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Homeland Security

United States  
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SECDELBAYNOTE 3500.2A

## SECTOR DELAWARE BAY NOTE 3500.2A

SUBJ: SECTOR DELAWARE BAY STANDARDIZED RISK ASSESSMENT MODEL

- Ref: (a) Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)  
(b) U.S. Coast Guard Addendum, COMDTINST M16130.2 (series)  
(c) Operational Risk Management, COMDTINST 3500.3 (series)  
(d) Team Coordination Training, COMDINST 1541.1 (series)  
(e) Marine Safety Manual, COMDTINST M1600.10A (series)  
(f) Safety and Environmental Health Manual (COMDTINST 5100.47)

1. **PURPOSE.** This Note introduces one standardized Green-Amber-Red (GAR) model to be used in Sector Delaware Bay's area of responsibility across all operational missions and outlines procedures and responsibilities of such implementation.

2. **ACTION.** The Prevention and Response Department Heads, as well as Commanding Officers/Officers in Charge (CO/OINC), and Supervisors of Sector Delaware Bay Units, shall ensure this Note is distributed to the widest extent possible and all applicable Sector Delaware Bay personnel comply with its provisions. The Logistics Department Head and Contingency Planning Division are encouraged to educate their personnel on the proper use of this model and implement if certain support missions require risk assessment beyond general practices.

3. **DIRECTIVES AFFECTED.** This note will be incorporated into the Safety and Environmental Health Manual, SECDELBAY INST 5100.47 as part of the Operational Risk Management section found in Enclosure (24).

4. **DEFINITIONS.** To ensure clear interpretation of this Note, the following terms have been defined as follows:

a. *Operational Missions* are discussed in the SECDELBAY ORGMAN (SECDELBAY INST 5401.6A) as those missions which directly serve the maritime community to minimize deaths, injuries, property and/or environmental damage to the industry, to facilitate maritime commerce, and to enforcing federal laws in the maritime region. These missions are the responsibilities of those serving in the Prevention and Response Departments as well as the Command Center of the Sector construct.

b. *Support Missions* are also discussed in the SECDELBAY ORGMAN as those missions which directly support the operational missions as defined above. These support missions are the direct responsibilities of those serving in the Logistics Department of the Sector construct.

c. *Operational Risk Management* is a continuous, systematic process of identifying and controlling risks in all activities according to a set of pre-conceived parameters by applying appropriate management policies and procedures. This process includes detecting hazards, assessing risks, and implementing and monitoring risk controls to support effective, risk-based decision-making.

d. *Risk Assessment* is the systematic process of evaluating various risk levels for specific hazards identified with a particular task or operation.

e. *Mission Leader* as defined in this Note is an individual who has been placed in a position of authority and responsibility over other Coast Guard members performing in operational missions.

5. **DISCUSSION**. There is inherent danger involved in much of the work we do in the Coast Guard on a daily basis. Whether prosecuting SAR cases, conducting law enforcement boardings or security patrols, examining foreign or domestic vessels, conducting AtoN operations, responding to pollution events, conducting container inspections, or completing training missions, we work in a perilous and often unforgiving environment which provides little room for error or inattention to detail. As Guardians, we often think our first priority is in saving and serving others. In fact, our first priority is to ensure our own crews are as safe as possible during mission execution, and that they have the opportunity to voice any concerns over their own safety and the safety of fellow crew members.

Historically, risk management strategies at Sector Delaware Bay have been developed and defined by each individual unit. Several units used a modified Green-Amber-Red (GAR) model whereas others utilized a Severity-Probability-Exposure (SPE) model. When these risk assessment scores were reported to the Sector's Command Center, the scores would carry different meanings depending on that individual unit's model, often leading to misinterpretation of the associated risks between missions. The development of one Sector-wide standardized risk assessment model will standardize these measurements and improve communications among the varying operational missions.

