



Operational Risk Management ICS 215A-ORM

NRT Worker Safety and Health Technical Committee

October 20, 2010 • Washington, D.C.



OPERATIONAL RISK MANAGEMENT

- ORM is a Formalized, Systematic Risk Analysis & Mitigation Process:
 - Used by the US Military & Large Corporations
 - Focuses Attention/Resources on Problem Areas (Prioritizes the Risks)
 - Meant to Develop a Culture of Risk Analysis/Control



What is Operational Risk Management? USN POV

- A decision making tool used to increase operational effectiveness by anticipating hazards, minimizing risk to an acceptable level resulting in an increase in the probability of a successful mission.
 - *Not just a Safety or Operations concept*
 - *24-hour mentality, not just during a response event*
 - *Leaner workforce + limited resources = zero mishap expectation*
 - *Fundamentals of Basic Leadership*



ORM: USN POV

- Purpose?
 - Minimize risk to an acceptable level
- Goal?
 - Complete the mission with minimum loss
- Benefits?
 - Better use of resources improve readiness/
reduce mishaps



Basic Steps of ORM

1

Identify Hazards

2

Assess Hazards

3

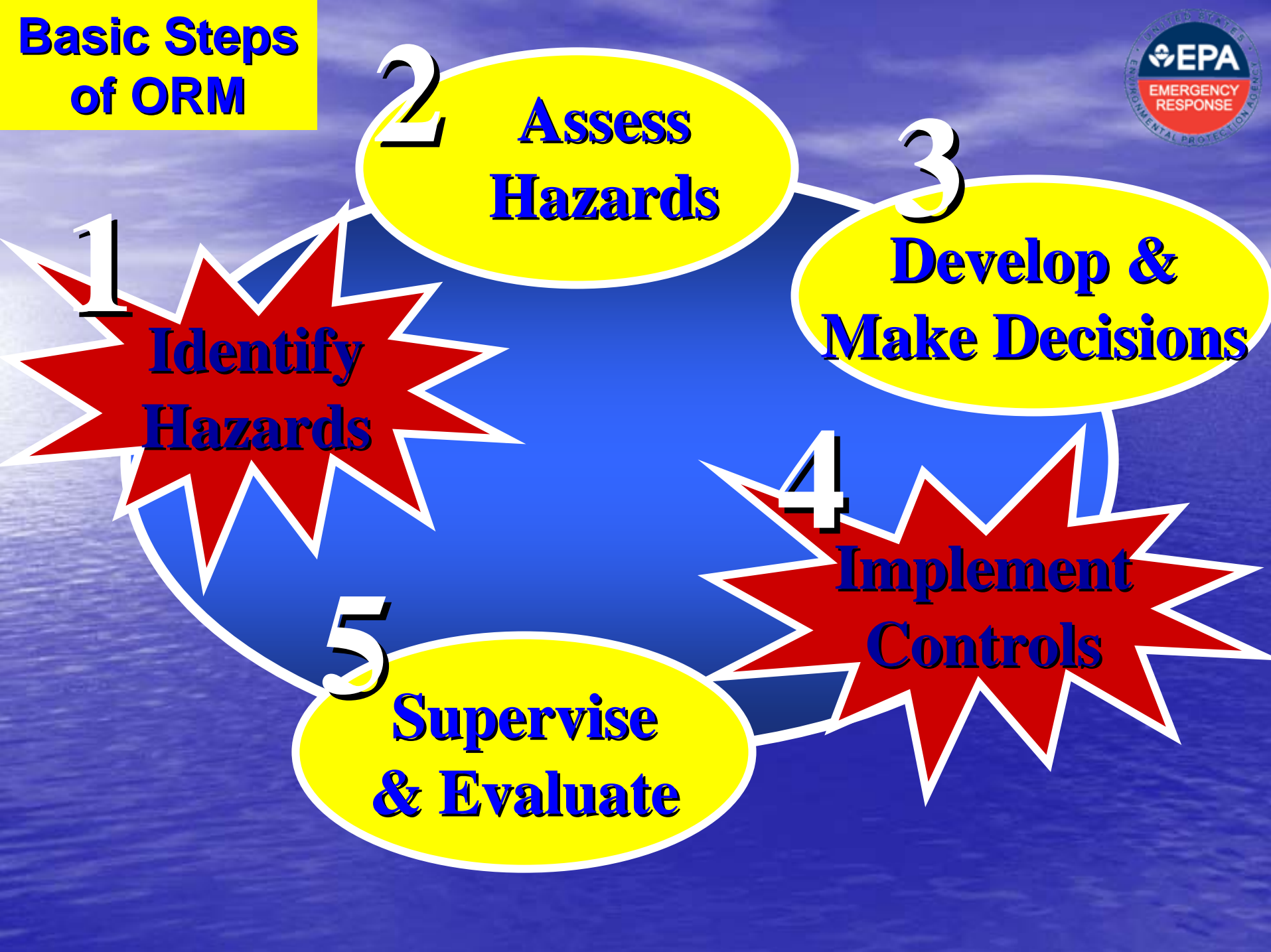
Develop & Make Decisions

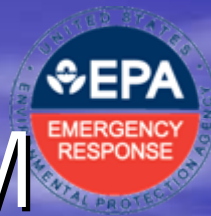
4

Implement Controls

5

Supervise & Evaluate





USCG Proposed Integrated ORM Model

- Based on the SPE and GAR Models
- Fits into the ICS approach
- Used by the USCG Strike Teams.

SPE Model

Risk = Severity x Probability x Exposure

SEVERITY

- 1 = None or slight
- 2 = Minimal
- 3 = Significant
- 4 = Major
- 5 = Catastrophic

PROBABILITY

- 1 = Impossible or remote
- 2 = Unlikely in normal conditions
- 3 = About 50-50
- 4 = Greater than 50%
- 5 = Very likely to happen

EXPOSURE

- | | |
|-------------------|-------------------|
| 1 = Below Average | 3 = Above Average |
| 2 = Average | 4 = Great |

GAR & Risk Estimate:



#	Risk
80-100	Very High, Discontinue/Stop
60-79	High, Immediate Correction
40-59	Substantial, Correction needed
20-39	Possible, Attention needed
1-19	Slight, Possibly acceptable.

Hazard Analysis Form

INCIDENT ACTION PLAN SAFETY ANALYSIS				6 HAZARDS										7 CONTROLS										8 IORM														
1. Incident Name		2. Date/Time Prepared																						SEVERITY	PROBABILITY	EXPOSURE	GAR											
3. DIVISION/ GROUP/ OTHER LOCATION	4. Work Assignments		5. Gain																																			
		Human Health			Check																																	
		Security																																				
		Environment																																				
		Economy																																				
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ICS Form 215A ORM	Operational Risk Management Key	Scale	1	2	3	4	5	Gar Scale	#	1-19	20-39	40-59	60-79	80-100	9. Prepared by (Name and Position)																							
		Severity	Slight	Minimal	Signif- icant	Major	Catas- trophic		Risk	Green	Amber	Red	Red	Red																								
