VESSEL TRIAGE PROJECT

Jori Nordström, Project Manager, Captain
CHALLENGES IN MARITIME SAR

DECISION MAKING

COMMUNICATION

RESPONSE
Multinational project, established by the Finnish Border Guard, the Finnish Transport Safety Agency and the Finnish Transport Agency, to develop a categorization and risk identification system for distress vessels in ship accidents.

Categorization system describing the safety status of a distress vessel is necessary in order to:

- assess the seriousness of the vessel's situation and rapidly identify the key operational risks
- facilitate the maintenance of situational awareness between the authorities and the distress vessel and enhance the communications between them
- facilitate decision making and guarantee appropriate SAR and further operations

Cooperation between SAR services and various actors would be significantly more effective – both nationally and internationally.

Actors participating in the events on shore would also benefit from the system.

As part of the system, a concrete risk assessment tool, that can be used in maritime rescue operations, will be developed.
The Vessel Triage category indicates the level of safety aboard a distress vessel for its passengers and crew, taking into account the prevailing and anticipated conditions on the ship and in its environment.

Vessel Triage system consists of a Vessel Triage categorization method and a related categorization/risk assessment tool.

Vessel Triage categorization / risk assessment tool enables to determine the casualty vessel's status using appropriate questions based on predetermined criteria.
EXAMPLES OF OTHER MARITIME SAR CLASSIFICATION SYSTEMS

- According Emergency Phases
  - International Maritime and Aeronautical
    - Uncertainty Phase
    - Alert Phase
    - Distress Phase

- According Accident type
  - "What has happened?"
  - "What kind of assistance is needed?"

- According size of the Accident
  - Daily mission (1-10 persons OR max 2 seriously injured)
  - Multi Patients mission (less than 20 persons OR 3-10 seriously injured)
  - Disaster (over 20 persons OR over 10 seriously injured)
  - Multi Actor case (humans, environmental and property is in danger)

- According other players classification (rescue service, medical, …)
What does Vessel Triage categorization mean in practice?

Exchange of information between the ship and responsible SAR authority

Questions

1) Exchange of information

Answers

2) Decision on vessel’s Vessel Triage category

- **Green**: The vessel is safe and can be assumed to remain so.
- **Yellow**: The vessel is currently safe, but there is a risk that the situation will get worse or vessel status is unclear.
- **Red**: The level of safety aboard has significantly weakened and immediate external action is required to ensure the safety of the people aboard.
- **Black**: The vessel is no longer safe and has been lost.
Vessel Triage categorization if the categorization method is in use both at the SAR actor (MRCC or MRSC) and onboard the vessel

1) Exchange of information

2) Decision on vessel’s Vessel Triage category

- **Green**: The vessel is safe and can be assumed to remain so
- **Yellow**: The vessel is currently safe, but there is a risk that the situation will get worse or vessel status is unclear
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Factors affecting severity of the safety situation on board a vessel

Factors related to the incident and its features

Vessel type

Sea conditions, vessel's location environment

Other factors

Resulted consequences/damages to the vessel and persons aboard

Control measures (already taken and) remaining

Factors related to the incident and its features
THE VESSEL IS SAFE AND CAN BE ASSUMED TO REMAIN SO

THE VESSEL IS CURRENTLY SAFE, BUT THERE IS A RISK THAT THE SITUATION WILL GET WORSE

THE LEVEL OF SAFETY ABOARD HAS SIGNIFICANTLY WEAKENED AND IMMEDIATE EXTERNAL ACTION IS REQUIRED TO ENSURE THE SAFETY OF THE PEOPLE ABOARD

THE VESSEL IS NO LONGER SAFE AND HAS BEEN LOST

VESEL TRIAGE CATEGORIES

GREEN

YELLOW

RED

BLACK
APPLICATION OF THE VESSEL TRIAGE CATEGORISATION METHOD 1/2

GREEN
- The vessel is safe and can be assumed to remain so

YELLOW
- The vessel is currently safe, but there is a risk that the situation will get worse

RED
- The level of safety aboard has significantly weakened and immediate external action is required to ensure the safety of the people aboard

BLACK
- The vessel is no longer safe and has been lost

GENERAL SITUATION
- The situation aboard is stable. Although the vessel may have been damaged by the accident, this damage does not threaten its seaworthiness or the people aboard.
- The damage to the ship has been assessed. It is highly unlikely that the damage will spread or get worse.
- The vessel still protects the people aboard against the prevailing conditions. Injured people aboard might have to be evacuated.

