

# Diving Seminar Bergen 2011



**Andy Butler – Snr LSS Skandi Arctic**  
16<sup>th</sup>/ 17<sup>th</sup> November 2011

# Table of contents

1. Front
2. Introduction
3. Skandi Arctic and Simulator
4. Delivery of Training
5. Competency Training Schedule
6. Competency conventional/ Automated
7. Foundations for sound training
8. Structured Training Objectives
9. Presentation of Automated Control & Safety Systems Training
10. E learning and Operator Modules
11. Training Documentation Control
12. Start Up Procedures
13. Normal Procedures
14. Emergency Scenarios
15. System Simulator
16. Simulator requirements
17. Training Goals

# Skandi Arctic Dive System Training and Competency

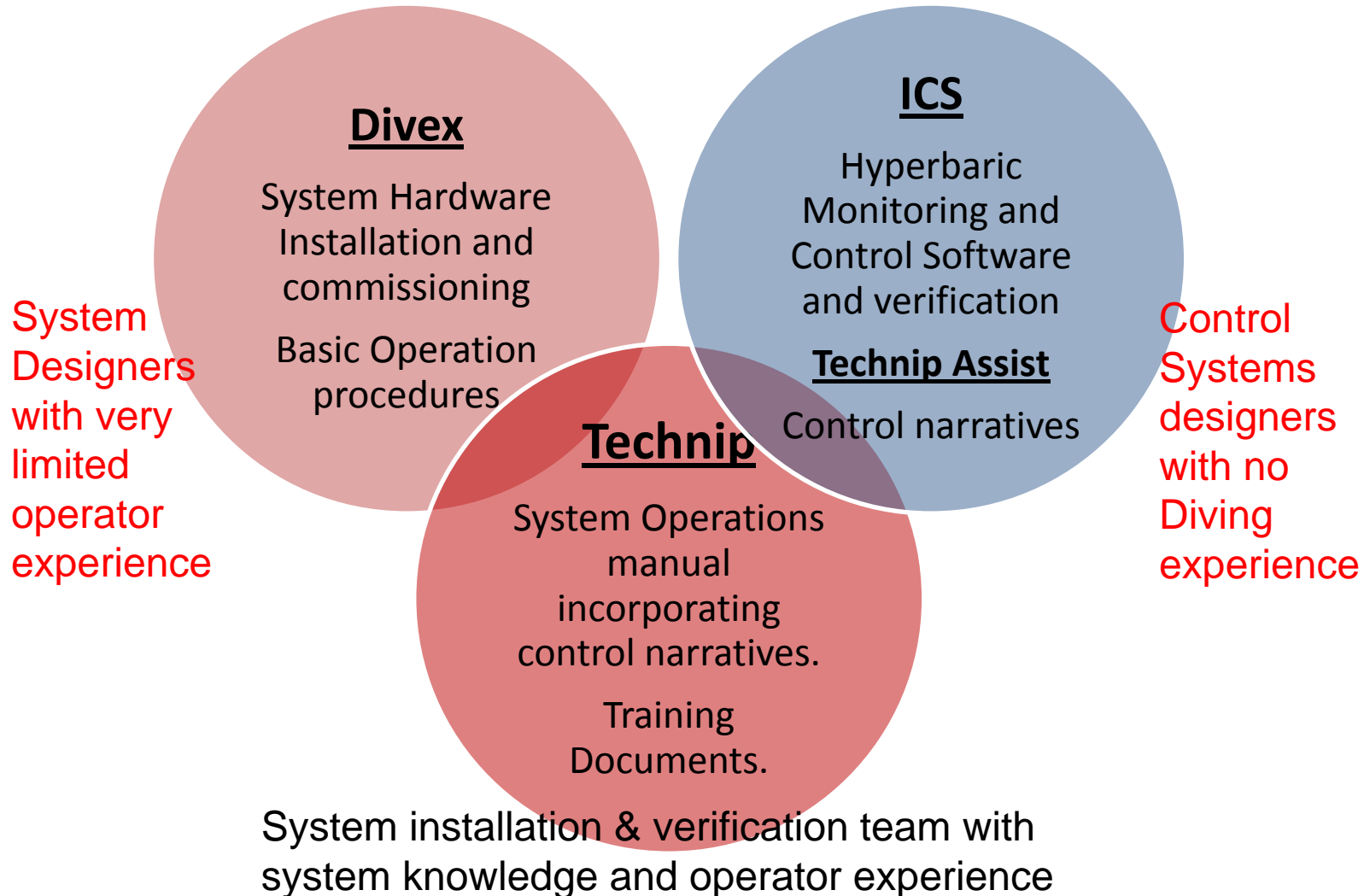


Onboard  
the Vessel



& Simulator

# Delivery of Training



## Competency Training schedule

- ✓ Structured Course schedule with a guidance on timescales for each section and pre-determined breaks etc.
- ✓ Class sizes should be governed by facility size and access to panel / console to ensure proper instruction.
- ✓ Duration should be set only after a reasonable amount of training and feedback has been received.
- ✓ Candidates have different learning abilities so provision has to be given for rescheduling and extra training if the instructor feels this to be necessary.
- ✓ Good feedback and recording during Emergency scenario training is an absolute requirement.

