the performance of the risk management strategy or might inhibit the performance of the strategy. Table 14 lists the factors that might influence stakeholders. Table 15 lists the likely inhibitors to performance.

Table 14. Issues of Interest – Possible Factors Influencing Judgments

Stakeholder	Possible Factors Influencing Judgments
Operator	Profit in a market with fair competition; safety compliance is addressed in a way that does not disadvantage a responsible operator by making his/her services less attractive to customers than a noncompliant operator
PAPO	Intent on sustaining/growing the industry, and industry wide acceptance of OSAG standard and training
Insurers	Cost avoidance
Parasail Customer	Enjoyment and low risk of injury
Local Tourism Board	Ability to promote the sport as unique and safe, which provides the area with a marketing edge for tourism. Tourism is an important industry within the local economy.
Better Business Bureau	Consumer protection; help the customer resolve complaints
Local Government	Protect the public. Eliminate incidents that make the public question their safety
Local Enforcement Authority	Enforce general public safety; enforce special emphasis issues if funds are available and as directed by higher authorities
State Government	Protect the public. Eliminate incidents that make the citizenry question their safety. Promote initiatives that strengthen the tourism industry by eliminating bad press
USCG	Eliminate fatalities and reduce serious injuries in the marine transportation system

Table 15. Issues of Interest – Possible Inhibitors

	Possible inhibitors to achieving success in implementing activities
1.	Limited PAPO resources that can affect the process whereby operators can obtain the OSAG "Seal of Safety" endorsements
2.	Level of effectiveness of the complaint and redress processes (i.e., feedback that stimulates safety improvements) as administered by the following organizations • Parasail Safety Council • Professional Association of Parasail Operators • Better Business Bureau • Other local entities or partnerships
3.	Local governments permitting practices (i.e., uniform requirements throughout the AOR) and enforcement limitations (i.e., adequate, trained local enforcement authorities that provide adequate attention to parasailing operations)
4.	Level of insurance company support (i.e., accessibility of no-cost loss control consulting services, and establishment of safety incentives [e.g., rebates/discounts for optional safety devices and tiered premiums based on safety endorsements and claims record])
5.	Ability of Florida state legislature to pass industry regulations
6.	USCG safety enforcement limits and ability to implement a voluntary safety examination program

The building process first examines those measurements that are in place and how good the measures are in terms of (1) data quality and (2) level of effort required to collect the data. Table 16 summarizes the metrics that may be currently available. Qualitative scores (i.e., high and low) were assigned to the two criteria after considering the factors listed in Table 17. The scoring mechanism can be altered to meet the needs of the analysis team. The priority score is the result of entering the qualitative scores for the criteria into the selection matrix in Figure 5.

Table 16. Metrics That May Be in Place and Their Perceived Value

Metrics that may be in place	Perceived quality of data	Perceived level of effort to collect data	Priority of metric
Marine casualty reports	High	Low	1
Permit violations	High	Low	1
Seal of Safety endorsements	High	Low	1
Insurance claims	High	High	2
Customer Complaints	Low	Low	3

Table 17. Criteria for Ranking the Usefulness of Candidate Sources of Measurement Data

Term	Definition
Data quality	
High	The metric has a preponderance of the following attributes: • Data typically provide sufficient information to determine the actual loss or potential loss exposure that occurred, was mitigated, or eliminated • Data provide unique information • Limits can be set to alert the decision maker to take action • Information is detailed enough to understand, but not overwhelming
Low	The metric has a preponderance of the following attributes: • Data may not have sufficient information to determine the actual loss or potential loss exposure that occurred, was mitigated, or eliminated • Data provide information that may be available from other sources • Limits may be difficult to set to alert the decision maker to take action • Information may be too complicated or too detailed to be easy to understand
Level of effort required to collect the data	
High	Cost-effective; the perceived value of the information is more than the cost to collect
Low	Not cost-effective; the perceived value of the information is not worth the effort to collect

