

## Auto/manual – human intervention

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Explore our drill scenario on the consequences of switching essential DP equipment into local/manual whist in auto DP.

DP emergency drill scenarios are included to assist DP vessel management and DPOs / Engineers and ETOs to conduct DP drills onboard. The intent is that the template can be used on any DP vessel, so specific details regarding the technical outcome are not included.

The benefit of using this template is to monitor and learn from the human reactions of key DP personnel. It is also important that the crew are familiar with various DP system set-ups including their failure modes.

Refer to Code of practice for the training and experience of key DP personnel – Appendix six (IMCA M117).

### Exercise scenario: Auto/manual – human intervention

#### Objective:

To familiarise all vessel crew what the consequences of switching essential DP equipment into Local/manual whist in auto DP.

There have been many event reports submitted that have detailed the effects of switching running equipment into local/manual, mainly because the effects of doing so were unknown, carrying out this drill will enable the Key DP Personnel to further understand the consequences of their actions.

#### Method:

This test can be undertaken when the vessel is in a safe open space with no risk of excessive position excursion causing an unsafe condition.

Vessel in auto DP.

#### Thrusters:

- At local position switch thruster into local – Observe effect on DP control – Reinstate.
- At local thruster lever control switch thruster to manual – Observe effect on DP control – Reinstate.

#### Engines:

- At local position switch engine into local – Observe effect on DP control – Reinstate.
- At remote engine control switch thruster to manual– Observe effect on DP control – Reinstate.

#### Pumps:

- At local position switch running seawater pump into local – Observe effect on SW system – Reinstate. (Carry out for all systems pumps).
- At local position switch running freshwater pump into local – Observe effect on FW system – Reinstate. (Carry out for all systems pumps).
- At local position switch running fuel pump into local – Observe effect on SW system – Reinstate.

#### DP Controllers:

- On running/in use controller, reset – Observe effect on DP control – Reinstate.

#### **Observations during drill:**

- Does the action effect the DP Control?
- Are the expected alarms generated?
- Are the systems affected and how?
- Document all the effects.

#### **Discussion points (post-exercise):**

##### Vessel:

- Are all effects understood?

##### Human factors:

- Are all effects understood with regards Human intervention?
- What should be the response of the DPO?
- What would be the worst-case scenario?
- Discuss the alternative actions/reactions that may occur in response to a similar scenario. Are there multiple paths to a successful resolution or is there a preferred solution? Why?

##### Review of DPO and other key DP personnel reaction:

- What potential gaps in the existing DP Familiarisation program have been highlighted as a result of the exercise?
- What changes/revisions should be considered for the training and familiarisation procedures?

##### Review the applicable checklists (ASOG CAM/TAM/DP operations Manual/bridge and engine room checklists/FMEA/DP Annual Trials programmes/etc.):

- What additional necessary actions and considerations should be addressed?
- What potential changes should be made to make the checklists more appropriate?
- What additional necessary operating conditions and parameters should be considered?
- What potential changes should be considered to make Decision Support Tools more applicable to the vessel and her equipment?
- How would these changes improve/affect the vessel's capabilities and limitations?

#### **Conclusion:**

Based on the results of the exercise and related discussions before and after, any suggestions for follow up including any corrective actions deemed appropriate should be accurately detailed and managed to close out.

Handling of essential DP systems in the correct manner requires knowledge of the Key DP Personnel and how the DP system reacts to human intervention.

Items to consider include:

- DP system reaction to failures.
- Appropriateness of communication.
- Training requirements.

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## Related IMCA Guidance

### IMCA M117

*The case studies and observations above have been compiled from information received by IMCA. All vessel, client, and operational data has been removed from the narrative to ensure anonymity. Case studies are not intended as guidance on the safe conduct of operations, but rather to assist vessel managers, DP operators, and technical crew.*

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