GENERAL SITUATION
- Damage to the ship might affect its seaworthiness or the full extent of the damage has not as yet been determined.
- Internal rescue measures have not been completed. Damage control is possible with reasonable resources available to carry out the proper measures.
- Ship damage may pose a direct or indirect threat to the people aboard.

GENERAL SITUATION
- The vessel is significantly damaged, threatening the people aboard and the seaworthiness of the vessel.
- A fire, leak or other damages to the vessel are not under control and escalation is a serious possibility.
- The vessel no longer protects the people aboard against the prevailing conditions.
- Major external resources are required.

GENERAL SITUATION
- The vessel is capsized, broken, sunk, burnt or otherwise damaged so badly that it no longer provides protection to the people aboard against the prevailing conditions (that is, the vessel has totally lost its seaworthiness).
- Even if the vessel is still completely or partly afloat, it is no longer safe to work aboard, even to save human lives.
APPLICATION OF THE VESSEL TRIAGE CATEGORIZATION METHOD 2/2

**GREEN**
The vessel is safe and can be assumed to remain so

**OPERATIONAL OBJECTIVES**
• Even though damage control or firefighting operations are no longer required, active monitoring of the situation aboard is important.
  • The operational focus is on emergency care.
  • ONLY patients in need of urgent care are evacuated.

**YELLOW**
The vessel is currently safe, but there is a risk that the situation will get worse

**OPERATIONAL OBJECTIVES**
• In addition to carrying out rescue operations, it is important to determine the actual condition of the vessel.
  • The operational focus is on limiting damage /damage control and preparations for evacuation.
  • At the discretion of the master of the vessel, non-essential persons can be evacuated.
  • Proactive measures are taken to stabilise the situation aboard so that its condition becomes "green" or alternatively to allocate more time to evacuation and other rescue operations.
  • Continuous monitoring of the situation aboard is important (risk of the situation turning "red").

**RED**
The level of safety aboard has significantly weakened and immediate external action is required to ensure the safety of the people aboard

**OPERATIONAL OBJECTIVES**
• The operational focus is on starting evacuation measures and mass evacuation.
  • All non-essential persons will be evacuated from the ship.
  • Patient classification cannot be carried out aboard the distress vessel.
  • If enough resources are available, damage control /firefighting will be carried out to provide extra time for evacuation.
  • Continuous monitoring of the situation aboard becomes more important (damage usually spreads progressively = significant risk of the situation turning "black").

**BLACK**
The vessel is no longer safe and has been lost

**OPERATIONAL OBJECTIVES**
• The operational focus is on rescuing people on the hull as well as searching for and rescuing those in the water.
  • Patient classification cannot be carried out aboard the vessel.
  • Operations involving diving or rescue by means of hull penetration are special operations that are planned and decided on separately.
  • As a rule, additional personnel are not dispatched from land to the vessel.
The Vessel Triage categorisation indicates the level of safety aboard a distress vessel for its passengers and crew, taking into account the prevailing and anticipated conditions on the ship and in its environment.

**GREEN**
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**YELLOW**
- The vessel is currently safe, but there is a risk that the situation will get worse.

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EXCAMPLES OF THE APPLICATION OF THE VESSEL TRIAGE CATEGORISATION METHOD

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**THE VESSEL IS SAFE AND CAN BE ASSUMED TO REMAIN SO**

**THE VESSEL IS CURRENTLY SAFE, BUT THERE IS A RISK THAT THE SITUATION WILL GET WORSE**

**THE LEVEL OF SAFETY ABOARD HAS SIGNIFICANTLY WEAKENED AND IMMEDIATE EXTERNAL ACTION IS REQUIRED TO ENSURE THE SAFETY OF THE PEOPLE ABOARD**

**THE VESSEL IS NO LONGER SAFE AND HAS BEEN LOST**
A place of refuge is a place where a ship in need of assistance can take action to enable it to stabilize its condition and reduce the hazards to navigation, and to protect human life and the environment.