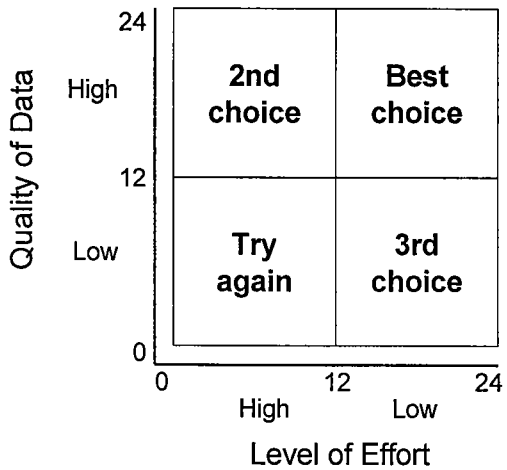

Figure 5. Selection Matrix for Candidate Sources of Measurement Data

Table 18 lists candidate metrics considered by MSO Tampa. The table identifies the measurement type, provides a short title for the metric, describes the information that the metric could provide decision makers, how the data might be collected, and the likely stakeholders that are involved in generating the information.

For metrics to be useful, they need to (1) address the previously stated issues of interest and (2) pass the previously described selection process. Addressing issues of interest means that the metrics need to be aligned with factors that influence stakeholder judgments and overcome known inhibitors. These issues will be discussed with stakeholders during the workshop.

Table 18. Candidate Metrics

Measurement Type	Metric Name	Information Generated	Collection Technique	Involved Stakeholder
Outcome	Fatalities	1. Reported fatalities/yr	CG 2692	USCG and operators
		2. Fatalities/parasail rides	CG 2692 and data call	
	Reportable Incidents	3. Injuries/yr	CG 2692	
		4. Injuries/parasail rides	CG 2692 and data call	
Loss Exposure	Potential Incidents	5. Potential losses/yr	Analysis result	USCG
		6. Potential losses/parasail rides		
	Examinations	7. # and potential severity of reportable incidents by operators with current decals/# of parasail rides given by those operators		
		8. # and potential severity of reportable incidents by operators without current decals/# of parasail rides given by those operators		
Process Activity	Examinations	9. Contacts hours/# of operators	Local records	USCG
		10. # of exams conducted/# of operators		
	Permits	11. # of permits issued/# of operators	Data call	Local government
		12. # of trained enforcement personnel		
	Aware customers	13. # of placards installed/# of operators	Direct observation	Third party (CGAUX)
Process Result	Examinations	14. # of operators holding current decals/# of operators	Local records	USCG
	Seal of Safety Endorsements	15. # of operators holding current endorsements/# of operators	Data call	PAPO
	Permits	16. Permit violations/parasail rides	Data call	Local government and operators
		17. # of permits revoked/# of operators	Data call	Local government
		18. # of permits revoked/yr		

Attachment 1

Table 1-1. Ability of Activities to Detect/React to Safeguard Deficiencies in the West Coast of Florida Parasailing Industry

Suggested parasailing safeguard	Number of the associated loss scenario (Table 2)	Total estimated risk* (RIN) of associated initiating events and causal factors	Activities for ensuring that safeguards are implemented	How well does the activity detect or react to safeguard deficiencies? (Table 9)	How often is this activity performed?	Amplifying information/assumptions about activities ability to detect safeguard discrepancies
O1 – Based on the vessel size, service, and type, the vessel has (a) passed the voluntary USCG uninspected passenger vessel (UPV) examination or (b) obtained the required USCG certificate of inspection.	9, 11	Not scored	Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes companies require current USCG examination decals or certificates of inspection prior to issuance of insurance policies to parasail operators.
			Safety Consulting - USCG	High	Annually	MSO Tampa conducts examinations and inspections, and issues to operators who meet all requirements either the UPV examination decal or certificate of inspection. The UPV decal or documented vessel certificate of inspection should be posted on the vessel's console.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes city governments require current UPV decals or certificates of inspections\ prior to issuance of business licenses to parasail operators.
			Customer Awareness	Medium	Daily	This risk management strategy assumes customers, who are sensitized to safety, will request safety assurances in their decision to use a specific operator. Customers receive a just-in-time warning to check for current UPV decal or certificate of inspection. This warning is a checklist that is, as a minimum, posted at the embarkation point to the parasail vessel.
			Customer Complaint	Very Low	Annually	Complaints about the safety of the vessel, not the parasail operation, will typically be reports of adverse outcomes (e.g., taking on water), not discrepancies (e.g., inoperative bilge pump). The numbers to report safety concerns and service complaints could be included with just-in-time customer warnings.

