S/R WILMINGTON VESSEL HISTORY

The S/R WILMINGTON was originally built at Avondale Shipyard, currently Northrop Grumman Ship Systems, in New Orleans, Louisiana. The vessel is owned and operated by SeaRiver Maritime, Inc. a subsidiary of Exxon-Mobil.

First named the EXXON WILMINGTON, the vessel was built as a 617.2 foot, 27,508 gross ton Product Carrier for the trade of petroleum products. The vessel was delivered in July 1984, designed for an ocean-going route (any route more than 20 nautical miles offshore), and equipped with a diesel-direct propulsion system rated for 17,000 horse power. In 1993, the EXXON WILMINGTON was renamed the S/R WILMINGTON.

The vessel's size and cargo brought the vessel under the regulatory requirements of 46 CFR Subchapters "O" and "D" (46 CFR 151 and 46 CFR 30). The vessel was certificated by the United States Coast Guard. The United States Coast Guard's new construction narratives were hand-written entries recorded into a standard Record Book, Federal Supply Service #7530-00-222-3525, titled EXXON ASI Hull 2336 and ASI Job C1-015.

On July 21st, 1999, the S/R WILMINGTON was entered into the Alternate Compliance Program, effectively transitioning the bulk of inspection visits and oversight to the American Bureau of Shipping (ABS). The Coast Guard retained oversight of ABS inspections and conducted all COI renewal examinations of the S/R WILMINGTON.

No records exist of any alterations that may have affected the electrical system onboard the S/R WILMINGTON. The following is a list of the notable electrical issues entered in to the Marine Information for Safety and Law Enforcement (MISLE) System prior to the marine casualty in January 2009.

MISLE ACTIVITY HISTORY

6/27/1991 Activity # 920283
"WITNESSED SAT AUTO START UP AND LOAD TRANSFER OF CENTER AND STBD SHIPS SERVICE GENERATORS AND ALSO EMERGENCY. RECEIVED CG-2692 FOR CASUALTY ON PORT SHIPS SERVICE GENERATOR. ISSUED CG-835 ITEM 1 TO PROVE PROPER OPERATION OF PORT SHIPS SERVICE GENERATOR BY 05JUL91. INSPECTION COMPLETE."

6/9/1993 Activity # 43838
"VSL WAS INBOUND TO EXXON BAYONNE IN CONSTABLE HOOK REACH (VICINITY OF BUOY 9). VSL WAS IN A HARD RIGHT TURN WITH TWO TUGS TIED UP ON STARBOARD SIDE (ONE ON BOW AND ONE ON QUARTER). VSL EXPERIENCED LOSS OF RUDDER CONTROL WHICH WAS REGAINED IMMEDIATELY UPON SWITCHING TO NFU STEERING UNIT. VSL CONTINUED TO BERTH W/O INCIDENT. NO DAMAGE TO VSL. LOOSE TERMINAL ON TRANSFORMER WAS CAUSE OF STEERING FAILURE ON STBD STEERING UNIT."

10/23/1994 ACTIVITY # 602802
"THE VESSEL WAS OPERATING IN U.S. WATERS WITHOUT A PROPERLY OPERATING EMERGENCY GENERATOR, REQUIRED BY 33 CFR 164.25(A)(3)."

10/24/1994 ACTIVITY #1358578
"BOARDED VESSEL IN ACCOMPANY WITH MR. [redacted] OF ABS TO INSPECT THE OPERATION OF THE EMERGENCY DIESEL GENERATOR. THE INITIAL REASON FOR THE FAILURE WAS THE TURBOCHARGER AND BLOWER FAILURE. THESE ITEMS WERE REPLACED BY BATON ROUGE DIESEL SERVICE AND THE ENGINE STARTED AND RAN. THE DIESEL WOULD NOT COME UP TO THE PROPER SPEED AND WAS SHUT DOWN TO TROUBLE SHOOT THE PROBLEM. IT WAS FOUND THAT THE FLAPPER VALVE TO THE AIR INTAKE WAS NOT OPENING ALL THE WAY. THE PART WAS REMOVED AND WELDED TOGETHER AND REINSTALLED. THE ENGINE WAS AGAIN RESTARTED AND AN ELECTRICAL LOAD PLACED UPON IT. THE VESSELS FIRE PUMP WAS PLACED ON LINE. THE LOAD WAS 450 VOLTS, 220 AMPS AND 150 WATTS. THE LOAD TEST WAS SATISFACTORY. THE ENGINE WAS ALSO OVERSPEED TESTED AND IT TRIPPED AT 2150 RPM OR APPROX. 115% OVERLOAD. LOAD TEST SAT. INSPECTION COMPLETE."

6/29/1995 ACTIVITY # 1414491
"...(5) STBD MAST LIGHTS INOPERABLE. FUSE/BULBS REPLACED. SAT...
...(10) POWER CONVERTER CABLES IN EDG ROOM EXCESS - DEINSTALLED..."

7/6/1998 ACTIVITY # 1436097
"... E3) REPAIR HANDRAIL BETWEEN THE PORT AND CENTER SSDG'S..."

7/10/1998 ACTIVITY # 1472331
"... THE INSULATION EXHAUST ON THE SSDG'S WAS SATISFACTORILY REPAIRED, THE HAND RAIL BETWEEN THE PORT AND CENTER SSDG'S WAS SATISFACTORILY REPAIRED...
... STARBOARD ELECTRICAL SOLENOID DIRECTIONAL CONTROL VALVE AND CAP BACKED OFF THE VALVE, CAUSING THE SOLENOID TO BE OUT OF RANGE OF OPERATION. THE REPAIRS INCLUDED ADDING LOCK WASHERS AND LOC-TITE TO THE SCREWS TO PREVENT THIS FROM HAPPENING AGAIN. IN ADDITION, SEA RIVER MARINE CONTACTED THE SISTER SHIPS TO THIS VESSEL AND CONDUCTED AN INSPECTION OF THEIR SYSTEMS WHICH WERE ALSO FOUND TO BE LACKING LOCK WASHERS..."

The S/R WILMINGTON's Safety Management System (SMS) is primarily audited by the American Bureau of Shipping. On the occasion described below, a Coast Guard marine inspector was present during the ABS audit:

10/7/2002 ACTIVITY # 1691958
"ATTENDED VSL WITH CWO DS AT IMTT BAYONNE TO CONDUCT SAFETY MANAGEMENT SYSTEM (SMS) AUDIT OVERSIGHT. MET WITH SMS AUDITOR SERGIO ANTONNINI FROM ABS. NO PROBLEMS IDENTIFIED. ABS ISSUED CERTIFICATE NO NY286605 VALID UNTIL 06MAR03. UPDATED VFLD TO INCLUDED NEW DOCUMENT. NEW DOCUMENT TO BE SCANNED INTO SYSTEM. ISSUED 0 CG-REQUIREMENTS, CLEARED 0, AND 0 REMAIN OUTSTANDING. INSPECTION COMPLETE."

All electrical issues and deficiencies that were observed and recorded in MISLE were subsequently corrected. In sum, there are no indications that any appreciable changes to the S/R WILMINGTON's electrical system took place on, after, or before the marine casualty in January 2009.

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June 24, 2009

19497-0006

Commander J. E. Elliott
United States Coast Guard
3101 FM 2004
Texas City, TX 77591

Re: May 27, 2009 Letter re: SeaRiver Safety Management System (SMS)

Dear Commander Elliott:

This letter is in response to the U.S.C.G.'s correspondence dated May 27, 2009 to Mr. [redacted] of SeaRiver Maritime Inc. ("SeaRiver"). In its May 27, 2009 letter, the U.S.C.G. determined that the alleged failure of the three S/R WILMINGTON engineers to follow certain procedures, while working in the electric shop on 1/7/09, was an "implementation failure of the SMS" and a "major nonconformity".[1] Further, the U.S.C.G. determined that SeaRiver's SMS for its entire fleet did not adequately cover or account for electrical work involving energized circuits, test panels, and portable electric test leads, and determined that it was a "critical gap in a primary objective of [SeaRiver's] SMS". The U.S.C.G. failed to reveal or disclose the "objective evidence" to support its 5/27/09 determination.[2]

The U.S.C.G. also required SeaRiver to provide it with written information concerning the remedial actions taken by SeaRiver as well as any future actions planned to avoid a similar or like event. SeaRiver does not object to the U.S.C.G.'s request under its regulatory authority to investigate marine casualties per 46 C.F.R Part 4. During recent interviews, SeaRiver provided information related to current and future actions taken by the company to avoid a similar or like event. SeaRiver will provide additional written information to the U.S.C.G. under separate correspondence.

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1 The U.S.C.G. has acted arbitrarily in this matter by issuing its determination without having completed its investigation, including its interviews of two engineers who were working in the electric shop and shoreside personnel responsible for SeaRiver's SMS.

2 SeaRiver believes that the U.S.C.G. has made its determination based, in part, on a report written by Mr. [redacted] Mr. [redacted] was retained by an attorney representing Mr. Erickson's surviving parents in a lawsuit against SeaRiver. Mr. [redacted] has not demonstrated any training or experience on the ISM Code requirements for a Safety Management System. This report was clearly developed for litigation purposes and it does not meet the requirements of "objective evidence" under 33 CFR §96.120.

Enclosure (10)

SeaRiver strenuously disagrees with the U.S.C.G. determination in this matter and respectfully requests the U.S.C.G. to reconsider its determination pursuant to 46 CFR §1.03-15.[3]

Discussion

It is not clear whether the procedures referenced by the U.S.C.G. in its 5/27/09 letter were, in fact, applicable or even violated in this case. Assuming, solely for argument, sake that the procedures were applicable and inadvertently violated by the individuals involved in the casualty, such isolated oversight does not constitute a "major nonconformity" as defined by the ISM Code and U.S.C.G. regulations.

33 C.F.R. §96.120 defines "major nonconformity", in part, as "the lack of effective and systematic implementation of a requirement of the ISM Code" (emphasis added). An "implementation failure", using the U.S.C.G. terminology in its 5/27/09 letter, refers to a failure to implement a functional standard or performance element of the ISM Code, not an isolated failure by vessel personnel to fully apply procedures in the SMS. In order to fully understand the context of terms "non-conformity" and "major no conformity" under 33 CFR Part 96, it is necessary to understand the SMS requirements under the ISM Code and U.S.C.G. regulations.

1. Safety Management System Requirements

a. ISM Code/U.S.C.G. Regulations

U.S.C.G. regulations explicitly enumerate the requirements that a vessel owner/operator must meet to have a valid SMS in accordance with the ISM Code. 33 C.F.R. §96.220(b) requires a SMS to be "consistent with the functional standards and performance elements of IMO Resolution A.741(18)". More specifically, the functional requirements of a SMS are listed in 33 C.F.R. § 96.240.[4]

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[3] 62 FR 67493 at page 67502: All Coast Guard actions to enforce safety management systems requirements on U.S. vessels and their companies can be appealed to the Coast Guard under 46 CFR 1.03 "Rights to Appeal."

[4] 33 C.F.R. ¶ 96.240

> The functional requirements of a safety management system must include--
> (a) A written statement from the responsible person stating the company's safety and environmental protection policy;
> (b) Instructions and procedures to provide direction for the safe operation of the vessel and protection of the environment incompliance with the applicable U.S. Code of Federal Regulations, and international conventions to which the U.S. is a party (SOLAS, MARPOL, etc.);
> (c) Documents showing the levels of authority and lines of communication between shoreside and shipboard personnel;
> (d) Procedures for reporting accidents, near accidents, and non-conformities with provisions of the company's and vessel's safety management system, and the ISM Code;
> (e) Procedures to prepare for and respond to emergency situations by shoreside and shipboard personnel;
> (f) Procedures for internal audits on the operation of the company and vessel(s) safety management system; and
> (g) Procedures and processes for management review of company internal audit reports and correction of non-conformities that are reported by these or other reports.

In its Comments to the Final Rule 33 C.F.R. Part 96, the U.S.C.G. described the intent of the SMS requirements under the ISM Code and U.S.C.G. regulations,

> "The ISM Code does not define but instead provides broad, general performance elements as guidelines to be applied by ship owners and their companies to shoreside operations and to their vessels. Shipping is a varied industry with numerous types of companies operating under a large range of different conditions..... [The ISM Code's] purpose it to require companies to establish operating practices and policies so that company management will be in a position to ensure that their vessels comply with all applicable international and U.S. laws for purposes of safety and environmental protection. It does not seek to define or incorporate detailed regulatory requirements but instead to establish the management structure that will ensure that requirements applicable to vessels are communicated to shoreside and vessel personnel, and complied with. Thus, the requirements in this regulation are expressed in broad terms so they may have widespread application."[5] (Emphasis added)

Even though these comments by the Coast Guard were addressed in connection with questions received from an environmental group concerned with the protection of the Northern Right Whale, they nevertheless set out the principles, purpose and intent of the ISM Code with respect to how a SMS is to be implemented by vessel owners. SeaRiver's SMS meets those requirements.

b. SeaRiver's SMS meets U.S.C.G. regulations and ISM Code

The current Safety Management System Certificate ("SMC") for the S/R WILMINGTON was issued on August 10, 2007 by the American Bureau of Shipping ("ABS"). ABS trained and certified ISM auditors conduct external audits of all such companies and vessels to which it has issued a Document of Compliance ("DOC") and SMC. These external audits are required by the ISM Code to ensure continued compliance with the ISM Code both by the company being audited.

ABS conducted external audits on board the S/R WILMINGTON at the required intervals. These ABS audits, and supporting documentation of any corrective action required as a result of the audits, are attached hereto are under Attachment A. The ABS audit reports and SeaRiver's follow-up actions do not show any pattern of ISM non-compliance that would give rise to a finding of a major-non-conformity based upon a failure to implement any ISM functional standard or performance elements of the ISM Code. On the contrary, the ABS audit reports clearly demonstrate a SMS that seeks out, and responds to the need for continuous

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[5] 62 Federal Register 67492. December 24, 1997 at PP 67502 and 67503.

improvement in a timely manner. Clearly, the ABS audits for the S/R WILMINGTON show the existence of a viable, effective and fully functional SMS, which meets the ISM Code and U.S.C.G. requirements under 33 CFR §96.240.

In addition to the required external audits conducted by the ABS, SeaRiver conducts comprehensive and detailed annual internal SMS audits on board each of its vessels. These audits are conducted by trained and certified ISO/ISM lead auditors, who are not SeaRiver employees. Attached hereto and made a part of this letter and marked as Attachment B, is a copy of the 2008 internal audit report, as well as the internal auditor's executive summary, which were completed approximately one month before the subject casualty. [6] Also attached is a copy of the document that SeaRiver utilizes to track S/R WILMINGTON internal audit and follow-up actions.

As explained above, SeaRiver's SMS had been verified through external and internal audits. None of the audits raised questions concerning the scope of the SMS procedures referenced by the U.S.C.G. or crew compliance with those procedures. In fact, the internal audit completed onboard the S/R WILMINGTON on December 2, 2008 specifically validated that the officers were knowledgeable in the principles and use of JHA's. (p.2), PPE (pp. 34 & 36), and permits for and use of electrical work procedures (pp. 36 & 37). Further, the SMS was audited and validated, post-casualty by ABS. ABS did not identify any "non conformity" or "major non conformity" and confirmed that SeaRiver's SMS met all of the ISM Code functional standards and performance elements. [7]

The U.S.C.G.'s 5/27/09 determination of a "major non conformity" does not reference any violation of a particular functional standard or performance element. Rather, the U.S.C.G. determination is solely based on the alleged procedural failures by the individuals involved in the 1/7/09 casualty, who were working in the electric shop.[8]

2. Isolated human error (i.e. failure to follow procedures) is not a "major non conformity"

The occurrence of a casualty or incident on board a vessel does not necessarily indicate that there has been a major-non-conformity.[9] Under 33 C.F.R. §96.120, a "major non conformity" occurs when a failure to implement any one or more of the requirements under 33 CFR §96.240 takes place. If a vessel owner has fully implemented all the functional

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6 OSRQ A Internal Audit dated 2 December 2008 (Attachment B-1. This audit was conducted by Michael McCarthy of Safe Seas International. He is a former U.S. Coast Guard licensed chief engineer, BS degree in marine engineering and is certified as Lead ISO/ISM auditor. (See attached information at B-4.

