

EX-USS SHADWELL LSD-15
NTCSS - MOBILE, ALABAMA

STANDARD OPERATING PROCEDURES

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3000B
20 July, 2006

EX-USS SHADWELL INSTRUCTION 3000B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: EX-USS SHADWELL STANDARD OPERATING PROCEDURES (SOPs),
PROMULGATION OF

1. Purpose: To promulgate the standard operating procedure instructions.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: These instructions are the basic operating and regulatory directives of this vessel.

The functional guides included herein constitute the formal standard operating procedures by the Director to his subordinates on ex-USS SHADWELL, Navy Technology Center for Safety and Survivability, Mobile, Alabama.

Nothing in these instructions shall be construed as contravening or superseding U.S. Navy Regulations, Directives of the Department of the Navy, Directives of the Naval Research Laboratory or other directives or competent authority.

4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 3000.
5. Policy: The ex-Shadwell SOPs are intended as functional guides to provide a comprehensive and clearly defined presentation of methods, techniques and policies for dealing with daily operations of the ship. The SOPs; assign responsibilities and prescribe procedures for the coordination and direction of personnel in certain general evolutions and emergency situations, provide essential requirements for the preparation of ship's work and equipment operation bills, and set forth the principal regulations governing individual conduct on this vessel.
6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Changes and corrections: Changes and corrections to these instructions will be issued when necessary by the Technical Director, ex-USS SHADWELL. All permanently attached supervisory personnel and other permanently attached personnel, regardless their employer, are responsible to insure that these instructions are correct and current in all respects by making pertinent recommendations for changes or corrections through the chain of command to the Technical Director, Ex-USS SHADWELL.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

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EX-SHADWELL INST 1500.1B
15 March 2006

EX-USS SHADWELL INSTRUCTION 1500.1B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: STANDARD PHRASEOLOGY FOR PASSING THE WORD

Encl: (1) Representative Examples for Passing the Word

1. Purpose: This instruction outlines the standard phraseology used in passing the word over the 1-MC on ex-USS Shadwell.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction applies to all personnel having a need to use the ex-USS Shadwell's 1-MC announcing system at either the starboard quarter deck or control room microphone locations.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 1500.1A.
5. Policy: The 1-MC should be used only as necessary. The primary purpose of the 1-MC announcing system is to alert the ship to routine or emergency conditions and permit rapid and widespread dissemination of information in such conditions. The word to be passed should be prefaced with "Now Hear This". A sudden announcement without a preface does not provide time for a person to shift their attention to the 1-MC.

Use of the 1-MC will be restricted during test evolutions in accordance with guidelines issued by the test director.

6. Compliance: A thorough knowledge of this instruction by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

EX-SHADWELL INST 1500.1B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Information:

A. The 1-MC will be used to locate individuals when other means have failed and the matter requiring their presence cannot be deferred.

B. The time of day will be announced by using the ship's bell in accordance with the following protocol (* indicates one toll of the ship's bell). Announcing the time of day will occur during all regular work hours unless otherwise restricted (i.e. during testing)

0700	** ** *	1100	** ** *
0730	** ** * *	1130	** ** * *
0800	** ** * **	1200	** ** * **
0830	*	1230	*
0900	**	1300	**
0930	** *	1330	** *
1000	** **	1400	** **
1030	** ** *	1430	** ** *
		1500	** ** **

C. The arrival and departure of officers will be announced by the ship's bell. If the command of the officer is known the name of the command will be passed (For example: ** ** "Naval Research Lab", or ** ** "Arleigh Burke",) with ** ** representing the tolling of the ship's bell. If the name of the officer's command is not known and his/her rank is LCDR or higher, the word (I.E. ** ** "Lieutenant Commander, US Navy") is passed.

D. Standard announcements will be passed in accordance with formats outlined in enclosure (1).

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-SHADWELL INST 1500.1B

Smoking (out):	"The smoking lamp is out throughout the ship (or in certain areas) until further notice"
Smoking (lighted):	"The smoking lamp is lit in all authorized spaces"
Sea Detail:	"Go to your stations all the special sea and anchor detail"
Secure from sea detail:	"Secure the special sea and anchor detail"
Test ship's alarm: (07.30 each day)	"The following is a test of the ship's alarms:" General*** Chemical---- Collision -- -- "Test complete, regard all further alarms"
Sweepers:	"Sweepers, sweepers man your brooms. Clean sweep down for and aft, empty all trash cans and remove trash from the ship. Now, sweepers"
Turn to: 07:30/12:00	"Turn to: Commence ship's work"
Knock off ship's work: 11:30/15:00	"Knock off ship's work, store tools and equipment" (usually followed by sweepers)
Meals:	"Dinner for the crew"
Mistake or error:	"Belay that last word"
Commence Fire Test:	"Attention all personnel, fire testing is in progress. The area between FR xx and FR xx, on the yy deck down through the zz deck, is off limits to all non-test personnel. Disregard all ships alarms until testing is completed. Now, fire testing in progress."
Fire:	"Fire, Fire, Fire, compartment 3-20-5-L" (or other location, include deck, frame and side- Pass word three separate times with 30 second pause between each time)
Fire and Rescue:	"Away the fire and rescue detail"
Collision: (encl.1)	"Collision, Collision", (Portside, frame twenty or other location)

EX-SHADWELL INST 1500.1B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

Flooding:	"Flooding, flooding, standby all pumps"
Rain squall or storm:	"Secure the ship for squall or storm, Haul over all hatches and covers"
Hoist in boats:	"Standby the Starboard crane, Prepare to hoist in 20 foot boat"
Standby to receive:	"Standby to receive _____ boat/supplies, etc on Port/Stbd side"
Man Overboard:	"Man overboard, man overboard, Portside/Starboard side - Frame Number - Away the Life Boat Detail ----All ship's force assist as requested."
	Pass The Word Three Separate Times!
	"All other personnel not involved muster on the Quarter Deck"
Ship Adrift	"Ship Adrift, Ship Adrift"
Mooring parted or lost	"Go to your stations all the Special Sea and Anchor Detail"
Colors 07:77 and 5 min. prior to sunset	"First call to Colors"
Colors 08:00 and sunset	"Attention to colors"
Colors (upon completion)	"Carry on"

(encl. 1)

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 1540.1B
7 April, 2006

EX-USS SHADWELL INSTRUCTION 1540.1B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: EMERGENCY DRILLS

Ref: (a) EX-USS SHADWELL INST 1500.1

1. In accordance with reference (a), the following announcement shall be made over the 1-MC prior to an emergency drill:
2. EXAMPLE:

This is a drill, This is a drill:
(sound appropriate alarm if applicable)
Fire, fire, fire. Fire in compartment 1-15-6-Q, Fan Room.
Away the fire Party, Provide from Repair II
This is a drill.

This is a drill, This is a drill:
Sound alarm
Fire, fire, fire. Fire in compartment 1-15-6-Q, Fan Room.
Away the fire Party, Provide from Repair II
This is a drill.

This is a drill, This is a drill:
Sound alarm
Fire, fire, fire. Fire in compartment 1-15-6-Q, Fan Room.
Away the fire Party, Provide from Repair II
This is a drill.

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

3. EXAMPLE:

This is a drill, This is a drill:
(sound appropriate alarm if applicable)
Man Overboard. Man Overboard. Starboard bow.
All Hands muster at the Quarterdeck.
This is a drill.

This is a drill, This is a drill:
(sound appropriate alarm if applicable)
Man Overboard. Man Overboard. Starboard bow.
All Hands muster at the Quarterdeck.
This is a drill.

This is a drill, This is a drill:
(sound appropriate alarm if applicable)
Man Overboard. Man Overboard. Starboard bow.
All Hands muster at the Quarterdeck.
This is a drill.

4. EXAMPLE:

This is a drill, This is a drill:
(sound appropriate alarm if applicable)
Fire, fire, fire. Fire around 215KW generator.
Away the fire Party, Provide from Repair II
This is a drill.

This is a drill, This is a drill:
(sound appropriate alarm if applicable)
Fire, fire, fire. Fire around 215KW generator.
Away the fire Party, Provide from Repair II
This is a drill.

This is a drill, This is a drill:
(sound appropriate alarm if applicable)
Fire, fire, fire. Fire around 215KW generator.
Away the fire Party, Provide from Repair II
This is a drill.

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 1543.3B
12 April, 2006

EX-USS SHADWELL INSTRUCTION 1543.3B

From: Director, EX-USS SHADWELL

To: Distribution List

Subj: EQUIPMENT OPERATION, FIRE PUMP, EMERGENCY DIESEL

1. Purpose: The instruction provides step-by-step procedures for operation of the ex-Shadwell Emergency Diesel Fire Pump located in the forward section of compartment 3-15-2.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: The instruction provides specific pre-start and start-up procedures for the Emergency Diesel fire pump.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 1543.3A. This instruction should be read in its entirety.
5. Policy: The Emergency Diesel fire pump will be the system of last resort. The fire pumps to be used, in order of preference, are; #1 (located in the starboard engine room), #2 (located in the aft section of compartment 3-15-2), #1 DD(X) fire pump (located aft in compartment 3-36-2) and #2 DD(X) fire pump (located forward in compartment 3-36-2).
6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.
7. Prestart Check List:
 - A. Check fuel level in Day tank.
 - B. Check lube level in engine pump. (add oil as needed)
 - C. Check fresh water level in expansion tank. (add water as needed)
 - D. Open water supply valve to fire pump.
 - E. Open fuel supply valve on Day tank.

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Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

- F. Check discharge valve on pump is in the closed position.
 - G. Check water level in vacuum pump tank. (Should be ½' of sight glass.)
8. Starting Procedure:
- A. Move throttle to about 1/3 fuel position.
 - B. Spray a small amount of engine starting fluid into air intake of engine.
 - C. Push start button in. Engine should start. (If engine does not start, do not hold start button in longer than 30 seconds.
 - D. After engine starts, bring engine RPMS up to 1000 RPMS. Check oil pressure. Oil pressure should be between 30 and 50 psi.
 - E. Engage clutch by pushing the handle forward towards engine.
 - F. Once clutch is engaged, bring engine RPMS up to 1800 RPMS. Check water pressure on pump at outer BKHD between FR 17-18. Pressure should read 90 to 120 psi at approximately 1800 RPM.
 - G. Open pump discharge valve slowly, watching pressure gauge closely. If pressure drops off rapidly, shut pump down and prime pump. If pressure stays up, open supply valve to engine expansion tank.
 - H. Monitor engine water temperature ($t < 180$), engine oil pressure, and pump end bearings.
9. To prime pump take fresh water hose attach to valve on supply side of pump. Open up top valve on discharge side. When water comes out, top valve shut valve and turn fresh water off and secure valve on supply side of pump.
10. Do not engage pump clutch at speeds over 1000 RPM.
11. To Secure:
- A. Bring engine RPMS down to 1000 RPMS.
 - B. Disengage clutch by pulling handle back towards pump.
 - C. Turn throttle to stop position.
 - D. Secure discharge valve on pump.
 - E. Secure supply valve on pump.
 - F. Secure fuel supply valve at Day tank.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

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NTCSS Mobile, AL

EX-SHADWELL INST 1543.4B
24 April, 2006

EX-USS SHADWELL INSTRUCTION 1543.4B

From: Director, EX-USS SHADWELL

To: Distribution List

Subj: EQUIPMENT OPERATION, GENERATOR , EMERGENCY BACK-UP #1 (400KW)

1. Purpose: To explain the proper procedures for starting the ex-Shadwell 400kW generator.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: The instruction applies to starting the generator for the purposes of replacing shore power and securing the generator for returning ship systems to shore power.
4. Cancellation: This instruction cancel and supersedes ex-Shadwell INST 1543.4A. This version contains major revisions and should be read in its entirety.
5. Policy: The 400kW Cummins/Onan generator set is the primary emergency power source for ex-Shadwell. In the event shore power electrical feeds are lost, this will be the generator of choice to return power to ex-Shadwell systems. The 400kW generator is the only electrical generating system to be used, in lieu of the shore power tie, should testing be conducted. In the event long-term use of shipboard generators is necessary, use of the 215kW generator may be required, during evening hours, to conserve fuel.
6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Information: This generator delivers 400kW of power with the diesel engine running at 60 Hz. The maximum current load of this generator will support all of the normal shipboard systems including the HVAC system. Test operations NOT requiring any combination of the Water Mist pump, the DD(X) pumps and the LHA(R) ventilation fans can be conducted. Normal operating parameters for this unit are.

Engine RPM	60 Hz
Water Temperature	170-180 °F
Oil Temperature	180-235 °F
A/C/ Volts	460
Max Amps	360

8. Prestart Check List:

- A. Check fuel level in day Tank. Five inches (5") per day plus five (5") inches of reserve should be available prior to starting the generator. (ie. If the generator is to run for seven (7) days, a minimum of forty (40") inches should be in the tank.)
- B. Check oil level and adjust as required.
- C. Check the radiator water level and adjust accordingly.
- D. Check the engine belts for proper adjustment.
- E. Check the main generator breaker to be certain that it is open.
- F. Open the fuel valve located on the aft outboard side of the generator. (Approximately 24" off the deck)
- G. Connect the negative battery lead and secure tightly with wrench.
- H. Be certain that the generator IDLE/RUN switch is in IDLE.

9. Switching from Shore Power to Generator Power:

- A. The following steps MUST be completed prior to starting the generator.
 - i. Get a flash light.
 - ii. Report to the Shore Power Room (1-43-2).
 - iii. Locate Power panel 1-43-2 (Fig. 5). Shift the shore power breaker to the OFF position.
 - iv. Turn the key below the shore power breaker to set the lock-out lug. Remove the key and TAKE IT WITH YOU.

Failure to complete the last step could result in serious equipment damage or personnel injury.

B. Return to the 400 KW generator and complete the following steps.

- i. Check the coolant and oil levels. Add fluids as necessary.

