CLASSIC DP INCIDENT

FEBRUARY 2016

MULTIPLE GYRO FAILURE

WHAT HAPPENED

While DP operations were in progress, all gyro compass data failed at the same time and the data froze. There were no alarms from any gyros or from the DP control system. The vessel heading was lost.

ROOT CAUSE

A voltage spike on the 24 volt backup supply used by all three gyro (common backup supply) caused all three gyro processors to freeze.

POSSIBLE BARRIERS TO THIS FAULT

1. Use separate 24 volt backup supplies, one for each gyro.

2. These were traditional moving mass gyro compasses. Replace one of the 3 with a different technology gyro compass, e.g. FOG that does not need a 24 volt backup. Having one gyro with different technology compared to three identical gyros would also provide some protection from other common mode failures.

COMMENTS

1. This incident has occurred multiple times in the past.

2. Loss of all gyro compasses will lead to the vessel experiencing heading loss and, depending on the specific situation, may lead to loss of position. Loss of correct gyro data may also corrupt position reference measurements, depending on the specific equipment installed and its configuration.

3. DP2 and DP3 vessels have 3 gyro compasses, usually three identical models, as in this report.

4. Check your Class Society rules before equipment changes. If changes are made then update documentation and drawings and submit to vessel class society for approval, commission and test the new equipment, and update the FMEA.