7 ABS Audit of S/R WILMINGTON dated 10 August 2007 (Attachment A-1)
ABS Doc Audit dated 12 February 2009 (Attachment A-5)

8 The licensed officers involved in this incident, held the valid U.S. Coast Guard licenses for the position they served and the S/R WILMINGTON's Certificate of Inspection. They were certified with the appropriate Standards of Training, Certification, and Watch Keeping for Seafarers (STCW), See U.S. Coast Guard NAVIC 09-04.

9 ISM Code A Protocol Guide to Legal and Insurance Implementation by Philip Anderson: Lloyds of London Press (1998) at Page 4.

requirements of the ISM Code, as required by 33 C.F.R. § 96.240, it should not be cited for a major-non-conformity solely because of an isolated failure of crewmembers to follow procedures. In order for major non-conformity to exist, there must be objective evidence of (a) the failure to implement a functional standard or performance element of the ISM Code, (b) failure of a vessel to carry on board required ISM Certificates or (c) the failure to implement safeguards against all identified risks, 33 C.F.R. § 96.230.

Further support for this position is found in U.S. Coast Guard Navigation and Vessel Inspection Circular No. 04-05, which offers guidance to Coast Guard personnel enforcing the ISM Code requirements on foreign flag vessels under the agency's Port State Enforcement obligations. [10] NVIC 4-05 states that a "major non conformity" is either: (1) "substantial noncompliance of a ship's SMS to the requirements of the ISM Code", or (2) the lack of an effective and systematic implementation of the requirements of the ISM Code." Thus, the determination of "major non conformity" depends on the assessment of whether the vessel owner has failed to meet or deviated from the SMS functional requirements of the ISM Code.

An event resulting from an isolated failure by an employee to carry out procedures or operating parameters of the SMS, or even a gap in the SMS procedures, does not necessarily show of a "major non-conformity" of the SMS.[11] This is demonstrated by the U.S.C.G. analysis of the COSCO BUSAN allision.[12] In its investigation report, the U.S.C.G. found failures by the crew to follow several procedures contained in the vessel operator's SMS.[13] Quoting from the Report (part 2.3):

> "[T]he failure of the master and deck officers of the COSCO BUSAN to follow SMS procedures (emphasis added) indicates that they were either unfamiliar with the SMS procedures or willfully failed to follow them."
>
> "The SMS procedure did not include a requirement for periodic position fixes to ensure that the vessel remained on course. However, the master's standing orders required position fixes every five minutes. Importantly, the SMS emphasized that a delay to the ship, either by delaying departure or reducing speed, was preferable to an accident. The master was either unaware of the language in the SMS, or choose to ignore it, and he ignored his own standing orders. He did not discuss the possibility of waiting at the pier for better visibility with the pilot."
>
> "The crew completed SMS checklist #3, preparations for getting underway, but did not complete checklist #10, procedures for getting underway in limited visibility."

---

[10] Navigational and Vessel Inspection Circular 04-05 Port Sate Control Guidelines For Enforcement of Management for the Safe Operation of Ships (ISM Code).

[11] A single, unanticipated failure to follow procedures does not constitute a "major non conformity" as per the ISM Code and U.S.C.G. regulations.

[12] United States Coast Guard: Report of Investigation into the ALLISON OF THE COSCO BUSAN WITH THE DELTA TOWER OF THE SAN FRANCISCO-OAKLAND BAY BRIDGE IN SAN FRANCISCO BAY ON NOVEMBER 7, 2007.

[13] The U.S.C.G. also found that the COSCO BUSAN violated several U.S. Inland Navigation rules.

> "The failure to complete Checklist #10 and the failure to comply with the pre-departure test requirements of U.S. regulations is further evidence of the failure of Fleet Management, Ltd. to properly train and indoctrinate the crew."

Despite the numerous failures by the COSCO BUSAN crew to follow SMS procedures and regulatory requirements, the agency did not find that those failures constituted a "major non conformity" under the ISM Code. Yet, in its 5/27/09 letter, the U.S.C.G. has determined that the alleged failure by the S/R WILMINGTON engineers working in the electric shop on 1/7/09 to follow procedures was a "major non conformity". In this case, the U.S.C.G. has made a determination, which is inconsistent with U.S.C.G. regulations, the ISM Code, and prior U.S.C.G. decisions/guidance.

The U.S.C.G. has also determined in this matter that the absence of certain procedures constituted a gap in SeaRiver's SMS. The U.S.C.G.'s determination fails to recognize that the ISM Code and U.S.C.G. regulations do not require a SMS to include a procedure for every task or job performed by vessel personnel. 33 C.F.R. §96.230 (b) states, "[t]he safety management system must ... [e]stablish and implement safeguards against all identified risks" (emphasis added).

An "identified risk" is one that has been reasonably known to have existed, been brought to the level of shipboard and shoreside management's attention and then either ignored or rejected. The audits for the S/R WILMINGTON clearly show that engineers were aware and compliant with the procedures identified by the U.S.C.G. in its 5/27/09 determination, as early as four weeks before the unfortunate casualty. Similarly, the S/R WILMINGTON monthly vessel safety reports did not identify any risks associated with the use of the electric test panel and its equipment, or the procedures referenced by the U.S.C.G. in its determination. See copies of S/R WILMINGTON safety reports attached hereto as Attachment C.

CONCLUSION

There is no evidence which would support any failure on the part of SeaRiver to implement any functional requirement or element of the ISM Code in connection with the unfortunate casualty onboard the S/R WILMINGTON. There is no objective evidence that (1) there were several similar events preceding the casualty which occurred over a period of time and were either not reported or addressed by company's SMS or, (2) that the unfortunate casualty involving Mr. Erickson is directly related to the failure of the company to implement one of the functional standards and performance elements of the ISM Code, as required by 33 C.F.R. § 96.240. ABS and internal audits of SeaRiver's SMS do not identify any of these conditions. On the contrary, previous ABS and SeaRiver internal audits confirm that, at the time of the casualty, SeaRiver was operating under a SMS fully compliant with ISM Code and U.S.C.G. regulations.

The action taken by the U.S. Coast Guard in issuing a major nonconformity to SeaRiver is not only totally inconsistent with the letter and spirit of the ISM Code but is contrary to the

international application of the definitions and provisions of the Code, and U.S.C.G.'s interpretation, as demonstrated in its analysis of the COSCO BUSAN casualty. As this matter now stands, SeaRiver considers the action of the Coast Guard to be both arbitrary and capricious and totally without merit. The U.S.C.G.'s 5/27/09 determination should be withdrawn.

PHELPS DUNBAR LLP

Very truly yours,

[redacted]

[redacted]
Attachments

Enclosure (10)

SeaRiver Maritime, Inc.
SRM-EMB-4.094
P. O. Box 1512
Houston, TX 77251-1512
713-656-2769 Telephone
713-656-1958 Facsimile

SeaRiver

[redacted]
Operations Vice President

June 25, 2009

J.E. Elliott
Commander, U.S. Coast Guard
3101 FM 2004
Texas City, Texas 77591

Subject: Response Activities Post Erickson Casualty

Dear Commander Elliott:

This letter is in reference to your 27 May 2009 correspondence to SeaRiver Maritime, Inc. (SeaRiver), regarding the 7 January 2009 personnel accident onboard the U.S. flag tank vessel, S/R WILMINGTON. The U.S.C.G. requested SeaRiver to provide information regarding current and future actions taken by the company to avoid a similar event.

Immediately after the event, SeaRiver formed a cross-functional investigation team, which included SeaRiver Operations and Safety Department management, as well as third-party SHE process and electrical experts. While the SeaRiver and U.S.C.G. investigations remain open, we have already initiated additional preventive and enhancement measures in the areas of equipment, personnel, and processes, in a manner consistent with continuous improvement and our Safety Management System. As stated in prior communications, the overarching SeaRiver Safety Management System is robust, sound, and effective. Our records show it continues to meet all of the core ISM code expectations. The following is a summary of our continuous improvement measures. A more detailed list has been attached hereto as Attachment No. 1, along with additional supporting material.

Steps have been taken to further enhance vessel electric test panels and electric work procedures in response to this unfortunate event. We have examined and verified that existing test benches and pigtails across the fleet are properly functioning and insulated. The use of existing electric test panels has been restricted while investigations and follow-up measures are underway. Although we have confirmed that all existing test panels are safe and in good order, existing panels will be replaced with newly designed equipment, which includes state-of-the-art multi-tiered safety features with interlock capability, GFI-type features, indicator lights, and outlet voltage meters. The manufacturer of the new test panels will also supply insulated pigtails, initially and on a long term basis. Inspection and periodic replacement of these pigtails will be included in our detailed planned maintenance procedures. Furthermore, as these

Enclosure (4)

changes progress, engine department personnel will receive training regarding the use of these new panels and will continue enhanced periodic refresher training regarding safe work practices.

In addition, SeaRiver has enhanced its procedures for the approved use of the existing electric test panels to supplement the overall electric work procedures, which were in effect before January 2009. These enhanced procedures have been covered with affected personnel and posted on the existing test panels to remind and guide personnel regarding the proper connection and activation sequences when energizing a test panel. Similar to the pre-existing electric work procedures, the supplemental procedures require the use of appropriate PPE when a circuit is energized and they require personnel to remove non-insulated tools from the test bench area when the electrical test panel is being used.

Supplemental training of personnel was initiated soon after the incident and steps are underway to further upgrade operating equipment and enhance systems across our fleet. These include several supportive recommendations provided by the Erickson family. The noted work processes and equipment enhancements have been assessed by subject matter experts, modified and/or enhanced on both an interim and long term basis.

After review of this material, please let me know if you would like to meet with us again to review the status of these actions. We are readily available to keep your designated staff apprised of our ongoing progress and I remain personally available to accommodate your schedule and requirements.

Very truly yours,

[redacted]

/Attachments

cc: [redacted]

ATTACHMENT NO. 1

EQUIPMENT

- S/R WILMINGTON Electrical Test Panel and "pigtails"
  - Electric test panel was immediately shut down and the shop secured.
  - Preserved potential forensic evidence to assist in the investigation by the Company and U.S.C.G.

- Fleet-wide Electrical Test Panels and "pigtails"
  - Instructed fleet personnel to assess the condition and safety of electric test panels and pigtails across the fleet, with documented feedback to shore management.
    - All were reported to be in safe and serviceable condition.
  - Electric test panels have been de-energized and tagged out of service.
  - Use of existing test panels is restricted. Interim use procedures were developed. These require shore management review and pre-approval.
  - Use of electrical permits and senior/experienced officer oversight is required.
  - Enhanced labeling of existing controls and indicators has been applied where appropriate.

- Replacement Electrical Test Panels
  - Developed new and enhanced, state-of-the-art electric test panels.
    - ABS review and approvals were achieved in June 2009.
    - Multiple control interlocks, visual and sound indicators/alarms.
    - GFI-type safety protection and Lock Out–Tag Out switches.
  - Orders placed during 2Q09 and anticipate delivery/installation to begin 3Q09.
  - Operating documentation and training to be provided for personnel before equipment is commissioned.
  - Only vendor supplied "pigtails" will be used with new electrical test panels.

PERSONNEL

- Employee Communications
  - Prompt, detailed senior management interface with fleet personnel.
    - Personally contacted and visited each vessel multiple times.
      - Reemphasized safe operating expectations and requirements.
      - Effective use of SMS, operating systems and procedures (JHAs, planning, communications, tools, PPE, 2-person checks, work execution, recognition, and management of scope changes).
  - Fleet-wide safety "Alert" issued.
    - Event advisory and work precautions.
  - Issued SeaRiver Marine Safety Notice.
    - Highlighted safe electrical work practices, including isolation of electrical energy, proper use of PPE, Permits, Standby Persons, and JHAs.
    - Issued related U.S.C.G. Safety Alert.
    - Fleet-wide directive issued, delineating across-the-board safe operating expectations and SMS process applications.

PROCEDURES, AWARNESS and TRAINING

- Crew Refresher Training and Awareness.
  - Promptly conducted basic safety refresher training for crews.
    - Standardized training outline utilized.
    - Broad SMS focus with concentration on electrical work safety.
  - Issued revised interim electrical work procedures.
  - Reviewed applicable safety and health procedures, JHA's, electrical system applications, Permits, and overall Safety & Health System.
  - Enhanced electrical test bench practices have been incorporated into fleet-wide Chief Engineer's Standing Orders.
    - Reviewed and applied system best practices.
    - Developed enhanced equipment connection sequencing guide and posted in electrical shops.

- Enhanced Leadership/Supervision Training
  - Implemented shore-based, senior fleet officer SHE Leadership forums.
    - Masters, Chief Engineers, Chief Mates, and First Assistant Engineers.
    - Senior management, external trainers, and SHE leadership participated.
    - Completed in 2Q09.
  - Focused on Safety, Health and Environmental management expectations, communications, and processes.
  - Similar junior officer SHE Leadership forums under development.

- National Safety Council SHE "Supervisors Development Program"
  - Enhanced fleet officer leadership and SHE training.
  - Completed course assessment 2Q09.
  - New required training for licensed officers.
  - Scheduling underway effective June 2009.
  - Includes user assessment and verification components.

- Enhanced Shore-Based Electrical Safety Training
  - Evaluated multiple vendors.
    - Specialist contractor to conduct training.
    - Course commencement - 3Q09.
  - Includes onboard system assessments by contractor.
  - Technical and safety training, with marine orientation.
    - Initial target audience – all licensed engineers.
    - To include management expectations and SMS overview.

- SHE Expectations - Unlicensed Seaman
  - Focus on expectations, operating safety, and personal responsibility.
    - Senior management interaction with unlicensed union leadership.
    - Completed May 2009 with ongoing interface.

- Job Safety Analysis Process
  - Enhanced work forms developed and disseminated.
  - Based on National Safety Council best practices.
  - Purpose, use instructions and training provided.

U.S. Department of Homeland Security

United States Coast Guard

Commanding Officer
United States Coast Guard
Marine Safety Unit Galveston

3101 FM 2004
Texas City, Texas 77591
Phone: (409) 978-2701
Fax: (409) 978-2670

16711
July 14, 2009

Phelps Dunbar, LLP
Attn: [redacted]
700 Louisiana Street, Suite 2600
Houston, Texas 77002

SeaRiver Maritime, Inc.
Attn: Mr. [redacted]
P.O. Box 1512
Houston, Texas 77251

Gentlemen:

This letter is in response to your correspondence of June 24th, 2009, requesting reconsideration of the U.S. Coast Guard's determination that a relevant Safety Management System major non-conformity existed prior to the electrocution death of Mr. Christopher Erickson, a licensed Third Engineer, onboard the U.S. flagged tank vessel SeaRiver (SR) WILMINGTON on January 7th, 2009. This letter will also address your letter of June 25th, 2009, that outlines the myriad changes SeaRiver Maritime, Inc. has made to fleet-wide electrical systems and equipment, employee communications, safety management procedures, and employee training following the death of Mr. Erickson.

Your request for reconsideration was timely and in accordance with 46 CFR 1.03-15(b). Accordingly, I have thoroughly reviewed and reconsidered my determination pursuant to 46 CFR 1.03-15. However, I still find that a relevant Safety Management System major non-conformity existed as stated in my letter of May 27th, 2009.