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- ii. Locate the pair of starting switches on the control panel immediately below

- the water temperature gage.
 - iii. Push both switches upwards simultaneously to start the engine.
 - iv. Allow the engine to run at idle for 2 minutes.
 - v. Locate the IDLE/RUN switch just left of the starter switches. Place the switch in RUN.
 - vi. Allow the engine to run for approximately 3 minutes while checking to ensure that operating parameters are within the guidelines stated above.
- C. In the forward outboard corner of the 400kW generator house is a breaker panel. Open this panel and find the breaker marked 400kW generator.
- i. Insert the key (the one you brought from the Shore Power Room) into the locking mechanism and unlock the 400kW breaker. Move the breaker to the ON position.
 - ii. Ships power is now restored. Continue monitoring engine operational parameters.
10. Switching from Generator Power to Shore Power: Prior to shifting from generator power to shore power all electrical and electronic equipment, especially computers, should be secured. An announcement over the IMC should be made at least 5 minutes prior to switching over so that the necessary steps can be taken.
- A. Return to the breaker panel located in the forward outboard corner of the 400kW generator house.
- i. Locate the 400kW breaker and place it in the OFF position. Turn the key to activate the locking mechanism. Remove the key and TAKE IT WITH YOU.
- B. Place the IDLE/RUN switch in the idle position.
- C. Return to the Shore Power Room.
- i. Locate breaker panel 1-43-2.
 - ii. Locate the shore power breaker.
 - iii. Place the key (the one you took out of the 400KW breaker) into the lock-out mechanism next to the shore power breaker and unlock the mechanism.
 - iv. Place the shore power breaker in the ON position.
 - v. Leave the key in the locking mechanism
- D. Return to the 400KW generator.
- i. Secure the engine.
 - ii. Allow the diesel engine to sit for 15 minutes.
 - iii. Check fluid levels and general system conditions. Report any discrepancies immediately.
- E. Have word passed over the IMC that shore power has been restored.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

**EX-USS SHADWELL LSD-15
NTCSS Mobile, AL**

EX-SHADWELL INST 1543.5B
25 April, 2006

EX-USS SHADWELL INSTRUCTION 1543.5B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: EQUIPMENT OPERATION, GENERATOR, EMERGENCY BACK-UP #2 (215KW)

1. Purpose: To explain the proper procedures for operating the ex-Shadwell 215kW Generator.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: The instruction applies to starting the 215kW generator for the purposes of replacing shore power and securing the generator for returning ship systems to shore power.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 1543.5A. This version contains major revisions and should be read in its entirety.
5. Policy: The 215kW Cummins/Onan generator set is the secondary emergency power source for ex-Shadwell. In the event shore power electrical feeds are lost, and the 400kW generator is unavailable, this will be the generator used to return power to ex-Shadwell systems. The 215kW generator is unable to support testing. In the event long-term use of shipboard generators is necessary, use of the 215kW generator may be required during evening hours to conserve fuel.
6. Compliance: A thorough knowledge of this instruction by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

EX-SHADWELL INST 1543.5B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Information: This generator delivers 215kW of power with the diesel engine running at 1800 rpm. The maximum current load of this generator will support the operation of ships lighting, telephones, 120 VAC circuits and computer systems. This generator will not support operation of the HVAC system or testing operations. Normal operating parameters for this unit are.

Engine RPM	1800
Water Temperature	170-180 °F
Oil Temperature	180-235 °F
A/C/ Volts	440-450
Max Amps	180-190

8. Prestart Check List:

- A. Check fuel level in day Tank. Three inches (3") per day plus five (5") inches should be available prior to starting the generator. (ie. If the generator is to run for seven (7) days, a minimum of twenty-six (26") inches should be in the tank.) This fuel level is not inclusive of test requirements!
- B. Check oil level and adjust as required.
- C. Check the radiator water level and adjust accordingly.
- D. Check the engine belts for proper adjustment.
- E. Check the main generator breaker to be certain that it is open.
- F. Open the fuel valve located on the aft outboard side of the generator. (Approximately 24" off the deck)
- G. Connect the negative battery lead and secure tightly with wrench. At this point an alarm will sound. It may be silenced by moving the ALARM switch, located in the lower right hand corner of the after generator control panel, to the Silence mode.
- H. Be certain that the generator IDLE/RUN switch is in IDLE.

9. Switching from Shore Power to Generator Power:

- A. The following steps MUST be completed prior to starting the generator.
 - i. Get a flash light.
 - ii. Report to the Shore Power Room (1-43-2).
 - iii. Locate Power panel 1-43-2. Shift the shore power breaker to the OFF position.
 - iv. Turn the key below the shore power breaker to set the lock-out lug. Remove the key and TAKE IT WITH YOU.

Failure to complete the last step could result in serious equipment damage or personnel injury.

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Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

- B. Return to the 215kW generator and complete the following steps.
 - i. Open the access hatch on the outboard side of the generator housing. Connect the negative battery cable using the combination wrench staged near the battery.
 - ii. Check the oil and cooling water levels. Add fluids as necessary.
 - iii. Open the access hatch on the aft side of the generator housing and locate the control panel. Locate the Manual Start Switches (Run and Crank) near the water pressure gage at center of the control panel. These switches are spring loaded. Grasp them between thumb and index finger and squeeze the together simultaneously. The engine should start
 - iv. Release both switches after the engine has started. Allow the engine to idle for one minute.
 - v. Locate the Speed Adjust switch and move that rotary switch from the IDLE position to the RUN position. The engine RPM will increase and settle at 1800 rpm.
 - vi. Allow the engine to run for approximately 3 minutes while checking to ensure that operating parameters are within the guidelines stated above.
 - C. In the forward outboard corner of the 400kW generator house is a breaker panel. Open this panel and find the breaker marked 215kW generator.
 - i. Insert the key (the one you brought from the Shore Power Room) into the locking mechanism and unlock the 215kW breaker. Move the breaker to the ON position.
 - ii. Ships power is now restored. Continue monitoring engine operational parameters.
10. Switching from Generator Power to Shore Power Prior to shifting from generator power to shore power all electrical and electronic equipment, especially computers, should be secured. An announcement over the 1MC should be made at least 5 minutes prior to switching over so that the necessary steps can be taken.
- A. Return to the breaker panel located in the forward outboard corner of the 400kW generator house.
 - i. Locate the 215kW breaker and place it in the OFF position. Turn the key to activate the locking mechanism. Remove the key and TAKE IT WITH YOU.
 - B. Open the access hatch on the aft side of the generator housing.
 - i. Locate the Speed Adjust Switch on the control panel and place the switch in the IDLE position.
 - ii. Leave the diesel engine running at idle for at least 5 minutes before securing.
 - C. Return to the Shore Power Room.
 - i. Locate breaker panel 1-43-2.
 - ii. Locate the shore power breaker.

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- iii. Place the key (the one you took out of the 215KW breaker) into the lock-out mechanism next to the shore power breaker and unlock the mechanism.
- iv. Place the shore power breaker in the ON position.
- v. Leave the key in the locking mechanism
- D. Return to the 215KW generator.
 - i. Secure the engine.
 - ii. Remove the negative battery cable from the terminal.
 - iii. Allow the diesel engine to sit for 15 minutes.
 - iv. Check fluid levels and general system conditions. Report any discrepancies immediately.
- E. Have word passed over the 1MC that shore power has been restored.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 1543.6B
18 July 2006

EX-USS SHADWELL INSTRUCTION 1543.6B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: EQUIPMENT OPERATION, COMPRESSOR, LOW PRESSURE AIR

1. Purpose: To explain the procedures to be used for operating the ex-Shadwell low-pressure air compressor (LPAC).
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction applies to operation of the air compressor unit located in compartment 2-13-2.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 1543.6. This version contains major revisions and should be read in its entirety.
5. Policy: It is a requirement that all pre-start checks be made prior to operating the LPAC system, regardless the duration of intended operation. The LPAC system will be operated in the AUTOMATIC (AUTO) mode only. The LPAC system will be secured at the end of each day.

The LPAC compartment is a **noise hazardous area**. Personnel SHALL wear hearing protection at all times while in the space with the system running. Hearing protection is staged in the LPAC compartment. Hearing protection will remain in the compartment following its use.

The door to the LPAC compartment will remain closed at all times during operation of the system.

6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Information: The following terms apply to operational settings of the LPAC system.

Auto position - compressor will run until pressure reaches high limit and cut the motor off. When pressure drops to low limit motor will come on.

Manual position - compressor will run continually but will automatically unload at high limit, and reload at low limit.

8. Prestart Check List:

A. Check lube oil level in the crankcase. The oil should reach the top of dip stick. Add SAE-30 oil to the crankcase in the event oil level is low. Do not overfill the crank case. Do NOT operate the LPAC system with low oil levels.

B. Check the area immediately around and beneath the compressor for signs of oil leaks. Report any leaks immediately. Do NOT operate the LPAC system if there are signs of a potential crank-case leak.

C. Check compressor frame hold down bolts for tightness, cracks or obvious wear.

D. Check belts for proper tension, even wear, absence of cracks and absence of dry rot. **NOTE**: Report any discrepancies immediately. Do not operate the LPAC system if hold-down bolts or frame cracks are found or if belts are found to be loose, cracked or dry-rotted..

E. Drain condensate from the receiver tank into a 5-gallon bucket. The drain valve is installed in a bulkhead mounted down comer located in passageway 2-15-2 directly across from brig cell 2-18-2. DO NOT open the valve and let condensate run onto the deck!!

7. Starting:

A. Locate and don ear protection.

B. Go to the power disconnect box, located on the STBD BLKHD, immediately aft of QAWTD 2-18-2. A knife edge switch is located in the upper right hand corner of this box. Push the knife edge switch to the UP position.

B. In the lower right hand corner of the power disconnect box is a 3-position rotary switch. This switch energizes the ventilation fan for the LPAC space. Rotate the switch to the one-o'clock position.

NOTE: If the sound of a vent motor is not immediately heard after repositioning the rotary switch then return the switch to the twelve-o'clock position and report the discrepancy immediately. Do NOT operate the LPAC system without the ventilation fan being operational.

C. Immediately aft of the power disconnect box is a control panel. A three-position rotary switch is located top-center of this panel. Rotate the switch to the one-o'clock position.

NOTE: If the sound of the compressor motor is not immediately heard then turn the switch back to the twelve-o'clock position and report the discrepancy immediately.

9. Ensure the WTD to the LPAC compartment is closed and dogged upon leaving. The LPAC system is not to be run with this door open.

8. Securing:

A. Rotate the compressor motor control switch to the twelve-o'clock position.

B. Pull the knife switch down on the power disconnect box.

C. Rotate the ventilation motor switch to the twelve-o'clock position.

D. Ensure ear protection is returned to its bulkhead mounted position.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 1543.7B
19 July, 2006

EX-USS SHADWELL INSTRUCTION 1543.7B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: EQUIPMENT OPERATION, STERN GATE

1. Purpose: To explain the procedures to be used for operating the ex-Shadwell stern gate.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction applies to raising and lowering the stern gate.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 1543.7A. This instruction incorporates and cancels ex-Shadwell INST 1543.8A. This version contains major revisions and should be read in its entirety.
5. Policy: The stern gate will be operated slowly, with care and with a minimum of four (4) personnel. All personnel involved in operation of the stern gate will carry radios. A complete walk-down/pre-operational inspection of the following areas is mandatory before operating the stern gate.
 - A. Main deck starboard side wing wall from FR95 – FR112.
 - B. Main deck port side wing wall from FR95 – FR112
 - C. Well deck, port to starboard from FR 101 – FR112.
 - D. The area immediately astern of ex-Shadwell.

Stern gate operations will be conducted with a Safety watch. The area aft of FR 95, from the flight deck down to and including the well deck, will remain off limits to all but authorized personnel during operation of the stern gate.

6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

EX-SHADWELL INST 1543.7B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Information:
 - A. One person shall be located at the controller of the starboard stern gate capstan.
 - B. Two personnel shall be located in the well deck to observe movement of the stern gate.
 - C. One person shall be located on the flight deck to serve as Safety Watch.

8. Assignments:
 - A. The well deck members of the party shall ensure there are no obstructions on either the stern gate or within the well deck that could interfere with operations. In addition, they shall inspect the stern gate and hinge area to assure that no loose articles are present which may fall or restrict the gate in its movement.
 - B. The member of the party stationed at the starboard winch wall shall inspect the cable path to ensure that no obstacles or loose articles are present which would hinder the movement of the cable or restrict the motion of the pulleys.
 - C. The Safety Watch shall; ensure that all personnel have carried out their pre-operational tasking, maintain constant visual and verbal communication with all members of the party throughout the operation, and halt operations whenever unsafe or potentially unsafe conditions exist.

9. Any craft moored to the stern gate will be moved prior to the commencement of the exercise.

10. Word will be passed over the 1-MC indicating the off-limits restrictions and warning personnel on-board of the impending evolution.

11. Raising the Stern Gate: The winch operator will pull the winch gear pin upwards. The operator will pull the winch lever towards him to engage the winch. The pelican hook will be engaged once the stern gate is fully retracted.

12. Lowering the Stern Gate: The winch operator shall ensure the pelican hook is raised prior to engaging the capstan. The winch operator will pull the winch gear pin upwards. The operator will push the winch lever away from him to engage the winch.

13. The speed of the gate will be kept to a minimum at all times.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 2060.1B
18 July, 2006

EX-USS SHADWELL INSTRUCTION 2060.1B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: DUTY WATCH (Officer on-Call)

1. Purpose: To promulgate the requirements for maintaining reliable, non-duty hour communication with the ex-Shadwell guard force.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction applies to full-time Federal and active duty Naval personnel only.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 2060.1A.
5. Policy: It is necessary that the Naval Research Laboratory be capable of responding to potential problems associated with ex-Shadwell. During off-duty hours this requirement mandates the guard force be capable of communicating with critical ex-Shadwell personnel. To accommodate this need, an off-duty watch stander will be assigned on a one week rotating basis.
6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.
7. Information: Duty watch standers and relevant phone numbers are listed.

