The Advanced Damage Control System (ADCS) Difference

Presented to:

Surface Navy Association

Presented by:

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BLUF

ADCS provides the following for the Surface Warfare Enterprise:

- Real-time relevant data that is transparent to ALL stakeholders and eliminates conflicting information
- Data logs ALL entries and replicate the log for historical recreation
- A **PROACTIVE** approach to DC management for ships undergoing maintenance availabilities (Industrial Ship Safety Controls)
- Commonality – Equipment, training, and troubleshooting across the Surface Warfare Enterprise
- Improved communications and resource management through networked assets

Damage Control Situational Awareness throughout the ship and across the Surface Warfare Enterprise will be delivered in real time.

"Over the past 12 years, the Navy has suffered four major shipboard fires that resulted in the loss of two capital assets." In response, NAVSEA HQ has created the Industrial Fire Safety Assurance Group (IFSAG).

1945 vs 2022

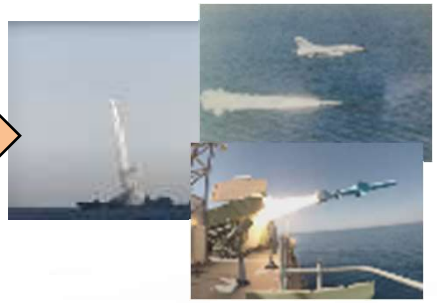
Afloat Air Defense Display & Control 1945

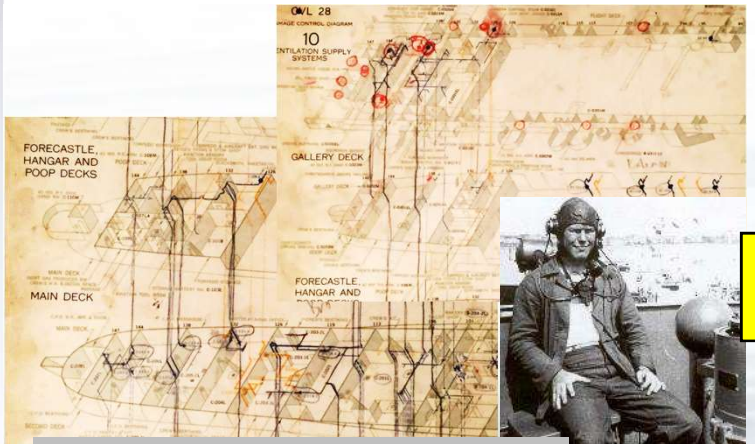
Adaptation – Tech Advance:

Force-wide: Digital Data Fusion - Real Time Common Picture - Integrated Response

Afloat Air Defense Display & Control 2022

1945 **THREAT** 2022





Afloat Damage Display & Control 1945

DC Adaptation – Tech Advance:

Nominal Advancements

Afloat Damage Display & Control 2022

OV1 – Intra-Ship Situational Awareness

ADCS automatically distributes Situational Awareness via network communications to all DC Response locations within the ship

Ship-wide DC Common Operating Picture

OV2 – Operational Scenario

ADCS is the path to future capability of real-time, distributed casualty information across the Enterprise:

Ship Availability

Ship Underway

ADCS
DevSecOps
Cloud

COMMANDER NAVAL SURFACE FORCES

COMMANDER NAVAL SURFACE FORCE ATLANTIC

NAVSEA NAVAL SEA SYSTEMS COMMAND

NAVSEA WARFARE CENTERS Philadelphia

NAVSEA REGIONAL MAINTENANCE CENTER Southwest

Potential to create Enterprise-wide DC Common Operating Picture

Industrial Ship Safety Controls

- **Daily Conditions -** Maintaining daily condition plots via ADCS ensures the crew and response teams have pre-populated information when a casualty occurs. Rather than starting with a blank DC Plate after a casualty has already occurred; all ADCS workstations are ready to combat the casualty based on a common picture of the pre-existing conditions.