Definitions

A major non-conformity is defined as "an ***identifiable deviation which poses a serious threat to personnel*** or vessel safety or a serious risk to the environment and ***requires immediate corrective action***; *in addition,* ***the lack of effective and systematic implementation of a requirement of the International Safety Management (ISM) Code*** *is also considered a major non-conformity.*"[1]

A non-conformity is defined as *"an observed situation where objective evidence indicates the non-fulfillment of a specified requirement."*

Objective evidence is defined as *"quantitative or qualitative information,* ***records or statements of fact pertaining to safety*** *or to the existence and implementation of a safety management system element, which is based on observation, measurement or test and which can be verified."*

[1] Code of Federal Regulations (33 CFR 96.120). The ISM Code defines "major non-conformity" as "an identifiable deviation that poses a serious threat to the safety of personnel or the ship or a serious risk to the environment that requires immediate corrective action and includes the lack of effective and systematic implementation of a requirement of this Code."

Enclosure (12)

Findings of Objective Evidence

The objective evidence for our determination of a major non-conformity includes statements of fact pertaining to safety and numerous historical records collected during our investigatory process.[2]

Statements by SeaRiver Maritime employees and records dating back two years confirm that work permits were not completed for hazardous work, such as electrical equipment testing, conducted in the electrical workshop. While SeaRiver Maritime's Safety Management System requires a "work permit" for "seven (7) job categories", including "electrical work," a work permit was routinely not completed prior to conducting work within the SR WILMINGTON's electrical workshop. These observations form objective evidence of a systematic failure to effectively implement safeguards required in SeaRiver Maritime's Safety Management System and a failure to meet fundamental objectives of the International Safety Management Code.

Additionally, while the Safety Management System states *"the standard permit process may be by-passed during emergency response when the Master has determined that such action is necessary for the safety of the vessel, crew and/or environment,"* based on our findings, there was not an "emergency response" occurring on January 7th, 2009, that required the work party conducting electrical testing in the electrical workshop to by-pass the standard permit process. Thus, the work party's failure to complete the required standard permit, which should have included conducting a Job Hazard Analysis requiring a safety observer and Lock-Out/Tag-Out procedures, constituted an "identifiable deviation" that clearly posed a serious threat to personnel.

The corded three-conductor power supply line being used to connect to the breaker, also called a "pig-tail," was determined to be "makeshift" equipment. For example, the electrical pig-tail should have been designed with high voltage insulated alligator clips as opposed to possessing the bare wires that were found on the electrical pig-tails historically used in the SR WILMINGTON's electrical workshop. Additionally, the length of the electrical pigtail allowed crewmembers to stand off of the required insulated mat while conducting work.

In addition to the historical lack of effective implementation of the work permit process and use of makeshift equipment, our investigation identified three findings of facts, amongst others, that also meet the criteria of objective evidence: (1) the lack of at least one additional person at all times to stand-by and observe the subject electrical work, (2) the electric circuit was found not in accordance with the required Lock-Out/Tag-Out procedures during the subject electrical work, and (3) the work party did not wear the required electrician's gloves during the subject electrical work.

Determination of a Major Non-Conformity

Based on the objective evidence collected and reviewed, by definition, all of the requirements of a "major non-conformity" were met: "an ***identifiable deviation which poses a serious threat to personnel*** or vessel safety or a serious risk to the environment and requires ***immediate corrective action***; in addition, the ***lack of effective and systematic implementation*** of a requirement of the International Safety Management Code."

Identifiable deviations from the International Safety Management Code and Safety Management System which posed a serious threat to personnel existed onboard the SR WILMINGTON and these deviations required immediate corrective action. These identifiable deviations occurred in the electrical workshop: (1) the lack of at least one additional person at all times to stand-by and

[2] Coast Guard Investigating Officers reviewed over 350 SR WILMINGTON Work Permits, dated February 2007 to January 2009.

observe the subject electrical work, (2) the lack of adherence to the required Lock-Out/Tag-Out procedures during electrical tests, (3) the failure to use electrician's gloves during the subject electrical work, and (4) the use of makeshift equipment.

Additionally, the aforementioned records documented a historical lack of effective and systematic implementation of the requirements of the International Safety Management Code within the electrical workshop. Specifically, it was determined that (1) SeaRiver failed to establish and implement safeguards against all identified risks, (2) the safety and environmental protection policy established by SeaRiver was not implemented and maintained at all levels of the organization, and (3) it was not ensured that all personnel involved in SeaRiver Maritime's Safety Management System consistently adhered to all relevant rules, regulations, codes, and guidelines.

The International Safety Management Code (ISM) states:

1. Requirement 1.2.2: Safety management objectives of the Company should, *inter alia*: (.1) provide for safe practices in ship operation and a safe working environment; (.2) establish safeguards against all identified risks; and (.3) continuously improve safety management skills of personnel ashore and aboard ships, including preparing for emergencies related both to safety and environmental protection.
2. Requirement 2.2: The Company should ensure that the policy is implemented at all levels of the organization, both ship-based and shore-based.
3. Requirement 6.4: The Company should ensure that all personnel involved in the Company's safety management system have an adequate understanding of relevant rules, regulations, codes, and guidelines.

Additionally, the Code of Regulations (33 CFR 96.230(b)) states the Company and Safety Management System shall "Establish and implement safeguards against all identified risks."

Correlation of the International Safety Management Code and SeaRiver Maritime's Safety Management System

Although our investigation stemmed from a tragic incident, the Coast Guard could find no contrary indication from crew interviews or records that the work being conducted in the electrical workshop the day of the incident was in anyway unlike work practices routinely carried out in that space prior to the incident. Our investigation revealed that SeaRiver Maritime's Safety and Health Manual (Chapters 1 through 4) was not historically and systematically adhered to while conducting work within the SR WILMINGTON's electrical workshop. The Safety Management System implementation failures include, but are not limited to, the following procedures:

1. Procedure 04-A-04-065 identifies the risk of fatality associated with electrical work and requires the isolation of hazardous energy. Specifically, this procedure states *"Work on electrical circuits requires a higher degree of attention due to inherent dangers that can result in serious burns or fatalities. Procedure 04-A-04-085 should be reviewed in conjunction with the review of this procedure."* Since the risk associated with work on electrical circuits was identified and SeaRiver Maritime failed to implement the safeguard, this is considered a failure to meet Requirement 1.2.2.2 of the ISM Code and 33 CFR 96.230(b) to "safeguard against all identified risks."

Additionally, Procedure 04-A-04-065 sets policy regarding the proper handling of circuits before testing and the required use of personal protective equipment. Specifically, the procedure states *"Assume that all circuits are live until tested and tagged otherwise"* and *"Those doing the work shall wear electrician's gloves, which have been stored in a protected container such as a sealed bag or box."* Based on this policy, the personnel conducting the electrical equipment testing

procedures at the time of Mr. Erickson's death, and also those that conducted the historical electrical equipment testing within the electrical workshop, should have assumed that the circuits were live and followed the procedures for "work performed on energized circuits."[3]

The objective evidence and the references mentioned above determine the safety policy established by SeaRiver Maritime was not implemented by all levels of the organization, a failure to implement Requirement 2.2 of the ISM Code. The evidence and references also indicate that SeaRiver Maritime did not ensure that all personnel involved in the Company's Safety Management System had an adequate understanding of relevant rules, regulations, codes, and guidelines, a failure to implement requirement 6.4 of the ISM Code. Since the risk was identified and SeaRiver failed to implement a safeguard, this is considered a failure to implement Requirement 1.2.2.2 of the ISM Code and 33 CFR 96.230(b).

Finally, specific procedures were not established for the electrical testing conducted within the electrical workshop and associated with the electrical test panel. Objective evidence confirms that electrical procedures, like the one conducted at the time of Mr. Erickson's death, required (1) at least one additional person at all times to stand-by and observe the subject electrical work, (2) adherence to the required Lock-Out/Tag-Out procedures during electrical tests, and (3) use of electrician's gloves during the subject electrical work.

2. Procedure 04-A-04-085 requires the isolation of hazardous energy, equipment or systems: *"Hazardous energy lockout/tagout (LO/TO) devices and procedures are effective safeguards against accidents that may occur due to the unexpected release of hazardous energy..."* Specifically, this procedure states *"LO/TO devices are required before any employee performs servicing, maintenance, or inspection on equipment or facilities where the unexpected energizing, start-up, or release of energy could occur and cause injury."* Based on our findings, SeaRiver Maritime historically failed to require LO/TO devices while conducting work in the electrical workshop and no LO/TO devices were in place at the time Mr. Erickson was electrocuted.

As discussed above, the objective evidence indicates the SeaRiver Maritime Safety Management System was not effectively implemented by all levels of the organization, a failure to implement Requirement 2.2 of the ISM Code. The evidence, including statements and records, also demonstrate that SeaRiver Maritime did not ensure all personnel involved in the Company's Safety Management System were consistently adhering to the relevant rules, regulations, codes, and guidelines; this is a failure to implement requirement 6.4 of the ISM Code. Since the risk of an expected release of hazardous energy was identified and SeaRiver Maritime failed to implement a safeguard, this again is considered a failure to comply with Requirement 1.2.2.2 of the ISM Code and 33 CFR 96.230(b).

3. Procedure 04-A-04-005 outlines the responsibilities of the Master, Chief Mate and Chief Engineer, or the delegated qualified vessel officer. Based on our findings, several of the responsibilities outlined in this procedure were not implemented. Specifically, this procedure states that the Master, Chief Mate and Chief Engineer, or the delegated qualified vessel officer, should ensure (a) *"An appropriate Permit is properly completed and understood by all affected personnel,"* (b) *"Only personnel named on the Permit can participate in the specified task,"* (c) *"Participating personnel are aware of the safety measures and precautions required,"* (d) *"The correct PPE and tools are used,"* and (e) *"Other additional safety precautions deemed necessary are defined."* An appropriate work permit was not completed and the correct Personal Protective Equipment (PPE) was not used. Failure to implement these responsibilities constitute failures to implement Requirements 2.2 and 6.4 of the ISM Code and are also considered a failure to comply with Requirement 1.2.2.2 of the ISM Code and 33 CFR 96.230(b).

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[3] The Safety Management System, Procedure 04-A-04-065, pages 3 to 7, discusses work performed on energized circuits.

4. Procedure 04-A-03-005 requires that a *"Safe Performance Self-Assessment (SPSA)/Take 5", a brief, self-performed risk assessment tool,"* be performed prior to each work task. This three step process requires every employee to do a self-assessment by asking a set of given questions. In the first step, employees should assess, amongst other things, if they have the proper Personal Protective Equipment. In the second step, employees should question, amongst other things, the need for a Job Hazard Analysis, evaluation of the proper tools required to complete the work task, and if the team assembled is adequate and fully informed of the operations, risks and mitigating factors. Failure to implement the SPSA/Take 5, as required by Procedure 04-A-03-005, is considered an additional failure to implement Requirements 2.2 and 6.4 of the ISM Code and is also considered a failure to comply with Requirement 1.2.2.2 of the ISM Code and 33 CFR 96.230(b).

5. Procedure 04-A-05-015 states: *"Do not use makeshifts that could compromise safety. In rare instances when a makeshift is necessary as a temporary measure, obtain the approval of your supervisor to use it. Replace or correct it with the appropriate equipment or procedure as soon as possible. While using the makeshift, make others aware of it. As an extra precaution, notify relief and other personnel that it exists."* As discussed earlier, the corded three-conductor power supply line being used to connect to the breaker, also called a "pig-tail," was determined to be "makeshift" equipment. Based on statements made by SeaRiver Employees, including the Chief Engineers, use of the makeshift electrical pig-tail was generally accepted by the engineers onboard the SR WILMINGTON. Additionally, based on a statement by the Third Engineer that was present at the time of the marine casualty, the Third Engineer had been "trained" on how to use the makeshift pigtail by Mr. Erickson while working in the electrical workshop.

Once again, the objective evidence and the references mentioned above determine the safety policy established by SeaRiver Maritime was not implemented by all levels of the organization, a failure to implement Requirement 2.2 of the ISM Code. The evidence and references also indicate that SeaRiver Maritime did not ensure that all personnel involved in the Company's Safety Management System had an adequate understanding of relevant rules, regulations, codes, and guidelines, a failure to implement requirement 6.4 of the ISM Code. Since the risk was identified and SeaRiver failed to implement a safeguard, this is considered a failure to implement Requirement 1.2.2.2 of the ISM Code and 33 CFR 96.230(b).

Your letter of June 24, 2009, states that in a *"post-casualty"* audit conducted by the American Bureau of Shipping (ABS) on February 12, 2009, *"ABS did not identify any "non-conformity" or "major non-conformity" and confirmed that SeaRiver's SMS met all of the ISM Code functional standards and performance elements."* Based on my interviews with Mr. [redacted] and Mr. [redacted] the ABS auditors who conducted the Annual Audit on February 12, 2009, and Mr. [redacted], the SeaRiver Maritime Safety and Health representative in attendance, SeaRiver Maritime did not inform the ABS auditors of the electrocution death that occurred onboard the SR WILMINGTON during the audit process. Mr. [redacted] of Bierne, Maynard and Parsons, representing ABS, also stated SeaRiver Maritime did not inform the American Bureau of Shipping of a "non-conformity" or accident during the annual audit. Thus, it is inappropriate to cite this audit report as evidence that SeaRiver Maritime's Safety Management System met all ISM Code requirements. Of note, the audit conducted on February 12th, 2009, was not a "post casualty" audit onboard the SR WILMINGTON to address the electrocution death of Mr. Erickson, but rather a previously scheduled annual audit at SeaRiver Maritime's office in Houston, Texas, in which the marine casualty was not discussed. Also, of note, the American Bureau of Shipping *Guide for Marine Health, Safety, Quality and*

Environmental Management, used as a guide by ABS auditors, states: *"The absence of recorded nonconformities does not mean that none exist."* [4]

Immediate Corrective Action

Your letter of June 25th, 2009, outlines substantive improvements and changes to safety management procedures made throughout the SeaRiver Maritime fleet following the electrocution death of Mr. Erickson. In addition to making fleet-wide changes to electrical equipment and test panels, these changes include the specific requirement for work permits, safety observers, the isolation of electrical energy, replacement of all makeshift electrical pigtails, and personal protective equipment use in all spaces of the Company's vessels, including the historically unaddressed electrical workshop onboard the SR WILMINGTON. Additionally, SeaRiver has initiated a comprehensive training program for every leadership and supervisory level to reemphasize these preexisting safety management requirements.

In accordance with the International Safety Management Code, SeaRiver Maritime's Safety Management System and 33 CFR 96.120, SeaRiver Maritime implemented "immediate corrective action" to address the major non-conformity discovered during both the Coast Guard's investigatory process and SeaRiver Maritime's internal audit process.

In sum, our findings of objective evidence reveal an identifiable deviation from the requirements of the International Safety Management Code that posed a serious threat to personnel onboard the SR WILMINGTON. Additionally, our findings of objective evidence, including statements and historical records, also reveal the lack of effective and systematic implementation of a requirement of the International Safety Management Code. Finally, the identifiable deviations and lack of effective and systematic implementation of the International Safety Management Code required immediate corrective action as outlined in your letter of June 25th, 2009. Therefore, all of the requirements of both the regulatory and International Safety Management Code definition of a "major non-conformity" have been met.

Please contact me anytime should you have questions or concerns regarding our findings. Should you feel aggrieved by this determination, you may file an appeal in accordance with procedures outlined in 46 CFR Part 1.03.

Sincerely,

[redacted]

J. E. ELLIOTT
Commander, U. S. Coast Guard
By Direction
Officer in Charge, Marine Inspection

Copy: Commander, Sector Houston-Galveston
Eighth Coast Guard District
Coast Guard Atlantic Area (Ap)
Coast Guard Office of Vessel Activities (CG-543)
Coast Guard Liaison to Authorized and Recognized Classification Societies
American Bureau of Shipping

[4] American Bureau of Shipping, *ABS Marine Health, Safety, Quality and Environmental Management*, June 2008, page 4: "Assessments are based upon a sampling process. The absence of recorded nonconformities does not mean that none exist."