	Home	Cell
Robert A. Burgess	(850)995-9285	(850)723-7676
Arthur F. Durkin	(251)621-4195	(251)599-3891
CWO2 John Hopson	(850)475-5006	(850)525-1168
Xuan-An Nguyen	(251)476-5006	(850)525-7006

EX-SHADWELL INST 2060.1B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3162B
20 July, 2006

EX-USS SHADWELL INSTRUCTION 3162B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: TEST INSTRUMENTATION AND SYSTEMS, INSTALLATION OF

1. Purpose: To define the requirements for installing test instrumentation and test support systems aboard ex-USS Shadwell.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: The provisions of this instruction are inclusive of all types of instrumentation and associated systems that may be installed aboard ex-USS Shadwell in support of the test mission. The hardware, instrumentation and systems covered by this instruction will include, but is not limited to; thermocouples, signal cabling, computer networks, piping systems and gas sampling tubing
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 3162A. This instruction contains major revisions and should be read in its entirety.
5. Objectives: The guidelines promulgated by this instruction are intended to alleviate the problems associated with poorly planned, hastily installed, improperly marked and incompletely documented test support systems and instrumentation. The objective of the instruction is to create installations that can be reviewed and modified, months or even years later with support of paper and electronic documentation, without the need to physically 'walk down' the system to re-learn its routing and specifics of performance.
6. Compliance: A thorough knowledge of this instruction by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. No one shall install, nor alter the installation of, any instrumentation or test support system aboard the facility without first notifying ex-USS SHADWELL's Test Director and Associate Technical Director in writing.
8. Both new installations and existing system modifications will be planned in advance with the co-operation of the Director, ex-USS Shadwell, or his appointed representative and the ex-USS Shadwell Test Director to ensure the proposed work meets anticipated performance requirements and to verify that the installation accounts for potential interferences from existing systems and/or structures.
9. Signal cabling, power cabling and all gas sampling lines to shall be labeled. This shall be accomplished by affixing tags at both ends of a cable run, on both sides of all couplings and on both sides of all bulkhead crossings. The tags should be rugged enough and marked to survive moisture, elevated temperatures, and withstand abrasion while remaining legible. It is recommended that the tags be a flush mounted type to prevent them being entangled or snagged and accidentally pulled off.
10. Ex-USS Shadwell contains many electric motors, is wired for and supports the operation of systems using both A/C and D/C voltages. System voltage ranges aboard the ship are 12VDC to 440A/C. All system installations and modifications should be planned to account for the presence of electro-magnetic interference (EMI).
11. Test evolutions aboard ex-USS Shadwell routinely use hand-held wireless communication devices. All installations should be planned to accommodate the presence of radio frequency interference (RFI).
12. All instrumentation and system installations shall be documented in both paper and electronic format.

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3163B
21 July, 2006

EX-USS SHADWELL INSTRUCTION 3163B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: COMPUTER DATA FILES, DISPOSITION OF

1. Purpose: To provide direction for the proper back-up of test data files.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction applies to all data collected aboard ex-USS Shadwell for all test programs conducted aboard ex-USS Shadwell.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 3163A.
5. Policy: The Technical Director, ex-USS Shadwell, is committed to ensuring that test data is made available for use by authorized scientists, engineers or their sponsors. To provide the maximum protection of data possible, principal investigators or their designated representatives are required to immediately back-up data onto portable media appropriate for long term storage and/or transportation. Data back-up is to be completed by close of business on the day a test is conducted. This requirement will also ensure that sufficient hard disc space is retained in all data acquisition systems aboard ex-USS Shadwell to allow support of all subsequent test programs.
6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3170.1B
21 July, 2006

EX-USS SHADWELL INSTRUCTION 3170.1B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: FIRE TESTING, LOCAL AGENCIES, NOTIFICATION OF

1. Purpose: To outline the requirements for notifying specific local agencies and organizations regarding upcoming fire testing..
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction this applicable to all ex-USS Shadwell fire testing.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 3170.1A.
5. Policy: The fire test mission aboard ex-USS Shadwell has the potential for causing alarm to well-meaning personnel in the vicinity of Little Sand Island. Personnel not aware of the ex-USS Shadwell mission may, with all good intention, report a ship ablaze were they to witness a dark smoke plume coming from this facility. To prevent local regulatory agencies and emergency personnel from responding to a non-emergency it is mandatory that, prior to commencement of all fire testing, local organizations and agencies be notified.

The organizations on the notification list should be told the starting date and proposed ending date of testing in addition to the potential for generation of dark smoke plumes. The organization should be told this fire is a controlled test.

Specifics of the test shall not to be transmitted.

6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

EX-SHADWELL INST 3170.1B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Information: The list of contacts is different depending on the test being conducted. Make certain the potential for release of smoke is determined to ensure the proper contact list is executed.

Internal ship testing where visible smoke is unlikely.
USCG F&STD

Internal or external ship testing where visible smoke is probable.
USCG F&STD

Brookley Tower	438-7205
Mobile Fire Department	434-7311
Coast Guard MSO	441-5276
ATC Ops	
Sector Mobile Medical	441-6340
Al. Dept. of Environmental Health (John Carlton, Mobile)	450-3400
Mobile County Health Dept. (Stan Tant, Mobile)	544-2144
Dept. of Public Safety (Dick Cashdollar, Mobile)	
Harbor Master	441-7250

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3170.2B
21 July, 2006

EX-USS SHADWELL INSTRUCTION 3170.2B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: PARTIAL OR TOTAL LOSS OF SHORE POWER, ALABAMA POWER,
NOTIFICATION OF

Ref: (1) ex-Shadwell INST 1543.4B, Equipment Operation, Generator, Emergency Back-up
#1 (400kW)
(2) ex-Shadwell INST 1543.5B, Equipment Operation, Generator, Emergency Back-up
#2 (215kW)

1. Purpose: To outline procedures to be used for recognizing a problem with the ex-USS Shadwell shore power tie and to provide steps for restoring shore power.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: The guidance in this instruction pertains to ships' electrical service from the Shore power tie.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 3000.
5. Policy: The electrical service to ex-USS Shadwell is provided by, maintained by and the sole responsibility of Alabama Power or it's designated contractors. If loss of ship's power is experienced it will be necessary to notify Alabama Power as soon as practical so that shore power service can be restored to the ship.
6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

EX-SHADWELL INST 3170.2B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Responsibilities: The shore power service provided to ex-USS Shadwell can be broken into three distinct components. The electrical service coming into this ship is both high voltage and high current. It can be extremely dangerous to the unqualified! Each component of this installation is the responsibility of a different person or organization.

Part 1: The line running underground from Pinto Island up to and including the service input side of the transformer, the dark green finned component located on the service tower port side of ex-USS Shadwell, is the responsibility of Alabama Power. No one aboard ex-USS Shadwell is authorized to perform work on or effect any changes to anything in this part of the electrical service. If problems arise with this segment of the shore power service it will be the responsibility of ex-USS Shadwell to contact Alabama Power and report the problem. It will be the sole responsibility of Alabama Power to resolve the issue.

Part 2: From the service output side of the transformer up to and including the shore power lines being connected to the electrical disconnect panels, in compartment 1-41-2, will be the responsibility of a certified electrician. If problems arise with this segment of the power installation it will be necessary to notify the Associate Technical Director, ex-USS Shadwell, so that appropriate actions can be taken.

Part 3: The responsibilities from the discharge side of the electrical disconnect boxes, in compartment 1-41-2, throughout the electrical distribution system of ex-USS Shadwell will be those of the ship's electrician.

8. Information: Ex-USS Shadwell has a three line shore power tie coming from the transformer and switch gear installation on the southern peninsula of Little Sand Island. The three lines enter the ship on the main deck between FR41 and FR43. Compartment 1-41-2 is the shore power room. Within this compartment, in the overhead, are three 5" metallic conduits. Within each of these conduits are 4 individual 1000MCM copper cables. Each four cable bundle comprises one line of the shore power tie. Each line of the shore power tie has the following specifications.

800 amp
460VAC
3-phase power

Disconnect panel 1-43-2 supplies power to the ship. The remaining two disconnect panels supply power to either the DDX pumps or secondary distribution panels.

Mounted on the inboard bulkhead of compartment 1-41-2, approximately head high and immediately aft of the door, is a volt meter panel. This voltmeter allows each phase of the ships power line to be checked by moving the rotary switch located at the bottom-center of the voltmeter panel. Normally, each phase should read 160 volts. A reading significantly less than this value indicates that the selected leg has lost power.

EX-SHADWELL INST 3170.2B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

Critical: Partial loss of shore power should be remedied immediately. The partial loss of ships power (i.e. losing one or two legs of the line) is detrimental to many of the systems used aboard the ship. Faintly glowing A/C lighting is a clear indication that one or more phases of the ships shore power line have been lost. In the event the ship experiences a partial loss of shore power the shore power disconnect switch (panel 1-43-2) shall be moved to the off position. This will disconnect the ships electrical system from the shore power line. Back-up generator power should be initiated in accordance with Ref. (1) or Ref. (2).

8. The loss of shore power shall be reported to the Associate Technical Director as soon as possible.

9. Alabama Power should be contacted at one of the following numbers

(251)438-5348	(24 hour service)
(251)694-2509	(back-up number)

10. The person responding at Alabama Power should be informed of the existing power loss situation. The following information may be requested.

Billing Customer: Naval Research Laboratory, Code 6186, Washington DC
POC: Tom Street
Phone: (202)767-2254

Service Customer ex-USS Shadwell, Mobile, Alabama

Point of Contact: An Nguyen or Arthur Durkin
Phone: (850)525-7006 (251)599-3891

Service Location: 1100 Little Sand Island, Mobile, Alabama

11. Shore power should be restored to the ship only after the voltmeter indicates that full three-phase power is present, and only after verbal confirmation from Alabama Power indicating that all work has been completed.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3171B
4 August, 2006

EX-USS SHADWELL INSTRUCTION 3171B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: MOORING GEAR, OPERATION OF

1. Purpose: To outline steps to be taken in the event ex-USS Shadwell mooring gear must be operated.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction provides guidance and procedures for the safe operation of the ex-USS Shadwell mooring gear and safe handling of hawser lines.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 3171.
5. Policy: ex-USS Shadwell must remain securely moored in her berth at Little Sand Island to prevent her from becoming a hazard to navigation.

No operations shall be conducting with the mooring tackle or hawser lines without first notifying the ex-USS Shadwell Associate Technical Director.

A minimum of three (3) personnel shall be required to conduct any operations involving mooring tackle or hawser lines.

6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and the safe execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

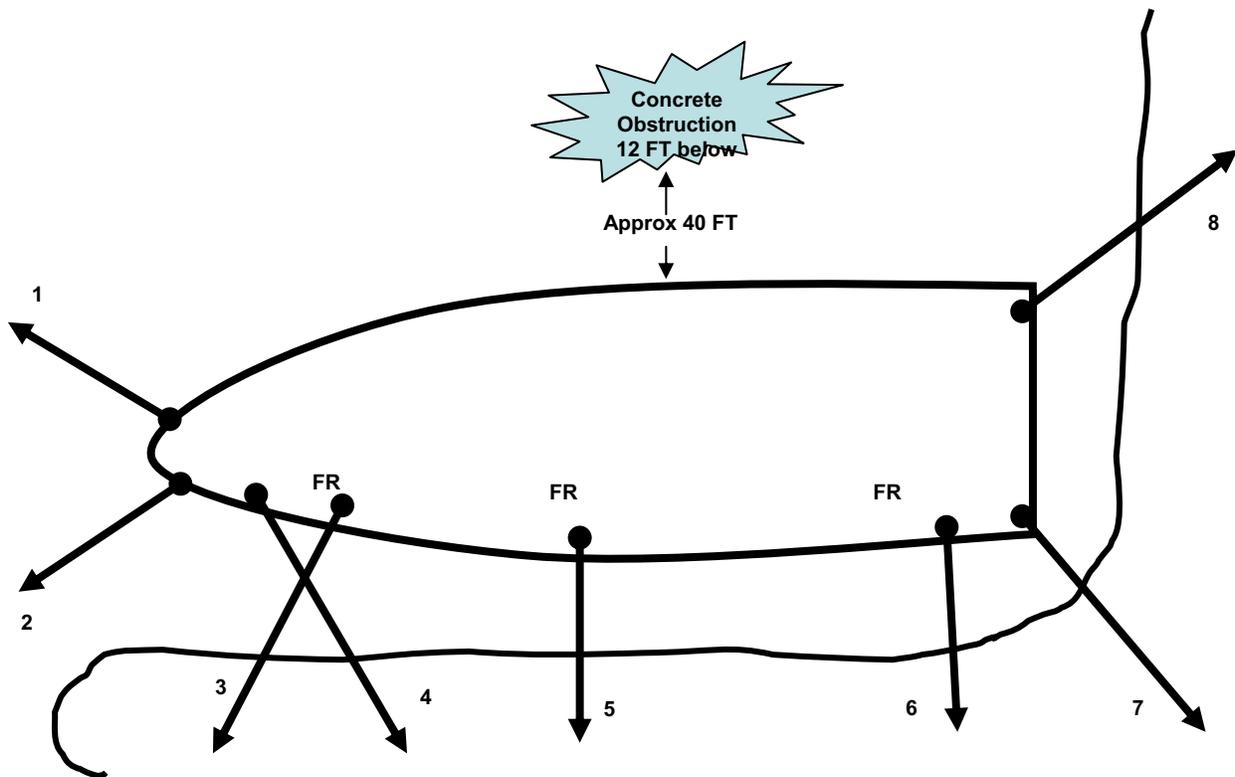
EX-SHADWELL INST 3171B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

7. Scope: The instruction outlines procedures for conducting safe operations with the ex-Shadwell mooring system. The operations covered include adjusting position of ex-Shadwell, and steps to be taken in the event of a loss of the ship's mooring.

8. Information: The ex-USS Shadwell mooring arrangement is shown. Mooring legs 1 & 2 include four shot (360 feet) of 2-3/4 inch die-lock anchor chain and are terminated by the ship's original 15,000 pound anchors. Each of legs 3-8 are composed of approximately 100 feet of 2-1/4 to 2-3/4 inch die-lock chain shackled into approximately 125 feet of 10 inch nylon, double-braid hawser. The hawser lines are in a two part configuration with the eye and bitter end secured to mooring bitts located on the main deck. Mooring legs 3-6 are terminated by 7,000 to 10,000lb anchors. Mooring legs 7-8 are terminated by 7,000 to 10,000 pound dead-men.

EX-SHADWELL Mooring Arrangement



EX-SHADWELL INST 3171B

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

Bow legs 1-2 are connected directly to, respectively, the starboard and port anchor windlass. Pelican hooks must be released from the chain just aft of the anchor hawse pipe prior to adjusting either of these mooring legs. The anchor windlass must be reversed to pull slack in deck tackle prior to the pelican hook being removed from the chain.

Mooring leg 3 can be adjusted using the port bow capstan. The hawser is 'stopped' just inboard of the closed chock at FR11. This 'stopper' must be released after the bitter end of the hawser is wrapped around the capstan and line tension has been taken-up by reversing the capstan. A minimum of three lays must be on the capstan spool to ensure the hawser does not slip.

Mooring leg 4 can be adjusted using both the port and starboard capstan. The starboard bow capstan must be used with a 'fast-line' and a proper fair-lead. The #4 hawser is 'stopped' just inboard of the closed chock at FR 7. This 'stopper' must be released after the bitter end of the 'fast-line' is wrapped around the capstan and line tension has been taken-up by reversing the capstan. A minimum of three lays must be on the capstan spool to ensure the hawser does not slip.