  – **Survivable Information -** If the repair station or ship must be evacuated, the ADCS Tablet can be removed from its dock and carried off, ensuring all plotted details and event history is retained and available off-ship.

- **Compartment Outlines** (of various colors) can highlight hazardous areas where heavy industrial work or storage of HAZMAT is located during an availability.

- **Adaptability** - Additional features or icons can be added to ADCS to further enhance its industrial safety control capabilities

ADCS Implementation Packages

Full Tablet and Touch Screen Implementation

ADCS Full System Hardware in Damage Control Central (DCC) and DC Repair Stations (DCRS)

- Large Touchscreen Flat Panel Display (FPD)
  - 42 – 46" Screens
  - Mounted behind DC Plate Holders
- Bulkhead Mounted Sealed Computers
- Rugged Tablet; allows for portability within ship and removable for evacuations

FPD installed behind Double Panel DC Plate Holder

FPD installed behind horizontal, single panel DC Plate Holder

ADCS Software installed on CVNs' MCS workstations

- Stand-up console in DCRS locations
- 2 Sit-down consoles in DCC
- 46" Viewing Monitor in DCC (Non-touchscreen)
- Keyboard and Trackball user input devices
- No Touchscreen Capability
- No tablets for portability

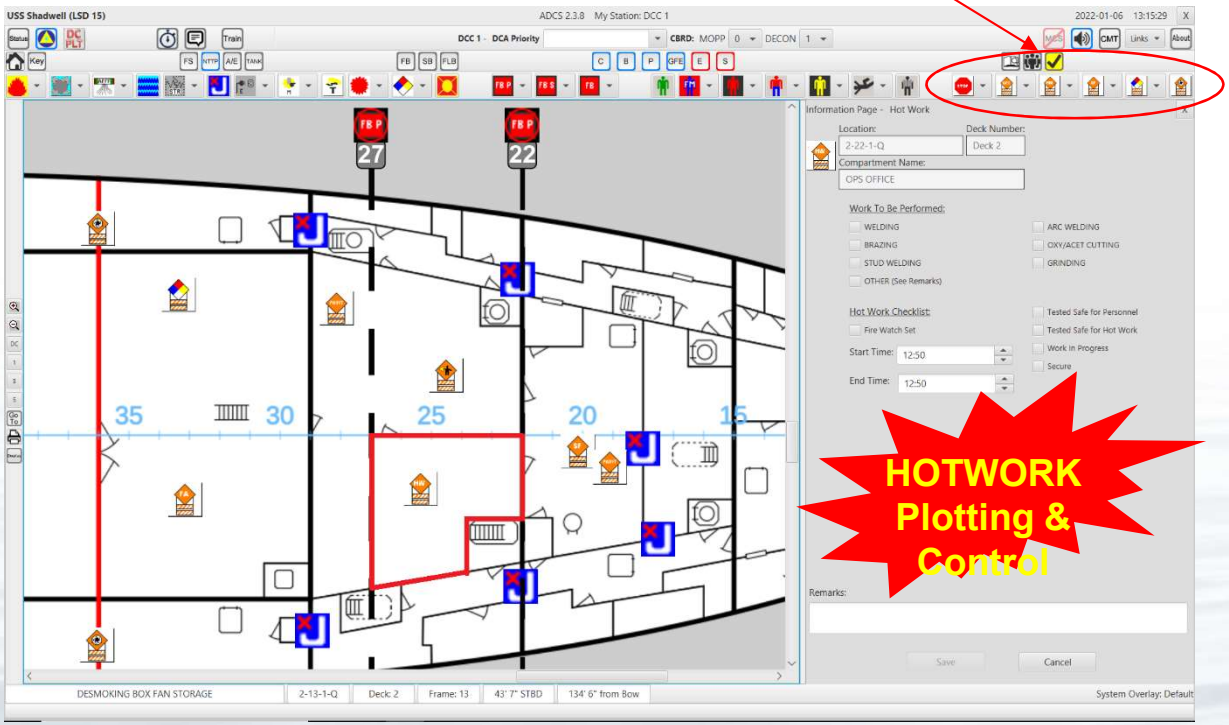
Provides a similar approach to install ADCS Software on control system workstations for DDG51 and LCS Classes.