## 6. **PROCEDURES**.

a. In accordance with references (a) through (f), Coast Guard units are required to conduct a thorough risk assessment prior to launching assets for any mission, whether routine or urgent. The purpose of conducting a risk assessment is to identify any factors or conditions which could pose a threat to the safety or security of the Coast Guard members involved in executing a particular mission. To be clear, we cannot, and will not eliminate all threats or risks. We simply need to be cognizant of the inherent risks of an evolution, ensure our personnel are properly prepared, and mitigate or eliminate any risks that are unacceptable to the successful completion of the mission.

b. There are seven steps involved in conducting proper Operational Risk Management in accordance with reference (c). These steps include:

1. Identify what you want to do.
2. Identify the hazards.
3. Assess the risk.
4. Identify your options.
5. Weigh the risks against the benefits.
6. Perform the task.
7. Monitor the situation.

c. Units and operational teams shall conduct a risk assessment prior to deploying on all missions per this instruction and per reference (b), keeping in mind that risk assessment is a continuous process. Once a mission begins, dialog and risk assessment shall continue as conditions change. Hazard identification and risk assessment shall involve input from all Coast Guard members involved in the specific mission. The mission leader shall provide the final risk assessment score to the Sector's Command Center before departing on the mission. The Command Center will then log the GAR score in the applicable MISLE case/activity or daily log as appropriate. In order to establish uniformity and alleviate any confusion with interpreting different risk assessment scores that are received by the Command Center from different risk assessment models, all dispatching units are directed to utilize a standard risk assessment model for this Sector. Specifically, the GAR model shown in Enclosure (1) shall be used.

d. The Sector's Command Duty Officer (CDO) shall contact the applicable Sector Division Chief to discuss any GAR score of 35 (Caution) or more. Department Heads shall be contacted for any GAR scores greater than 44 (High Risk). Additionally, if any of the six individual categories scores an 8 or above, the CDO shall contact the applicable Department Head to discuss risk mitigation. Department Heads will brief the Sector Commander on all missions involving GAR scores greater than 44 for concurrence.

e. Enclosure (2) outlines Risk Countermeasures that should be incorporated to reduce the risk of evolutions. For evolutions that score 35 or more points, the mission leader should be prepared to discuss the risk mitigation strategies on a conference call with the Sector's CDO and the appropriate Division Chief, Department Head, CO/OINC or Supervisor prior to deploying Coast Guard members on an operational mission.

f. Incident Command System (ICS): When ICS is implemented, the GAR model (Enclosure (1)) should continue to be used by team members for risk assessment; however, in some joint ICS operations, the assigned Safety Officer (SOFR) or Command Staff may incorporate different risk assessment scales/strategies depending on the incident itself. Mission leaders must remain adaptive to the implemented ICS structure. The assigned SOFR within an ICS is strongly encouraged to incorporate the enclosed GAR Model (Enclosure (1)) into a risk assessment strategy for field personnel conducting operational missions. This will help to maintain coherence and quick implementation of on-scene risk assessments. The assigned SOFR will continue to use applicable ICS forms, as provided in the Incident Management Handbook (COMDTPUB P3120.17A), to analyze and determine risk mitigation strategies throughout the ICS operational periods. These ICS forms include but are not limited to the following:

- 1). Incident Action Plan Safety Analysis Form and enclosures (ICS Form 215ACG)
- 2). Site Safety and Health Plan and Specific Hazard Attachment (ICS Form 208)
- 3). Medical Plan (ICS 206-CG)
- 4). Unit Log (ICS 214-CG)

It is important to note that the Incident Action Plan Safety Analysis Form incorporates a GAR and SPE construct that differs from the GAR Model discussed in this Note. The SOFR can successfully use this form (ICS Form 215ACG) while developing a Site Safety Plan for the overall ICS operation while incorporating the GAR Model identified in Enclosure (1) of this Note at the field level.

7. **ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.** Environmental considerations were examined in the development of this instruction and have been determined to be not applicable.

8. **FORMS/REPORTS.** None



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Encl: (1) Standardized GAR MODEL for Sector Delaware Bay  
(2) Risk Countermeasures for Sector Delaware Bay Command Center

