



# Time To Rescue:

## *Challenges and opportunities*

---

**Knut Espen Solberg, Principal Specialist Winterization  
Norwegian Coastal Administration/GMC Maritime/University of Stavanger**

# Authors

---

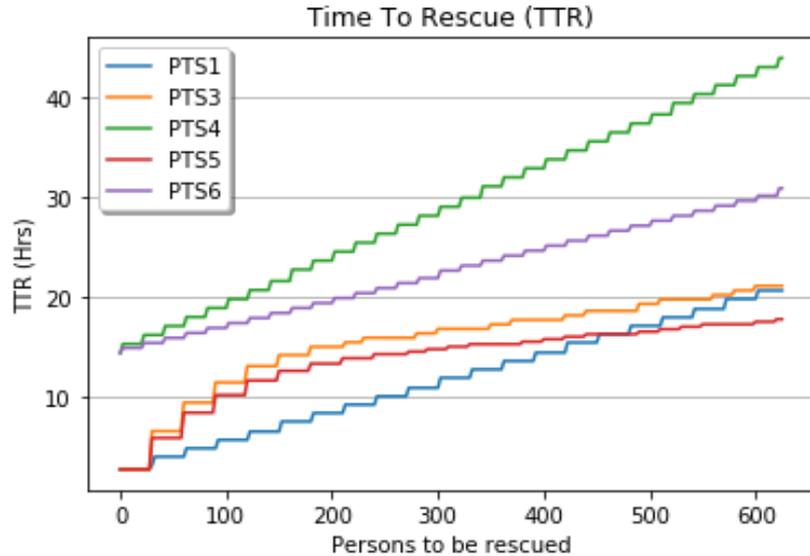
- **Norwegian Coastal Administration/GMC/UiS - Knut Espen Solberg**
- **Petroleum Safety Authority Norway - Jan Erik Jensen**
- **Norwegian Coast Guard - Endre Barane**
- **Lufttransport AS - Snorre Hagen**
- **Norwegian Coastal Administration - Andreas Kjøl**
- **University of Tromsø - Gudmund Johansen**
- **Univeristy of Stavanger/Tromsø - Ove Tobias Gudmestad**



# Paths to Survival

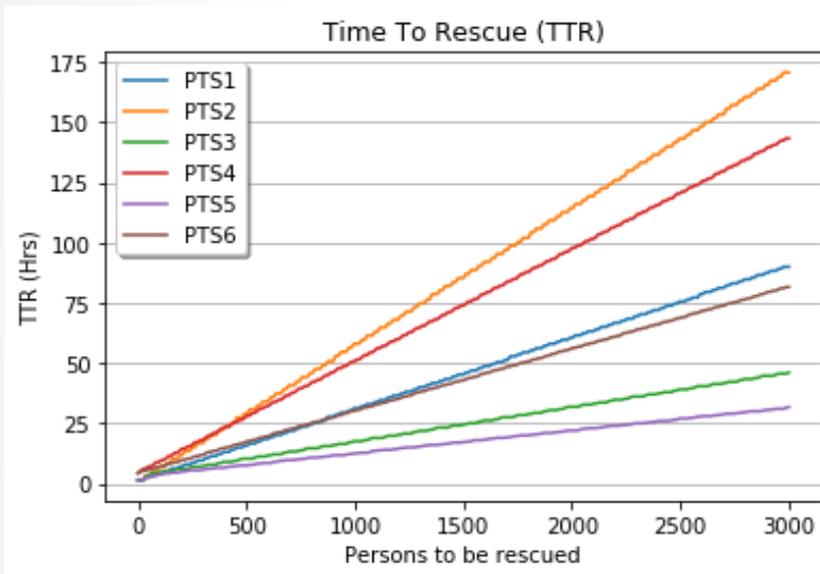
<b>Path to Survival</b>	<b>Evacuation From</b>	<b>Means Loading</b>	<b>Platform</b>	<b>Evacuated To</b>	<b>Means unloading</b>
PTS1	Vessel of distress/ survival craft	Hoist	Helicopter	Shore/nearby vessel of opportunity	Walk
PTS2	Survival craft	Hoist	Helicopter	Helicopter base	Walk
PTS3	Survival craft	Hoist & crawl	Helicopter & FRC	SAR-vessel	Walk
PTS4	Survival craft	Crawl	FRC	SAR-vessel	Walk
PTS5	Shore	Walk	Helicopter & FRC	SAR-vessel	Walk
PTS6	Vessel of distress/ shore	Walk	FRC	SAR-vessel	Walk