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O2 - The company has an auditable qualification program for the vessel's USCG-licensed captain. The company has written certification of each captains' qualification to operate the vessel, in particular for parasail operations (i.e., launch, tow, and retrieval).	1, 2, 4, 5, 6, 7, 8, 9, 10, 13	201	Safety Consulting - PAPO	Medium	Annually	PAPO has operating standards and guidance (OSAG) that specify a qualification program, flight training curriculum (Note: the PAPO training delivery system is not fully implemented), and an on-line test to document basic awareness. This risk management strategy assumes PAPO implements flight training, conducts testing of in-depth knowledge, and requires adequate documentation of OSAG conformance before issuing PAPO Seals of Safety (seals) to operators. The PAPO seal should be posted on the vessels' console.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators. This strategy further assumes the companies prefer the nationally recognized PAPO OSAG and endorsement process as compared to the locally recognized MSO Tampa standard and examination process.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination. Operators who meet all examination criteria are issued a MSO Tampa decal that is valid for 2 years. MSO Tampa intends to perform a 1-year spot check of decal holders. Uncorrected discrepancies detected during the spot check would result in decal revocation. The decal should be posted on the vessel's console.
			Customer Awareness	Medium	Daily	Customers request safety assurances in decision to use a specific operator. This strategy assumes that customers receive a just-in-time warning to check for a current MSO Tampa decal or current PAPO seal. This warning may be in the form of a checklist that is, as a minimum, posted at the embarkation point to the parasail vessel.
			Customer Complaint	Very Low	Annually	Complaints about the safety of parasail operation typically are associated with adverse outcomes (e.g., injuries). Customers typically do not have the knowledge to detect nonconformance with best practices. The numbers to report safety concerns and service complaints could be included with just-in-time customer warnings.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes that city governments require current MSO Tampa decals or current PAPO seals prior to issuance of business licenses to parasail operators.

Table 1-1. Ability of Activities to Detect/React to Safeguard Deficiencies in the West Coast of Florida Parasailing Industry

Suggested parasailing safeguard	Number of the associated loss scenario (Table 2)	Total estimated risk* (RIN) of associated initiating events and causal factors	Activities for ensuring that safeguards are implemented	How well does the activity detect or react to safeguard deficiencies? (Table 9)	How often is this activity performed?	Amplifying information/assumptions about activities ability to detect safeguard discrepancies
O3 – The company has an auditable crew qualification program for parasail operations and keeps all critical equipment operating instructions in a location that is readily accessible to the vessel crew. The company requires that the crew be periodically trained in safe parasail operations, which include how to properly match equipment to the parasail rider. The company has written certification of crew qualifications and requires logging of instructions and drills. Training logs include date, topic, instructor, and participants.	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 13	256	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires crew qualification and certification. OSAG conformance neither requires a company training program and training log nor operating instructions readily accessible to the crew. This risk management strategy assumes that the statuses of these OSAG elements do not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.
			Permitting - Local Government	High	Annually	This risk management strategy assumes that city governments require current MSO Tampa decals prior to issuance of business permits to parasail operators.
				Medium	Annually	This risk management strategy assumes that city governments require PAPO seals prior to issuance of business licenses to parasail operators.
			Customer Awareness	Medium	Daily	Customers request safety assurances in decision to use a specific operator. This strategy assumes that customers receive a just-in-time warning to check for a current MSO Tampa decal or current PAPO seal.
			Customer Complaint	Very Low	Annually	Complaints about the safety of parasail operation typically are associated with adverse outcomes (e.g., injuries). Customers typically do not have the knowledge to detect nonconformance with best practices. The numbers to report safety concerns and service complaints could be included with just-in-time customer warnings.