Leg 5 can be adjusted using the 01 level port side double gypsy winch with a 'fast-line' and a proper fair-lead. This hawser is 'stopped' just inboard of the closed chock at the port side quarter-deck. This 'stopper' must be released after the bitter end of the 'fast-line' is wrapped around the gypsy winch spool. A minimum of three lays must be on the spool to ensure the hawser does not slip. Chaffing gear should be set to prevent cutting the 'fast-line' when hauling the hawser.

Mooring legs 6 and 7 can be adjusted using the port stern capstan located on the main deck at FR 103. Both hawsers are 'stopped' just inboard of their respective chocks. These 'stoppers' must be released after the bitter end of the hawser is wrapped around the capstan. A minimum of three lays must be on the capstan spool to ensure the hawser does not slip.

Leg 8 can be adjusted using the starboard stern capstan located on the main deck at FR 103. The hawser is 'stopped' just inboard of the rolling chock at FR 109. This 'stopper' must be released after the bitter end of the hawser is wrapped around the capstan. A minimum of three lays must be on the capstan spool to ensure the hawser does not slip.

NOTE: Line stoppers must remain in place if the bitter end of a hawser is being relocated.

Under no circumstance is the eye of a hawser to be removed from a deck bit without first notifying the ex-USS Shadwell Associate Technical Director. A line stopper must be properly set
EX-SHADWELL INST 3171B

and a minimum of four (4) line handlers shall be on hand if it becomes necessary to remove the

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

eye of a hawser from a mooring bit.

7. Definitions:

Bit – a deck mounted pair of cylinders used to secure mooring lines

Capstan – a smooth rotating cylinder, oriented vertically, used to adjust length and tension of mooring lines

Closed Chock – a smooth surfaced, oval shaped structure mounted along the perimeter of the ship used to pass mooring lines onto the deck of the ship.

Fair-lead – the routing of mooring lines or fast lines to ensure; absence of chaffing, absence of interference with deck gear and personnel, safety of operation, and benefit of direct line-of-pull with respect to the deck machinery being used.

Fast line – a small diameter line, as compared to the mooring hawser, that is attached to the hawser and wrapped around deck machinery. The fast-line is used due to it's smaller size and decreased weight for the purpose of pulling mooring line onto the ship so that it can be re-secured

Hawse pipe – the large-diameter pipe penetrating the focs'le and angling downward through the bow plate of the ship through which the anchor chain passes

Pelican hook – a hinged, swiveling device used to hold ('stop') the anchor chain in place. The pelican serves as positive capture device to back-up the windlass break in the event the break fails.

Rolling Chock-a device mounted at the perimeter of the ship that includes rolling cylinders to allow for handling of mooring lines.

Stopper-a combination; of line and knots or, chain and hooks, which are used as a positive capture device to hold mooring line in place at a specific location.

Taken-up- to eliminate slack or hold a load by transferring weight to another device

Windlass- a vertically oriented rotating cylinder used to raise and lower anchor chain.

EX-SHADWELL INST 3171B

8. Adjusting Position of the ship: ex-Shadwell should be maintained; at a distance of 50' from the edge of the island as measured from the port side hull to the southern peninsula, and no

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

more than 75' from the island as measured easterly from the after surface of the starboard wing wall to the beach. The hinge pin of the shore power tie support arm, mounted on the port side hull at approximately FR43, should be no more than 15' forward or aft of the camel backs mounted on the elevated transformer tower.

Reposition the ship using the bow capstans and the stern capstans. Slacking-off on or pulling slack from mooring legs 3-8 will be required to shift the ship.

NOTE: Under no circumstances will the anchor chains be adjusted without first consulting the ex-Shadwell Associate Technical Director or the ex-Shadwell Mechanical Engineer.

9. Loss of Mooring: The following steps shall be taken in the event one or more legs of the ex-Shadwell mooring system are lost.

- Immediately notify the quarter deck. Have word passed over the 1MC and request all personnel aboard the ship to report to the 01 weather deck for muster.
- Stop all testing if in progress.
- Bring the 400kW generator on-line and be prepared to open the shore power tie breakers if the shore power tie is in jeopardy of parting.
- Assemble a team(s) at the deck gear locations for either legs 3, 4, 6, 7 or 8 as necessary based on the current situation. Adjust tension on these legs, assuming they are still intact, to pull Shadwell towards the island and restrict any movement towards the river or towards State of Maine.
- **Do not adjust mooring legs 1 and 2.** The weight of the anchor chain helps to keep the anchor stocks in the proper position to ensure the anchor flukes are set and able to hold the ship. If you shorten the chain you may inadvertently trip the flukes and cause the anchors to lose their ability to hold us in place.
- Rig fast-lines to recover lost mooring legs as necessary.
- Record events and steps taken in the ex-Shadwell guard log.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3173A
10 AUGUST 2006

EX-USS SHADWELL INSTRUCTION 3173A

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: Small Boat Operations

Refs: (A) USCG Navigation Rules, International-Inland, COMDINST M16672.2A
(B)
(C) USN boat coxswain reqs.

1. Purpose: To outline both standard operating and emergency procedures for the small boats assigned to ex-USS Shadwell.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction applies to all small boats assigned to and operated in support of the Navy Technology Center for Safety and Survivability, ex-USS Shadwell, Mobile, Alabama.

Nothing in this instruction shall be construed as contravening or superseding U.S. Navy Regulations, Directives of the Department of the Navy, Directives of the Naval Research Laboratory, U.S Coast Guard Regulations or other directives or competent authority.

4. Cancellation: This instruction cancels and supersedes the following; ex-Shadwell INST 3173.1, ex-Shadwell INST 3173.2, ex-Shadwell INST 3173.3D, and ex-Shadwell INST 3173.6. This instruction contains major revisions and should be read in its entirety.
5. Policy: The small boats assigned to ex-USS Shadwell shall be operated IAW Ref. (A). All small boat coxswains shall receive training IAW Ref. (B) or Ref. (C). Personnel seeking authorization to operate the ex-Shadwell small boats shall perform hands-on familiarization training under the guidance of authorized coxswains after completing required training. The Director, Navy Technology Center for Safety and Survivability, shall designate authorized
EX-SHADWELL INST 3173A

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

coxswains in writing. No personnel are authorized to operate the ex-Shadwell small boats, unsupervised, without written designation.

As coxswain you are ultimately responsible for the safety of the small boat, the proper operation of the small boat as dictated by "Rules of the Road" IAW Ref. (A), the safety of your passengers, the conduct of your passengers while they are aboard, and the security of all materials and equipment that are being transported by the small boat.

6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

7. Boat Information: The aluminum hull Navy crew boat has the following specifications.

Manufacturer: Munson Marine
Date:
Hull Number: 35NS8801
Length:
Beam:
Dry displacement:
Power plants: Two (2), 400 hp Volvo Penta AQAD41A engines
Propulsion: Two (2) Volvo Penta duo-prop outdrives
Fuel Type: DFM
Fuel Capacity (per tank): 55 gallons
Number of Fuel Tanks: 2
Radar Installed:
Maximum personnel: 32 (including coxswain)

The fiberglass hull Navy personnel boat has the following specifications.

Manufacturer: Williard Co., Anaheim, CA
Date: July 1985
Hull Number: 40PE8421
Length:
Beam:
Dry displacement:
Power plant: Detroit 6xx
Propulsion: Single screw w/rudder
Fuel Type: DFM

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

Fuel Capacity:
Number of Fuel Tanks
Radar Installed:
Maximum personnel: 43 (including coxswain)

EX-SHADWELL INST 3173A

The aluminum hull Navy utility boat has the following specifications.

Manufacturer:
Date:
Hull Number:
Length: 18'
Beam: 7'
Dry displacement:
Power plant: 200 hp
Propulsion: jet
Fuel Type: gasoline
Fuel Capacity: 70 gal
Number of Fuel Tanks: 1, centerline
Radar Installed: N/A
Maximum personnel: 6 (including coxswain)

8. Pre-start Procedures:
9. Start-up Procedures:
10. Getting Underway:
 3. Be certain that all passengers are safely aboard and that all equipment being transported is securely stowed.
 4. Instruct the line handlers to "CAST OFF".
 5. Slowly pull away from the pier, paying strict attention to traffic that may be in the turning basin..
 6. In accordance with references (a) and (b) and local operating procedures, signal your intentions to enter the turning basin, with the whistle (horn) located in the lower left hand corner of the helm, as follows:

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

35' boat Engines:

- A. Turn each battery switch to the both position. (Located on the port side of the engine compartment in the aft portion of the boat)
 - B. Turn all four fuel valves to the horizontal position. (Located on the boat's center line in the engine compartment)
 - C. Start the engines and allow them to warm up for a minimum of three (3) minutes for warm weather operations or a minimum of ten (10) minutes for cold weather operations.
3. Auxiliary Equipment: Turn the following switches, located in the lower right corner of the helm, to the ON position:
- A. VHF R/T
 - B. HAILER
 - C. DEPTH FINDER
 - D. BILGE BLOWER
4. Restricted Visibility Operations: For conditions of restricted visibility the RADAR and HEATER switches will be turned on. Adjust the air flow nozzle, located forward and center of the helm, to allow air to impinge upon the wind screen. See SOP on Radar, Crew Boat for operating instructions. The wind shield wipers WILL be activated as required.
5. Communications: Select the SCAN function on the Marine Band radio, located above and center of the helm, and dial in channel 21.

Scope: The subsequent paragraphs deal with actions taken in the event of collision of boat or equivalent.

2. WHO ACTS: WHAT ACTION:

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

PERSON DISCOVERING CASUALTY:	IMMEDIATELY NOTIFY QUARTERDECK. THROW LIFE RING IF APPROPRIATE, AND KEEP TRACK OF PERSONNEL IN WATER. STAND BY TO GUIDE RESCUE PERSONNEL WHEN THEY ARRIVE.
PERSONNEL RESPONDING TO CASUALTY:	DETERMINE DAMAGE TO BOAT. CHECK FOR FLOODING. SET WATER TIGHT CONDITIONS.
GUARD:	ANNOUNCE EMERGENCY OVER 1-MC. ASSURE SENIOR SHADWELL REP NOTIFIED OF PROBLEM.
ASSEMBLED PERSONNEL:	STAND-BY TO ASSIST AS NECESSARY.
GUARD:	RECORD EVENTS IN SECURITY LOG.

F. Williams

Distribution: All full-time Federal employees and all SOP binders (Contractor 1 & 2, 1st Class mess, CPO mess, NRL DC)

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 3505.1D
20 September, 2004

EX-USS SHADWELL INSTRUCTION 3505.1D

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: CONFINED SPACE PROGRAM MANUAL

Ref: (a) NRL INST 5100.22D, Requirements for Entry Into Confined Spaces, June 2002
(b) NAVSEA S6470-AA-SAF-010 REV 01, Naval Sea Systems Command, Gas Free Engineering Program, September, 1999
(c) S9086-CH-STM-030/CH-074V3R3, Naval Ships Technical Manual (NSTM), Chapter 074, Volume 3 – Gas Free Engineering, April 1998
(d) OPNAVINST 5100.23F (Series), Chapter 27, Navy Occupational Safety and Health (NAVOSH) Program Manual, July 2002
(e) 29 CFR 1910.146, OSHA Standard for Permit-Required Confined Spaces
(f) ex-SHADWELL INST 3505.7, Emergency Personnel Evacuation
(g) ANSI Z117.1-1995, Safety Requirements for Confined Spaces
(h) ex-Shadwell INST 11320, Safety Procedure, Hot Work Program

1. Purpose: To explain the processes, means and methods used for recognizing, evaluating and controlling potential confined space hazards and, to promulgate guidelines and procedures for requesting entry, entering into, working within or working on any surface, vent, pipe, drain or any other structure contained within, connected to or adjacent to any confined space aboard ex-Shadwell.
2. Effective Date: This instruction is effective upon receipt and is issued for compliance by all personnel attached to or serving on this vessel regardless the length of their assignment or the identity of their employer.
3. Scope: This instruction applies to every individual aboard the ex-Shadwell, regardless their employment affiliation, having a need to enter into, work within or work adjacent to a confined space.
4. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 3505.1C. This version contains major revisions and should be read in its entirety.

EX-SHADWELL INST 3505.1D

5. Policy: To protect employees from the hazards that may be present in a confined space (CS), Navy policy states that all such spaces shall be considered hazardous. Entry into such spaces is prohibited until the space has been evaluated by a qualified person and an NRL Confined Space Entry Permit (CSEP) has been issued. A comprehensive CS entry program shall be developed and implemented, per references (a) – (e), for CS workplaces. The ex-Shadwell Gas Free Engineer (GFE) shall evaluate CSs only for NRL employees and operations. For operations involving contractors, refer to paragraph 7g.

6. Compliance: A thorough knowledge of these instructions by all personnel is essential to the proper understanding of his responsibilities and execution of his duty. Senior personnel are responsible for the proper indoctrination of all other personnel in accordance with these provisions.

5. Information: Confined spaces shall be tested for oxygen content, percent lower explosive limit (LEL) of flammable vapors and gases and toxic species concentrations. They also shall be evaluated for all others hazards and unsafe conditions. Before permitting employee entrance, hazardous conditions shall be eliminated or reduced to an acceptable level. Periodic monitoring shall be conducted when processes or operations such as welding, cutting or other hot work are likely to generate hazardous conditions. Combustible atmospheres may be generated by using paints, epoxies, or adhesives; performing cleaning operations; and performing similar tasks that have the potential for releasing toxic, flammable, or asphyxiating vapors.