Enclosure (12)

BLANK ROME LLP
COUNSELORS AT LAW

Phone: 202 772-5964
Fax: 202 572 8391
Email: [redacted]@blankrome.com

July 28, 2009

VIA EMAIL AND REGULAR MAIL

Captain V. Gifford
Chief of Prevention
Eighth Coast Guard District
Hale Boggs Federal Building
500 Poydras Street
New Orleans, LA 70130

Re: Request for Extension of Time to Appeal; Major Non-Conformity Determination *S/R Wilmington*

Dear Captain Gifford:

We write on behalf of SeaRiver Maritime Inc. ("SeaRiver") requesting a two-week extension of time to appeal a determination by the Officer in Charge, Marine Inspection, Marine Safety Unit Galveston, that a major non-conformity existed prior to the electrocution death of a licensed Third Engineer onboard the S/R Wilmington on January 7, 2009. This determination was initially issued on May 27, 2009. On June 24, 2009 SeaRiver requested a reconsideration of this determination and on July 14, 2009 this request for reconsideration was denied. We believe that there is "good cause" for this request under 46 C.F.R. § 1.03-15(c) for the following reasons.

We believe this determination sets a significant adverse precedent with regard to the standards by which the Coast Guard makes a determination of what constitutes a major non-conformity under the International Safety Management ("ISM") Code related to this unfortunate incident. SeaRiver takes this determination very seriously. Blank Rome has only recently been asked by SeaRiver to assist with this matter and it will take Blank Rome some additional time to review and assess the correspondence between the Coast Guard and Sea River, as well as the multitude of SeaRiver's safety procedures, ISM Code documentation, and audit reports related to this unfortunate incident. In addition, we need to obtain and review the Coast Guard's transcripts/tapes of SeaRiver personnel interviewed by the Coast Guard.

We appreciate your consideration of this request. Please let me know if you have any concerns or questions with regard to whether this letter provides adequate justification for this request.

Sincerely,

[redacted]

cc: OCMI Marine Safety Unit Galveston

BLANK ROME LLP
COUNSELORS AT LAW

Phone: 202 772-5964
Fax: 202 572 8391
Email: [redacted]@blankrome.com

August 24, 2009

VIA EMAIL AND REGULAR MAIL

Captain V. Gifford
Chief of Prevention
Eighth Coast Guard District
Hale Boggs Federal Building
500 Poydras Street
New Orleans, LA 70130

Re: Request for Extension of Time to Appeal; Major Non-Conformity Determination *S/R Wilmington*

Dear Captain Gifford:

We write on behalf of SeaRiver Maritime Inc. ("SeaRiver") requesting an additional two-week extension of time to appeal a determination by the Officer in Charge, Marine Inspection, Marine Safety Unit Galveston, that a major non-conformity existed prior to the electrocution death of a licensed Third Engineer onboard the *S/R Wilmington* on January 7, 2009. You approved our first extension request for 14 days on July 30, 2009 and the deadline for submittal of the SeaRiver appeal is August 27, 2009. We now request an extension until September 11, 2009 for the following reasons.

Since the time you granted our request for an extension, we have obtained copies in the form of a CD of the interviews conducted by the Coast Guard of a number of SeaRiver personnel. We had these interviews transcribed and are now in the process of reviewing these materials. In addition, the Coast Guard re-interviewed Mr. [redacted] on August 11, 2009 and only last Thursday did we receive the transcription of that important and lengthy interview. Furthermore, based on our investigation of this matter, we are in the process of obtaining statements from experts regarding standard practices in the industry as they relate to this unfortunate incident. Moreover, we have an outstanding request with Coast Guard Headquarters concerning records on the ISM Code maintained by the Coast Guard, and we need more time to review ISM and electrical standards both domestically and internationally in this regard. Lastly,

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there is no pressing operational need to expedite this appeal as new practices to address lessons learned from this incident have been put in place and will be the subject of a follow on audit to be scheduled with ABS in mid-September.

In summary, it will take us some extra time to complete our review and analysis of these pending matters in order to address the issues raised by CDR Elliot in preparing our appeal. In view of these issues and the fact that the Labor Day weekend falls within this two week period, we respectfully request an extension until September 11, 2009 in order to give us the additional time needed to prepare a comprehensive response.

We appreciate your consideration of this additional request. Please let me know if you have any concerns or questions with regard to whether this letter provides adequate justification for this additional time.

Sincerely,

[redacted]

cc: OCMI Marine Safety Unit Galveston

Enclosure (23)

BLANK ROME LLP
COUNSELORS AT LAW

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September 10, 2009

BY EMAIL AND FEDEX

RADM Mary E. Landry
District Commander Eighth Coast Guard District
Hale Boggs Federal Building
500 Poydras Street
New Orleans, LA 70130

Re: Appeal of Major Non-Conformity Determination *S/R Wilmington*

Dear Admiral Landry:

We write on behalf of SeaRiver Maritime, Inc. ("SeaRiver") to appeal the determination, including the reconsideration of that determination, made by the Officer in Charge, Marine Inspection, Marine Safety Unit Galveston (the "OCMI"), that a major non-conformity existed under the International Safety Management Code ("ISM Code") prior to the accidental electrocution death of Third Assistant Engineer Christopher Erickson aboard the *S/R Wilmington* on January 7, 2009, in accordance with 46 C.F.R. §§ 1.03-15(c) & 1.03-20.

The death of Mr. Erickson was a tragic accident that we all wish had not occurred. He was by all accounts an outstanding young engineer, a superb individual, and a highly valued crew member of the *S/R Wilmington*. However, the simple fact that an incident resulted in a tragic death does not necessarily mean that there was a serious deviation from Safety Management System ("SMS") requirements or lack of an effective and systematic implementation of the ISM Code aboard the *S/R Wilmington*.

In fact, despite the fact that SeaRiver has an industry leading robust SMS program, neither SeaRiver nor the maritime industry in general has historically considered it necessary for specific written safety and permit procedures to apply or be tailored to the testing of equipment in the electrical work shop. In other words, industry has not previously identified testing in the electrical work shop as an identified risk under the ISM Code. Thus, as described in more detail in the analysis below, no written procedures had been developed specifically for testing in the shipboard electrical shop aboard the *S/R Wilmington*. The lack of procedures or implementation

of such procedures in and of themselves cannot be found to result in a major non-conformity under these circumstances pursuant to ISM Code standards, contrary to the determination of the OCMI.

PROCEDURAL BACKGROUND

On May 27, 2009 (the "May 27 Letter"), the OCMI determined that certain actions aboard the *S/R Wilmington* related to electrical testing represented an ISM Code implementation failure that constituted a major non-conformity. On June 24, 2009, SeaRiver requested a reconsideration of this determination. On July 14, 2009 (the "July 14 Letter"), the OCMI denied the request for reconsideration. On July 28, 2009, SeaRiver requested a two week extension of time to appeal, and on July 30, 2009, the Eighth Coast Guard District granted this extension until August 27, 2009. On August 24, 2009, SeaRiver requested an additional two week extension of time to appeal, and on August 25, 2009, the Eighth Coast Guard District granted an additional extension of time until September 10, 2009. This letter constitutes our appeal within the approved time frame.

THE ISM CODE STANDARD FOR A DETERMINATION OF A MAJOR NON-CONFORMITY

The following are key elements of the ISM Code that are particularly relevant to this matter.

Objectives of the ISM Code

Under Section 1.2 of the ISM Code and 33 C.F.R. § 96.230, the objectives of the ISM Code are to ensure safety at sea, prevention of human injury or loss of life, and avoidance of damage to the environment. The safety management objectives of the company should:

- Provide for safe practices in ship operation and a working environment;
- Establish safeguards against identified risks;
- Continuously improve safety management skills of personnel ashore and aboard ships, including preparing for emergencies related both to safety and environmental protection; and
- Ensure compliance with mandatory rules, regulations, and relevant industry codes, guidelines and standards.

Functional Requirements of the ISM Code

Section 1.4 of the ISM Code and 33 C.F.R. § 96.240 require every company to develop, implement and maintain an SMS that includes the following functional requirements:

- A safety and environmental-protection policy;
- Instructions and procedures to ensure safe operation of ships and protection of the environment in compliance with relevant international and flag State legislation;
- Defined levels of authority and lines of communication between, and amongst, shore and shipboard personnel;
- Procedures for reporting accidents and non-conformities with the provisions of this Code;
- Procedures to prepare for and respond to emergency situations; and
- Procedures for internal audits and management reviews.

Non-Conformity

The ISM Code defines "non-conformity" as "an observed situation where objective evidence indicates the non-fulfillment of a specified requirement." Section 1.1.10; 33 C.F.R. § 96.120.

Major Non-Conformity

The ISM Code defines "major non-conformity" as "an identifiable deviation that poses a serious threat to the safety of personnel or the ship or a serious risk to the environment that requires immediate corrective actions and includes the lack of effective and systematic implementation of a requirement of this Code." Section 1.1.10; 33 C.F.R. § 96.120.

Coast Guard Guidance in Determining a Major Non-Conformity

We find nothing in the Marine Safety Manual ("MSM") providing guidance with regard to making major non-conformity determinations. *See* SMS, Chapter 3, Section E, MSM Volume II. The Port State Control Guidelines for the Enforcement of the ISM Code, NVIC 04-05, August 1, 2005, provides the following guidance:[1]

[1] Although the MSM provides no substantive guidance with regard to making major non-conformity determinations, the MSM states that NVIC 4-98 provides a useful tool to marine safety inspectors with regard to checking ISM Code

- Substantial non-compliance of a ship's SMS to the requirements of the ISM Code is indicative of a major non-conformity. By definition, this is a "deviation from SMS requirements" that poses a serious threat to personnel or ship safety, or a serious risk to the environment that requires immediate corrective action. Section 8(a)(2)(a).

- Also considered a major non-conformity is the lack of an effective and systematic implementation of the ISM Code and it may take several boardings to identify a poor SMS. Inspectors should review the ship's history in order to track repeated deficiencies. Examples of indicators of a systematic failure to implement an effective SMS are: (1) evidence that the ship is not taking corrective action for long-standing non-conformities in accordance with its established preventative maintenance system, and (2) evidence that the company failed to address outstanding non-conformities reported by the ship to the company in accordance with its SMS.

The OCMI Determination of a Major Non-Conformity

The issues raised by the OCMI in the May 27 Letter, and elaborated upon in the July 14 Letter, that led to a finding of a major non-conformity, related to the perceived failure of the engineers, testing a piece of equipment at the electrical shop test bench at the time of the accident, to comply with a number of procedures delineated in SeaRiver's Safety and Health Manual (the "S & H Manual"). In summary, the OCMI determined that identifiable deviations posing a serious threat to personnel requiring immediate correction under the ISM Code occurred in the electrical work shop as follows:

(1) the failure to have a safety observer;

(2) the failure to follow Lock-Out/Tag-Out procedures;

(3) the failure to use electrician's gloves; and

(4) the use of makeshift equipment.

The OCMI concluded that the failure to follow the S & H Manual procedures resulted in a major non-conformity because the risk associated with testing electrical circuits had been identified by SeaRiver, and it had failed to implement appropriate safeguards in each of these

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compliance with regard to U.S. flag vessels. General Guidelines for Enforcement on U.S. Vessels: MSM, Chapter 3(C)(2).

areas in conformance with SMS required objectives. Section 1.2.2.2 of the ISM Code and 33 C.F.R. § 96.230(b).

In addition, the OCMI determined that there has been a historical lack of effective and systematic implementation of the ISM Code that resulted in a major non-conformity because, although SeaRiver had identified electrical work as an identifiable risk, it had failed to make sure that it had implemented its SMS at all levels of the organization and ensured that personnel consistently adhered to applicable procedures and requirements. Requirements 1.2.2, 2.2, and 6.4 of the ISM Code and 33 C.F.R. § 96.230(b). The OCMI concluded that the objective evidence supporting this determination includes statements of fact from SeaRiver personnel and a multitude of work permit records aboard the *S/R Wilmington* that demonstrated that, although safety procedures existed with regard to electrical work, these procedures were simply not adhered to by SeaRiver personnel when testing equipment in the electrical work shop. Moreover, the OCMI determined that the pigtail used in the electrical work shop during the day of the incident was determined to be "makeshift" equipment. However, the OCMI did not provide any rationale for this determination, other than to state that the pigtail did not have "high voltage insulated alligator clips" and its length allowed crewmembers to stand off of an insulated mat.

ANALYSIS OF THE OCMI DETERMINATION OF A MAJOR NON-CONFORMITY

The SeaRiver S & H Manual and Electrical Safety

SeaRiver has an industry leading, robust SMS program, as ascertained by numerous audits and levels of industry and Coast Guard recognition. This is demonstrated by the detailed procedures contained in its S & H Manual including those procedures related to General Safety, Loss Prevention System, Permit System, Electrical Work Procedures, and Lockout/Tagout procedures. SeaRiver's SMS also includes a comprehensive proactive training process. For instance, vessel personnel hold monthly meetings aboard SeaRiver vessels to discuss safety-related issues. During those meetings, vessel personnel review the S & H Manual and ask questions regarding the interpretation or applicability of procedures contained in the S & H Manual.[2] In fact, as further evidence that the SeaRiver SMS is a proactive program, SeaRiver management sent a reminder of the risks of electrical work to the SeaRiver fleet, including the *S/R Wilmington* on December 4, 2008, over a month before this incident, for fleet review and assessment. Enclosure (1). In an affidavit prepared by Mr. [redacted], President & Chief Executive Officer of Safe Seas International Inc., he states that, based on many years of

[2] SeaRiver provided to the Coast Guard copies of the *S/R Wilmington* monthly vessel safety reports documenting other instances where the crew reviewed the S & H Manual.

conducting independent audits of SeaRiver's SMS under the ISM Code, he believes that SeaRiver has "very robust plans and do an exceptional job in implementing those plans." Enclosure (2).

The General Industry Practice does not Include Written Safety Procedures Applicable to the Electrical Workshop

SeaRiver agrees with the OCMI that the S & H Manual requires personnel working with energized electrical circuits to adhere to the procedures enumerated under Procedure No. 04-A-04-065 (LO/TO, safety observer, PPE, JHA). SeaRiver also agrees with the OCMI that such procedures were not used by SeaRiver fleet personnel when testing equipment in the electrical work shop.[3] The critical question, however, is the applicability of these procedures when testing equipment in the electrical shop. Several SeaRiver engineers, including individuals who were present in the electrical shop at the time of the casualty, have stated that Procedure No 04-A-04-065 does not apply in the electric shop.

The Coast Guard investigation of Mr. Erickson's death has apparently identified a gap in the S & H Manual with respect to specific procedures to be followed for testing being performed in the electrical workshops. We believe that it is this gap in the SeaRiver safety procedures that is the critical finding of the investigation conducted by the Coast Guard after the Erickson casualty.

SeaRiver has not experienced any personnel injuries or near losses related to testing performed at the electrical shop onboard SeaRiver vessels during its corporate history dating back to 1982. No one in the engineering department onboard the *S/R Wilmington*, nor in the engineering departments of the other vessels in the SeaRiver fleet, nor in the engineering departments of other U.S. flag vessels as witnessed by two leading ISM auditors, have operated on the basis that safety procedures applicable to field electrical work generally apply to testing that is performed in the electrical shop. Furthermore, the absence of procedures specifically related to testing performed in the electric shop has never been identified as an issue or "risk" in any internal or external audits performed on vessels in the SeaRiver fleet. To the contrary, as demonstrated in the affidavit from the independent auditor who has performed SMS audits for

[3] The SeaRiver S & H Manual requires personnel to perform a hazard assessment (SPSA/Take 5) prior to starting each work task. The OCMI stated in the July 14 Letter that the employees working in the electrical workshop on the day of the incident failed to perform a SPSA/Take 5 in accordance with Procedure 04-A-03-005. However, according to the interview of Mr. [redacted] on August 11, 2009, he informed the Coast Guard investigating officers that he performed the required risk assessment with Mr. Erickson in accordance with this procedure prior to the incident.

