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CHAPTER 2 - INVESTIGATING DAMAGE

SECTION 1 - REQUIRED INFORMATION

Ref: (a) NSTM Chapter 079, V2, Practical Damage Control
(b) NSTM Chapter 555, V1, Surface Ship Firefighting

2100 REQUIRED CHAPTER TAB.

a. TAB A, DCRS and Damage Control Unit Locker (DCUL) Areas of Responsibility. A sample is provided.

b. TAB B, Tanks and Voids. A sample is provided. A listing of all tanks and voids in each DCRS's area of responsibility, along with their access, sounding tube and air escape locations (if fitted).

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SECTION 2 - INVESTIGATING DAMAGE

2200 BASIC PRINCIPLES OF INVESTIGATION.

a. These principles are listed in ref (a) and are based on investigators knowing their areas of responsibility. Pre-determined investigator routes have proven worthwhile, but are not required.

2201 INVESTIGATOR REQUIREMENTS:

a. Travel in pairs so one investigator can report damage or casualties while the other takes initial actions.

b. Wear an SCBA (activate when required). Anti-flash gear, helmet and long sleeves must always be worn IAW ref (b). CBR protective mask and inflatable life vest need not be worn, but must be assigned and readily available in the DCRS or vicinity.

c. Investigators shall carry only the equipment deemed necessary, based on initial response, to conduct investigations. The investigator kit is designed to respond to all types of damage investigations, and if carried in its entirety will slow down the investigation process. The kit may be broken down into sub-kits for investigating during specific casualties. However, these kits, when combined, must include all equipment listed on the applicable AEL.

d. Investigators will be familiar with Chapter 2, Tabs A, (DCRS Areas of Responsibilities) and B (Tanks and Voids location).

2202 INVESTIGATION PROCEDURES

a. Investigators shall be familiar investigating procedure of chapter 40 of reference (a).

b. Personnel in manned spaces shall conduct investigation on station and report results to the cognizant supervisory watch station, which in turn shall report results to DCC. Investigators will concentrate on unmanned spaces.

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c. The inspection for damage must not be confined to the primary damage area. Inspect outward from the damaged area and along the projectile path, if applicable.

d. Ship system damage reports must pinpoint the system affected and damage location by frame. This will ensure that the required sections of the system are isolated with a minimal impact on the rest of the ship. The investigator shall be knowledgeable of all ship's systems that are in or traverse their areas of responsibility.

e. When investigating for underwater hull damage and flooding, it may be unwise to open a watertight closure to a potentially flooded space. To determine if the space is flooded:

(1) Check for condensation on adjacent bulkheads, if accessible.

(2) Tap on the bulkhead a minimum of six inches from welds with a dogging wrench or similar object, listening for a distinct change in the echo tone.

(3) Carefully loosen air test fittings/sounding tubes, if provided, remembering to tighten when done.

NOTE: Caution must be exercised in the removal of sounding tube caps. Back the cap off slowly while listening for rushing air and looking for trickling water from the threads; either symptom may indicate the tank or void is open to the sea. Rushing air might also indicate fire, as oxygen is being sucked into the space to feed it.

(4) Check air escape/vents, remembering that they may be located several decks above the damaged space.

f. When underwater hull damage is found or suspected, all tanks and voids should be sounded and compared with the pre-damage soundings. The closest tanks and voids to the suspected damage should be sounded first, but underwater structural damage may not necessarily be confined to the area adjacent to the damage.

g. Indications of possible damage are listed in reference (a).

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h. Use the Navy Firefighter Thermal Imager (NFTI) because it is an infrared thermal-imaging device that helps to find heat sources. It may be used for the following:

- (1) Navigating through smoke filled compartments.
- (2) Locating the source or seat of the fire.
- (3) Finding personnel casualties.
- (4) Locating hot spots on bulkheads, decks, overheads and within ventilation ducting.

Note: Ventilation systems can be a primary path for fire spread and must be checked early and often.

2203 DAMAGE CONTROL WIREFREE COMMUNICATIONS (DC WIFCOM/ HYDRA/ SIWCS) SYSTEMS.

a. Emission Control (EMCON) considerations. All handheld wireless radios (e.g. DC WIFCOM, HYDRA and SIWCS emit radio frequency (RF) signals that can be detected. Therefore, use of any of these types of radios must be addressed in the ship's EMCON plan.

b. Hazardous Electromagnetic Radiation to Ordnance (HERO). For safety reasons, wireless communications systems generally shall not be used during weapons handling evolutions. Specifically, portable radios shall not be used closer than 10 feet of HERO susceptible or unsafe ordnance, especially in the presence of any damaged, broken, or otherwise exposed explosives.

c. Maintaining communication records. The use of handheld wireless radios eliminates the need for the scene leader and investigators to use message blanks. Reports received in the DCRS shall be recorded on message blanks to be used for both plotting and maintaining a record of communications in support of subsequent locker leader decisions.

....d. Maintaining Proficiency in Writing Messages. The writing of message blanks is a fundamental damage control skill that must not be lost. Scene leaders, investigators and other handheld, wireless radio users must continue to train in message writing to stay proficient and prepare for scenarios involving a complete loss of wireless communications.

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TAB A - DCRS AND DCUL AREAS OF RESPONSIBILITY

DCRS TWO

1. AREA OF RESPONSIBILITY - Forepeak to Fr. 67, all decks; Fr. 69 FWD main deck and above.

2. LOCATION OF DCRS - 2-51-1-A

COMP NO.	COMP NAME	LOCKED	MAJOR EQUIP
2-5-0-E	Anchor Windless Rm	NO	
1-54-0-A	ASROC Storeroom	YES	
2-54-01-L	Degaussing Equip. Rm	YES	

Note 1: Spaces that are normally locked (e.g., Store rooms, Offices, Staterooms etc.) and unmanned during General Quarters should be annotated to aid the RPL and Investigators. Divisions responsible for locked spaces shall post a sign at the entry point stating who maintains keys to the space.

NOTE 2: Under major equipment include the following type of information: magazines-type of munitions; major electrical distribution components - emergency switchboards, load centers; vital auxiliary machinery; emergency diesel, fire pumps; air compressors; fresh water pumps; ac plants; refrigeration plants; stowage of chemical warfare protective clothing and decontamination supplies (e.g. HTH) sources of additional supplies that can be used/needed in a major conflagration- foul weather gear blankets, ships store clothing, coveralls, medical supplies.

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TAB B - TANKS AND VOIDS

DCRS 5

TANK VOID	MANHOLE ACCESS	SOUNDING TUBE	SOUNDING TUBE	AIRESCAPE VENT
<u>NUMBER</u>	<u>LOCATION</u>	<u>NUMBER</u>	<u>LOCATION</u>	<u>LOCATION</u>
5-204-2-F	2-205-2 2-180-4-L	2-209-2	2-180-4-L	MAIN DECK FR 176 PORT
5-260-1-F	5-278-1 5-230-0-E	1-269-2	1-212-0-L	MAIN DECK FR 255 STBD
5-308-1-W	3-324-1	3-308-1	5-292-0-E	1-278-1-L