6. Definitions:

a. **Attendant**. An individual stationed on the outside of a CS to monitor the activities of those inside and request assistance in the event of an emergency.

b. **Confined Space (CS)**. A space that is not designed for routine and/or continuous occupancy, is large enough and so configured that an employee can enter to perform work, and is poorly ventilated and/or has limited or restricted means of entry or exit.

c. **Confined Space Program Manager (CSPM)**. An individual who has successfully completed Confined Space Safety training and has been appointed, in writing, by the Commanding Officer (Code 1000) to implement a comprehensive Confined Space Entry Program.

d. **Confined Space Entry Permit (CSEP)**. A special written permit/ form issued by the CSPM or a qualified person under the direction of the CSPM, authorizing entry into certain CSs under a given set of conditions and safety precautions.

e. **Engulf**. To surround and capture an individual by a liquid or finely divided solid substance (e.g., sand).

f. **Entry/Entrant.** The act by which a person intentionally passes through an opening into a permit-required CS, and the ensuing activities; the entrant is considered to have entered if any part of his/her face breaks the plane of an opening into the space.

g. **Entry Supervisor.** The supervisor of the employees authorized to enter a CS.

h. **Hot Work.** Work that includes all flame heating, welding, torch cutting, brazing, carbon arc gouging, or any work that produces heat, by any means, of 400°F or greater. Use of ignition sources such as spark or arc-producing tools or equipment; static discharges, friction, impact, open flames, or embers; and non-explosion-proof lights, fixtures, motors, or equipment in the presence of flammables or flammable atmospheres.

i. **Immediately Dangerous to Life or Health (IDLH).** Any atmosphere that poses an immediate hazard to life or, produces immediate irreversible debilitating effects on health.

j. **Oxygen-Deficient Atmosphere.** An atmosphere having an oxygen concentration below the minimum legal requirement (19.5%) but above that which is immediately dangerous to life and health.

k. **Oxygen-Enriched Atmosphere.** An atmosphere containing more than 22.0% oxygen by volume.

l. **Permit Required Confined Space (PRCS).** A CS that requires a special permit for entry because it contains, or has a known potential to contain, an atmospheric condition meeting the requirements of a Class I (IDLH), Class II (dangerous), or Class III (contaminated) space; contains, or has a known potential to contain a material that could engulf or overcome an entrant; has an internal configuration such that an entrant could be trapped or asphyxiated; or contains any other recognized serious safety or health hazard, as determined by the CSPM.

7. Responsibilities :

a. ex-Shadwell Confined Space Program Manager shall:

- (1) Identify compartments having reasonable potential for CS entry and evaluate each such space to determine its hazard classification.
- (2) Maintain a current list of all PRCSs and update it as changes occur. A master CS list shall be maintained and updated by the NRL-DC CSPM.
- (3) Provide identification on each CS, warning individuals not to enter unless authorization has been granted.
- (4) Issue a CSEP only after the space has been evaluated and identified as safe for entry. Permits shall be posted and distributed as follows: one copy at the primary entrance to the

space; one copy at all other open entry points; one copy for the supervisor or line manager requesting the evaluation; and one copy retained in the local Safety Office.

- (5) Provide CS monitoring equipment for atmospheric testing, ensuring that it is properly used, maintained, and calibrated according to the manufacturer's instructions.
- (6) Maintain logs of all entries, test results, and instrument calibrations.
- (7) Maintain current list of all authorized CS employees.
- (8) Provide training for all authorized CS employees and their first-line supervisors.
- (9) Ensure that CS rescue team employees receive recurrent training that emphasizes potential CS entry hazards, rescue duties, and the necessary precautions. Arrange annual rescue practices in accordance with Ref. (f). Maintain records and critiques of such rehearsals for 1 year.
- (10) Review and update the local Safety Office Procedure No.5.2.A, Confined Space Emergency and Rescue Standard Operating Procedure, filed in the local Safety Office.
- (11) Ensure that employees involved in CS entries receive physical examinations in accordance with reference (g).
- (12) Ensure that the shop supervisor has discussed job-specific hazards with the attendant and entrant(s), and that the permit is for only government employees.

b. Branch Heads shall : provide the local Safety Office with the names of employees who routinely are assigned CS duties and/or whenever new positions are created involving CS entry.

c. Supervisors/Entry Supervisors shall:

- (1) Ensure that CSs under their control are identified and evaluated properly by NRL's CSPM.
- (2) Familiarize themselves with the provisions of references (b-d), eliminating or minimizing potential hazards existing in their operations.
- (3) Ensure that all employees under their immediate supervision have a thorough understanding of the hazards associated with CSs.
- (4) Strictly enforce compliance with safety and health regulations. Ensure that entry operations remain consistent with terms of the CSEP (e.g., complying with ventilation requirements, wearing personal protective equipment (PPE), prohibitions on welding or cutting, etc.).
- (5) Promptly report unsafe conditions or procedures to the local Safety Office and stop all operations until the problem has been resolved. Ensure that their employees leave CSs whenever a hazard develops.
- (6) Require gas-free monitoring from a CSPM before permitting CS entry. Allow sufficient time to conduct a comprehensive CS evaluation by notifying the local Safety Office no less than 1 day before a scheduled entry.
- (7) Verify information on the CSEP to ensure that the atmosphere was tested before entry and that the safety equipment specified by the CSPM on the permit is in place. Ensure that barricades are erected in the vicinity of CS entrances to warn pedestrians and vehicles of an open space.
- (8) Be knowledgeable of emergency rescue services/emergency phone numbers.
- (9) Prohibit unauthorized individuals from entering a CS and notify the CSPM if such an incident occurs.
- (10) Designate authorized CS entry employees and ensure that they are medically fit for duty. Formally include CS duties in their position description (PD) and personnel record.

- (11) Designate a qualified attendant to monitor the condition of the CS entrants and to seek assistance in the event of an emergency.
- (12) Take appropriate measures to eliminate potential physical hazards by turning off and locking out electrical power; and shutting off steam, water, gas, hydraulic, and other potential energy sources. Appropriate lockout/tagout procedures shall be followed when shutting down these energy sources.
- (13) Ensure that a Hot Work Permit is obtained, in accordance with Ref. (h), before hot work is performed.

d. Authorized CS Employees shall:

- (1) Properly use all required PPE.
- (2) Observe and understand the safety standards, regulations and procedures, and specific instructions noted on the CSEP issued by the CSPM.
- (3) Promptly report to their immediate supervisor any unsafe conditions, procedures, equipment, injuries, or evidence of impaired health occurring in the course of work or duty.
- (4) Enter CSs only after they have received a Confined Space Evaluation by the CSPM.
- (5) Use only approved explosion-proof, spark-proof, or intrinsically safe electrical equipment where flammable gases or vapors are present; ignition sources are strictly prohibited.
- (6) Remove oxygen/acetylene hoses and torches from CSs whenever welding operations are stopped for 15 minutes or more.
- (7) Communicate with the attendant and alert him/her whenever a dangerous situation is detected.
- (8) Immediately leave the CS when an order to evacuate is given by the attendant/supervisor, a warning sign or symptom of exposure to a dangerous situation is recognized, or when directed to do so by the CSPM.

e. Attendants shall:

- (1) Be knowledgeable of hazards and potential physiological effects associated with CS entry, including irrational judgment, disorientation, unconsciousness, nausea, involuntary convulsions, coordination problems, and/or perception problems.
- (2) Not accept or perform additional duties that may interfere with the primary duty of monitoring and protecting authorized CS employees.
- (3) Remain outside the CS opening, continuously monitoring activities inside and outside the CS and the number of authorized CS employees.
- (4) Warn entrants of any signs of danger and evacuate the CS immediately if a hazardous situation develops.
- (5) Maintain constant visual and verbal communication with CS entrants.
- (6) Prevent unauthorized entry and warn individuals that only authorized CS employees may enter a CS. Inform their supervisor(s) or the CSPM, should such an incident occur.
- (7) In an emergency, summon emergency rescue services as soon as it is apparent that medical assistance or escape help is needed. Do not attempt employee rescue. Request emergency medical services and air evacuation by contacting the U.S. Coast Guard Fire and Safety Test Detachment over Marine Channel 21.

(8) Maintain a two-way radio, cellular telephone, or other such communications equipment for summoning emergency rescue services. Ensure that this equipment is fully operational prior to permitting authorized CS employees to go into a CS.

f. Contracting Officer's Representative (COR) shall:

- (1) Require contractors entering CSs to have a CS Entry Program, and provide a copy of this Program to the Safety Branch (Code 1240) prior to the commencement of work.
- (2) Require the contract's statement of work to comply with the requirements stipulated in reference (e), and ensure that CS projects are reviewed by Code 1240 before proposals are accepted.
- (3) Require the contractor to provide a "competent person," as defined by references (a, e, f) to perform tests, issue permits, and perform other specific tasks related to CS entry.

g. Contractor Operations shall:

- (1) Not enter NRL CSs unless the COR has notified the NRL CSPM and/or QP.
- (2) Advise the COR that he/she must meet all requirements of reference (e) before entering an NRL CS.
- (3) Provide the NRL CSPM with a list of all CSs they will enter.
- (4) Ensure that the contractor performs CS monitoring prior to entry.
- (5) Perform their own monitoring and post permits when they simultaneously occupy the same CS as NRL personnel.
- (6) Be advised that Navy personnel cannot certify/evaluate CSs or issue CSEPs for contractor operations.

8. Permit Required Confined Spaces (PRCS):

The confined spaces aboard EX-SHADWELL which require a permit prior to entry are as follows.

<u>Compartment</u>	<u>Location</u>	<u>Accessed by</u>
A-401-W	4-1-0	H 3-4-0 via H 2-4-0
A-402-W	4-5-0	QAFTD 3-14-1 via H 2-14-1
A-410-F	4-29-2	MHC 3-30-2 or 3-34-2
A-411-F	4-29-1	MHC 3-30-1 or 3-34-1
A-412-F	4-29-4	MHC 3-30-4 or 3-34-4
A-413-F	4-29-3	MHC 3-30-3 or 3-34-3
A-414-W	4-36-0	MHC 3-41-2 or 3-41-1
A-415-F	4-36-1	MHC 3-37-1
A-416-F	4-36-2	MHC 3-41-4
A-417-F	4-36-3	inaccessible
A-418-F	4-36-4	MHC 3-37-2
A-419-W	4-43-0	MHC 3-48-2 or 3-48-1
A-420-F	4-43-2	MHC 3-48-4 EX-SHADWELL INST 3505.1D
A-421-F	4-43-1	MHC 3-48-3

A-422-F	4-43-4	MHC 3-48-6
A-423-F	4-43-3	MHC 3-48-5
A-424-F	4-48-2	
A-425-F	4-48-1	
B-401-W	4-50-0	MHC 3-55-2 or 3-55-1
B-404-W	4-57-0	MHC 3-63-2 or 3-63-1
B-405-W	4-64-0	MHC 3-66-2 or 3-66-1
B-408-W	4-67-0	MHC 3-73-2 or 3-73-1
C-401-W	4-74-0	MHC 3-80-2 or 3-80-1
C-405-F	4-74-1	MHC 3-87-2 or 3-87-1
Starboard shaft alley	4-74-3	HWS 1-80-1
C-406-W	4-81-0	
C-407-F	4-81-1	
C-409-W	4-88-0	
C-411-F	4-88-1	
C-412-W	4-95-0	
C-413-W	4-95-1	
C-414-W	4-95-2	
C-415-W	4-102-0	
C-417-V	4-102-1	
C-418-F	4-102-2	
C-419-W	4-106-0	
C-420-W	4-106-2	
C-421-W	4-106-1	
A-301-A	3-1-0	H 2-4-0
A-302-E (chain locker)	3-5-0	MHC 2-5-2 or 2-5-1
A-310-W	3-36-2	MHC 2-41-2
A-312-W	3-43-2	MHC 2-44-2
A-317-W	3-43-1	
B-301-W (Pot. Water tank)	3-50-1	
B-302-W (PW tank)	3-50-2	
B-305-W (WM supply tank)	3-64-1	
B-305 1/2-W (WM tank)	3-64-3	
B-306-W	3-64-2	
B-306 1/2-W	3-64-4	
C-301-W	3-74-1	
C-303-W	3-81-1	
C-305-W	3-88-1	
C-307-F (diesel coffer dam)	3-95-0	MHC 2-95-1

EX-SHADWELL INST 3505.1D

9. No Federal personnel shall enter any compartment identified in the preceding list prior to

notifying EX-SHADWELL's Assistant Gas Free Engineer (AGFE).

10. No contract personnel shall enter any compartment identified in the preceding list prior to notifying their respective Confined Space Program Manager.
11. No hot work shall be performed adjacent to any compartment identified in the preceding list prior to notifying EX-SHADWELL's Assistant Gas Free Engineer (AGFE).
12. No hot work shall be performed on any vent or drain leading to any compartment identified in the preceding list prior to notifying EX-SHADWELL's Assistant Gas Free Engineer (AGFE).
13. Entrant Emergency Extraction:

Should an Emergency Extraction be required, the Entry Supervisor will follow the provisions of Ref (f).

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 4200.1A
Xx June, 2005

EX-USS SHADWELL INSTRUCTION 3505.1B

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: EX-SHADWELL PERSONNEL MANUAL

1. Purpose: This instruction will define the policies and procedures governing supervisory, oversight and general working relationships between Federal, uniformed Navy and Contract personnel assigned to or working aboard ex-SHADWELL.
2. Scope: This instruction applies to all Federal, U.S. Navy and Contract personnel aboard the ex-Shadwell., both permanent and transient.
3. Cancellation: This instruction is original. It sets forth policies to be followed aboard ex-Shadwell regarding Federal employee, Military personnel and Contract employee working relationships. It should be read in its entirety.
4. Policy: The Federal Government and the Naval Research Laboratory have very explicit guidelines and criteria regarding the execution of contractual obligations between itself and outside organizations. The expressed intent of these guidelines is to prevent conflict of interest between the Government and any Contract organization, to ensure the most efficient and cost effective execution of the contract and, to ensure that the United States Government and the Naval Research Laboratory receive exactly, and only, the services for which it has contracted any specific organization.
5. Information: Legally binding contracts between the Naval Research Laboratory and private organizations are typically based on an explicitly defined set of tasks. Any deviation from this set of tasks may be considered a change in terms of the contract. Such changes may entitle the contract organization to an increase in funding for the contract in question. To prevent such an incident, all personnel aboard ex-Shadwell will conform to the chain-of-command hierarchy outlined by their respective organization. Assignment of tasking, resolution of problems, alteration in work schedule, re-prioritization of assignments and approval of leave will be initiated though and authorized by supervisory personnel in your direct chain of command.

6. Definitions:

Federal Employee; Any civilian in the direct employment of the United States Government. Such employees may be permanently assigned to ex-Shadwell or may be visiting for a finite term of time to either prepare for or execute testing

Uniformed Navy Employee; Any active duty, full time member of the United States Armed Forces, any Reserve personnel performing their monthly weekend drill, any Reserve personnel who are performing their annually required active duty training (ACDUTRA) or any Reserve personnel working aboard ex-Shadwell under Active Duty orders. Reserve personnel who are employed by Contract organizations for their primary means of livelihood and who are in other than an Active Duty, ACDUTRA or weekend drill status will be considered a Contract employee.