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Suggested parasailing safeguard	Number of the associated loss scenario (Table 2)	Total estimated risk* (RIN) of associated initiating events and causal factors	Activities for ensuring that safeguards are implemented	How well does the activity detect or react to safeguard deficiencies? (Table 9)	How often is this activity performed?	Amplifying information/assumptions about activities ability to detect safeguard discrepancies
O4 – The company enforces policy for safe operations that includes having launch and retrieval restrictions based on (a) forecast weather conditions and (b) distances to other traffic and geographic hazards. Company limits conform to local ordinances or when none exist, the PAPO standard. The company requires logging of weather for morning and afternoon operations.	1, 2, 4, 5, 6, 7, 8, 9, 10, 13	201	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires this safeguard to be in place; however, PAPO has no independent means of verifying conformance before issuing its seals to operators. This risk management strategy assumes that the OSAG endorsement process does not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes that city governments permit parasail operations for specific times, locations, and weather conditions. As a minimum, the permit would restrict operations to distances in excess of 600 feet from the shoreline and not closer than 1000 feet during onshore breezes. Parasail operations would not be permitted during sustained winds greater than 20 knots.
				Low	Annually	This risk management assumes that city governments permit parasail operations for specific times and locations. As a minimum, the permit would restrict operations to distances further than 600 feet from the shoreline.
			Customer Awareness	Very Low	Daily	Customers request safety assurances in decision to use a specific operator. This strategy assumes that customers receive a just-in-time warning that city ordinances require the parasail to be no closer than 600 from the shoreline and that parasail operations are unsafe in sustained winds greater than 20 knots.
			Government Observation - USCG	High	Monthly	Local USCG/CGAUX units are trained to detect location and weather-related nonconformance to OSAG and city ordinances. USCG/CGAUX will monitor parasail operations during routine patrols/activities as a collateral duty. Additional resources will not be provided to enforce compliance. If nonconformance is observed, USCG/CGAUX will collect evidence and report the event to responsible parties (i.e., PAPO, city government, and MSO Tampa investigations department).

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O4 (cont'd)			Government Observation - Local Government	Medium	Weekly	This risk management strategy assumes that (a) city enforcement authorities (afloat and shore side units) are trained with the help of USCG/CGAUX to detect violations of business permits, (b) the business licenses permit parasail operations for specific times, locations, and weather conditions, and (c) the city has an administrative process for suspending/revoking parasail business licenses.
				Low	Weekly	This risk management strategy assumes that (a) city enforcement authorities (afloat and shore side units) are trained with the help of the USCG/CGAUX to detect violations of business permits, (b) the business licenses permit parasail operations for specific times and locations, and (c) the city has an administrative process for suspending/revoking parasail business licenses.
			Third Party Observation	Low	Daily	This risk management strategy assumes that competitors may report gross violations of city ordinances and alert MSO Tampa to grossly negligent operators. This risk management strategy will advise parasail operators of evidence requirements to facilitate enforcement authority.

Table 1-1. Ability of Activities to Detect/React to Safeguard Deficiencies in the West Coast of Florida Parasailing Industry

Suggested parasailing safeguard	Number of the associated loss scenario (Table 2)	Total estimated risk* (RIN) of associated initiating events and causal factors	Activities for ensuring that safeguards are implemented	How well does the activity detect or react to safeguard deficiencies? (Table 9)	How often is this activity performed?	Amplifying information/assumptions about activities ability to detect safeguard discrepancies
O5 - The company restricts parasail operations to a safe height (typical maximum height is 500 feet) and angle (typical angle is no more than 41 degrees). Company limits conform to restrictions set by the FAA or local ordinances whichever are more restrictive. When no government restrictions exist, company limits conform to PAPO standards. The company permits no more than 800 feet of towline on the parasail winch.	1, 4, 6	127	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires this safeguard to be in place; however, PAPO has no independent means of verifying conformance before issuing its seals to operators. This risk management strategy assumes that the OSAG endorsement process does not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	Medium	Annually	Check is part of the voluntary MSO Tampa examination.
			Permitting - Local Government	Low	Annually	This risk management strategy assumes city governments (a) limit towline payout and maximum towline carried on vessel winches and (b) require markings that facilitate detection of payout violations [e.g., as measured from the bitter end of the towline that attaches to the parasail yoke, towline in excess of 600 feet would be colored bright orange]. Because the maximum acceptable angle for safe parasail flight is a function of several factors, this risk management strategy assumes the permit would not address that part of the safeguard.
			Government Observation - USCG	Medium	Weekly	Local USCG/CGAUX units are trained to detect when the parasail is noticeably higher than permitted by OSAG and city ordinances. USCG/CGAUX will monitor parasail operations during routine patrols/activities as a collateral duty. Additional resources will not be provided to enforce compliance. If nonconformance is observed, USCG/CGAUX will collect evidence and report the event to responsible parties (i.e., PAPO, city government, and MSO Tampa investigations department).
			Government Observation - Local Government	Low	Weekly	This risk management strategy assumes that (a) city enforcement authorities (afloat and shore side units) are trained with the help of the USCG/CGAUX to detect violations of business permits, (b) the business licenses limit parasail towline payout, and (c) the city has an administrative process for suspending/revoking parasail business licenses.
			Third Party Observation	Low	Daily	This risk management strategy assumes that competitors may report gross violations of city ordinances and alert MSO Tampa to grossly negligent operators. This risk management strategy will advise parasail operators of evidence requirements to facilitate enforcement authority.