		Probability	Remote	Un-likely	50/50	>50	Very Likely		Color	Green	Amber	Red	Red	Red																								
		Exposure	Below Avg	Avg	Above Avg	Great	N/A		Action	Possibly Acceptable	Attention Needed	Correction Required	Immediate Correction	Discontinue/ Stop																								



ICS 215A-ORM Proposed Uses

- Standard Use in ICS – As a Planning Tool
(View from 10,000 Feet)
- Assessment Tool at Operational Level
 - Assessment of Overall Operation
 - “Roof-Top View”
 - Best Used in Early Phase of Response



Use at the Deepwater Horizons MC-252 Response

- Made into a 2 Page Form
 - Hazards and GAR on Page 1
 - Controls on Page 2
 - Pre-Loaded Hazards/Controls on Template
- Used as an Assessment Tool
 - Developed Safety Messages/Briefs from 215A-ORM Assessment (No EPA HASP)



215A-ORM at Deepwater Horizons

- Communicated Problem Areas to BP Safety
 - Tactics Meeting Schmatics Meeting
- Attempted Widespread Use
 - 15+ Contractors, Safety All Over the Map
 - No Other Systematic Risk Assessment Done

INCIDENT ACTION PLAN SAFETY ANALYSIS				6	H	A	N	D	R	D	S	1. Heat Stress	2. Heavy Equipment	3. UTV's/Off-Road	4. UTV's On-Road	5. Vehicular Traffic	6. Sun/Bright Glare	7. Fatigue/Driving	8. Potential Oil Contact	9. Pot. Oil Exp. (Resp	10. Remote Area Ope	11. Potential for Lighte	12. Fire Ants	13. Other Insects/Biolo	14. Inexperienced Cre	Heavy Eq./Public Exp.	Pot. Work in Water	8. O R M									
3. DIVISION/GROUP/ OTHER LOCATION	4. Work Assignments		5. Gain																									Check		S	E	P	G				
Deepwater Horizons MC-252		2. 6/25-26/2010 19:00 hrs																																			
BaldwindCo, AL Branch	Beach Clean-up Crew - Mobile St. Staging Area	Human Health Security Environment Economy	Check	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X				5	2	3	30				
BaldwindCo, AL Branch	FOSCR Duties	Human Health Security Environment Economy	Check	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X						5	2	1	10					
Escambia Co Branch	Beach Cleanup Crew at Pensacola and Perdido Beaches	Human Health Security Environment Economy	Check	X	X	X	?	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X			5	2	3	30					
Escambia Co Branch	FOSCR Duties	Human Health Security Environment Economy	Check	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X		X					5	1	1	5						
Air Monitoring	Response to Odor Complaints	Human Health Security Environment Economy	Check	X	X			X	X	X											X	X	X	X				5	1	2	10						
		Human Health Security Environment Economy	Check																																		
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		Severity	Slight	Minimal	Significant	Major	Catastrophic		Risk	Slight	Possible	Substantial	High	Very High																							
		Probability	Remote	Unlikely	50/50	>50	Very Likely		Color	Green	Amber	Red	Red	Red																							
		Exposure	Below Avg	Avg	Above Avg	Great	N/A		Action	Possibly Acceptable	Attention Needed	Correction Required	Immediate Correction	Discontinue/ Stop																							