Contract Employee; Any person, both civilian and military Reserve, who is working for a company that, through legally binding contractual obligations, performs work for an agency of the United States federal Government. Contract employees may be permanently assigned to ex-Shadwell or may be visiting for a finite term of time to either prepare for or execute testing.

Supervisor; A person assigned the responsibility of administrating the work efforts of individuals within their respective organization.

Oversight; The task of ensuring that organizations fulfill their contractual obligations to the Naval Research Laboratory

7. Responsibilities :

a. Federal employees are responsible to their immediate supervisor for execution and completion of tasking. Federal employees are not authorized to supervise or task contract personnel without first gaining approval from and coordinating with that individual's immediate supervisor.

b. Contract employees are responsible to their immediate supervisor for execution and completion of tasking. Contract employees are not authorized to task Federal employees, or any contract employee of another organization, without first gaining approval from and coordinating with that specific individual's immediate supervisor.

c. Navy personnel aboard ex-Shadwell, that are involved in testing, are to be trained, advised and supervised by uniformed Navy personnel or Federal employees only. No contract personnel shall act in any capacity which would put them in a position to train, advise, or supervise uniformed Naval personnel.

d. The test Safety Team will be comprised of personnel from every organization that will be participating in a test. Oversight of test personnel will be restricted to the previously defined limitations. Federal personnel involved in a test will be the responsibility of Federal employees on the Safety team. Uniformed Navy personnel will be the responsibility of either Federal or uniformed Navy personnel on the Safety team. Contract employees involved in the test will be supervised by members of the Safety team who are employed by their organization only.

e. The Associate Technical Director, ex-USS Shadwell, is responsible to the Technical Director, Navy Technology Center for Safety and Survivability, for compliance with this instruction.

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 5090.1A
9 December 2004

EX-USS SHADWELL INSTRUCTION 5090.1

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: EX-SHADWELL HAZARDOUS WASTE MANAGEMENT PLAN (HWMP)

Ref: (a) NRL Hazardous Material Control and Management (HMC&M) Program, NRLINST 4110.1B, 19 May, 1998
(b) Hazardous Waste Management Plan (HWMP), NRLINST 6240.4F, 28 December, 1995
(c) Environmental and Natural Resource Program Manual, OPNAVINST 5090.1B, 1 November 1994
(d) NRL Hazardous Substance Spill Contingency Plan, NRLINST 6240.6E, 2 May 1996
(e) Hazardous Material Spills, Control, Containment and Resolution, EX-SHADWELL INST 5090.4B, 2 June, 2004
(f) Alabama Solid Waste Disposal Act of 1975, Act #771 and 2247, Law 22-27-1
(g) Resource Conservation and Recovery Act of 1976
(h) 40 CFR, parts 172, 173, 178 and 179
(i) 40 CFR parts 122-124, 260-265
(j) 29 CFR part 1910, Occupational Safety and Health Act
Waste Lubricating Oil, Storage and Disposal, EX-SHADWELL INST 5090.2A,
9 December, 2004

- 1) Purpose: This instruction will define management and control requirements for all hazardous waste generated in support of daily, ex-Shadwell operations, both shore-side and aboard ship in accordance with governing guidelines (a-g). This instruction will establish procedures for the identification, labeling, handling, storage, spill control, transportation and final disposal of hazardous waste (HW) materials. The instruction will provide strict guidelines to assist in meeting all requirements of Federal, state and local environmental regulations for dealing with HW materials.
- 2) Cancellation: EX-SHADWELL INST 5090.1, 5090.3, 5090.5, 5090.6, 5090.7, 5090.8, 5090.9 and 5090.10 are canceled and superseded by this instruction. This is a complete revision of all cancelled instructions. The current instruction should be reviewed in its entirety.
- 3) Scope: This instruction covers all HW materials generated by the Navy Technology Center for Safety and Survivability, ex-USS Shadwell, Mobile, AL. This instruction covers both shore side and ship board operations.

4) Information: The Department of Navy Hazardous Materials (HM) Environmental Management Program requires all Navy shore activities to develop an HWMP in compliance with Federal, state and local regulations.

5) HW Regulations: The most important regulations for HW Management are those promulgated under the authority of reference (g). This reference gives states the authority to issue HW regulations as long as they are at least as stringent as Federal regulations. NRL is an HW generator and therefore subject to Resource Conservation and Recovery Act (RCRA) requirements, which are designed to control HW from the point of generation through final disposal. Responsible personnel can be held liable for violations of HW requirements; penalties of up to \$50,000/day and 2 years in prison can be imposed.

a. Facilities that store, treat, and/or dispose of HW must comply with the regulations established in reference (g), or the comparable regulations issued by the state in which the facility is located (f).

b. HW that is transported off-site to a storage, treatment, or disposal facility must be accompanied by a Hazardous Waste Manifest that describes the waste and designates the receiving facility.

c. Regulations also include a notification requirement for organizations engaged in HW activities; annual reporting requirements; generator, transporter, and facility standards; and a deadline for filing applications for facility permits. NRL-DC maintains a RCRA Part B-permitted storage facility and is subject to additional requirements set forth in references (f) and (h).

6) Definitions: Reference (i) provides complete definitions regarding management of HW at all NRL facilities. The following selected definitions are provided:

a. Hazardous Material (HM). Any material which, because of its quantity, concentration, or physical or chemical characteristics may pose a substantial hazard to human health or to the environment when it is released or spilled into the environment. NRL's goal is to reduce HW generation to the lowest possible amount while still being able to meet mission requirements. All HM shall be ordered in the minimum quantity required for an operation. The Associate Technical Director shall verify that material being ordered is not already in stock or available in another work area.

b. Hazardous Waste (HW). Any liquid, solid, or gaseous material listed in the Environmental Protection Agency (EPA) Listing of Hazardous Wastes (40 CFR Part 261); or having a characteristic defined in, or concentrations as listed in, 40 CFR Subpart C, and no longer able to serve its intended purpose. Any container or liner used to contain any such material. Any spill of HM and any equipment contaminated in the cleanup of such a spill. HW examples are shown in enclosure (1).

c. HW Generator. Any employee, contractor, or tenant connected with NRL who desires to dispose of or who abandons any material that can be classified as HW that was generated at an NRL facility. (NOTE: NRL tenant organizations must follow HW procedures established by NRL.)

d. HW Coordinator. The individual responsible for ensuring; proper handling, storage, and disposal of HW at an NRL facility.

e. **NRL Transporter.** NRL personnel who meets the training requirements of 40 CFR 265 and reference (j), and who have been designated to transport properly packaged waste materials from the point of generation to the designated NRL short-term storage facility.

f. **NRL HW Manifest .** Enclosure (2) is a form provided by NRL to the generator. It is used to document and properly identify the material at the point of generation. When approved by the HW Coordinator, the material is no longer considered to be a usable product and must be disposed of as HW. The manifest is used to verify transportation to the storage facility, identify any specific handling and storage instructions, and document final turnover to the disposal contractor.

g. **Container .** An individual, sealable vessel in which a material is stored.

7. **Responsibilities .** The Technical Director, Navy Technology Center for Safety and Survivability is responsible to the Commanding Officer (Code 1000) for conformance to all environmental laws and regulations in the execution of ex-Shadwell's mission. Any NRL or contract employee who violates environmental protection laws or regulations, knowingly abandons or improperly disposes of HW, or willfully takes other actions that could potentially harm the environment becomes personally responsible for his or her actions. To assist Code 1000, the following responsibilities are assigned:

a. **Environmental Coordinator, ex-USS Shadwell** (Code 6186) has been designated the ex-USS Shadwell HW Coordinator, and shall:

(1) Ensure that all aspects of Ex-USS Shadwell HW management comply with the provisions of references (b), (d), (e), and (l).

(2) Assume responsibility for the proper disposal of all HW generated at the Ex-USS Shadwell, and provide technical assistance regarding the proper segregation, packing, and storage of HW at the Ex-USS Shadwell.

(3) Notify the Supervisor, US Coast Guard Fire and Safety Test Detachment before transporting any HW to the designated accumulation area.

(4) Ensure the proper training of personnel who handle transport HW or clean up spills, as required by references (c), (e), and (l).

(5) Establish and maintain HW storage facilities that comply with the requirements of reference (d).

(6) Maintain all records required by references (c), (d), and (l) concerning HW disposal at the Ex-USS Shadwell; forward a copy of these records to Code 3504 by 15 December of each year.

b. **Safety Officer** (Code 6186) shall ensure that NRL personnel are not exposed to any unsafe working conditions by:

(1) Inspecting the designated HW storage facilities to ensure compliance with Navy standards for occupational safety and health.

(2) Providing the HW Coordinator with technical support in the areas of personnel safety in the event of an HW spill or other emergency.

(3) Providing Material Safety Data Sheets (MSDSs) as needed.

(4) Providing technical support for the handling and disposal of any chemical suspected of being an explosive hazard.

c. **NRL Transporters**, before moving any HW, must:

(1) Verify that the contents of all packages match those listed on the NRL HW Manifest received from the HW Coordinator. Boxes containing items not included on an approved NRL HW Manifest will not be moved.

(2) Ensure that all boxes contain only one category of material as specified on the NRL HW Manifest. (For example, no box should be accepted when an acid and an oxidizer are packaged together.)

(3) Ensure that HW is carefully and safely transported to the designated storage area.

(4) Ensure that all individual HW containers are properly placed in the designated storage building (under the supervision of the HW Coordinator), which includes labeling individual HW containers with the NRL HW Manifest number and the date placed in storage.

(5) Ensure that all boxes or other containers emptied of individual HW items are disposed of properly (i.e., clean boxes are placed in proper dumpsters and any boxes showing sign of leaks or spills are placed in plastic bags and labeled with the date and NRL HW Manifest number of the boxes' contents.)

(6) Ensure that the HW Coordinator is notified of any boxes or other containers showing signs of leaks or spills.

(7) Ensure that all HW is placed in the proper section, bay, or area of the storage area as directed by the HW Coordinator.

(8) Ensure that the "NRL-transported" portion of the NRL HW Manifest is completed and returned to the HW Coordinator after the HW is placed in the storage facility.

8. Action. A copy of any HW procedural changes established by the Commanding Officer, USCGF&STD, shall be forwarded to Code 3540 for incorporation into this instruction.

9. Specific HW Disposal Procedures:

(a) Empty Fuel Drums

1. 55 gallon drums which formerly contained fuel shall be completely emptied.
2. The drums shall have their tops mechanically removed and have any remaining fuel removed.
3. The topless drums will be placed on their sides so that no rain water will collect within them, and be allowed to air dry for 24 hours.
4. Upon completion of the ventilation period, two 5/8" holes shall be drilled in the drum within 1/5" of the top rim on opposing sides. These holes will be utilized to place shackles for lifting purposes.
5. The dry, aired out drums will be utilized as trash receptacles and will be discarded when 3/4 full.

(b) Used OBA Canisters

1. Upon removal from the OBA, an oxygen container will be allowed to cool. The canister will be placed such that it is well clear of any hydrocarbon source and protected from coming into contact with water.
2. Upon cooling each canister will be placed in a clear plastic bag. The top of the bag will be twisted closed and secured so that no moisture can come into contact with the canister.
3. All bagged canisters will be transported to shore within 72 hours of their use.

4. The canisters will be placed in the yellow HAZMAT locker located next to the USCG Group Aids to Navigation (ATON) office.
5. The canisters will be packed neatly within the 55 gallon drum residing inside the HAZMAT locker. Special caution should be taken so that the plastic bag enclosing the OBA canister is not torn.
6. The log sheet located within the HAZMAT locker will be completely filled out according to the predetermined format.

(c) Dry Cell Batteries

1. Upon removal from a device, dry cell batteries shall be placed in the pre-designated collection box located in compartment 1-29-3 (Safety Office).
2. Any battery exhibiting signs of corrosion will be wrapped in a clear plastic bag prior to being placed in the collection box.
3. All dry cell batteries will be transported to shore once per quarter. The box containing the batteries will be secured with tape to prevent spilling contents.
4. The dry cell batteries shall be turned over to Group Aids to Navigation (ATON) for proper disposal.

(d) Waste Paint Thinner

1. Fouled paint thinner will be placed in an empty 5 gallon container which formerly contained said fluid.
2. The container will be clearly marked as WASTE PAINT THINNER utilizing brightly colored spray paint. This label will be placed as near the top of the container as is practical in letters of at least 3' in height.
3. The container will be filled such that three inches (3") of void space exists between the surface of the fluid and the top of the container.
4. The date on which the container reached the full status will be placed upon the container, just below the contents label outlined in item #2, with brightly colored spray paint.
5. The container shall be tightly sealed and cleaned on its exterior prior to being moved shore side. The filled container will be removed from the ship within one month of its fill date.
6. The container shall be removed to shore after informing the Coast Guard Fire and Safety Test Detachment so that arrangements may be made for proper disposal of the waste.
7. The container will be placed on a wooden pallet while on shore. The pallet will be placed next to the NTCSS building. The label indicating the contents of the container will be oriented such that it is easily visible.

(e) Contaminated Diesel Fuel

1. Contaminated fuel, as defined in Ref. A, will be collected in a structurally sound 55 gallon drum.
2. The drum will be marked as "Contaminated Fuel" in bright letters of at least 3" in height. This marking will be placed near the top of the drum.
3. The drum will be considered FULL when the fuel is within 3" of the top of the drum.
4. The drum shall be dated upon reaching the FULL status utilizing the same format as

described in item #2.

5. Contaminated fuel will be utilized with Heptane, in a 2:3 ratio, as pre-burn fuel during fire testing

(f) Waste Oil Dry Compound

1. Contaminated Oil Dry compound will be removed from its site of use and stored within a re-sealable 55 gallon drum.
2. The drum will be marked as "Used Oil Dry" in bright letters of at least 3" in height. The markings will be placed near the top of the drum.
3. The drum will be considered FULL when the compound is within 5" of the top of the drum. The date on which the drum reaches the FULL status will be placed upon the drum in the same format as described in item #2.
4. The top of the drum will be kept secured in place at all times.
5. Coast Guard Fire and Safety Test shall be notified prior to the transportation of the drum so that disposal may be coordinated.
6. The drum will be placed on a wooden pallet while on shore. The pallet will be located beside the NTCSS building. The label indicating the contents of the drum will be oriented such that it is readily visible.