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Suggested parasailing safeguard	Number of the associated loss scenario (Table 2)	Total estimated risk* (RIN) of associated initiating events and causal factors	Activities for ensuring that safeguards are implemented	How well does the activity detect or react to safeguard deficiencies? (Table 9)	How often is this activity performed?	Amplifying information/assumptions about activities ability to detect safeguard discrepancies
O6 – The crew maintains positive winch control during line payout and retrieval. The towline is secured to the winch drum by a non-mechanical means. The towline has end-of-line indicators. As measured from the point at which the towline is secured to the winch, a distinctive visual marking will warn when the last 100 feet and 50 feet of the towline is paid out. The marking is such that it does not harm the integrity of the towline.	1, 4, 6	127	Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current USCG decals prior to issuance of policies to parasail operators. OSAG does not specifically address this safeguard.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes that city governments require current MSO Tampa decals prior to issuance of business permits to parasail operators.
E1 - The crew has ready access and is familiar with maintenance instructions. Critical equipment, the winch, towline, towline roller system, yoke, and sails are maintained in accordance with appropriate manufacturers instructions or PAPO standards. The company requires weekly trimming of 12 inches from the end of the towline that attaches to the parasail yoke. The company requires the logging of maintenance and repairs.	1, 6, 8, 13	67	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires a maintenance program; however, PAPO has no independent means of verifying conformance before issuing its seals to operators. Also PAPO requires weekly trimming a minimum of 6 inches vice 12 inches. This risk management strategy assumes that the OSAG and its endorsement process do not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination. The MSO Tampa examination will review maintenance logs for conformance.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes that city governments require current MSO Tampa decals prior to issuance of business permits to parasail operators.

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E2 – The company requires a designated competent person (typically the vessel captain) to periodically inspect critical equipment within the timeframe specified by the manufacturer(s). This includes a visual inspection of the towline for frays, flat spots, and other evidence of weaknesses. When doubt exists about the condition of the towline, the competent person seeks guidance from the manufacturer and the company replaces the towline as recommended. The company does not use a towline beyond a service life of 365 days. The company requires the logging of the inspections, their findings, and the dates towlines are replaced.	1, 2, 8	123	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires the vessel captain to conduct inspections. All safeguard components are addressed except for the annual replacement of the towline. PAPO has no independent means of verifying conformance before issuing its seals to operators. This risk management strategy assumes that the OSAG and its endorsement process do not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination. The MSO Tampa examination will review maintenance and inspection logs for conformance.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes that city governments would current MSO Tampa decals or current PAPO seals prior to issuance of business licenses to parasail operators.
E3 - The company uses towline with a minimum tensile strength of 4,800 pounds. Towlines should be fitted with non-metallic chaffing devices and appropriate knots. The company uses a towline roller system that has at least one fairlead.	1	61	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires this safeguard to be in place; however, PAPO has no independent means of verifying conformance before issuing its seals to operators. This risk management strategy assumes that the OSAG endorsement process does not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes that city governments require current MSO Tampa decals or current PAPO seals prior to issuance of business licenses to parasail operators.

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Suggested parasailing safeguard	Number of the associated loss scenario (Table 2)	Total estimated risk* (RIN) of associated initiating events and causal factors	Activities for ensuring that safeguards are implemented	How well does the activity detect or react to safeguard deficiencies? (Table 9)	How often is this activity performed?	Amplifying information/assumptions about activities ability to detect safeguard discrepancies
E4 - When not in use, parasail equipment is stowed in a manner and location that will not affect the reliability of the equipment.	1, 2, 8	123	Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.
E5 - The vessel has adequate railing and padding of guarding to reduce contact hazards to passengers.	12	0	Safety Consulting - USCG	Very Low	Annually	A decision to include this check as part of the voluntary MSO Tampa examination has not been made.
			Customer Complaint	Low	Monthly	Complaints about the safety of parasail operation typically are associated with adverse outcomes (i.e., injuries). This risk management strategy assumes that customers will (1) file insurance claims and, if the method is known (2) may report incidents to the local Better Business Bureau. The numbers to report safety concerns and service complaints could be included with just-in-time customer warnings.
E6 – The vessel has at least one reliable VHF radio that can (a) monitor NWS forecasts and (b) send/receive and monitor Channel 16.	2	61	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires this safeguard to be in place; however, PAPO has no independent means of verifying conformance before issuing its seals to operators. This risk management strategy assumes that the OSAG endorsement process does not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.