SeaRiver for a number of years as well as many other vessels in the U.S.-flag and foreign-flag fleets, Mr. [redacted] (Enclosure 2), and the affidavit of the former ABS Director of Safety, Environmental, and Security Certification, Mr. [redacted], (Enclosure 3), neither of these experts views the procedures noted above as applying to testing done in the electrical shop, nor have they seen engineers complete work permits for this testing.[4]

It is not Appropriate to Apply Existing Electrical Work Procedures to Testing Performed in the Work Shop

Importantly, these experts have pointed out that applying these specific procedures to testing done in the electrical shops would not be appropriate because these procedures are designed to power down circuits before work is initiated, whereas testing in the electrical shop is intended to apply power to a circuit for testing purposes. Based on SeaRiver's experience, and the experience of both Mr. [redacted] and Mr. [redacted] as expressed in their affidavits, the industry has relied on fundamental electrical training courses and Coast Guard licensing assessment requirements to address fundamental electrical safety issues and personal knowledge relating to energizing circuits prior to testing.[5] See the attached affidavits from each of the above mentioned individuals relating to their experience on this issue. (Enclosures 2 & 3).

Accordingly, while the Coast Guard investigation points out the need for more detailed procedures when testing in the electrical shop, those procedures were not the ones delineated in the SeaRiver S & H Manual at the time of the accident. SeaRiver is in the process of implementing new enhanced procedures in this area and has already set a date for the American Bureau of Shipping to confirm implementation of these enhanced procedures.

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[4] While not applicable to inspected vessels, it is note-worthy that OSHA regulations do not require LO/TO devices when "cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or start up of the equipment is controlled by unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance." 29 C.F.R. §1910.147.

[5] In this regard, we note that in the Report of Observations, Findings, and Conclusions by Owens Forensic Engineering, Inc, prepared on behalf of the Erickson estate, concludes that: (1) a test bench presents somewhat unique guidelines and that standard safety procedures are "unrealistic in situations where the test bench is being used to solve electrical problems," and (2) regardless of any written procedures, there was a total disregard [by all of those involved] for individual fundamental safety principles in this case. (Enclosure 4). This is consistent with the affidavits of both M[redacted]

The Pigtails Used Aboard the *S/R Wilmington* Were Not "Makeshift"

One of the Coast Guard findings, without providing any rationale for its finding, also focuses on the existence onboard the *S/R Wilmington* of pigtails with open wire ends and finds that this constitutes the use of "makeshift equipment."[6] We do not believe that finding is appropriate and further do not believe that it was a factor in Mr. Erickson's casualty. During the testing of various pieces of electrical equipment, it is not unusual to find that alligator clips will not work for all applications and that open wire ends are necessary, and even the most prudent method, to make some required hard connection. In fact, the breaker that was being tested prior to the casualty was just such a situation. Further, as noted in the affidavit of Mr. [redacted] (Enclosure 2), it is common in the maritime industry for vessels that have onboard electrical shops, where testing takes place, to have pigtails with open wire ends available for just such circumstances.

While the SeaRiver S & H Manual provides that personnel should not generally use "makeshift" equipment that compromises safety, we do not believe the absence of alligator clips or the length of the pigtail rendered the pigtail unsafe. Senior vessel engineers have testified that they consider it was appropriate to have wire ends rather than alligator clips on the pigtail. It is also important to note that Mr. [redacted] a forensic engineer who inspected the *S/R Wilmington* pigtail after the casualty, did not indicate in his report that the pigtail was unsafe. He found the pigtail to be "unremarkable" and unequivocally opined that "there was no abnormality or deficiency related to the ship's electrical system or its electrical equipment found during the inspection of the *S/R Wilmington* which caused the [casualty]." (Enclosure 5).

THE LACK OF PROCEDURES APPLICABLE TO THE WORK SHOP DOES NOT CONSTITUTE A MAJOR NON-CONFORMITY UNDER THE ISM CODE

According to the definition of a major non-conformity and the guidance provided in NVIC 04-05, substantial non-compliance with "SMS requirements" is indicative of a major non-conformity. In addition, a major non-conformity is the lack of an effective and systematic implementation of the ISM Code. The samples provided by the Coast Guard as indicators of a systematic failure to implement an effective SMS are: (1) evidence that the ship is not taking corrective action for long-standing non-conformities in accordance with its established

[6] The Coast Guard also commented that the length of the pigtail involved in the casualty allowed crewmembers to stand off of an insulated mat.

preventative maintenance system, and (2) evidence that the company failed to address outstanding non-conformities reported by the ship to the company in accordance with its SMS.

With regard to complying with "SMS Requirements," the OCMI primarily cites a failure of SeaRiver to meet section 1.2 of the ISM Code in that work in the electrical shop was an "identified risk" and that appropriate "safeguards" were not established. This section of the ISM Code is not a "requirement" of the ISM Code, it is an objective of the ISM Code.[7] Section 1.4 of the ISM Code sets forth the functional "requirements" of the ISM Code. These requirements essentially identify the "system" that is to be set up within the ISM Code framework to be implemented to achieve its purposes. The OCMI makes no findings in his determination that SeaRiver failed to meet any of these functional ISM requirements. In fact, SeaRiver clearly meets all of these functional requirements, including the establishment of procedures to ensure safe operation of the ship with regard to electrical work.

Therefore, in order for an OCMI to make a determination of a major non-conformity under this provision, there must be a finding of a failure to meet an "SMS Requirement." The OCMI made an error in relying on the objectives of the ISM Code in determining that there was failure to meet an SMS requirement. Even assuming that there could have been a "procedure" in place addressing testing in the workshop, this would only be considered a deficiency in failing to have in place a particular procedure. Failing to have a particular procedure in place is not a failure to meet one of the ISM Code "requirements." In fact, it is unclear whether the failure to have identified this procedural application even rises to the level of a non-conformity with the ISM Code (*i.e.* non-fulfillment of a specified requirement of the ISM Code) because SeaRiver has the necessary electrical procedures in place to address electrical work on energized and de-energized circuits. Rather, the gap is the absence of another specified particular safety procedure in place, which is not a failure to meet an ISM Code requirement, and clearly not a major non-conformity.

With regard to the OCMI determination that there was not an effective and systematic implementation of the ISM Code, the OCMI primarily cites section 6.4 of the ISM Code in that SeaRiver failed to implement the SMS at all levels in the organization (*i.e.* the failure of personnel to adhere to SeaRiver's established safety procedures when working in the electrical work shop). The safety procedures cited by the OCMI (*i.e.*, LO/TO, safety observer, PPE) were not designed to be used for testing in the electrical shop. The crew of the *S/R Wilmington* in fact demonstrated an adequate understanding of SeaRiver's safety procedures at the time since it was correctly following them (i.e., NOT applying them in the electrical workshop during testing).

[7] The OCMI incorrectly cites Section 1.2.2.2 of the ISM Code as Requirement 1.2.2.2.

Following the Coast Guard guidance in NVIC 04-05, a lack of an effective and systematic implementation of the ISM Code is demonstrated by things such as the failure to address non-conformities in a preventative maintenance system or outstanding non-conformities that have previously been identified. As mentioned previously, prior to this unfortunate event, SeaRiver had not experienced any injuries or near losses of personnel while testing equipment in the electric shop. In this case, not only had SeaRiver never identified this as a deficiency, but it had never been identified in any internal or external audit, and apparently has not generally been identified as a deficiency in the maritime industry.

CONCLUSIONS

The evidence in this case does not support a finding under the ISM Code that Mr. Erickson's casualty, as tragic as it was, resulted from "an identifiable deviation which poses a serious threat to personnel" or the "lack of systematic implementation of a requirement of the International Safety Management Code." The records provided by SeaRiver to the Coast Guard demonstrate a high level of commitment to implementation of the ISM Code generally and to the SeaRiver SMS specifically. All of the vessels in SeaRiver's fleet, including the *S/R Wilmington*, undergo regular and comprehensive training in SMS requirements and undergo extensive audits by both internal and external auditors.

To the contrary, what has become clear as a result of the investigation of this unfortunate incident, is that the tasks associated with testing performed at the bench in the workshop were not understood to require similar procedures that applied to electrical work being performed outside of the shop. In fact, testing in the electrical shop is uniquely different than work performed outside the workshop on a ship, and the general practice throughout industry has been to rely on the fundamental training and skills of the personnel testing the equipment. This view is consistently supported by both the affidavits and the report prepared by Owens Forensic Engineering, Inc. (Enclosure 4).

SeaRiver strongly believes that the finding by the Coast Guard of a major non-conformity is not appropriate. Rather, the evidence points to the fact that this tragic event was the result of the failure of those directly involved to follow basic, time honored safety practices when working with electricity. It is without doubt that both Mr [redacted] nd Mr. Erickson knew that one does not handle live wires when connecting a piece of equipment for testing. Rather, one connects the equipment before energizing the circuit. The evidence appears to support the conclusion that the pigtail was plugged into the test board when the circuit was energized and that the individuals did not know that fact or thought that the pigtail had been disconnected. Before proceeding, the pigtail should have been removed and/or confirmation made that the

circuit was not live. Had the individuals known that the pigtail was live, they certainly would have never proceeded to begin the process of connecting it to the replacement breaker for testing. There is little doubt that, had Mr. [redacted] and Mr. Erickson decided to install the replacement breaker back into the original circuit without testing at the electric shop, they would have first utilized a work permit process, insured that the circuit was not live, connected the replacement breaker, and then energized the circuit.

The Coast Guard has identified a gap in the procedures for electrical testing being performed in the work shop. While one can question whether the presence of these procedures would have prevented this unfortunate accident, SeaRiver readily acknowledges that there is opportunity for process enhancement and that detailed procedures for testing in the shop should be developed, conveyed and utilized given this unfortunate event. Immediately following this casualty, SeaRiver quickly acted to replace existing test panels with new panels with multiple enhanced safety devices, established detailed enhanced procedures in its S & H Manual applicable specifically to electrical testing in the shop, and is in the process of implementing those procedures, which will be verified by ABS.[8]

In conclusion, contrary to the OCMI's determination that this unfortunate incident was the result of a major non-conformity under the ISM Code, the underlying premise for making a major non-conformity determination should be based on the fact that there is a systematic failure of the SMS – that is the "system" established by the ISM Code. The ISM Code is not a set of detailed procedures to be followed, rather it is a living framework that changes and grows as the needs for change are identified based on changes in technology, vessel operations, and experiences. This important principle was espoused by the Coast Guard in the preamble to its final rule implementing the ISM Code and continues to resonate today as the linch-pin for a robust SMS. 62 Fed. Reg. 67492, 67493 (December 24, 1997).

[8] SeaRiver notes, that as a result of this incident and the ensuing investigations, it is likely that many vessels operating the U.S.-flag fleet do not have procedures to deal with the requirements for testing electrical equipment on test benches in the shop. SeaRiver would urge the Coast Guard to take appropriate action to ensure that this information is broadly distributed to vessel operators throughout the U.S. flag-fleet.

Importantly, one of the main purposes of the ISM Code is to establish an SMS that identifies and quickly rectifies unsafe situations aboard vessels. That is exactly what has happened here, albeit, after an extremely tragic incident. Accordingly, SeaRiver strongly urges the Coast Guard to withdraw its finding of a major non-conformity based on the analysis as discussed herein, and recognize that, although the SeaRiver SMS did not previously identify this procedural safety gap through audits or otherwise, the SeaRiver SMS going forward ensures that safety procedures related to testing electrical equipment in the shop are effectively implemented to enhance the safety aboard vessels throughout the fleet.

Sincerely,

[redacted]

Enclosures

UNITED STATES OF AMERICA
DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD

APPEAL AGAINST THE DETERMINATION	:	DECISION OF THE
OF THE OFFICER IN CHARGE, MARINE	:	COMMANDER, EIGHTH
INSPECTION REGARDING THE EXISTENCE	:	COAST GUARD DISTRICT
OF A MAJOR NON-CONFORMITY ONBOARD	:	ON APPEAL
THE TANK VESSEL SEARIVER	:	
WILMINGTON	:	

Issued to: Blank Rome, LLP Counselors at Law

Thru Counsel

This appeal is taken in accordance with 46 C.F.R. § 1.03 *et seq.*

On September 10th, 2009, Blank Rome, LLC, on behalf of SeaRiver Maritime, Inc. ("SeaRiver") appealed the Officer in Charge, Marine Inspection's (OCMI) determination of a Safety Management System (SMS) major non-conformity onboard the U.S. flagged tank vessel SEARIVER (SR) WILMINGTON. The appeal was in accordance with 46 CFR 1.03-15, supplemented by two 2-week extensions granted by my staff on July 30, 2009 and August 25, 2009. You have appealed the OCMI's decision to me in accordance with 46 CFR 1.03-20.

I have thoroughly reviewed the OCMI determination and SeaRiver's supplemental arguments as to why this matter should be set aside or revised. Based on this review, I have determined SeaRiver's arguments, outlined in the appeal letter of September 10th, 2009, do not support setting aside or revising the OCMI determination,

Enclosure (14)

which remains in effect unless otherwise set aside or revised by a Commandant's final agency action.

BASES OF APPEAL

Blank Rome, LLC, on behalf of SeaRiver, appeals the decision of the OCMI's determination of a SMS major non-conformity based on the following arguments:

I. *SeaRiver believes the OCMI determination of non-conformity was inconsistent with Coast Guard policy and the International Safety Management (ISM) Code.*

II. *SeaRiver believes it is not appropriate to apply existing electrical work procedures to electrical "testing" performed in the work shop.*

III. *SeaRiver believes the lack of (electrical testing) procedures or implementation of such procedures in and of themselves cannot be found to result in a major non-conformity.*

IV. *SeaRiver believes the electrical pigtails used aboard the SR WILMINGTON were not "makeshift."*

V. *SeaRiver believes the finding by the Coast Guard of a major non-conformity is not appropriate.*

OPINION

The OCMI determination that a major non-conformity existed on the S/R WILMINGTON was found in accordance with the ISM Code,[1] the Code of Federal

[1] In accordance with SOLAS 74, 2004 Consolidated Edition, Chapter IX, the SR WILMINGTON must comply with the ISM Code.

Regulations (CFR),[2] and Navigation and Vessel Inspection Circular 02-95, Change 2 ("NVIC 02-95").[3] This opinion is based on the following:

1. Navigation Vessel Inspection Circular (NVIC) 04-05, which you cited as the primary Coast Guard policy guidance concerning a determination of a major non-conformity onboard the SR WILMINGTON, states "*...OCMIs should refer to [this] guidance to ensure foreign vessel compliance with the requirements of SOLAS Chapter IX*"[4]. This NVIC is not applicable to U.S. flagged vessels such as the SR WILMINGTON, which participate in the Alternate Compliance Program (ACP). NVIC 02-95, dated May 5th, 2006, entitled "*The Alternate Compliance Program (ACP),*" provides clear guidance in Section 3.11 regarding when the OCMI should determine a major non-conformity exists on an ACP vessel: "*Any deficiency or non-conformity that poses a direct and immediate threat to the vessel's crew, the safety of navigation or the marine environment is considered a major.*"

The Coast Guard marine casualty investigation and the statements provided in your letter of appeal show there were identifiable deviations from the requirements of the ISM Code that posed a serious threat to personnel onboard the SR WILMINGTON clearly rising to the standard of NVIC 02-95 (i.e., "***any deficiency...that poses a direct and immediate threat to the vessel's crew...is considered a major.***"). Clearly a *deficiency* existed in that

[2] Specifically, 33 CFR, Part 96 – Rules for the Safe Operation of Vessels and Safety Management Systems applies to the SR WILMINGTON.
[3] Non-compliance with a NVIC is not a violation of the law in and of itself; however, non-compliance with a NVIC may be an indication that there is non-compliance with a law, a regulation or a policy. NVIC 2-95, Change 2 – The Alternate Compliance Program (ACP), applies to the SR WILMINGTON.
[4] NVIC 04-05, Paragraph 2.a.

engineers were allowed to not wear personal protective equipment, to not conduct a job hazard analysis, to use "open wire" pigtails, and to not complete a work permit when conducting electrical testing.