# Scenario 1 - small passenger vessel operating a in a remote region (200 nm from infrastructure)



Path to Survival	Evacuation From	Means Loading	Platform	Evacuated To	Means unloading
PTS1	Vessel of distress/ survival craft	Hoist	Helicopter	Shore/nearby vessel of opportunity	Walk
PTS2	Survival craft	Hoist	Helicopter	Helicopter base	Walk
PTS3	Survival craft	Hoist & crawl	Helicopter & FRC	SAR-vessel	Walk
PTS4	Survival craft	Crawl	FRC	SAR-vessel	Walk
PTS5	Shore	Walk	Helicopter & FRC	SAR-vessel	Walk
PTS6	Vessel of distress/ shore	Walk	FRC	SAR-vessel	Walk

# Scenario 2 - a larger passenger vessel operating in vicinity of infrastructure and a SAR-vessel (50 nm)



Path to Survival	Evacuation From	Means Loading	Platform	Evacuated To	Means unloading
PTS1	Vessel of distress/ survival craft	Hoist	Helicopter	Shore/nearby vessel of opportunity	Walk
PTS2	Survival craft	Hoist	Helicopter	Helicopter base	Walk
PTS3	Survival craft	Hoist & crawl	Helicopter & FRC	SAR-vessel	Walk
PTS4	Survival craft	Crawl	FRC	SAR-vessel	Walk
PTS5	Shore	Walk	Helicopter & FRC	SAR-vessel	Walk
PTS6	Vessel of distress/ shore	Walk	FRC	SAR-vessel	Walk

# Conclusion

---

- TTR is highly proportional with POB
- Preferred PTS for an incident in remote areas:
  - Less than abt 40 survivors - PTS2, utilizing helicopters, freighting the survivors directly back to the helicopter base.
  - More than abt 40 survivors - PTS5, establishing a temporary place of safety on shore/vessel of opportunity, utilizing helicopters in conjunction with SAR-vessels with helicopter support facilities.
- Increasing number of evacuation platforms reduces the TTR
- Access to helicopter support facilities is essential for prolonged operations involving helicopters.

# Recommendation

- Strain on SAR/helicopter personnel is to be addressed for prolonged operations.
- The survivors should seek sheltered water/evacuate to onshore. This will increase the probability of efficient evacuation operations.
- A companion vessel (twin vessel operation) can function as a temporary place of safety.
- The government SAR portofolio should include establishment of mobile temporary places of safety.

Operation	Minimum number of persons conducting operational tasks	Minimum number of persons allocated to the operation on a continuous basis (3 shifts)
<b>FRC operation</b>		
FRC crew	3	9
Crane operators	2	6
Reception facilities (only registration)	2	6
<b>Total FRC operation</b>	<b>7</b>	<b>21</b>
<b>Helicopter operation</b>		
Pilots	2	6
Winch operator	1	3
Mechanic	1	3
Vessel HKO + 2 NAVKIS	3	9
FDO (Flight Deck Officer)	1	3
FDA (Flight Deck Assistant)	1	3
FDM (Flight Deck Crew)	4	12
Mechanic preparing heli-fuel	1	3
Reception facilities (only registration, no medical treatment)	2	6
<b>Total Helicopter operation</b>	<b>16</b>	<b>48</b>
<b>Total all transportation operations</b>	<b>23</b>	<b>69</b>



# Time To Rescue:

## *Challenges and opportunities*

---

**Knut Espen Solberg, Principal Specialist Winterization  
Norwegian Coastal Administration/GMC Maritime/University of Stavanger**