(g) Waste Paint

1. Paint that is completely dry may be disposed of in normal shipboard trash.
2. Containers with residue of single part paint should be left open for a minimum of 24 hours to allow complete drying. The containers should be placed out of the weather to prevent rain water from being collected.
3. Containers with residue of epoxy paint, component A or component B, will NOT dry if the components are not mixed. Epoxy paint containers should have their interior surfaces coated with pre-mixed two-part epoxy paint. The container should be allowed to dry for a minimum of 24 hours. The container should be placed out of the weather to prevent rain water from being collected.
4. Thoroughly dry, empty paint containers may be discarded in normal shipboard trash.
5. Containers with bad or expired paint should be completely sealed, marked as "Waste Paint", and set aside for bulk disposal through USCG Group Mobile. Containers with quantities of waste or bad paint SHALL be structurally sound and completely sealed to prevent any spillage. Surfaces of the containers shall be thoroughly cleaned and dry of any paint.

(h) Painting Equipment

1. Brushes and roller heads used with single party paints can be cleaned with mineral spirits or paint thinner. Once clean, these tools should be staged in the paint locker until needed again.
2. Brushes and roller heads used with two part epoxy paints are not re-usable. Once a job has been completed, they should be allowed to dry, out of the weather, for a minimum of 24 hours.
3. Once completely dry and hard they may be thrown out with normal ship's trash.

9. Forms Availability

a. NRL Hazardous Waste Manifest (enclosure (2)) (NDW-NRL 6240/1) is available from the HW Coordinator (Code 6186) for ex-USS Shadwell.

10. Reports . Report Control Symbol DD-P&L(A)1485(5090) is assigned to the report mentioned in paragraph 7c(3).

HAZARDOUS WASTE EXAMPLES

1. Environmental Protection Agency (EPA) Hazardous Waste (HW) Categories.

a. Ignitable - flashpoint less than 140 degrees Fahrenheit. Flammable liquids, solids, and oxidizers.

b. Toxic - causes damage to living tissue, impairment of central nervous system, severe illness, or death.

c. Corrosive - causes visible destruction of human skin tissue or has a severe corrosive rate on steel, and a pH below 2 or above 12.

d. Reactivity - susceptible to release of energy either by itself or in combination with other materials.

e. Other - hazardous material (HM) not fitting into the above categories including asbestos, Polychlorinated Biphenyls (PCB's), and explosives.

2. Specific Listings. In addition to general categories, Federal and state regulations include lists of HW-producing processes, and of specific HW compounds. These lists are lengthy and are being updated constantly. These regulations can be reviewed by contacting the Environmental Staff (Code 3504) at (202)767-1385.

3. Common Wastes

a. Photographic Chemicals - These products must be handled per Material Safety Data Sheet (MSDS) information. Routine discharge of photo chemicals to the sewer is a violation of HW regulations. These discharges are allowed by approved wastewater permits only. All organizations using photo chemicals must obtain approval from Code 3504.

b. Batteries - Lithium batteries are found in many computers, and must be turned in for HW disposal. Lithium is a water-reactive material. Lead-acid and nickel-cadmium batteries must be turned in for recycling. Mercury batteries must be disposed of as HW.

c. Cylinders - Compressed gas cylinders should be turned in to the Supply Division (Code 3400) for return to the original manufacturer or distributor. (Non NRL-DC sites contact local HW Coordinator for local procedures.)

d. Paints - Latex paints do not constitute HW; however, liquid paints may not be put in the trash. Paint cans should be left open to allow the paint to dry thoroughly, then discarded as trash.

e. Solvents - Used solvents should be segregated. Chlorinated solvents must be sent to specially licensed incinerators; they should be kept separate from petroleum-based solvents.

f. Aerosol Cans - Empty paint and solvent aerosol spray cans may be disposed of in the trash. An empty can is defined as one from which no product can be further extracted by propellant. Containers that run out of propellant before product, that clog up, or that otherwise malfunction before being emptied must be disposed of as HW.

g. Printer Toners - Printer toners contain petroleum distillate. Purchases of toners should specify that unopened containers of toner may be returned to the supplier. Opened containers must be disposed of as HW.

h. Laser Printer Cartridges - Hewlett Packard and Apple printer cartridges should be used until the toner is exhausted, then turned in to Code 3400 for recycling. (Non NRL-DC sites contact local HW Coordinator for local procedures.)

i. Empty Containers - Empty containers that are 5 gallons or larger in size and that previously contained HM shall be disposed of as HW unless otherwise specified by the local HW Coordinator.

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 5090.2A
9 December 2004

EX-USS SHADWELL INSTRUCTION 5090.2

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: WASTE LUBRICATING OIL, STORAGE AND DISPOSAL

Ref: (a) NRL Hazardous Material Control and Management (HMC&M) Program, NRLINST 4110.1B, 19 May, 1998
(b) Hazardous Waste Management Plan (HWMP), NRLINST 6240.4F, 28 December, 1995
(c) Environmental and Natural Resource Program Manual, OPNAVINST 5090.1B, 1 November 1994
(d) NRL Hazardous Substance Spill Contingency Plan, NRLINST 6240.6E, 2 May 1996

- 1) Purpose: The purpose of this instruction is to define management, control and disposal requirements for waste lubricating oils. It is also intended to assist in meeting the requirements of state, federal and local environmental regulations by assigning responsibilities and establishing procedures for removing used lubricating oil from engine crank cases, storing and transferring those waste lubricating oils from ex-Shadwell to an authorized agent for proper disposal.
- 2) Cancellation: EX-SHADWELL INST 5090.2 is canceled and superseded by this instruction. This is a complete revision and should be reviewed in its entirety.
- 3) Scope: This instruction covers all lubricating oils used in all machinery, motors and engines assigned to the Navy Technology Center for Safety and Survivability, ex-USS Shadwell, Mobile, AL.
- 4) Background: Ex-Shadwell uses lubricating oils in the operation and maintenance of various motors, engines and machinery. The accidental or uncontrolled release of these fluids will create house keeping problems, could create slip hazards and could, potentially, result in the waters of the immediate area of operations becoming contaminated by oil run-off.
- 5) Responsibilities: It is the responsibility of any person removing oil from any engine, motor or piece of machinery to insure that; the oil is immediately transferred from crank case to storage container, ensure the container is wiped clean of any excess oil, replace the container fill cap, verify the oil storage container is structurally sound and properly marked for use as waste oil storage. Further, it is the responsibility of the person

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 5090.4B
2 June 2004

EX-USS SHADWELL INSTRUCTION 5090.4

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: HAZARDOUS MATERIAL SPILLS, CONTROL, CONTAINMENT AND
RESOLUTION

Ref: (A) NRLINST 6240.6E, NRL Hazardous Substance Spill Contingency Plan
(B) OPNAVINST 5090.1A, Environmental and Natural Resources Protection Manual

Purpose:

To protect the areas surrounding ex-USS SHADWELL from accidental release of hazardous contaminants and to provide guidelines for meeting requirements necessary to insure minimal environmental impact, in accordance with references (A) and (B), the following procedures are promulgated.

Cancellation:

ex-SHADWELL INST 5090.4A is cancelled and superseded by this instruction.

Shipboard Spill:

1. Upon identifying that a hazardous fluid has been spilled, the following steps WILL be taken:
 - A. Notify the Emergency Coordinator or his appointed alternate.
 - B. Notify other crew members so that help can be obtained.
 - C. Turn out the smoking lamp throughout the ship. This will prevent someone from walking into the spill area that was not aware of the situation.

2. The following three scenarios are those most likely to occur aboard the EX-SHADWELL. In all cases that steps listed in item #1 should be performed in as expeditious a manner as is possible, keeping in mind that the primary goal will be to stop the uncontrolled release of fuel/oil.
 - A. If the spill is the result of a punctured container, the following steps should be taken:

EX-SHADWELL INST 5090.4B

- I. Invert the container, if possible, to place the puncture above the fluid level.
 - ii. Stuff the puncture with rags as best as possible to stem or block the flow of fluid.
 - iii. Place a collection vessel below the puncture if inverting the fuel container is impractical.
 - iv. Surround the spill with oil dry compound.

- B. Note: The following scenario would occur during fuel transfer operations between the Midstream Fuel Barge and the EX-USS SHADWELL.

If the fuel spill is the result of overflowing the main diesel storage tank:

- I. Item 1c is already in effect.
- ii. Secure the quarter turn valve on the fuel line leading from the fuel barge to the main storage tank.
- iii. Notify the barge tender to secure his fuel pump.
- iv. Stuff all scuppers, outboard side fires, with rags. Go as far as necessary to assure the spill can be contained upon the ship.
- v. Spread oil dry compound around the magnitude of the spill.

- C. If the fuel spill is the result of a ruptured line under pressure:

- I. Order all personnel in the immediate area to stand clear of the spray.
- ii. Secure the fuel pump.
- iii. Man CO₂ or PKP extinguishers and direct the nozzles toward the fuel line rupture. DO NOT discharge extinguishers unless ignition occurs.
- iv. Surround the spill with oil-dry compound. Stuff any scuppers with rags.
- v. Approach the ruptured line ONLY after the release of fuel has been abated.

3. If a large spill has occurred, utilize a 5 gpm sump pump to move the fuel to a 55 gallon drum. This occurs after the spill boundary has been set. Mark the drum as "FOULED FUEL" utilizing bright Red or Yellow paint. Place the label on top and on the side in letters at least 3" tall. Store the drum in the well deck aft of the paint locker.
4. If a small spill has occurred, utilize a mop and bucket to move the spill to a 55 gallon drum. The drum WILL be marked as in item #2
5. Once the spill has been removed all residue SHALL be washed clear utilizing soapy water.

Overboard Spill:

6. After Hours: If a spill occurs after hours the on duty security guard is to contact the Emergency Coordinator immediately. That person is:

Arthur F. Durkin

Phone # 621-4195

The guard should provide the Emergency Coordinator with the following information:

- A. The time the spill was noticed.
 - B. The source of the spill.
 - C. The location of the spill. (i.e. aboard ship, in the water, etc.)
 - D. If the spill has contaminated the surrounding water, the guard should indicate which side of the ship the spill is on and the extent of the spill.
7. During Work Hours: Upon identifying that a hazardous fluid has been spilled, the following steps WILL be taken immediately:
- A. Notify the Emergency Coordinator or his designated alternate.
 - B. Notify other crew members so that help can be obtained.
 - C. Turn out the smoking lamp throughout the ship. This will prevent someone from walking into the spill area who was not aware of the situation.
 - D. Charge the fire main. Man one 2.5" hose line, staying well back from the point of the fuel leak. Be prepared to provide a covering mist for those individuals working on the source of the leak in the event of an ignition.
 - E. Isolate the source of the leak and stem the flow of fluid, if it is still flowing, by either securing a line valve or the pump which is pressurizing the line.
 - F. Man CO₂ or PKP extinguishers. Stand well away from the source of a fuel leak BUT be prepared to discharge the extinguishers when so directed.
 - G. Make every effort to contain any subsequent fuel/oil release from the suspected leak source upon the EX-USS SHADWELL.
8. Place the EX-SHADWELL's oil boom in such a location as to prevent the spill from migrating into the main channel. (In most instances this can be achieved by securing one end of the boom to the stern gate of the EX-SHADWELL and the other end of the boom to either the rudder of STATE OF MAINE or to the large tree on the beach of LITTLE SAND ISLAND.)

EX-SHADWELL INST 5090.4B

9. The Emergency Coordinator, or his designated alternate, WILL contact the following

organizations as soon as possible:

- A. Coast Guard Fire and Safety Test Detachment on 441-5209 or Marine Channel 21. The point of contact is CWO4 Quincy Merriwether.
- B. The local Marine Safety Office on the land line, Phone #441-5121. The point of contact will be the duty phone watch.

10. The following information shall be given to the aforementioned organizations:

- A. Your name.
- B. The Center's Name
- C. The location of the ship.
- D. The type and approximate volume of fluid spilled.
- E. The time of the spill.
- F. The steps taken to contain the spill.

11. The following list identifies the location of onboard Emergency Equipment which may be utilized during a spill:

Equipment	Location
A. CO ₂ extinguishers	1-81-1, 2-63-1, 3-83-1
B. PKP extinguishers	3-83-1
C. Fire Pump Controller	BLKHD 1-59, fwd side, inboard Control Room, 02-36-2
D. Spill Containment Boom	Flight deck, starboard side
E. Oil Dry Compound	Well Deck at FR 43, starboard side Ballast Control, 1-95-1 Carpenter's Shop, 1-50-1 Machine Shop, 1-50-2
F. Eye Wash Stations	1-58-1, 01-36-4
G. Showers	01-29-4, 01-33-6, 02-40-4, 02-36-5, 02-36-6
H. Fires Aid Equipment	01-40-4
I. Marine Band Radio	Starboard Quarter Deck, 1-59-1
J. Land Line Telephone	Starboard Quarter deck, O2 levelOffice
K. 1-MC System	1-59-1, 02-36-1
L. General Alarm Activator	Starboard Quarter Deck, 1-59-1
M. Rags, mops, buckets	1st LT. Stores, 2-43-1 Ballast Control, 1-95-1

EX-SHADWELL INST 5090.4B

12. The following is a list of personnel, their organizations and telephone numbers who could

be involved in the event of a spill:

<u>Name</u>	<u>Phone Number</u>	<u>Assignment</u>
Arthur F. Durkin	344-7992 (H) 599-3891 (Cell)	Primary Emergency Coordinator
CWO4 Danny Woodard	(228) 392-4723 (H) (228) 365-7081 (Cell)	Secondary Emergency Coordinator
* CWO4 Quincy Merriwether	441- 5209 (W) Marine Band 21 (W)	USCGF&STD Supervisor
* MSO	441-5121 (W)	Duty Watch Officer
* These individuals and organizations should be contacted ONLY in the event of an overboard spill.		