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E7 - The company has invested in a winch system, which has technology that facilitates positive control (i.e., the winch has a hydraulic brake and a towline leveling system).	1, 6	66	Safety Consulting - PAPO	Low	Annually	OSAG conformance requires towline guides and a towline stop; however, PAPO does not require winch technology as described, and has no independent means of certifying conformance before issuing its seals to operators. The risk management strategy assumes no change to the OSAG or the endorsement process. Note: MSO Tampa will request PAPO to modify its OSAG to require winch technology as described in the safeguard.
			Safety Consulting - Insurance Company	Low	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators. Note: If PAPO does not require technology as described in the safeguard, MSO Tampa may encourage the companies to offer discounts to operators who upgrade substandard winches.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.
			Permitting - Local Government	Medium	Annually	This risk management strategy assumes that city governments require winch technology as described in this safeguard. Note: This specific requirement would be redundant if (a) the parasail operator license requires a current MSO Tampa decal, or (b) PAPO decides to require the technology and the parasail operator license requires a current PAPO seal.
AO1 - The company has emergency procedures for parasailing. The crew is periodically trained in emergency procedures for parasailing. The company requires logging of instructions and drills, which includes date, topic, instructor, and participants.	2, 4, 6, 13	127	Safety Consulting - PAPO	Medium	Annually	OSAG conformance requires this safeguard to be in place; however, PAPO has no independent means of verifying conformance before issuing its seals to operators. This risk management strategy assumes that the OSAG endorsement process does not change.
			Safety Consulting - Insurance Company	Medium	Annually	This risk management strategy assumes that companies require current PAPO seals prior to issuance of policies to parasail operators.
			Safety Consulting - USCG	High	Annually	Check is part of the voluntary MSO Tampa examination.

* Sum of the RIN [rightmost column in Table 2] for each cited loss scenario.

Table 1-2. Ability of Activities to Influence Safety Performance within the West Coast of Florida Parasailing Industry

Activity for ensuring that safeguards are implemented	Amplifying remarks about activity implementation	How well does the activity influence safety performance improvements within the parasail industry?			Feasibility to implement activity		Relative cost to implement activity	
		Effectiveness	Certainty	Comments	Score	Comments	Score	Comments
Safety Consulting - PAPO	The implementation strategy assumes that PAPO will change neither its OSAG nor its endorsement process except for (a) implementing flight training curriculum, (b) more in-depth testing of operators, and (c) requiring adequate documentation of OSAG conformance before issuing its seals. The strategy further assumes that PAPO will have a mechanism for revoking its Seals of Safety for repeated and documented nonconformance.	Low	High	PAPO does not directly observe safeguards. Also no mechanism appears to be in place to address reported nonconformance. It is likely that gross nonconformance could occur before the decal is suspended/revoked. If PAPO develops a mechanism to address nonconformance, the influence of insurance companies could be properly focused on these leading indicators (i.e., nonconformance).	Medium	Score considers time required to implement suggested changes to PAPO program; otherwise the implementation would be sooner and the score would be high.	Low	
Safety Consulting - Insurance Company	The implementation strategy assumes that companies will require (a) current USCG examination decals/certificates of inspection and (b) current PAPO decals as conditions for insurance. Note that companies currently offer rebates for operators who are current PAPO members. This strategy further assumes that the companies may apply rebates to operators who conform to OSAG and will adjust premiums based on safety records.	Low	High	Insurance companies do not directly observe safeguards. Although they have significant influence, they typically are dependent upon lagging indicators (i.e., claims) before taking action. If PAPO develops a mechanism to address nonconformance, the influence of insurance companies could be properly focused on these leading indicators (i.e., nonconformance).	High	One company insures most parasail operators.	Low	