# SECTOR DELAWARE BAY RISK MANAGEMENT TOOL (GAR MODEL)

Risk Factor	Risk Factor Score									
	1	2	3	4	5	6	7	8	9	10
<b>Supervision.</b> How qualified the Mission Leader (ML) is and whether effective supervision is taking place.	<b>Abundant On-scene experienced Supervision.</b> Several experienced on-scene Supervisor(s) within span-of-control (3-5) to manage routine tasks.	0	<b>Good On-scene Experienced Supervision.</b>	0	<b>On-scene Supervision, Limited Experience.</b> [Benchmarks].	0	<b>Limited On-Scene Supervision, limited experience.</b>	0	<b>No On-scene Supervision.</b> Mission leader has no experience, no 'reach back' to office; ML has multiple tasks beyond supervision.	0
<b>Planning.</b> How much information you have, how clear it is, and how much time you have to plan the evolution or evaluate the situation.	<b>Very Stable Situation / Well Planned Activity.</b> Situation is well known by all and unlikely to change, planning took place well in advance.	0	<b>Somewhat Stable Situation / Planned Activity.</b>	0	<b>Potentially Unstable Situation / Planned Activity.</b> [Benchmarks].	0	<b>Unstable Situation / Unplanned Activity</b>	0	<b>Very Unstable Situation / Unplanned Activity.</b> Little or low quality information, rapidly & unpredictably changing, no planning occurred for activity.	0
<b>Crew Selection.</b> Qualifications and experience level of the individuals used for the specific evolution.	<b>Very good team / activity match.</b> All team members 100% qualified for tasks, very experienced, 2+ years in this AOR doing this task.	0	<b>Good team / activity match.</b>	0	<b>Moderately poor team / activity match.</b> [Benchmarks].	0	<b>Poor team / activity match</b>	0	<b>Very poor team / activity match.</b> Team 100% unqualified for tasks, little experience, new to AOR and/or task, team hasn't previously worked together.	0
<b>Crew Fitness.</b> Physical and mental state of crew taking into account recent quality & quantity of sleep of each member.	<b>Very good team readiness.</b> Requires minimal physical activity, mental acuity, crew in excellent fitness for required activity, team well rested. Little to no commute.	0	<b>Good team readiness</b>	0	<b>Moderately poor team readiness.</b> [Benchmarks].	0	<b>Poor team readiness</b>	0	<b>Very poor team readiness.</b> Demanding physical effort, extremely high mental acuity, and team is extremely fatigued.	0
<b>Environment.</b> Factors affecting personnel performance as well as the performance of the asset or attached resources.	<b>Very forgiving environment.</b> Unlimited access to equipment, personnel, minimal to zero exposure to chemical or geographic hazards, on scene Wx calm and temperate, daylight mission.	0	<b>Forgiving Environment.</b>	0	<b>Moderately unforgiving environment.</b> [Benchmarks].	0	<b>Unforgiving environment</b>	0	<b>Very unforgiving environment.</b> Activity occurs in extreme Wx conditions; no access to critical resources, exposure to chemical hazards/oxygen deficiency spaces expected.	0
<b>Event/Evolution Complexity.</b> Consider both the duration and complexity of the event. Generally, the longer one is exposed to a hazard, the greater the risks.	<b>Very simple activity.</b> Activity involves no complexity, requires no PQS, training, oversight, or familiarization.	0	<b>Simple activity.</b>	0	<b>Moderately complex activity.</b> [Benchmarks].	0	<b>Complex activity.</b>	0	<b>Very complex activity.</b> Activity involves on-scene responses to extreme cases where life, limb and/or environment are threatened by split- second decisions.	0
<b>Total Score 0 – 23 GREEN (low risk)</b>		<b>Total Score 24-44 AMBER (Caution)</b>			<b>Total Score 45-60 RED (High Risk)</b>					

**User Instructions**

- Discuss mission and associated risks. Seek comments from all team members.
- Circle/mark appropriate risk factors for each category.
- Add up all risk factor points to get your overall GAR score.
- Report final GAR score to Command Duty Officer (CDO) at 215-271-4940 or on normal working frequencies.

**FOR CDO ONLY**

- Log GAR score in corresponding MISLE activity/daily log book.
- If any individual category scores an "8" or above, notify applicable Dept Head.
- If total score is >35, Brief Div. Chief /CO/OINC.
- If total score is >44, brief Dept Head.

## TOTAL SCORE

(Descriptive Benchmarks on reverse side)

## SECTOR DELAWARE BAY RISK MANAGEMENT TOOL (GAR MODEL)

\*This side provides **descriptors and benchmarks** to use as guidance when using this GAR model in risk assessment. These descriptors are not meant to be all-inclusive. It is up to each team member to ultimately decide on the risk score associated with each risk factor they may encounter during an evolution.

