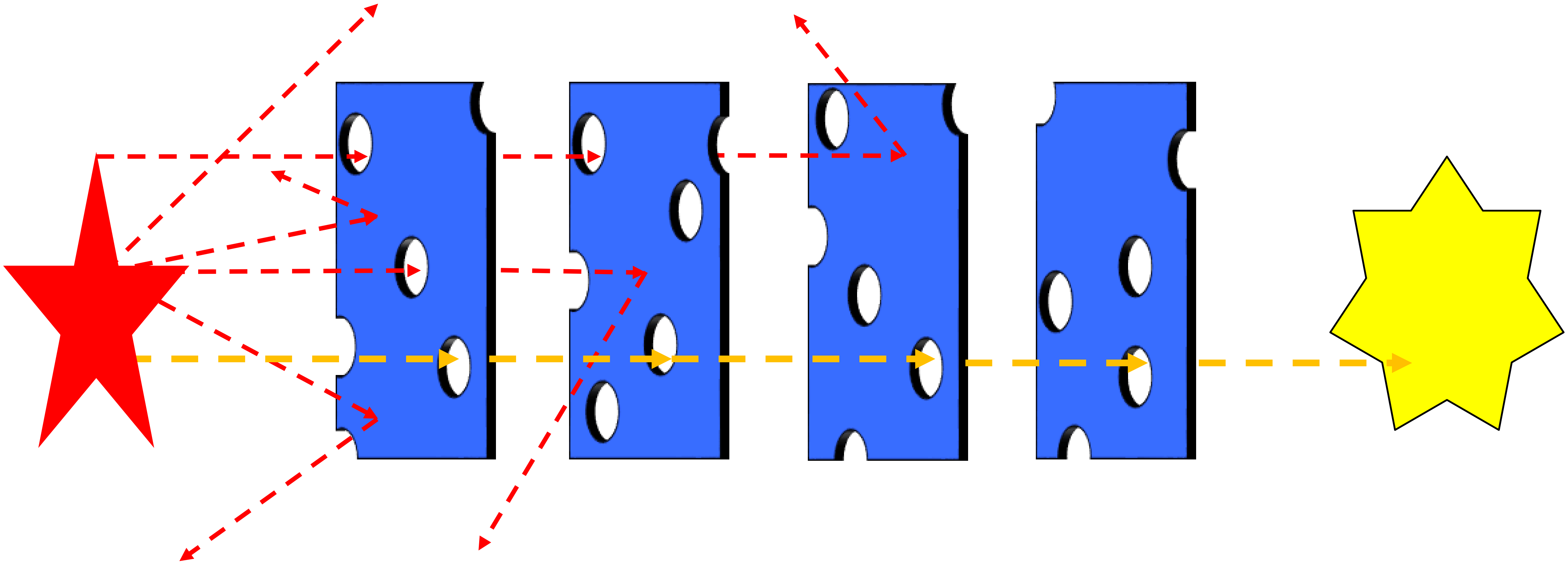
Learnings from marine collision with Installation in North Sea

Barrier management



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Actual Severity & Potential Consequence

Actual Severity: Moderate (level 3)

People / Safety:
- There were no injuries sustained.
- Precautionary down man of 52 non-essential crew.

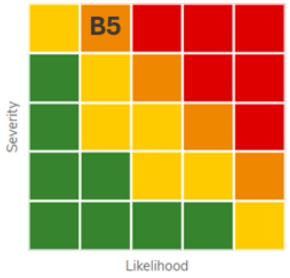
Environment:
- No impact.

Assets:
- Both the *vessel* and drilling unit suffered damage. (Consequence Severity Level 3).

Financial:
- Drilling operations on drilling unit were suspended for several weeks. (Consequence Severity Level 3).

Reputation:
- The incident attracted some Scottish and UK media attention. (Consequence Severity Level 2 / 3).

Potential Consequence: Significant (B5)



People / Safety:
- Remote likelihood of 2 or more fatalities
  (B5 Significant).

Environment:
- Remote likelihood of moderate environmental impact
  (B3 Medium).

Assets:
- Remote likelihood of >$200 million worth of damage to Assets.
  (B5 Significant).

Financial:
- Remote likelihood of $25 to $200 million worth of lost production and/or drilling cost impact
  (B4 Medium).

Reputation:
- Remote likelihood of impact on shareholder confidence and/or criminal charges.
  (B4 Medium)

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Observations

Loss of vessel barrier effectiveness

- Bridge watchkeeping practices
- BNWAS was not as effective as initially anticipated
- Standing by/ waiting in weather controls and practices

Loss of barrier effectiveness

- Monitoring of attendant vessels
- Radar early warning and tracking system
- Clarity of guard duties of ERRV

The G in ERRV

The installation Duty Holder has a legal duty to have a system in place to detect vessels which may collide with the installation. In most cases the ERRV crew shall assist in this respect by ensuring that they are aware of all vessel activity within the area

ERRVA Management Guidelines
3.2 Errant Vessel Collision Risks to Installations.