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Activity for ensuring that safeguards are implemented	Amplifying remarks about activity implementation	How well does the activity influence safety performance improvements within the parasail industry?			Feasibility to implement activity		Relative cost to implement activity	
		Effectiveness	Certainty	Comments	Score	Comments	Score	Comments
Safety Consulting - USCG	This implementation strategy assumes that CGAUX personnel perform the voluntary MSO Tampa examinations. The voluntary examination is part of industry outreach. MSO Tampa may take appropriate action to revoke its decal based on a preponderance of evidence derived from various sources including, but not limited to, permit violations, USCG decal nonconformance, and reportable marine casualties.	Medium	High	MSO Tampa infrequently observes safeguards. Activities are considered more effective than PAPO and insurance companies because of direct interaction with parasail operators (i.e., industry outreach approach), and MSO Tampa can quickly respond to nonconformance and marine casualty reports made by other observers.	Medium	Implementation is set for June 2004.	Low	
Permitting - Local Government	The implementation strategy assumes that city governments will (1) verify insurance and other documentation before issuing parasail operator licenses, (2) establish limits for parasail operations, and (3) require safety information be available for prospective customers. Documents include (a) current UPV decals or current certificates of inspection and (b) either current MSO Tampa decals or current PAPO seals. Permits prescribe (a) distances from shore, (b) time of day, (c) wind conditions, (d) length of towline payout, (e) maximum towline carried, (f) marking of the towline, and (g) acceptable winch technology for parasail operations. Safety information will be available at the embarkation point. The strategy further assumes that city governments have mechanisms for revoking licenses of nonconforming operators.	Medium	Low	Licensing offices do not directly observe safeguards; however, they do require that certain systems be in place before licenses are issued and can quickly respond to permit violations reported by city enforcement authorities. Certainty is low because a number of cities will need to set up permitting and enforcement activities.	Low	Some city governments may be able to pass city ordinances sooner than others.	Low	
Customer Awareness	The implementation strategy assumes that a just-in-time warning in the form of a checklist will be posted at each parasail vessel embarkation point. The warning will advise customers (1) to check for (a) current USCG-issued decals/certificates, (b) current PAPO seal and/or current MSO Tampa decal, and (c) city business licenses, and (2) about city ordinances that restrict parasail operations. Furthermore the warning will provide contact information for reporting service complaints to the Better Business Bureau and safety complaints to the USCG and PAPO.	Medium	Low	Most customers would check for key documents at the point of sale. A missing document would place an operator at a disadvantage.	Low	Can be quickly achieved but depends on local governments revising their city ordinances. Assuming city ordinances are in place, the score might be high.	Low	Seed money may be available through research funds.

Table 1-2. Ability of Activities to Influence Safety Performance within the West Coast of Florida Parasailing Industry

Activity for ensuring that safeguards are implemented	Amplifying remarks about activity implementation	How well does the activity influence safety performance improvements within the parasail industry?			Feasibility to implement activity		Relative cost to implement activity	
		Effectiveness	Certainty	Comments	Score	Comments	Score	Comments
Customer Complaint	This implementation strategy assumes that the Better Business Bureau would receive customer service complaints and MSO Tampa would receive safety complaints. PAPO may partner with the Better Business Bureau and/or MSO Tampa to process complaint information.	Low	Low	Few customers will likely not report missing documents. Most complaints will likely be service, not safety complaints. Injuries will likely be reported through insurance.	Low	Can be quickly achieved but depends on local governments revising their city ordinances. Assuming city ordinances are in place, the score might be high.	Low	Seed money may be available through research funds.
Government Observation - USCG	Station and CGAUX assets will be checking for distance offshore, weather conditions, and amount of towline paid out. This assumes that the towline is marked to make excessive height visible (e.g., marking the line starting at 600 ft from the yoke a bright color that could be observed from shore)	Medium	High	Observations of parasail operations may be less frequent than city enforcement authorities. This activity assumes that USCG station personnel and CGAUX personnel receive tangible productive training.	Medium		Low	
Government Observation - Local Government	The implementation strategy assumes that city enforcement authorities will be checking for permit violations. The strategy further assumes that USCG will help train city enforcement authorities in detecting permit violations.	High	High	Parasail operations occur in a number of cities and each will need to set up permitting; most enforcement authorities currently work with USCG, so training opportunities should be easy to arrange.	Low	Can be quickly achieved but depends on local governments revising their city ordinances. Assuming city ordinances are in place, the score might be high.	Low	
Third Party Observation	Competitors will be checking for distance offshore, weather conditions, and amount of towline paid out. The implementation strategy assumes that competitors may report observations to either city enforcement authorities and/or MSO Tampa.	High	High		High		Low	