Risk Factor	Risk Factor Score				
	1	3	5	7	9
<p><b>Supervision.</b> Supervisory control should consider how qualified a mission leader is and whether he or she actually is supervising. Even if a person is qualified to perform a task, supervision, even as simple as verifying the correctness of a task, further minimizes risk. The higher the risk, the more a supervisor needs to focus on observing and checking. A supervisor actively involved in a task (doing something) can be distracted easily and probably is not an effective safety observer in moderate to high-risk conditions.</p> <p><b>Planning.</b> Preparation and planning should consider how much information is available, how clear it is, and how much time is available to plan the evolution or evaluate the situation.</p> <p><b>Crew Selection.</b> Crew and watchstander selection should consider the experience of the persons performing the specific mission. If individuals are replaced during the mission, assess the new team members' experience.</p> <p><b>Crew Fitness.</b> Crew and watchstander fitness should judge the team members' physical and mental state, generally a function of how much rest they have had. Quality of rest should consider how a platform rides and its habitability, driving distance, potential sleep length of member and if any interruptions to that sleep occurred.</p> <p><b>Environment.</b> Environment should consider all factors affecting personnel, unit, or resource performance, including time of day, lighting, atmospheric and oceanic conditions, chemical hazards, and proximity to other external and geographic hazards and barriers, among other factors (e.g. oxygen deficiency, toxic chemicals, continual oil discharge, and/or injury from falls and sharp objects).</p> <p><b>Event/Evolution Complexity.</b> Event or evolution complexity considers both the time and resources required to conduct a mission. Generally, the longer the exposure to a hazard, the greater the risks involved. However, each circumstance is unique. Other factors to consider in this element include how long the environmental conditions will remain stable and the precision and level of coordination needed to conduct the evolution. (E.g. severe weather, severity/location of pollution spill, experience of crew.)</p>	<p><b>Abundant On-scene Experienced Supervision.</b> Multiple experienced Mission Leader(s) on-scene within span-of-control (3-5) to oversee routine tasks. Mission Leader has no other tasks while on-scene.</p> <p><b>Very Stable Situation / Well Planned Activity.</b> Extremely well understood situation, high quality information, almost 100% certainty that situation will not change, activity planned in detail in advance of departure.</p> <p><b>Very good team / activity match.</b> Team 100% qualified for tasks, very experienced, 2 or more years in this AOR doing this task, TCT training recent, team frequently works together.</p> <p><b>Very good team readiness.</b> Requires minimal physical activity, relaxed mental state appropriate, excellent fitness for required activity, 100% fresh team. Little to no commute.</p> <p><b>Very forgiving environment.</b> Activity occurs in calm and temperate Wx during daylight, resources unlimited, very minimal hazards (chemicals, falls, etc...) or barriers.</p> <p><b>Very simple activity.</b> Activity involves no complexity, requires no PQS, training, oversight, or familiarization. Appropriate for a non-rate.</p>	<p>Good On-scene Experienced Supervision.</p> <p>Stable Situation / Somewhat Planned Activity.</p> <p>Good team / activity match.</p> <p>Good team readiness</p> <p>Forgiving Environment.</p> <p>Simple activity.</p>	<p>On-scene Supervision, Limited On-Scene Supervision</p> <p>On-scene Supervision, Limited Experience.</p> <p>Potentially Unstable Situation / Planned Activity. Information is somewhat limited with 50% chance of changing, activity planned somewhat in advance but with urgency.</p> <p>Moderately poor team / activity match. Team 50% unqualified for tasks, somewhat experienced, limited time within the AOR doing this task, team still developing teamwork management skills.</p> <p>Moderately poor team readiness. Requires moderate physical activity, reasonable amount of concentration, crew fitness is beginning to decrease, Commute may be prolonged.</p> <p>Moderately unforgiving environment. Activity occurs in moderate Wx, visibility reduced, restricted in access to some resources, moderate hazards or barriers will be experienced.</p> <p>Moderately complex activity. Activity involves Confined Space Entry, tank climbing, and requires PQS, formal and/or on-hands training, extended time on scene.</p>	<p>Limited On-Scene Supervision</p> <p>Unplanned Situation / Activity</p> <p>Unstable Situation / Activity</p> <p>Poor team / activity match</p> <p>Poor team readiness</p> <p>Unforgiving Environment</p> <p>Complex activity.</p>	<p><b>No On-scene Supervision.</b> No experienced Mission leader(s) on-scene; span of control exceeded for mission leader, no 'reach back' to office; mission leader has multiple tasks beyond supervision.</p> <p><b>Very Unstable Situation / Unplanned Activity.</b> Little information, low quality information, rapidly &amp; unpredictably changing, zero planning for activity, activity falls outside normal practices activities / duties.</p> <p><b>Very poor team / activity match.</b> Team 100% unqualified for tasks, little experience, new to this AOR and/or this task, no TCT training, new team that hasn't previously worked together.</p> <p><b>Very poor team readiness.</b> Requires demanding physical activity, extremely focused mental state appropriate, very poor fitness for required activity, fatigued team. Tremendously extensive commute.</p> <p><b>Very unforgiving environment.</b> Activity occurs in very hot or cold Wx, exposure to heavy storms. Roads blocked/closed, conditions are outside of the operational limitations of the vessel/vehicle/crew, direct exposure to chemicals anticipated.</p> <p><b>Very complex activity.</b> Activity involves on-scene responses to arson, IEDs, rioting, fire, explosion, violence and/or active release of hazardous materials hostile escort situation or security threat, night tow during heavy weather.</p>