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 5090.14A
7 December, 2004

EX-USS SHADWELL INSTRUCTION 5090.14

From: Director, EX-USS SHADWELL

To: Distribution List

Subj: Hazardous Waste Management for the January – April 2005 DD(X) EDM

Ref: (a) Purchase Agreement between NRL and BIW, NRL-PA-2003-15, 14 February, 2003
(b) NRL Hazardous Material Control and Management (HMC&M) Program, NRLINST 4110.1B, 19 May, 1998
(c) Hazardous Waste Management Plan (HWMP), NRLINST 6240.4F, 28 December, 1995
(d) Environmental and Natural Resource Program Manual, OPNAVINST 5090.1B, 1 November 1994
(e) Hazardous Material Spills, Control, Containment and Resolution, EX-SHADWELL INST 5090.4B, 2 June, 2004

- 1) Purpose: The purpose of this instruction is to define management, abatement and disposal requirements for any hazardous waste generated during execution of the January – April 2005 portion of the DD(X) AFSS EDM.
- 2) Scope: This instruction covers all hazardous waste materials, both liquid and solid, that may be generated during preparation for or performance of the DD(X) test series segments known as; Machinery Space, Perimeter Vertical Launch System (PVLS), Advanced Gun System (AGS) and Combat.
- 3) Information: The subject test program will be conducted jointly between the Naval Research Laboratory (NRL) and Bath Iron Works (BIW) within the guidelines set forth in NRL-PA-2003-15 (a). The joint test program will be conducted aboard the Advanced Fire Research Laboratory ex-USS Shadwell located in Mobile, AL. As stated in section 17 of the joint purchase agreement; Each Party shall be responsible for the handling, control, and disposition of any and all hazardous substances or waste in its custody during the course of this PA. At the conclusion of this PA, each Party shall be responsible for the handling, control, and disposition of any and all hazardous substances or waste still in its possession. Each Party shall obtain at its own expense all necessary permits and licenses as required by local, state, and Federal law.
- 4) Handling of hazardous substances: Hazardous Materials and Hazardous Waste are managed, controlled and disposed of in accordance with References (b-e).
- 5) Test Series Performance: The subject test program will be conducted in the forward test area of ex-Shadwell. All construction and fire test evolutions will be confined to the area of ex-Shadwell forward of FR 53, from the main deck down to the 5th deck. Fuel loads

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 5100.5B
23 November 1999

EX-USS SHADWELL INSTRUCTION 3006

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: PROTECTIVE EQUIPMENT, PERSONAL, RESPIRATORS

Ref: (A) OPNAVINST 5100.19
(B) NRL SOP for Respirator Users
(C) NRLINST 5100.24

1. To satisfy the requirements of references (A) - (C), all personnel are required to wear respirators when working under the following conditions;
 - i. During pre or post test operations where use of FiberFrax or cutting of bulkhead or overhead insulation is required.
 - ii. During post test operations where clean-up of burned Alpha or Bravo materials is required.
 - iii. During welding or burning operations where localized ventillation can not be provided.
2. Respirator filters must be changed when an odor is noticed upon donning the respirator.
3. Respirator housings should be kept clean and dry. They should be stored in a resealable, plastic bag in a cool, dry location.
4. All personnel should maintain their own respirator in a fully functional and undamaged condition. Any defective respirator should be removed from use. Report irreparable respirator status to your Supervisor.
5. All Supervisors are responsible for insuring their personnel have current physicals and respirator fit testing.
6. All Supervisors are responsible for insuring their personnel follow the letter of this Directive.

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 5510
25 March, 2005

EX-USS SHADWELL INSTRUCTION 5510

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: ex-Shadwell Security

Ref: (a) NRL Security Manual, NRLINST 5510.40E, 12 February, 2003
(b) OPNAVINST 3432.1, Operations Security
(c) OPNAVINST 5530.14C, Navy Physical Security
(d) NRLNOTE 5510, Camera Phones at NRL, 17 February, 2005

- 1) Purpose: The purpose of this instruction is to define security requirements for ex-Shadwell operations in accordance with references (a) – (d).
- 2) Cancellation: This instruction supersedes all previously exercised policies regarding security aboard ex-Shadwell. This is a complete revision and should be reviewed in its entirety.
- 3) Scope: This instruction applies to all NRL personnel working aboard or visiting ex-Shadwell. For the purposes of this instruction, the term “personnel” refers to: Federal civilian employees of any agency, military members, contractors, tenants and Post Docs.
- 4) Action: All personnel shall comply with the provisions of this manual.
- 5) Responsibilities: It is the responsibility of the Technical Director, Associate Technical Director and their designees to ensure compliance with all policies and procedures outlined in the instruction
- 6) **Visiting Personnel**: No personnel may come aboard ex-Shadwell without first being authorized. Authorization must be attained through the Technical Director, NRL Code 6180.
 1. Foreign Nationals: Non-citizens must obtain access through the security office at the main Laboratory in Washington, D.C.. Visitors should contact NRL Code 6180 at (202) 767-2002 to make the request. The approved visitor request form should be on file at ex-Shadwell prior to the visit.
 2. U.S. Citizens: Personnel requiring access to ex-Shadwell must make the request in writing. The request for access should include name of personnel requiring access, company name, date(s) of the visit, and reason for the visit. Points of contact for all visiting personnel are CWO4 Danny Woodard (Woodard@ccs.nrl.navy.mil) and Arthur F. Durkin (Durkin@ccs.nrl.navy.mil).
 3. Personnel visiting ex-Shadwell are required to carry picture identification.

4. Personnel visiting ex-Shadwell are required to park in the off-base parking lot adjacent to the Base Exchange. On base parking is forbidden. Any visiting personnel who park on the base will be subject to ticketing and towing by USCG Sector Mobile.

7) **Cell Phones:** Use of any type of cell phone is forbidden while aboard ex-Shadwell.

1. ex-Shadwell ships force are not allowed to carry cell phones aboard the ship.
2. Visitors to ex-Shadwell will turn their cell phone off and surrender it to the security guard upon boarding the ship. A property slip will be issued to identify the equipment and its owner. The cell phone will be locked up for the duration of your day and be returned upon departure.

3. Cell phones with camera capability are expressly forbidden aboard ex-Shadwell. Any personnel owning a cell phone with photographic capability will leave their phone ashore.

8) **Cameras and Photography:** Use of cameras for official or unofficial business requires an NRL camera pass. Personnel without an NRL camera pass are not allowed to use or carry a camera while aboard ex-Shadwell.

1. A camera pass will be issued by NRL Security to personnel with NRL badges only. These badges are issued to Federal employees (gold) and contractor employees (green). The paperwork for requesting a camera pass must be obtained through the Associate Technical Director or his designee.

2. Principal investigators and test directors must have all photographs taken by personnel with an approved NRL camera pass.

3. Visiting personnel must surrender their camera to the ex-Shadwell guard upon arrival. The guard will issue a property slip to identify the unit and its owner. All necessary and authorized pictures will be taken by officially designated personnel.

4. ex-Shadwell personnel who are authorized to take pictures are.

Chelbi Cole
Arthur Durkin
John Farley
Hung Pham
Fred Williams

F. Williams

EX-USS SHADWELL LSD-15
NTCSS Mobile, AL

EX-SHADWELL INST 11320B
19 July 2006

EX-USS SHADWELL INSTRUCTION 11320

From: Director, EX-USS SHADWELL
To: Distribution List

Subj: SAFETY PROCEDURE, HOT WORK PROGRAM

- (a) OPNAVINST 5100.23F (Series), Chapter 27, Navy Occupational Safety and Health (NAVOSH) Program Manual, July 2002
- (b) NAVSEA S6470-AA-SAF-010 REV 01, Naval Sea Systems Command, Gas Free Engineering Program, September, 1999
- (c) NRL INST 5100.22D, Requirements for Entry into Confined Spaces, 27 June 2002
- (d) ex-Shadwell INST 3505.1D, Confined Space Program Manual, 20 April 2005

1. Purpose: To explain the procedures and methods used for identifying and eliminating the potential for accidental ignition of materials and; to provide guidelines and procedures for handling inadvertent ignition of flammable materials that may occur while performing hot work.
2. Scope: This instruction applies to every individual aboard the ex-Shadwell, regardless their employment affiliation. The procedures defined in this document apply to all hot work performed aboard ex-Shadwell. This work may be conducted in confined, enclosed or poorly ventilated spaces, closed structures or containers, pipes, ducts, tubes, support structures or on weather decks.
3. Cancellation: This instruction cancels and supersedes ex-Shadwell INST 11320A. This version contains major revisions and should be read in its entirety.
4. Policy: To protect employees and facilities from the hazards that may be associated with hot work, Navy policy states that a preventative safety program must be established. Hot work is prohibited until the proposed work area has been evaluated by a qualified person and an ex-Shadwell Hot Work Permit (HWP) has been issued. A comprehensive hot work program shall be developed and implemented, per references (a) – (b), for use aboard ex-Shadwell. The ex-Shadwell Gas Free Engineer (GFE) shall evaluate work sites and issue hot work permits only for NRL employees and operations. For operations involving contractors, refer to paragraph 7g.
5. Information: All proposed hot work sites shall be inspected and a Hot Work Permit issued before work can commence. Confined spaces shall be tested for oxygen content, percent lower explosive limit (LEL) of flammable vapors and gases and toxic species concentrations.

EX-SHADWELL INST 11320B

They also shall be evaluated for all others hazards and unsafe conditions. Before permitting employee entrance, hazardous conditions shall be eliminated or reduced to an acceptable level. Periodic monitoring shall be conducted when processes or operations such as welding, cutting or other hot work are likely to generate hazardous conditions.

6. Definitions:

a. **Hot Work:** Any process, including all flame heating, welding, torch cutting, brazing, carbon arc gouging or any work which produces heat, by any means, of 400 °F (204 °C) or more, and, in the presence of flammables or flammable atmospheres, other ignition sources such as spark or arc producing tools or equipment, static discharges, friction, impact, open flames or embers, and non explosion proof lights, fixtures, motors or equipment.

b. **Fire Watch:** A person trained and assigned the responsibility of extinguishing accidental fires resulting from cutting and/or welding.

c. **Hot Work Permit:** A document posted on or near a proposed work site which indicates that qualified personnel have inspected the work site and rendered it safe for conducting hot work. The requirements for rendering a work site safe for hot work include identification of and reduction or elimination of flammable materials and elimination of any toxic, oxygen reduced or explosive atmospheres. Further requirements for a safe work site include designation of physical limits to the work site location, clear definition of any limitations to authorized work site processes, specific requirements for Personnel Protective Equipment (PPE) to be used during execution of the hot work, clearly defined time-lines for starting and completing the required hot work, the designation and staging of appropriate fire fighting equipment and, the designation and assignment of trained, qualified fire watch standers.

d. **Welding & Cutting:** construction and/or demolition processes that include gas or electric arc welding or cutting or any combination thereof.

7. Requirements:

Welding & Cutting Equipment

(a) Only approved equipment shall be used and it shall be maintained in safe operating condition.

(b) A cylinder or cylinder manifold for oxygen shall be provided with a pressure regulation device intended for use with oxygen and so marked.

(c) Fuel gas shall be used from cylinders through torches or other devices equipped with shut-off valves, without reducing the pressure through a suitable regulator attached to the cylinder or manifold.

(d) Cylinders, valves, regulators, hoses and other apparatus and fittings containing or using oxygen shall be kept free from oil or grease. Oxygen cylinders, apparatus and fittings shall not be handled with oily hands or gloves or greasy tools or equipment.

- (e) Acetylene and oxygen cylinders on portable welding rigs shall be chained in place in an upright position.
- (f) Where welding cable or hose is in the path of traffic, it shall be protected from chaffing and damage, and properly secured to prevent undue strain.
- (g) Welding and cutting outfits used outside of specifically designated areas shall be equipped with fire extinguishers and flame retardant blankets
- (h). When cutting and welding operations are to be performed in areas of high fire risk, the Fire Unit may be requested to furnish a standby fire watch.
- (i) Outside contractors shall be required to furnish their own equipment (e.g., noncombustible blankets, fire extinguishers, etc.).

Hot Work Permits

- (a) Unless welding and cutting operations are to be conducted in specifically designated areas, Special Permit for Using Open Flame Equipment shall be obtained through the ex-Shadwell Safety Officer before operations are started. All contractor permits will be issued by the contractor's designated representative.
- (b) The permit shall constitute permission to perform welding or cutting operations indicated thereon, and only for the period of time specified and in the location specified.
- (c) Permits shall at all times be kept on the site designated therein and shall be subject to inspection by the ex-Shadwell Safety Officer.
- (d) Compliance with the safety precautions listed on the reverse side of the "Special Permit For Using Open Flame/Heat Producing Equipment" shall be required at all times.
- (e) Personnel performing the welding, burning, or cutting must get another individual to stand "fire watch." The special permit will not be issued until a fire watch has been designated and that person's signature is entered on the permit.
- (f) Approved portable fire extinguishers shall be present at the work site and other areas as required. Extinguishers assigned for required building protection shall not be used for satisfying permit requirements.
- (g) In areas where contractors have been issued permits for cutting and welding it shall be the responsibility of the Navy Contracts Inspector to see that all provisions of the permit are adhered to.
- (h) All permits that have been issued will be completed and turned in when the job for which it has been issued is completed. Contractors shall turn in permits to the ex-Shadwell Safety Officer.
- (i) In areas designated as confined spaces, a welding/cutting open flame permit shall be issued only after the space has been rendered safe by a qualified Gas Free Engineer or Marine Chemist and other fire safety provisions have been implemented.

Fire Watch Stander

- (a) The fire watch shall be trained in the proper use of fire extinguishing equipment and shall be provided with such equipment. The fire extinguishing equipment shall remain within easy reach of the fire watch at all times during the performance of the hot work.

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Leaving Equipment

- (a) When electric arc welding or cutting is to be discontinued for any substantial period of time, such as during lunch hour or overnight, all electrodes shall be removed from holders and located so that accidental contact cannot occur, and the machine shall be disconnected from the power source.
- (b) When gas welding or cutting is to be discontinued for a substantial period of time, lunch hour or overnight, etc., the torch valves shall be closed and the gas supply to the torch completely shut off.

Cutting/Welding on the Shoreside Pier and/or ex-Shadwell Floating Pier

- (a) Wet down wooden decking.
- (b) Welding and cutting aboard the 35' aluminum work boat or 40' personnel boat, while at the pier, shall be restricted to the side of the vessel away from the wharf or pier.
- (c) Welding and cutting aboard the 21' work boat shall only be performed after the fuel system and outboard engine have been removed and the boat certified Safe for Hot Work by the ex-Shadwell GFE.

General Fire Prevention

Generally, welding and cutting operations will be conducted only in approved and specially prepared shops.

- (1) Operations Outside Approved Shops. When welding or cutting operations are performed outside of approved shops, personnel shall:
 - (a) Remove combustible materials to a safe distance.
 - (b) Clean and wet down wooden decks.
 - (c) Not cut or weld metal attached to or adjacent to any combustible surface.
 - (d) Establish and properly instruct a fire watch, furnished with proper extinguisher, at scene of operation.
 - (e) Apply and adhere to the rules included on reverse side of permit.
 - (f) Leave the gas cylinder on the outside when welding and cutting is being performed in any confined space, unless inside use is specifically approved by the entry certificate.

F. Williams