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**Session 7**

**Power Plant**

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**Maintenance**

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## Maintenance

Many DP vessels have missions that include extended periods dockside, this usually allows opportunity for substantial power plant equipment shutdowns for scheduled maintenance. Other vessels, like DP drilling vessels, have missions that include long periods on station keeping alternated with short or long periods of transit between locations. These vessels have limited opportunity for shutdown of certain powerplant equipment without compromise to their mission because the continuous high load demand on their power plants.

The basic and detailed design of a DP vessel should allow for maintenance access to the powerplant.

- Usually redundancy will provide much of segmentation and isolation needed to allow access to parts of the system for scheduled maintenance.
- The detailed design can make a large difference to maintainability, for example, the main design might provide safety against loss of position if one of the DP system UPS units fails, but scheduled maintenance of the UPS or its batteries might not be possible except between missions.
- If a maintenance bypass is fitted with the UPS maintainability is enhanced by freedom from operational constraints. Many levels of equipment in the system have corresponding issues at the detail level.
- the design and equipment should be as simple as possible, simplicity is easier to document adequately for maintenance and operational purposes, easier to train the maintainers for and an easier match for available manpower skill levels than for a more complex system. Also simple systems seem to be less sensitive and more forgiving about the applied precision of the maintenance and its application schedule. Design simplicity and equipment simplicity is often overlooked in the apparent promise of reliability of the DP consequence class approach, this has led to awkward complex systems that often enjoy substantial initial operations problems and a high rate of equipment reliability problems. Even within the consequence class approach simplicity is still a worthy goal.

Almost anything that allows scheduled maintenance to proceed at any time in vessel operations will also provide freedom and benefits during unscheduled maintenance. This might be the greatest value of these measures, in allowing correction of problems without impact on the vessel operations.