## Mitigating Risk Guidance -- Command Center

The Sector Delaware Bay GAR Matrix includes six risk factors. While there is little that we can do to mitigate Environmental factors such as asset fitness, weather, etc..., steps can be taken to mitigate the other five risk factors. Where the cumulative evaluation provides that an operation is "AMBER," or "RED", the following countermeasures should be considered. The below list is not comprehensive, and Command Center personnel should consider all available countermeasures to control caution and high risks.

### Risk Countermeasures for Supervision.

Suggested risk countermeasures include:

- Heightened field team supervisor awareness;
- Increased consultation with field team members;
- Increased frequency of ORM/GAR re-evaluation;
- Add more experienced personnel to the team;
- Establish communications schedule with more qualified team leader;
- Assure inexperienced supervisor has no on-scene duties other than supervision;
- Assign a safety officer/observer with no other assigned duties;
- Recompose team with more qualified or experienced team leader;
- Establish pre-agreed phone/radio check-in points (critical evaluations, decision points, & start/stop of specific evolution) with CDO and/or Branch/Division Officer if necessary;
- Assign multiple Team-leader-capable personnel into the team.

### Risk Countermeasures for Planning:

Suggested risk countermeasures include:

- Delay field activity or response to gather additional information;
- Refine information to answer open questions;
- Heightened field team awareness of fluid plan;
- Assign team members who have performed similar evolutions previously;
- Assign team members with more overall USCG experience;
- Reschedule the field activity for a later time if the situation/response allows;
- Consult industry and/or other USCG units for hazard and operational considerations;
- Define pre-approved on-scene size-up location, and re-evaluate ORM/GAR frequently;
- Avoid choke points or delay response until choke points are opened;
- Identify "safe refuge" or "safe haven" areas;
- Assign a safety officer/safety observer with no other assigned duties;
- Establish an off-site team to plan the field activity while team is enroute;
- Establish pre-agreed phone/radio check-in points (critical evaluations, decision pts, & start/stop of specific evolution) with CDO and/or Branch/Division Officer if necessary;
- Maintain SCC "guard" on field team until field team has successful demobilization or RTB.

**Mitigating Risk Guidance -- Command Center (Contd.)**

**Risk Countermeasures for Crew Selection/Fitness:**

Suggested risk countermeasures include:

- Heightened field team awareness;
- Add more experienced personnel to the team;
- Add more qualified personnel to the team;
- Add personnel with more recent experience to the team;
- Break the evolution into several smaller, more discrete pieces.
- Substitute members of the team prior to deployment;
- Reschedule activity to avoid biorhythm low-points;
- Reschedule activity to team members have six hours uninterrupted sleep prior;
- Schedule activity to avoid changing teams or team-members during evolution;
- Synchronize reliefs of field teams for minimum one hour overlaps;

**Risk Countermeasures for Event/Evolution Complexity:**

Suggested risk countermeasures include:

- Heightened field team awareness;
- Add more experienced personnel to the team;
- Add more qualified personnel to the team;
- Add personnel with more recent experience to the team;
- Break the evolution into several smaller, more discrete pieces.
- Delay the response/field activity until the circumstances stabilize;
- Establish safe refuge or safe haven areas to wait if the situation on-scene degrades;
- Require increase frequency of ORM/GAR evaluation on-scene;
- Designate “evacuate immediately” signal for team;
- Define pre-agreed signals for major decision-points and evolutions.