

**CLASS REQUIREMENTS  
for  
DYNAMIC POSITIONING  
NOTATIONS**



**MTS DP CONFERENCE 10-13-1998**

**ABS Offshore**

# OVERVIEW

- BACKGROUND
- APPLICABILITY
- NOTATIONS
- REQUIREMENTS

(A general discussion of the DP Guide requirements, may not be all inclusive.)



# BACKGROUND

- NORTH SEA SERVICES
- NORWEIGIAN REQUIREMENTS
- IMO REQUIREMENTS
- CLASS RULES (OPTIONAL)



# APPLICABILITY

- MODU'S
- DRILLSHIPS
- RESEARCH AND DIVING VESSELS,  
AND
- OTHER FLOATING STRUCTURES



# NOTATIONS

- **DPS-0:** NO BACK-UP
- **DPS-1:** BACK-UP FOR MANUAL CENTRALIZED CONTROL & AUTOMATIC HEADING CONTROL
- **DPS-2:** BACK-UP TO WITHSTAND SINGLE FAULT
- **DPS-3:** BACK-UP TO WITHSTAND SINGLE FAULT INCLUDING LOSS OF COMPARTMENT



# REQUIREMENTS

- **DPS-0:** VESSELS ARE FITTED WITH DP SYSTEMS WITH CENTRALIZED MANUAL CONTROL & AUTOMATIC HEADING CONTROL.



# REQUIREMENTS

- **DPS-1:** VESSELS ARE FITTED WITH DP SYSTEMS CAPABLE OF AUTOMATICALLY MAINTAINING POSITION AND HEADING, WITH INDEPENDENT CENTRALIZED MANUAL POSITION CONTROL & AUTOMATIC HEADING CONTROL .



# REQUIREMENTS

- **DPS-2:** VESSELS ARE FITTED WITH DP SYSTEMS CAPABLE OF AUTOMATICALLY MAINTAINING POSITION AND HEADING WITHIN SPECIFIC ENVELOPE DURING AND FOLLOWING A SINGLE FAULT.



# REQUIREMENTS

- **DPS-3:** VESSELS ARE FITTED WITH DP SYSTEMS CAPABLE OF AUTOMATICALLY MAINTAINING POSITION AND HEADING WITHIN SPECIFIC ENVELOPE DURING AND FOLLOWING A SINGLE FAULT, INCLUDING LOSS OF COMPARTMENT.



# DPS-O

- SUFFICIENT THRUSTERS TO MAINTAIN POSITION.
- COMMUNICATION BETWEEN BRIDGE AND DP CONTROL STATIONS, ENGINE CONTROL, AND OPERATIONAL CENTERS SUCH AS DRILLFLOOR.
- A POSITION REFERENCE SYSTEM, WIND SENSOR AND GYRO.
- NO REDUNDANCY.



# DPS-1

- SAME AS **DPS-0** WITH THE FOLLOWING:
- AUTOMATIC CONTROL WITH AN INDEPENDENT BACK-UP CENTRALIZED MANUAL POSITION CONTROL WITH AUTOMATIC HEADING.
- POSITION REFERENCE SYSTEM, WIND SENSOR, GYRO IN DUPLICATE.
- UPS FOR CONTROL, MONITORING AND REFERENCE SYSTEM.



## DPS-2

- SAME AS **DPS-1** WITH THE FOLLOWING:
- TWO INDEPENDENT BACK-UP CENTRALIZED MANUAL POSITION CONTROL WITH AUTOMATIC HEADING.
- THRUSTER TO MAINTAIN POSITION UNDER SINGLE FAULT.
- TWO INDEPENDENT MEANS OF COMMUNICATION.



## **DPS-2**

- **POSITION REFERENCE SYSTEM, WIND SENSOR, GYRO IN DUPLICATE AND A THIRD INDEPENDENT POSITIN REFERENCE SYSTEM.**
- **POWER AND GENERATION SYSTEM TO BE ABLE TO WITHSTAND FAULT.**
- **FAILURE MODE AND EFFECT ANALYSIS TO BE SUBMITTED.**



## DPS-3

- SAME AS **DPS-2** WITH THE FOLLOWING:
- A THIRD GYRO, AND IT MUST BE LOCATED WITH THE THIRD INDEPENDENT POSITION REFERENCE SYSTEM IN A BACK-UP CONTROL STATION.
- BACK-UP STATION TO HAVE ADDITIONAL UPS FOR CONTROL, MONITORING AND REFERENCE SYSTEM.
- POWER AND GENERATION SYSTEM TO BE ABLE TO WITHSTAND FAULT



# **DYNAMIC POSITIONING NOTATIONS**

**OPTIONAL NOTATIONS AND NOT  
CLASS REQUIREMENT. TO BE  
SELECTED BY THE DESIGNER OR  
OWNER.**

**IF THEY ARE USED FOR PROPULSION,  
SYSTEM MUST COMPLY WITH CLASS  
RULES.**

