Just prior to moving off, the third engineer was relieved watch by the second engineer. The second engineer reconfigured the seawater cooling pumps and worked alone in the engine room. He failed to use the departure checklist provided to remind crew of all the steps required.

On departure, alarms sounded indicating that the generators were overheating. The second engineer did not report this to either the chief engineer or ship's master. Both generators tripped causing, among other things, a loss of hydraulic oil supply to the controllable pitch propeller (CPP). The CPP then locked in the full astern position and the vessel grounded soon afterwards.

The chief engineer and third engineers had stopped the main engines without contacting the bridge and with no knowledge of the vessel's navigational position. The engine room was a scene of chaos in which the chief engineer was unable to impose his authority on the engineers – all foreign nationals – who spoke to each other in their own language. The master was able to communicate with the chief engineer only via his first officer because the sound-powered telephone he had available went unanswered in the engine room and also, it was located on the bridge remote from the master's control position. The extended chain of communication caused confusion and led to the engines being restarted without the master's approval.

There are several lessons to learn from this event – not least concerning minimum manning, complacency of crew during critical maneuvers, use of checklists, poor placement of equipment and practices for changing watch. Those specifically concerned with communications include need to ensure that:

- *All crew are able and willing to communicate in one language*
- *Clashes of personality within the team that can hinder communications are resolved*
- *All crew are aware of the plant state (in this case, the CPP default position) using written signs and briefings*
- *Communications between bridge and engine room are adequate at all times*

Very similar issues have arisen in many other incidents. Winbow of the International Maritime Organization (2002) states that, "…effectiveness of bridge resource management and particularly ineffective relationships between master, crew and pilot are recurrent themes. Communication difficulties often occur in these areas due in part to cultural differences but also due to language 'barriers'."

This paper has distilled the findings from a number of different sources describing the difficulties experienced across a range of industries, including the maritime industry. Many common themes have emerged that can be shared with a view to improving how we communicate generally but also in safety critical situations. These are set out next.

The Communication Process

There are several distinct stages in any communication process. Again, they may be obvious to us from everyday communications; however, it is worth breaking the process down into its constituent parts to explore the problems that could arise at each stage.

In sending a message we must:

- Identify the need to communicate
- Select the means of communication
- Create the message
- Send the message
- Receive, understand, and act upon feedback