# Competency Training

## Conventional System

- ✓ Training and competency of Life Support and Dive Supervisors are covered within IMCA.
- ✓ Company's vessel and system familiarisation covers vessel specifics
- ✓ On going company competency which is based on IMCA guidelines.
- ✓ Current Legislation still open to interpretation with regards delivery requirements

## Automated System

- ✓ Importance of candidates being classed as competent on conventional systems.
- ✓ Structured Training on vessel console or simulator.
- ✓ Scenario based testing to gauge and record competency on response time and learning
- ✓ Feedback for improvements
- ✓ Standards of delivery and competency decided in house due to lack of guidance

# Foundations for Sound Familiarisation and Competency Training on Automated systems

- ✓ E-learning used as an introduction to ease transition and boost confidence.
- ✓ System Presentation using screen shots, pictures, system layout and hardware information with Questions and answers session. Presentation also given to Divers.
- ✓ Operator Training using Documents which are designed to take operator through working screens in systematic order and give familiarity.
- ✓ Gauging of Competency with the use of operational and emergency scenarios

# Structured Training Objectives

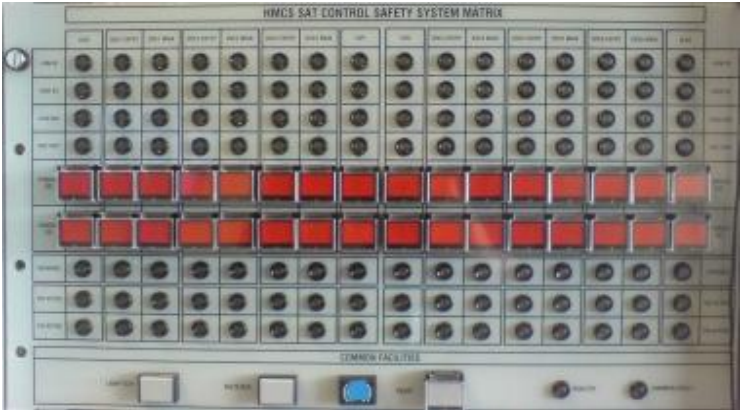
Training should be structured in such a way that the candidates gain the following.

- ✓ A competent level of understanding of all the equipment in use and as set down by there job descriptions.
- ✓ A good level of familiarity and confidence with all the operations on the panel or console.
- ✓ Good response times and logical use of the equipment In Normal and emergency situations.

# Training Documentation Control

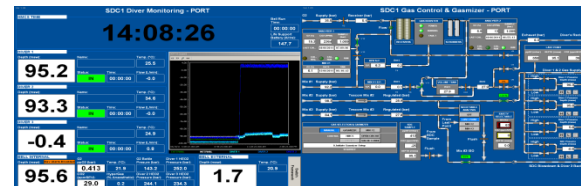
- ✓ Training Documents integrated into company BMS to ensure appropriate levels of control.
- ✓ Documents updated to mirror system changes.
- ✓ Relevant sections of the System competency Logs signed and dated by candidate and instructor.
- ✓ Refresher training carried out as set down by assessment and verification manual
- ✓ Integration of Dive System Changes Log for critical and non critical changes. All relevant personnel to sign off individual sections once read and understood to give traceability.

# Presentation of Automated Control & Safety Systems Training

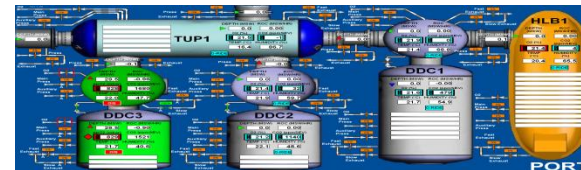


# E Learning and Operator Modules

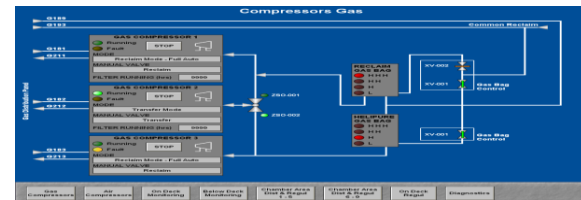
1. Dive Control



2. Sat Control



3. Gas Management



# Start up Procedures

- ✓ Equipment checklists
- ✓ Equipment start up procedures
- ✓ System faults and alarms
- ✓ System diagnostics
- ✓ Calibration of system analysers
- ✓ Inputting information into relevant areas

# Normal Procedures

- ✓ Chamber pressurisation on panel, in semi auto and full auto modes on SCADA and HMI
- ✓ Maintaining storage and PPO levels on panel, in semi auto and full auto modes on SCADA and HMI
- ✓ Operating ECU, setting blower speeds temperature and humidity levels on SCADA and HMI
- ✓ Operating Chamber utilities on SCADA and HMI
- ✓ Sealing Trunks, separating and flushing locks on panel, SCADA and HMI
- ✓ Preparing and initiating decompression on single and multiple Locks on the SCADA and HMI

# Emergency procedures

- ✓ Rapid Loss of Gas from single Locks and multiple locks
- ✓ Fire in the system
- ✓ Failure of HCU
- ✓ HLB evacuation
- ✓ Failure of Analysis
- ✓ Fire in Control room
- ✓ Failure of servers or operating systems

# System Simulator

- 1 Overview screen
- 2 Operator work stations
- 1 Instructor Station
- 1 HMI (human machine interface)
- 1 Safety HMI



# Simulator Training Requirements

- ✓ Candidates should be comfortable and have minimal distractions.
- ✓ Simulator consoles / panels should mirror system set up to aid familiarity and confidence
- ✓ Good functionality to ensure candidates get appropriate training on all required tasks
- ✓ Good system feed back so the candidate has a realistic feel for each task.
- ✓ Ability to put systems into fault or induce emergency's for scenario training and test competency

# Training Goals

Uneasy, Unsure & Uncomfortable



Confident, Comfortable & Competent



# Thank You