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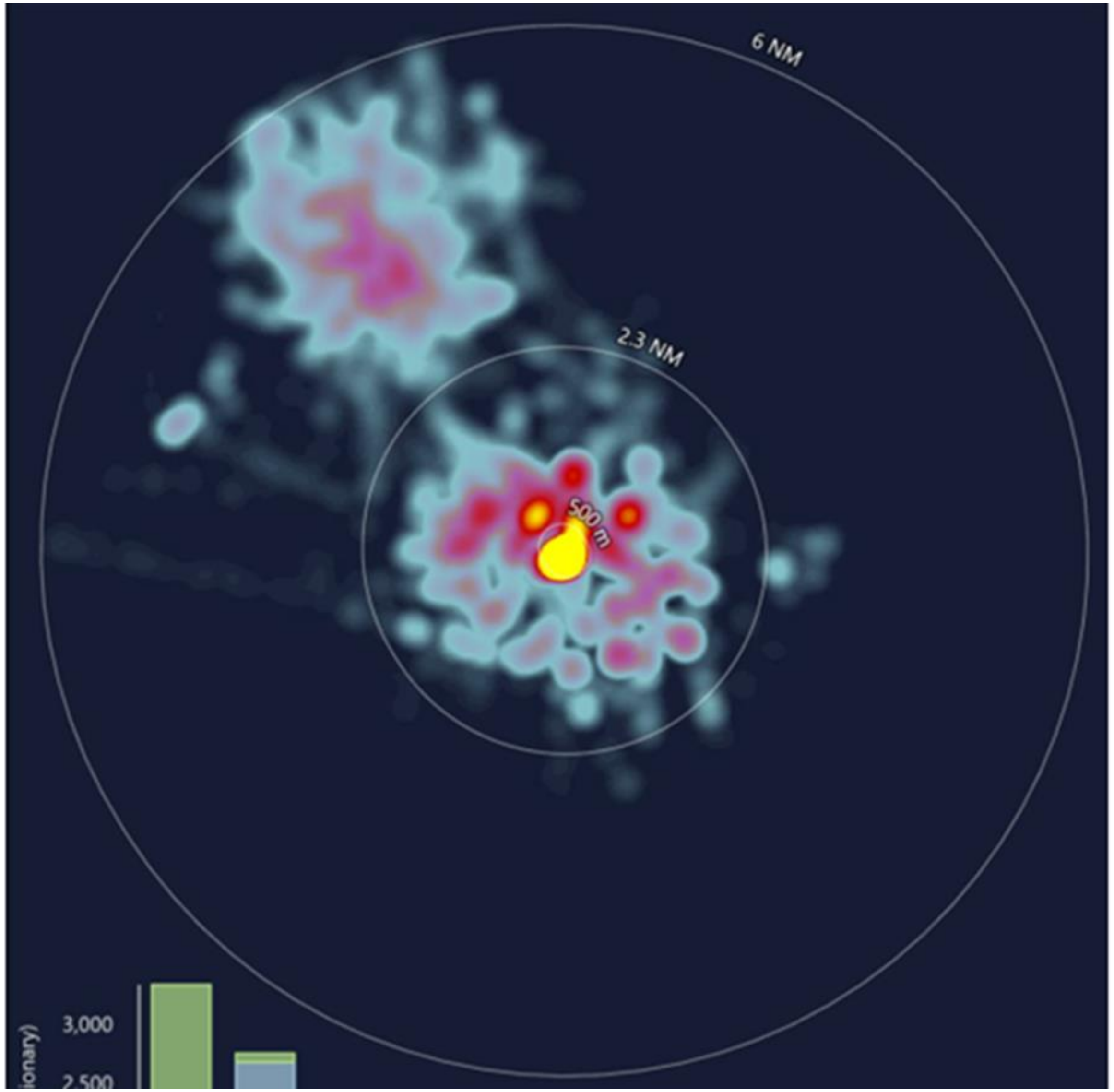
How many Alarms??

- How many Alarms is too Many Alarms?

    Lower manning levels, higher levels of automation and more capable alarm management are all intimately linked, as exemplified by modern integrated bridges. Although they have a range of navigational decision aids, support systems and “smart automation” to help them on the bridge, mariners are exposed to an increasing diversity of supervisory and decision-making tasks.

Example:

Alarms……..



Actions

- Re invigorate sailing audits on chartered vessels
- Create minimum stand by distance from operated installations
- Resolve radar early warning system issues
- Enable ERRVs in management of attendant vessel processes
- Reduce BNWAS alarm times
- Engagement sessions and on-going sessions with chartered vessel master's community

Post implementation