It may include a port, a place of shelter near the coast, an inlet, a cove, a fjord or a bay or any part of the coast.
WHAT INFORMATION IS IMPORTANT TO THE STAKEHOLDERS?

- Local politics
- Availability of resources
- Weather forecasts
- Ongoing status of the cargo and any deterioration
- True status of the casualty – live information and facts about any changes
- Detailed nature of the seabed
- The local geography, geology and bathymetry
- Any relevant local wildlife species
- Constant monitoring and updating of status
- The type, value and specification of the cargo
- Fuel status, consumption and quantities ROB
- The plans and particulars of the ship as was
- Legislation
- Who are the authorities ashore
- The interested parties
- True status of the casualty – live information and facts about any changes
- Constant monitoring and updating of status
- The type, value and specification of the cargo
- Fuel status, consumption and quantities ROB
- The plans and particulars of the ship as was
- Legislation
- Who are the authorities ashore
- The interested parties
• Decisions should not be made on the basis of scanty information
COLLABORATION

Vessel Triage System
PROJECT PARTNERS

Finnish Border Guard
German Maritime Search and Rescue Service
United States Coast Guard
Antigua Barbuda Search and Rescue
SAR-506 COSTA RICA
Royal Danish Navy
Estonian Police and Border Guard Board
Swedish Maritime Administration
Latvian Coast Guard Service
Polish Maritime Search and Rescue Service
International Maritime Rescue Federation
AECO
Viking Line Abp
FINNLINES PLC.
Alfons Håkans
Tallink Silja Ltd
VG-Shipping Ltd
HT Shipmanagement Ltd
Finnpilot Pilotage Ltd
Meritaito Ltd
Bore Ltd

DNVGL
Bureau Veritas
Lloyd’s Register EMEA
VTT Technical Research Center of Finland
Aalto University
Novia, Aboa Mare
University of Cologne
SSRS International SAR Centre
Admiral Makarov State University of Maritime and Inland Shipping
Finnish Transport Safety Agency
Finnish Transport Agency
Finnish Environment Institute
Southwest Finland Emergency Services
Helsinki City Rescue Department
Safety Investigation Authority of Finland
Wellington Volunteer Coastguard Incorporated
Finnish Shipowners Association
Aland Island Lifeboat Society
Shipping division Belgium
Kotka Maritime Research Association
Stena Line
Netherlands Coastguard
EXECUTION PLAN

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**Launch of the project**

- Project Establishment
- Contacting relevant partners
- VTT familiarization
- Communication
  - Collaboration

**Phase I**

- Deciding on the categorization method principle
  - Kick-Off seminar & workshop
  - Development of the Vessel TRIAGE concept and deciding on the basic categorization principals
  - Communication
  - VTT guidance

**Phase II**

- Development of categorization method and a related risk assessment tool
  - Risk Assessment workshop
    - Defining the appropriate questions and criteria required for determining the vessel's status ("categorisation rules") → method
  - Development of an electronic risk assessment tool
    - Communication
    - VTT collaboration

**Phase III**

- Publication of Vessel Triage system
  - Communication
  - Publication Event
    - Launch of the Risk Assessment Tool
  - Reporting
    - Finalizing the IMO documentation for MSC 2016
      - Communication - Reporting - Disassembling
The project is being implemented between July 2014 and May 2015, funded by the Ministry for Foreign Affairs of Finland.

- The Vessel TRIAGE related development work will be carried out by means of international workshops (held in Helsinki, Finland), video meetings and internet based communication tools.

- Vessel Triage project is applying for Flagship status on EUSBSR Priority Area on Maritime Safety and Security.

- Once the Vessel TRIAGE system is ready, the documentation for a proposal to IMO will be prepared:
  - for IAMSAR “2019 edition” (+ possibly ISM –code)
TRANSLATING BEST PRACTISES INTO WORKING PRINCIPLES

Operators + Scientists =

VESEL TRIAGE

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Thank you!

FOR MORE INFORMATION, PLEASE CONTACT

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