Note: CVNs are considering an SCD (27517) to install touchscreens and tablets to enhance their ADCS capability.

Software Implementation on Existing Networks

Industrial Ship Safety Controls

- In addition to providing enhanced Damage Control management capability at sea or pierside, ADCS provides a **PROACTIVE** approach to DC management for ships undergoing maintenance availabilities. This level of **Availability Control** is not possible with manual plotting.
  - **Hardware:** Portable ADCS Tablets allow for Fire Marshall and roving watches to record conditions and synchronize with all ADCS workstations upon returning the tablet to its dock.
  - **Software:** ADCS is already outfitted with Safety Plotting Icons specifically intended to represent maintenance work and evolutions that have potential to induce casualties:



Industrial Ship Safety Controls

- Each plottable icon and ship compartment has an Info Page to detail the situation, and is viewable at all ADCS workstations. Example Safety Icons and Info Pages:

Jammed Access

Ventilation

Do Not Enter

Fire Marshall

Field Activity

Painting

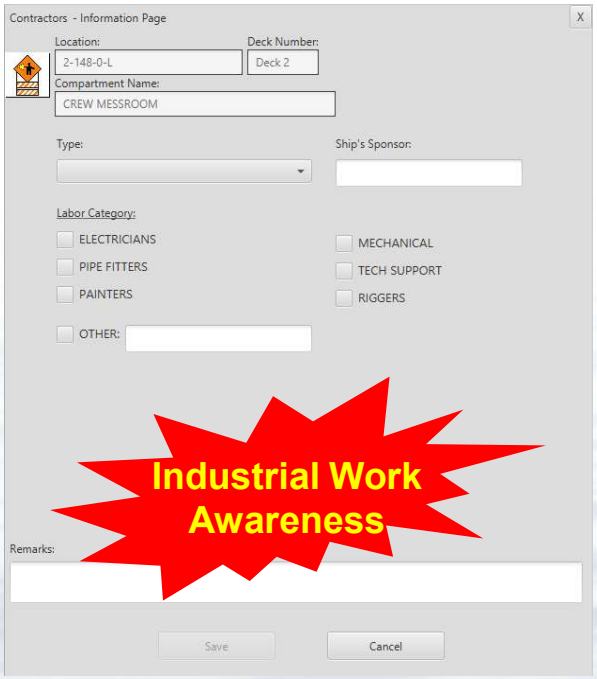
HAZMAT

Gas Free Engineer

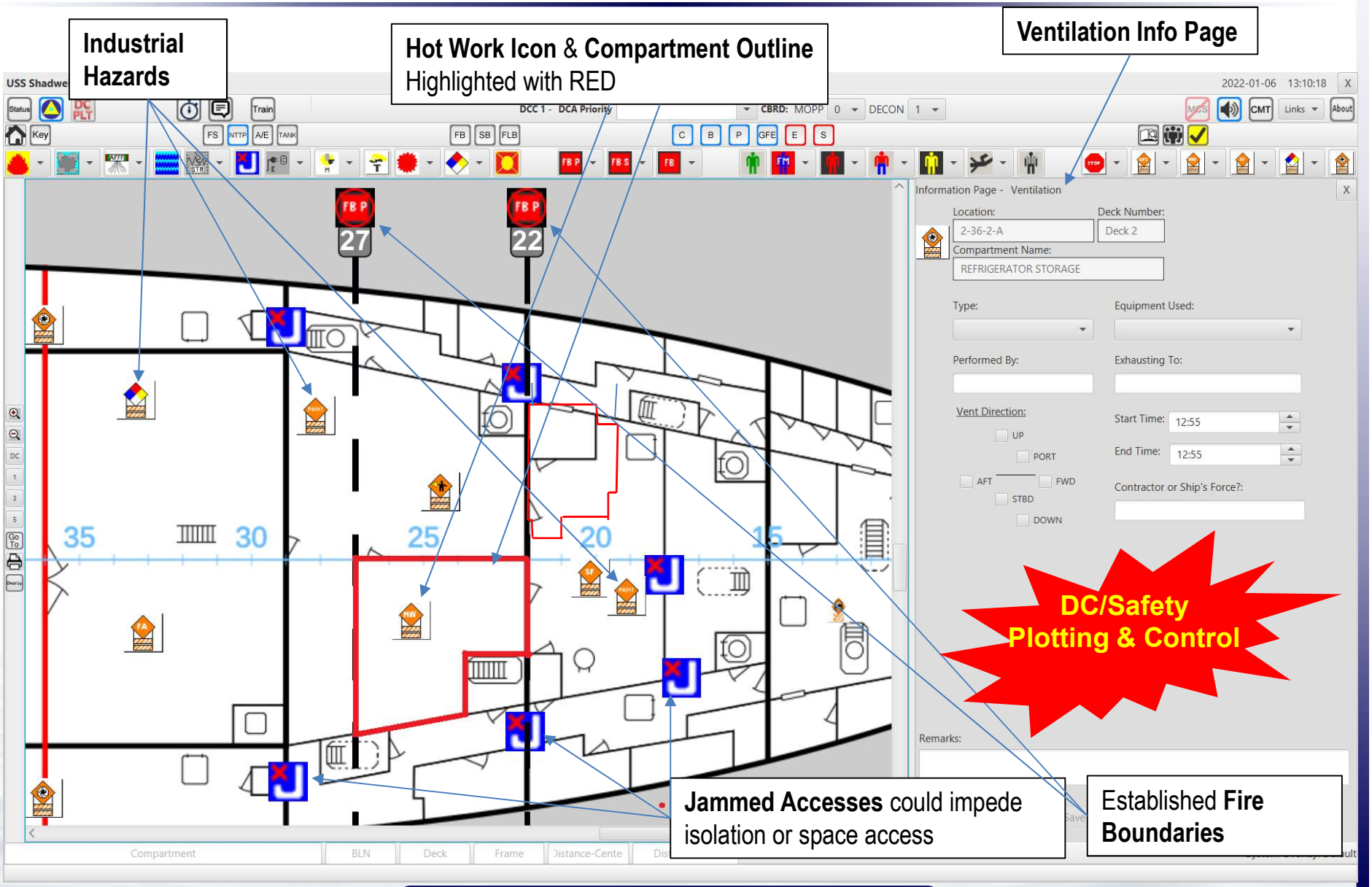
Hot Work
(Info Page Below)

Contractors
(Info Page Below)

Stop
(Info Page Below)



Industrial Ship Safety Controls



Funded Installation Profile

Full ADCS hardware installations are funded/programmed on LPD 17 (SCD 17656) and LHD 1 Class (SCD 22216).

Class	SCD	Completed Installs	FY22	FY23	FY24	FY25	FY26
LPD	SCD 17656	23	17, 21, 22, 25	24	19, 20, 26	27	
LHD	SCD 22216	-		3, 5	4	1	2, 7
LSD	SCD 18029	46	-	-	-	-	-

Notes:
LPD 26 & 27 currently have ADCS installed and will be upgraded from laptops to tablets via SCD 17656

CVNs have installed ADCS SW on most ships and are moving forward with upgrading to tablets and touchscreens. Full ADCS hardware installations fielded for all USCG WMSL Class Cutters with a dedicated ADCS network infrastructure.

Class	Install Type	Completed Installs	FY22	FY23	FY24	FY25	FY26	FY27
CVN	Software Only (SCD 16624)	68, 69, 70, 71, 72, 75, 76, 77, 78	73	74				
CVN	Hardware Upgrade (25799/27517)	-	78		68,74,73,76	69,71,79	72, 70	75, 77
WMSL	Dedicated Network & Hardware	750 - 757	758	759	760			