Not only is the major non-conformity consistent with Coast Guard policy, it is also applicable with ISM Code. Specifically, you argued in your letter of appeal that the OCMI inaccurately referred to an ISM Code objective in citing SeaRiver's failure to establish appropriate safeguards for an identified risk. The Safety Management Requirements[5] and the functional requirements of a safety management system[6] are not one in the same.[7] The International Convention for the Safety of Life at Sea (SOLAS), Chapter IX, Regulation 3, states *"The Company and the ship shall comply with the requirements of the International Safety Management Code. For the purpose of this regulation, the requirements of the Code shall be treated as* ***mandatory****."* SOLAS establishes that the Company's SMS shall comply with the requirements of the ISM Code in its entirety (i.e., every section of the ISM Code is considered mandatory); hence, Section 1.2, 2.2, and 6.4 are mandatory requirements of the Code, as explained in the July 14th, 2009 letter from the OCMI. Additionally, the Code applies to the vessel in its entirety, and no place may be exempt from these mandatory requirements. In sum, the OCMI's determination of major non-conformity is supported by Coast Guard policy and the ISM Code.

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[5] See SOLAS 74, 2004 Consolidated Edition, Chapter IX, Regulation 3, entitled "*Safety Management Requirements.*"

[6] SeaRiver's letter of appeal cites Section 1.4 of the ISM Code. This section is entitled "*Functional Requirements of a Safety Management System.*" SeaRiver's letter of appeal states this section "*sets forth the functional requirements of the ISM Code.*"

[7] Paragraph 1, Page 9 of SeaRiver's letter of appeal states that Section 1.2 of the ISM Code is not a requirement and the OCMI incorrectly cites Section 1.2.2.2 as a requirement.

2. SeaRiver maintains that existing electrical work procedures do not apply to electrical testing performed in the workshop. Specifically, your letter of appeal states, *"The safety procedures cited by the OCMI (i.e., LO/TO, safety observer, PPE) were not designed to be used for testing in the electrical workshop."* You argue that despite specific SeaRiver SMS procedures, such as requiring electrically insulated (rubber) gloves for electrical work may near circuits or equipment, engineers were not required to follow these procedures in the electrical workshop onboard the SR WILMINGTON. I disagree with this argument. Unfortunately, prior to the electrocution death of Mr. Erickson, SeaRiver's SMS did not distinguish between "work" and "testing" and did not specifically exempt any space onboard the SR WILMINGTON from the requirements of the SMS. More importantly, the U.S. regulations applicable to the SR WILMINGTON do not distinguish between "work" and "testing," nor do they exempt any portion of a vessel from the regulatory requirements. As previously addressed in this decision, the ISM Code also applies to the vessel in its entirety. Therefore, the electrical workshop is not exempt from the requirements of the ISM Code or U.S. regulations, and electrical work, to include electrical testing, conducted within the workshop shall be done in accordance with the SMS unless otherwise stated in the approved SMS.

While addressing existing procedures in place on board the SR WILMINGTON, I disagree that there is a question as to whether these existing procedures could have prevented the electrocution death of a licensed mariner onboard the SR WILMINGTON. The procedure recommended in the SeaRiver Maritime, Inc. Job Hazard Analysis for "Motor Controller Maintenance," Number 839, dated October 10, 2004, if properly

followed, could have prevented the death of Mr. Christopher Erickson. Note that this procedure recommends the use of *"proper tools and testing equipment"* and identifies in its potential hazards *"injuries, shock, electrocution."* Additionally, it recommends the use of "proper PPE" before energizing for the test. The SeaRiver Safety and Health Manual also states electrically insulated gloves are required *"where electrical work may be near circuits or equipment."*[8] Of note, the Emergency Generator Supply Fan Controller, which was locked-out and tagged on the day of Mr. Erickson's electrocution, is the approved electrical equipment where the breaker could have been tested without using makeshift equipment. Also of note, SeaRiver's Job Hazard Analysis includes electrical "testing" as part of the work permit process, contradicting SeaRiver's arguments presented in the appeal letter that incorrectly distinguishes electrical testing from electrical work.

3. SeaRiver believes the lack of electrical testing procedures or implementation of such procedures in and of themselves cannot be found to result in a major non-conformity, asserting that this lack of procedures is an industry-wide deficiency. The "gap" of electrical testing procedures your appeal discusses at length is not part of the OCMI determination of a major non-conformity.

4. Objective evidence indicates the wires used at the time of the accident, and historically in the electrical workshop, were "makeshift." The "pigtails" were temporary

[8] SeaRiver Maritime, Inc. Safety and Health Manual, Chapter 7, Safety Standard B-3, "Hand Protection," states electrically insulated (rubber) gloves shall be worn "where electrical work may be near circuits or equipment. Work on 'hot' circuits is not permitted, except in an emergency. In such an emergency, tested and sealed gloves approved for electrical work **shall** be used. If none are available, such work shall not be performed."

substitutes of approved equipment (i.e., "makeshift equipment"), in that they were not approved by the Marine Safety Center (MSC) or the American Bureau of Shipping and were not approved equipment for testing work by Underwriters Laboratories (UL).[15] Specifically, the portable leads used in the electrical workshop onboard the SR WILMINGTON, both before and at the time of Mr. Erickson's electrocution death, were not in accordance with the approved Drawing 689-12, Alt. 1 (Detail "G"), dated June 14th, 1982.[16] Additionally, a Chief Engineer onboard the SR WILMINGTON specifically told the OCMI's designated representative that the subject electrical pigtails were considered "makeshift" equipment during an onboard interview on July 9, 2009.

5. Your appeal cites Occupational Safety and Health Administration (OSHA) regulations, but it should be noted that these regulations do not cover maritime employment.[17] However, if they were to apply, they provide good guidance that supports the OCMI's findings and determination. OSHA regulations require personal protective equipment, safety observers and other protective measures. For example, 29 CFR 1910.335 states, *"employees working in areas where there are potential electrical hazards shall be provided with and shall use electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed."* There is no doubt that potential electrical hazards exist in an electrical workshop.

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[15] SeaRiver did not provide any documentary evidence to show that the subject electrical pigtails or makeshift portable leads were approved by UL.

[16] Hose-McCann Telephone Co., Inc., Electrical Test Panel Wiring Diagram, Drawing 689-12 Alt. 1, Detail G, Portable Leads, dated June 14, 1982.

[17] 29 CFR Sec. 1910.147 The control of hazardous energy (lockout/tag-out) under (a) Scope, application and purpose--(1) Scope. "(i) This standard covers the servicing and maintenance of machines and equipment in which the unexpected energization or start up of the machines or equipment, or release of stored energy could cause injury to employees. This standard establishes minimum performance requirements for the control of such hazardous energy. (ii) This standard *does not cover* the following: (A) Construction, agriculture and *maritime employment*."

Enclosure (4)

6. Records and reports of external and internal audits are not evidence of the absence of non-conformities. The internal and external audits referenced in your appeal were conducted in accordance with the written procedures, and, as such, they are sample audits of the SMS. In the sample audits, procedures witnessed in the vessel are assumed to have an equivalent level of safety measures all throughout the vessel. For example, witnessing a sample electrical work safety procedure in one place in the vessel would be considered a sample of the electrical work safety procedures, to include the work in the electrical workshop. While it is unfortunate that both external and internal audits failed to address this issue,[19] in the absence of specific electrical testing procedures, the SMS clearly addressed electrical safety and SeaRiver failed to adhere to the written electrical work safety procedures while conducting electrical work inside the electrical workshop onboard the SR WILMINGTON. The *American Bureau of Shipping Guide for Marine Health, Safety, Quality and Environmental Management*, states, ***"The absence of recorded non-conformities does not mean that none exist."***[20] Having approved Safety Management Certificates (SMC) and a Document of Compliance (DOC) along with a robust SMS may be prima facie evidence of compliance, but the robustness of the SMS, the approval of its certificates, and the records of audits without non-conformities do not alone substantiate setting aside or revising the OCMI determination.

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[19] Your letter of appeal states: ***"...the SeaRiver SMS did not previously identify this procedural safety gap through audits or otherwise..."***

[20] American Bureau of Shipping, ABS Marine Health, Safety, Quality and Environmental Management, June 2008, pp 4: "Assessments are based upon a sampling process. The absence of recorded nonconformities does not mean that none exist."

CONCLUSION

The OCMI's determination of a major non-conformity was appropriate. Additionally, the determination and actions taken by the OCMI were reasonable and in accordance with both U.S. regulations and the ISM Code.[27]

DECISION

The Eighth Coast Guard District has determined SeaRiver's arguments, outlined in the appeal letters of June 24th, 2009, and September 10th, 2009, do not support setting aside or revising the OCMI determination of a major non-conformity onboard the SR WILMINGTON, which remains in effect unless otherwise rescinded by a Commandant's final agency action if further appealed. The appeal is hereby denied.

[redacted]

MARY E. LANDRY
Rear Admiral, U.S. Coast Guard
Commander, Eighth Coast Guard District

Signed at New Orleans, Louisiana, this 17th day of December, 2009.

[27] The ISM Code defines "major non-conformity" as "an ***identifiable deviation that poses a serious threat to the safety of personnel*** or the ship or a serious risk to the environment that requires immediate corrective action and includes the ***lack of effective and systematic implementation*** of a requirement of this Code." 33 CFR 96.120 defines a major non-conformity as "an ***identifiable deviation which poses a serious threat to personnel*** or vessel safety or a serious risk to the environment and ***requires immediate corrective action***; in addition, ***the lack of effective and systematic implementation*** of a requirement of the International Safety Management (ISM) Code is also considered a major non-conformity." NVIC 2-95 states *"**Any deficiency or non-conformity** that poses a direct and immediate threat to the vessel's crew, the safety of navigation or the marine environment is considered a **major**."*

Table A-III/1

Specification of minimum standard of competence for officers in charge of an engineering watch in a manned engine-room or designated duty engineers in a periodically unmanned engine-room

Function: Marine engineering at the operational level

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use appropriate tools for fabrication and repair operations typically performed on ships	Characteristics and limitations of materials used in construction and repair of ships and equipment Characteristics and limitations of processes used for fabrication and repair Properties and parameters considered in the fabrication and repair of systems and components Application of safe working practices in the workshop environment	Assessment of evidence obtained from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests	Identification of important parameters for fabrication of typical ship related components is appropriate Selection of material is appropriate Fabrication is to designated tolerances Use of equipment and machine tools is appropriate and safe
Use hand tools and measuring equipment for dismantling, maintenance, repair and reassembly of shipboard plant and equipment	Design characteristics and selection of materials in construction of equipment Interpretation of machinery drawings and handbooks Operational characteristics of equipment and systems	Assessment of evidence obtained from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests	Safety procedures followed are appropriate Selection of tools and spare gear is appropriate Dismantling, inspecting, repairing and reassembling equipment is in accordance with manuals and good practice Re-commissioning and performance testing is in accordance with manuals and good practice

Function: Marine engineering at the operational level *(continued)*

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Use hand tools, electrical and electronic measuring and test equipment for fault finding, maintenance and repair operations	Safety requirements for working on shipboard electrical systems Construction and operational characteristics of shipboard AC and DC electrical systems and equipment Construction and operation of electrical test and measuring equipment	Assessment of evidence obtained from one or more of the following: .1 approved workshop skills training .2 approved practical experience and tests	Implementation of safety procedures is satisfactory Selection and use of test equipment is appropriate and interpretation of results is accurate Selection of procedures for the conduct of repair and maintenance is in accordance with manuals and good practice Commissioning and performance testing of equipment and systems brought back into service after repair is in accordance with manuals and good practice
Maintain a safe engineering watch	Thorough knowledge of Principles to be observed in keeping an engineering watch, including: .1 duties associated with taking over and accepting a watch .2 routine duties undertaken during a watch .3 maintenance of the machinery space log-book and the significance of the readings taken .4 duties associated with handing over a watch	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The conduct, handover and relief of the watch conforms with accepted principles and procedures The frequency and extent of monitoring of engineering equipment and systems conforms to manufacturers' recommendations and accepted principles and procedures, including Principles to be observed in keeping an engineering watch A proper record is maintained of the movements and activities relating to the ship's engineering systems

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintain a safe engineering watch *(continued)*	Safety and emergency procedures; change-over of remote/automatic to local control of all systems Safety precautions to be observed during a watch and immediate actions to be taken in the event of fire or accident, with particular reference to oil systems		
Use English in written and oral form	Adequate knowledge of the English language to enable the officer to use engineering publications and to perform engineering duties	Examination and assessment of evidence obtained from practical instruction	English language publications relevant to engineering duties are correctly interpreted Communications are clear and understood
Operate main and auxiliary machinery and associated control systems	Main and auxiliary machinery: .1 preparation of main machinery and preparation of auxiliary machinery for operation .2 operation of steam boilers, including combustion systems .3 methods of checking water level in steam boilers and action necessary if water level is abnormal .4 location of common faults in machinery and plant in engine and boiler rooms and action necessary to prevent damage	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operations and avoid pollution of the marine environment Deviations from the norm are promptly identified The output of plant and engineering systems consistently meets requirements, including bridge orders relating to changes in speed and direction The causes of machinery malfunctions are promptly identified and actions are designed to ensure the overall safety of the ship and the plant, having regard to the prevailing circumstances and conditions

Function: Marine engineering at the operational level *(continued)*

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate pumping systems and associated control systems	Pumping systems: .1 routine pumping operations .2 operation of bilge, ballast and cargo pumping systems	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operations and avoid pollution of the marine environment

Function: Electrical, electronic and control engineering at the operational level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate alternators, generators and control systems	*Generating plant* Appropriate basic electrical knowledge and skills Preparing, starting, coupling and changing over alternators or generators Location of common faults and action to prevent damage *Control systems* Location of common faults and action to prevent damage	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Operations are planned and carried out in accordance with established rules and procedures to ensure safety of operations

Function: Maintenance and repair at the operational level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintain marine engineering systems, including control systems	*Marine systems* Appropriate basic mechanical knowledge and skills *Safety and emergency procedures* Safe isolation of electrical and other types of plant and equipment required before personnel are permitted to work on such plant or equipment Undertake maintenance and repair to plant and equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	Isolation, dismantling and reassembly of plant and equipment is in accordance with accepted practices and procedures. Action taken leads to the restoration of plant by the method most suitable and appropriate to the prevailing circumstances and conditions

Function: Controlling the operation of the ship and care for persons on board at the operational level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Ensure compliance with pollution-prevention requirements	*Prevention of pollution of the marine environment* Knowledge of the precautions to be taken to prevent pollution of the marine environment Anti-pollution procedures and all associated equipment	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience	Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed

Function: Controlling the operation of the ship and care for persons on board at the operational level *(continued)*

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintain seaworthiness of the ship	*Ship stability* Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment Understanding of the fundamentals of watertight integrity Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy *Ship construction* General knowledge of the principal structural members of a ship and the proper names for the various parts	Examination and assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved laboratory equipment training	The stability conditions comply with the IMO intact stability criteria under all conditions of loading Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice
Prevent, control and fight fires on board	*Fire prevention and fire-fighting appliances* Knowledge of fire prevention Ability to organize fire drills Knowledge of classes and chemistry of fire Knowledge of fire-fighting systems Action to be taken in the event of fire, including fires involving oil systems	Assessment of evidence obtained from approved fire-fighting training and experience as set out in section A-VI/3	The type and scale of the problem is promptly identified and initial actions conform with the emergency procedure and contingency plans for the ship Evacuation, emergency shutdown and isolation procedures are appropriate to the nature of the emergency and are implemented promptly The order of priority, and the levels and time-scales of making reports and informing personnel on board, are relevant to the nature of the emergency and reflect the urgency of the problem