INCIDENT ACTION PLAN SAFETY ANALYSIS					7 C O N T R O L S	Work/Rest Ratios	Hydration/Nutrition	UTV Training/Awareness	Follow UTV Safety	Traffic Control	Sunglasses/Hats	Tents/Shelter	Plan Shift/Route	PPE	Medical plan/Maps	Comms Plan	Fire Ant Awareness	Insect Repellent	Sunscreen	Increased Supervision	Demarcate Work Zone	Maintain Contact	Traffic Cones as Needed	Water Safety Procedure	Hi-Vis Vests as needed										
1. Incident Name		2. Date/Time Prepared																																	
3. DIVISION/ GROUP/ OTHER LOCATION	4. Work Assignments		5. Gain		Check																														
Baldwind Co. AL Branch	Beach Clean -up Crew - Mobile St. Staging Area		Human Health																																Check
			Security																																
			Environment																																
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Baldwind Co. AL Branch	FOSCR Duties		Human Health		Check	X	X	X	X		X	X	X	X	X	X		X	X			X													
			Security																																
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Escambia Co Branch	Beach Cleanup Crew at Pensacola and Perdido Beaches		Human Health		Check	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			Security																																
			Environment																																
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Escambia Co Branch	FOSCR Duties		Human Health		Check	X	X				X	X	X	X	X	X		X	X			X													
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		Severity	Slight	Minimal	Significant	Major	Catastrophic		Risk	Slight	Possible	Substantial	High	Very High	
		Probability	Remote	Un-likely	50/50	>50	Very Likely		Color	Green	Amber	Red	Red	Red	
		Exposure	Below Avg	Avg	Above Avg	Great	N/A		Action	Possibly Acceptable	Attention Needed	Correction Required	Immediate Correction	Discontinue/ Stop	

ICS 215A-ORM: Safety Message
Deepwater Horizons MC-252 Incident
6/26/2010

The following safety controls apply to all EPA FOSCRs conducting oversight of Beach Operations. Those items pertaining to Work Crews should be monitored and reported if deficiencies are noted.

1. **Heat Stress: Know the signs of heat stress-Follow ICS 208 Heat Stress Safety Alert**
 - a. Follow work/rest ratios as per chart
 - b. Drink fluids; 3 quarts every four hours for average adult. Do not exceed 1.5 quarts per hour.
 - c. Enhance rehydration: add extra salt to meals; eat bananas and citrus fruits; drink lemonade, orange juice, or tomato juice; and avoid excess caffeine/alcohol.
 - d. Specific make/type light weight cargo pants/shorts and light weight boots are approved for use during oversight of beach operations. See the IC's email for specs on allowable short pants.
 - e. Wear light weight/light colored clothes.

2. **ATV/UTVs: Follow ICS 208 ATV Safety Alert as of 6/23/2010**
 - a. Drive within your abilities or don't drive at all
 - b. Max. on road speed <20 mph
 - c. Max. off road speed <10 mph
 - d. No on-road travel without an escort vehicle.
 - e. Escort vehicles must use flashers
 - f. Off-road avoid steep inclines and deep sand dunes.

3. **Hospital/Emergency Care:**
 - a. Call 911 in an emergency.
 - b. Use the ICS 206 for hospital locations/capabilities. Maintain a copy in your vehicle.
 - c. Post maps from your staging location to local hospitals at the command post.
 - d. Report all accidents/injuries/near misses to your immediate supervisor and the EPA Health and Safety Officer.
 - e. Carry a copy of the Form CA 16: Authorization for Examination and/or

ICS 215A-ORM

PROs

- Quantifies Risk
- Helps to Focus on Highest Hazard Ops
- Risk Communication Tool
- ICS Compatible

CONs

- Lacks Ability to Capture Detail
- Scary Looking
- The Learning Curve
- People Really Hate Math