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate life-saving appliances	*Life-saving* Ability to organize abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBs, SARTs, immersion suits and thermal protective aids. Knowledge of survival at sea techniques	Assessment of evidence obtained from approved training and experience as set out in section A-VI/2, paragraphs 1 to 4	Actions in responding to abandon ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards
Apply medical first aid on board ship	*Medical aid* Practical application of medical guides and advice by radio, including the ability to take effective action based on such knowledge in the case of accidents or illnesses that are likely to occur on board ship	Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 1 to 3	Identification of probable cause, nature and extent of injuries or conditions is prompt and treatment minimizes immediate threat to life
Monitor compliance with legislative requirements	Basic working knowledge of the relevant IMO conventions concerning safety of life at sea and protection of the marine environment	Assessment of evidence obtained from examination or approved training	Legislative requirements relating to safety of life at sea and protection of the marine environment are correctly identified

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
DESIGN								
General-Installation (must protect passenger and crew from electrical hazards)	☑	Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J. 46CFR111.01-1	☑	46CFR111.01-1 (a) Electric installations on vessels must ensure: (1) Maintenance of services necessary for safety under normal and emergency conditions. (2) Protection of passengers, crew, other persons, and the vessel from electrical hazards. (3) Maintenance of system integrity through compliance with the applicable system requirements (IEEE, NEC, IEC, etc.) to which plan review has been approved. (b) Combustible material should be avoided in the construction of electrical equipment.			☑	1910.301 Introduction. Authority: Secs. 4, 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 8-76 (41 FR 25059), 1-90 (55 FR 9033), or 5-2002 (67 F.R. 65008), as applicable; 29 CFR Part 1911. Source: 46 FR 4056, Jan. 16, 1981, unless otherwise noted. General This subpart addresses electrical safety requirements that are necessary for the practical safeguarding of employees in their workplaces and is divided into four major divisions as follows: (a) Design safety standards for electrical systems. These regulations are contained in Sections 1910.302 through 1910.330. Sections 1910.302 through 1910.308 contain design safety standards for electric utilization systems. Included in this category are all electric equipment and installations used to provide electric power and light for employee workplaces. Sections 1910.309 through 1910.330 are reserved for possible future design safety standards for other electrical systems. (b) Safety-related work practices. These regulations are contained in Sections 1910.331 through 1910.360. (c) Safety-related maintenance requirements. These regulations are contained in Sections 1910.361 through 1910.380. (d) Safety requirements for special equipment. These regulations are contained in Sections 1910.381 through 1910.398. (e) Definitions. Definitions applicable to each division are contained in Sections 1910.399.

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
Non-Conductive Matting	☑	Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J. 46CFR111.30-11	☑	46CFR111.30-11 Non-conducting deck coverings, such as non-conducting mats or gratings, suitable for the specific switchboard voltage must be installed for personnel protection at the front and rear of the switchboard and must extend the entire length of, and be of sufficient width to suit, the operating space.	☑	04-A-04-085: 2. Work on energized equipment or circuits requires that these safeguards be followed: c. Rubber blankets or mats shall be used to isolate the immediate work area from energized parts		

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
Non-Conductive Rail	☑	Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J. 46CFR111.30-9	☑	46CFR111.30-5(a)(1)&(2) (a) All low voltage and medium voltage switchboards (as low and medium are determined within the standard used) must meet— (1) For low voltages, either section 8.3 of IEEE 45–2002 or IEC 60092–302 (both incorporated by reference; see 46 CFR 110.10–1), as appropriate. (2) For medium voltages, either section 8.4 of IEEE 45–2002 or IEC 92–503 (incorporated by reference; see 46 CFR 110.10–1), as appropriate. (b) Each switchboard must be fitted with a dripshield unless the switchboard is a deck-to-overhead mounted type which cannot be subjected to leaks or falling objects.				

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
SAFE WORK PRACTICES								
Identify Work With Electrical Hazards		Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J.			☑	04-A-04-085: Work on electrical circuits requires a higher degree of attention due to inherent dangers that can result in serious burns or fatalities. Procedure 04-A-04-085 should be reviewed in conjunction with the review of this procedure. Minimum Safety Requirements - Before beginning any work that could involve electrical circuits or equipment, the job must be discussed with the Chief Engineer or First Assistant Engineer to determine the potential exposures to electrical shock, any interconnecting circuits, and the potential effect on ship's operations (Job Hazard Analysis). Any such job, even after evaluation and following the safety rules herein, must be planned with the engineer on watch or the engineer in charge of the work.	☑	1910.332 Training (a) Scope. The training requirements contained in this section apply to employees who face a risk of electric shock that is not reduced to a safe level by the electrical installation requirements of Sections 1910.303 through 1910.308. Note: Other employees that may reasonably be expected to face a comparable risk of injury due to electric shock or other electrical hazards must also be trained. (b) Content of training-(1) Practices addressed in this standard. Employees shall be trained in and familiar with the safety-related work practices required by Sections 1910.331 through 1910.335 that pertain to their respective job assignments. (2) Additional requirements for unqualified persons. Employees who are covered by paragraph (a) of this section but who are not qualified persons shall also be trained in and familiar with any electrically related safety practices not specifically addressed by Sections 1910.331 through 1910.335 but which are necessary for their safety. (3) Additional requirements for qualified persons. Qualified persons (i.e., those permitted to work on or near exposed energized parts) shall, at a minimum, be trained in and familiar with the following: (i) The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment, (ii) The skills and techniques necessary to determine the nominal voltage of exposed live parts, and (iii) The clearance distances specified in Sec. 1910.333(c) and the corresponding voltages to which the qualified person will be exposed. Note 1: For the purposes of Sections 1910.331 through 1910.335, a person must have the training required by paragraph (b)(3) of this section in order to be considered a qualified person. Note 2: Qualified persons whose work on energized equipment involves either direct contact or contact by means of tools or materials must also have the training needed to meet Sec. 1910.333(c)(2). (c) Type of training. The training required by this section shall be of the classroom or on-the-job type. The degree of training provided shall be determined by the risk to the employee.
Non-Tested/Tagged Circuit Treated As Live					☑	04-A-04-085: Assume that all circuits are live until tested and tagged otherwise.		

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
Lock and Tag Out		Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J.			☑	04-A-04-085: Hazardous energy lockout/tagout (LO/TO) devices and procedures are effective safeguards against accidents that may occur due to the unexpected release of hazardous energy or substance (e.g., liquids or gases). (Hazardous energy is defined as that which can cause injury to employees or jeopardize the safety of the vessel.) Energy sources include electricity, pneumatic energy, hydraulic energy, thermal and kinetic energy. Stored energy includes stored pressure, springs under compression or tension, and electric charge in capacitors. Application LO/TO devices are required before any employee performs servicing, maintenance, or inspection on equipment or facilities where the unexpected energizing, start up, or release of energy could occur and cause injury. Completion of a Work Permit for Isolation of Equipment/Systems and Work on Pipelines and Pressure Vessels may be needed, as appropriate.	☑	1910.147 The control of hazardous energy (lockout/tagout). (a) Scope, application and purpose-(1) Scope. (i) This standard covers the servicing and maintenance of machines and equipment in which the unexpected energization or start up of the machines or equipment, or release of stored energy could cause injury to employees. This standard establishes minimum performance requirements for the control of such hazardous energy.
Voltage Test					☑	04-A-04-0651: Testing and checking energized equipment and circuits may be performed with instruments where it is necessary to have the circuits energized.		

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
Qualified Person To Conduct Test		Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J.			☑	04-A-04-065: Only those knowledgeable in using electrical testing equipment shall be permitted to test electrical circuits. Where energized circuits may be involved, the one doing the testing shall wear electrician's gloves, and depending on the circumstances use other protective devices, such as rubber blankets, to protect against inadvertent contact with energized components.		
Work Permit (when required)					☑	04-A-04-065: Work Permit for Electrical Circuits Complete a Work Permit for Work on Electrical Circuits for any electrical work which requires lock-out / tag-out. This would include, bu not be limited to: • Repairing or replacing a light switch or socket; • Connection of new wiring; • Work on hard-wired electronic equipment; • Work on a switchboard or circuit breaker; • Work on an electric motor or motor controller.		

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
Work Permit (responsibilities)		Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J.			☑	04-A-04-005: 3.0 Responsibilities The Operations and Safety Groups have overall responsibility for administration of the Permit process, managing change to the System, and for verification and measurement of the System. The Master, Chief Mate and Chief Engineer ensure: • The effective application of the Permit System on board the vessel and can delegate that responsibility to qualified vessel officers when deemed appropriate; • Improvement observations are reported to the Safety Group and vessel crew so that areas for improvement are identified and resolved; • Employees that are assigned to complete a Permit are properly trained and have completed the onboard computer-based training program and assessment; • Permit System refresher training is conducted at the required intervals as designated on the S/RM onboard training matrix; • An appropriate Permit is properly completed and understood by all affected personnel; • Only personnel named on the Permit can participate in the specified task; • Participating personnel are aware of the safety measures and precautions required; • The area affected by the work is clearly defined; • Isolation measures are clearly defined; • Other permits or activities that may affect proposed work are known; • The Permit validity is clearly stated; • The correct PPE and tools are used; and • Other additional safety precautions deemed necessary are defined.		

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
PPE FOR WORK ON ENERGIZED CIRCUITS / 04-A-04-065: 2								
Insulated Electrician Gloves		Old J applies to vessels built prior to March 10, 1998; all other vessels are subject to New J.			☑	04-A-04-065: 2.a. Those doing the work shall wear electrician's gloves, which have been stored in a protected container such as a sealed bag or box.	☑	1910.335 Safeguards for personnel protection. (a) Use of protective equipment--(1) Personal protective equipment. (i) Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed. Note: Personal protective equipment requirements are contained in subpart I of this part. (ii) Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested, as required by Sec. 1910.137. (iii) If the insulating capability of protective equipment may be subject to damage during use, the insulating material shall be protected. (For example, an outer covering of leather is sometimes used for the protection of rubber insulating material.) (iv) Employees shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with exposed energized parts. (v) Employees shall wear protective equipment for the eyes or face wherever there is danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion. (2) General protective equipment and tools. (i) When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material shall be protected. (A) Fuse handling equipment, insulated for the circuit voltage, shall be used to remove or install fuses when the fuse terminals are energized. (B) Ropes and handlines used near exposed energized parts shall be nonconductive. (ii) Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the live parts. (b) Alerting techniques. The following alerting techniques shall be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment parts. (1) Safety signs and tags. Safety signs, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards which may endanger them, as required by Sec. 1910.145. (2) Barricades. Barricades shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas exposing employees to uninsulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard. (3) Attendants. If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees.

Enclosure (3)

SAFETY ELEMENT	OLD J	CITE (46 Subchapter J)	NEW J	CITE (46 Subchapter J)	S/R WILMINGTON SMS	CITE	OSHA	CITE
Dry Environment					☑	04-A-04-065: 2.b. The work area should be as dry as possible and those doing the work insulated from the ground as much as possible.	☑	

SAFETY ELEMENT	OLD J	CITE	NEW J	CITE	S/R WILMINGTON SMS	CITE	OSHA	CITE
Additional Non-Conductive Mat For Energized Equipment		Old J applies to vessels built prior to March 10, 1996; all other vessels are subject to New J.			☑	04-A-04-065: 2.c. Rubber blankets or mats shall be used to isolate the immediate work area from energized parts.	☑	1910.335 Safeguards for personnel protection. (a) Use of protective equipment--(1) Personal protective equipment. (i) Employees working in areas where there are potential electrical hazards shall be provided with, and shall use, electrical protective equipment that is appropriate for the specific parts of the body to be protected and for the work to be performed. Note: Personal protective equipment requirements are contained in subpart I of this part. (ii) Protective equipment shall be maintained in a safe, reliable condition and shall be periodically inspected or tested, as required by Sec. 1910.137. (iii) If the insulating capability of protective equipment may be subject to damage during use, the insulating material shall be protected. (For example, an outer covering of leather is sometimes used for the protection of rubber insulating material.) (iv) Employees shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with exposed energized parts. (v) Employees shall wear protective equipment for the eyes or face wherever there is danger of injury to the eyes or face from electric arcs or flashes or from flying objects resulting from electrical explosion. (2) General protective equipment and tools. (i) When working near exposed energized conductors or circuit parts, each employee shall use insulated tools or handling equipment if the tools or handling equipment might make contact with such conductors or parts. If the insulating capability of insulated tools or handling equipment is subject to damage, the insulating material shall be protected. (A) Fuse handling equipment, insulated for the circuit voltage, shall be used to remove or install fuses when the fuse terminals are energized. (B) Ropes and handlines used near exposed energized parts shall be nonconductive. (ii) Protective shields, protective barriers, or insulating materials shall be used to protect each employee from shock, burns, or other electrically related injuries while that employee is working near exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing might occur. When normally enclosed live parts are exposed for maintenance or repair, they shall be guarded to protect unqualified persons from contact with the live parts. (b) Alerting techniques. The following alerting techniques shall be used to warn and protect employees from hazards which could cause injury due to electric shock, burns, or failure of electric equipment parts: (1) Safety signs and tags. Safety signs, safety symbols, or accident prevention tags shall be used where necessary to warn employees about electrical hazards which may endanger them, as required by Sec. 1910.145. (2) Barricades. Barricades shall be used in conjunction with safety signs where it is necessary to prevent or limit employee access to work areas exposing employees to uninsulated energized conductors or circuit parts. Conductive barricades may not be used where they might cause an electrical contact hazard. (3) Attendants. If signs and barricades do not provide sufficient warning and protection from electrical hazards, an attendant shall be stationed to warn and protect employees.
Fire Extinguisher					☑	04-A-04-065: 2.d. A fire extinguisher approved for electrical fires shall be close by.	☑	
Remove Personal Conductive Materials					☑	04-A-04-065: 2.e. Jewelry is to be removed from hands and wrists (e.g., watches, rings, chains, etc.). Metal objects are also to be removed from coverall pockets.	☑	
Qualified Standby Assistant					☑	04-A-04-065: 2.f. At least one additional person must at all times stand by to observe the work, assist in assuring the safety of the one doing the work, and respond in the event of an accident. Employees involved should be chosen for their knowledge of the electrical circuits involved; the work needed to be done; and the appropriate, safe response and use of rescue methods and equipment involved in electrical accidents.	☑	
Non-Conductive Ladders					☑	04-A-04-065: 4. Metal ladders should never be used when working on electrical equipment or circuits. Only wooden or fiberglass ladders are to be used.	☑	
Insulated Tools					☑	04-A-04-065: 6. Only non conductive or well insulated tools are to be used.	☑	

Enclosure (3)

SSEL: S/R WI[redacted]NGTON

Title	Name	Senior	Lic /End	CLOA	Prev Assign	Arr/A Start	Tot Days At Sea	P/L Cred	Pending Action	Travel	F Assign	Remarks
W COMPLEMENT												
MASTER	[redacted]	M 004	1A		0201	12/02/08	37	82		BOSTON	WIL	
CH MATE		CM00	1A		0201	12/11/08	28	86		PORTLAND	WIL	
2 MATE		3M01	3A		0201	11/22/08	47	86		Birmingham	WIL-3M	
3 MATE		3M99	4A		0400	11/17/08	52	64		BANGOR		
3 MATE		3M00	4A		SHR	11/17/08	52	50		DFW		
CHENGR		CE00	6C		0811	12/01/08	36	98		HARTFORD	WIL-CE	
1 ENG		2A00	6C		WIL	11/22/08	47	94		JFK		
2 ENG		2A00	5C		0400	12/11/08	28	27		PENSA		
3 ENG	ERICKSON, CHRISTOPHE	3A01	6F		0201	11/21/08	48	111		Boston		
PUMP	[redacted]	P 003	LP		0201	12/02/08	37	29		ATLAN CY		
PUMP		P 012	LP		0804	12/27/08	12	21		KILLEEN		
AB1		AB02	ALP		5008	11/05/08	64	52		SANDIEGO		
AB1		AB00	A		0201	12/11/08	28	32		COLUMBIA		
AB1		AB01	A		0804	12/11/08	28	28		PROV		
AB1		AB02	A		0804	12/11/08	28	25		HOUSTON		
AB1		AB00	A		0822	12/15/08	24	23		DENVER		grad 5/21
AB1		AB02	A		0201	12/16/08	23	19		MOBILE		
QMED-O		QO00	L		0804	11/05/08	64	55		TAMPA		phy 3/12
QMED-O		QO02	LP	x	AMP	12/02/08	37	30		Gainesville		
FLT CH		FC00	A		NA	01/05/09	3	2		PROV		
COOK		CK00	M		0201	11/17/08	52	41		BELLINGH		phy 3/12
MNTSEA												
MNTSEA		MS01	M		0201	12/02/08	37	30		MOBILE		
ENG CADE		EC99		10		12/27/08	12	0				
DECK CAD		DC99				12/27/08	12	0				
IA PERSONNEL ASSIGNED												
3 ENG	[redacted]	3A99	6F		0814	11/17/08	52	54		Hartford		Nav. Res.

Total Complement:	24
Total Required:	25
Short:	1
Extra Personnel:	1

ENCLOSURE (4)

Recommended Protocol for the Examination of the Systems and Components involved in the Electrocution Incident on board the S/R Wilmington on January 7, 2009

1. *ALL ACTIVITIES SHALL BE NON-DESTRUCTIVE* **as agreed upon by** *ALL* **parties present. Agreement by all parties.**
2. Prior to the examination there shall be a short meeting of the parties such as to discuss any issues or areas of concern.
3. The examination shall be documented by videotape; The cameras shall be set for video only with no audio.
4. There shall be no audio recordings of any kind by any of the parties.
5. Examination, measurements and tests must not alter the evidence with the exception of universal agreement by all parties.
6. Any disassembly of potentially material altering tasks will require the approval by all parties.
7. All persons shall sign a sign sheet.
8. Participation in the examination constitutes an agreement of the protocol.
9. Any change in this protocol shall require unanimous agreement by the parties.

The systems to be examined consist of the following:

A. The switchgear that housed the breaker that failed such as to require replacement.
B. The power supply for the electrical test bench.
C. The test bench all inclusive.

The components to be examined and tested include the following:

A. The failed circuit breaker that required replacement.
B. The replacement circuit breaker.
C. The switch or breaker that supplied 480 volts to the test leads.
D. All meters, including portable meters, and test leads in use at the time of the accident.

Safety equipment to be examined includes the following:

A. Grounding clamps, straps etc.

B. Gloves.
C. Floor mats.
D. GFI's.
E. AFI's.
F. Any other safety equipment or PPE that was being used at the time of the accident.

The examination of the systems and components shall be visual and shall include photo documentation. De-energized operation of the components is permitted during this phase as well as continuity checks by VOM. Meggar tests shall be performed on all components to check for intra phase current leakage.

It is requested that the S/R Wilmington provide one line schematics of the systems noted above. Further, it is requested that the S/R Wilmington provide a copy of the operations manual and the electrical drawings for the electrical work bench for the use of all parties during the examination.

Supplemental Electrical Investigation Actions Requested to be Performed by Sector Hampton Roads Onboard the S/R WILMINGTON

1. Is there any evidence of alteration or repair to the test panel, receptacle, or circuit breaker?

ANS: A previously installed conductor was removed that was not standard to the original design. The conductor was installed at the 480 volt plug receptacle but the other end was open (what the Chief Engineer stated). There are two burn spots in the bottom center of the panel where the wire ends from that conductor where located.

2. If there is evidence of alteration or repair, obtain any and all relevant ship documents onboard the vessel that relate to the alteration or repair.

ANS: The 120 Volt 1PH test receptacle may have been replaced at some point not for sure but all else looks original.

3. Check for corrosion on and inside panel?

ANS: Looked inside all panels of board, visually saw no corrosion.

4. Are there any non corrosion resistant parts utilized on the test panel?

ANS: Items tested with a magnet all appeared to be made of corrosion resistant parts.

5. Verify the standard distribution system type? (three wire, three phase AC)

ANS: Verified three wired three phased.

6. Is the test panel, receptacle, and circuit breaker properly grounded to the ships ground system?

ANS: If the breaker where here and installed along with the corresponding receptacle would be installed to the ships ground monitoring system. System disconnected right now in preparation for tomorrows testing.

7. Determine to the best extent possible if there were any electrical grounds present on the vessel the day of the incident. If there were any, where were they, what type, when were they detected and what action was taken by the crew?

ANS: Tested all ships ground test switches and all appear to be working properly. Daily checks looked to be completed as required.

8. Verify integrity of the electrical installations from the generator to the test panel and from the test panel to the 480 receptacle and circuit breaker.

Supplemental Electrical Investigation Actions Requested to be Performed by Sector Hampton Roads Onboard the S/R WILMINGTON

ANS: Testing equipment needed not available to test. Test can be completed tomorrow during independent testing.

9. Verify if there is any battery source supplying power to the test panel. If so, from where, what type and load?

ANS: One 480 Volt breaker to battery.

10. Obtain make / manufacturer / model of electrical matting in the workshop.

ANS: Granger Diamond stat 9/16" think model 826S031ZBL item 4YJZZ. The Chief Engineer is to find the procurement sheet for positive verification of matting.

11. Verify that each receptacle on the test panel is only capable of receiving a different plug than the others.

ANS: All receptacles were different with the exception of the following three receptacles:

480 Volts AC test receptacle
240 Volts 3PH test receptacle
120 Volts 3PH test receptacle

All three of these plugs could support the same pigtail. This system again looks to be as designed with no alterations.

SEARIVER WILMINGTON site visit 04 April 2009.

On 04 April 2009 CDR David Berliner and CWO2 [redacted], MSU Galveston, attended the S/R WILMINGTON in Norfolk, Virginia. They were augmented by LTJG [redacted] and CWO3 [redacted] of Sector Hampton Roads.

0730 – MSU Galveston members arrived at Sector Hampton Roads.

0740 – Inspection team departed Sector to the S/R WILMINGTON.

0800 – Onboard S/R WILMINGTON.

0810 – Meeting commenced with the above mentioned CG members and the following:

[redacted] (Counsel for Exxon Mobil)
(Counsel for Exxon Mobil)
(Captain SEARIVER WILMINGTON)
(Chief Engineer SEARIVER WILMINGTON)
(Forensic engineer for Exxon Mobil)
(Forensic engineer for Erickson family)
(Father of Christopher Erickson)

At the beginning of this meeting we, the Coast Guard, disclosed the finding of a lose end wire in the test panel to all the above. The Chief Engineer had found this wire when he was preparing the test panel for the test scheduled for 04 April 2009; he removed the wire for safety and notified CWO [redacted] of his actions.

0830 – Mr. [redacted], Mr. [redacted], the Chief Engineer, CWO [redacted] and CWO [redacted] traced the wire run form the source (generator) thru the main distribution panel and subsequent power distribution panels to the test panel, no discrepancies were noted.

0930 – All above listed persons attended the test panel in question to verify the testing. At no time was the panel energized, the experts concluded they had tested all major parts of the panel in Houston and conducted a visual inspection of the panel. It was noted that the conductor found by the Chief Engineer had been lying lose in the panel for "some time" and was in poor condition, but had no role in the death of Mr. Erickson. Both Experts verbal conclusions seemed to point that the panel had no issues the contributed to Mr. Erickson's death. Mr. [redacted] Erickson family expert, noted it appeared to be oversight of the "small stuff" that mostly contributed to the death.

1130 – Concluded meeting.

Supplemental Electrical Investigation Actions Requested to be Performed by Sector Hampton Roads Onboard the S/R WILMINGTON

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ANS: A previously installed conductor was removed that was not standard to the original design. The conductor was installed at the 480 volt plug receptacle but the other end was open (what the Chief Engineer stated). There are two burn spots in the bottom center of the panel where the wire ends from that conductor where located.

2. If there is evidence of alteration or repair, obtain any and all relevant ship documents onboard the vessel that relate to the alteration or repair.

ANS: The 120 Volt 1PH test receptacle may have been replaced at some point not for sure but all else looks original.

3. Check for corrosion on and inside panel?

ANS: Looked inside all panels of board, visually saw no corrosion.

4. Are there any non corrosion resistant parts utilized on the test panel?

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ANS: If the breaker where here and installed along with the corresponding receptacle would be installed to the ships ground monitoring system. System disconnected right now in preparation for tomorrows testing.

7. Determine to the best extent possible if there were any electrical grounds present on the vessel the day of the incident. If there were any, where were they, what type, when were they detected and what action was taken by the crew?

ANS: Tested all ships ground test switches and all appear to be working properly. Daily checks looked to be completed as required.

8. Verify integrity of the electrical installations from the generator to the test panel and from the test panel to the 480 receptacle and circuit breaker.

ANS: Testing equipment needed not available to test. Test can be completed tomorrow during independent testing.

9. Verify if there is any battery source supplying power to the test panel. If so, from where, what type and load?

ANS: One 480 Volt breaker to battery.

10. Obtain make / manufacturer / model of electrical matting in the workshop.

ANS: Granger Diamond stat 9/16" think model 826S031ZBL item 4YJZZ. The Chief Engineer is to find the procurement sheet for positive verification of matting.

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480 Volts AC test receptacle
240 Volts 3PH test receptacle
120 Volts 3PH test receptacle

All three of these plugs could support the same pigtail. This system again looks to be as designed with no alterations.

[redacted]
Chief Engineer
S/R Wilmington
Lic.#1160315
Ship Phone; 907-831-2268
Home Phone [redacted]

April 4, 2009

On or about March 30, 2009 I was notified by the Houston Office that I would be assisting n the Erickson Investigation. This would involve possibly installing the circuit breaker involved in the incident and was asked to make the space safe for this.

I opened the test panel with the First Engineer [redacted] I removed a wire that was attached to the 480 volt socket that was involved in the incident. The other end was not attached and two conductors were bare wires.

[redacted]

Enclosure (5)

[redacted]
First Engineer
SeaRiver Wilmington
License [redacted]
Ph. [redacted] (Home) [redacted] (Cell)

April 4, 2009

On or about 3/30/09 e+m Chief Engineer [redacted] and I opened the 480 V access cover to the Electric shop test panel in preparation to re-install the 480 V Breaker removed in January. Upon opening the Panel it was noted that a 3 conductor wire was attached to the 480 V outlet, and was open ended. The Chief Engineer subsequently removed this wire. The next day I removed the breaker mounting bracket to facilitate the re-instillation of the breaker.

[redacted]

4/1/09

[redacted] Mou Collection Auto

UDR David Berliner MSU Galveston

LTJG [redacted] CTOR HAMPTON ROADS

CW03 for Hampton Roads

EM/SR

S/R WILMINGTON, CAPTAIN

OFC HOUSTON TX

CR SEARIVER WILMINGTON

4/4/09 4' 2" black cord w/ 3 wires (black, green, white) 14/3 SO cord

I provided the above referenced cord to [redacted] XOM Law Dept. on this day.

[redacted]

CE S/C WILMINGTON

Enclosure (5)

BROOKS & JACKSON, INC. CONSULTING AND FORENSIC ENGINEERS

2380 O'Neal Lane, Suite F
Baton Rouge, LA 70816

Telephone (225) 755-3212
Telefax (225) 755-3233

May 20, 2009

Mr. [redacted]
Litigation Counsel
Exxon Mobile Corp.
800 Bell Street
Room 1583-0
Houston, TX 77002

Re: Christopher Erickson Accident
Investigation/SeaRiver Maritime, Inc.
File No. 90107

Dear Mr. [redacted]

In accordance with your request, I am reporting on my findings after performing an inspection aboard the *SeaRiver Wilmington* in Norfolk, Virginia on April 4, 2009. Additionally, I have inspected and x-rayed a 480-volt, three-phase molded case circuit breaker that was mounted in a test panel in the vessel's electrical shop. While on board the *S/R Wilmington*, I also reviewed electrical drawings for the vessel.

It is my understanding that an accident occurred on January 7, 2009 at approximately 4:30 p.m. resulting in the death of Christopher Erickson. Mr. Erickson was a third assistant engineer and was engaged with co-workers in checking a circuit breaker that was removed from the supply circuit to an engine room blower that was not working. The circuit breaker was taken to the shop for evaluation. The shop has a test bench with a panel containing several receptacles of different configurations and with different voltages available. There is a 480-volt, three-phase receptacle located at the bottom of the left compartment which the engineers were going to use as a power source to test the blower circuit breaker that was removed from service.

The 480-volt receptacle was fed from a circuit breaker mounted to the left of the receptacle in the test panel. The test panel circuit breaker was identified as an ITE Model HE3-MO2O, 600-volt, three-pole, 20-amp device. The circuit breaker was undamaged externally. The circuit breaker was checked for continuity with a Fluke multi-meter. Continuity was checked with the circuit breaker in the on and off positions and everything was found to be normal. X-rays were taken of the ITE circuit breaker and they revealed nothing remarkable about the internal condition of the device.

An AWG #12/3 "pig tail" cord with a plug was presented for inspection and it was checked for continuity and for cross connections. It was found to be unremarkable except that there were small arc marks noted on two of the plug pins. This cord was reportedly plugged into the 480 volt test panel receptacle described above at the time of the accident.

The inspection aboard the *S/R Wilmington* on April 4, 2009 included an examination of the electrical distribution system that supplied the test bench in the ship's maintenance shop where the accident occurred. The circuit from the test receptacle into which a three-pole, 20-amp plug with an AWG 12/3 conductor pig tail attached was observed. The receptacle was supplied from the work shop panelboard designated as 3-31-1. A 30-amp, three-pole circuit breaker was installed at that panelboard which supplied the electrical test panel. At the test panel, a 20-amp, three-pole, 480-volt circuit breaker was in place ahead of the test receptacle. This was the ITE circuit breaker mentioned previously.

During the inspection, the *S/R Wilmington* chief engineer reported that when they opened the test panel in preparation for the inspection, they discovered a three-wire cable connected to the rear of the 480-volt test receptacle. The cable was observed and spade terminals were noted on the end that was connected to the receptacle. The other end had the cable jacket skinned back exposing a black, white and green insulated AWG 14 gauge wire. The green wire had a yellow wire nut affixed. The black and white wire insulation was skinned back approximately wire nut depth and exhibited melted copper strands. The insulation on the individual conductors was cracked and exposed conductor was visible.

It was further observed that there was evidence of past electrical activity in the rear left lower section of the test panel enclosure that housed the test receptacle and circuit breaker. Two distinct areas exhibiting electrical arcing to the enclosure were observed approximately an inch and a half apart at the rear of the enclosure. The panel appeared to be structurally connected to the vessel steel although tests for grounding were not conducted.

The shipboard electrical system is 480-volt, three-phase, delta. The electrical test bench had a wooden countertop. As observed during this inspection, there was a rubber mat on the floor in front of the test bench.

CONCLUSIONS

Based upon my education in the field of electrical engineering, my background in investigating electrical accidents for over 40 years, and my experience in electrical equipment failure analysis and the application of codes and standards, the following conclusions are offered to a reasonable degree of engineering certainty.

1. The ITE Model HE3-MO2O, 600-volt, three-pole, 20-amp circuit breaker that was installed in the *S/R Wilmington* electrical shop test panel was functional and showed no evidence of damage or infirmity which would give any indication of a failure to operate or miss-operation on January 7, 2009.

2. There was evidence of past electrical activity within the test panel due to an AWG 14/3 SO cord that was connected on one end to the rear terminals of the test receptacle and with the other end, at some point in time, apparently making contact with the rear of the panel. There is no evidence to indicate that the electrical activity noted internal to the panel occurred on the day of the accident. In fact, one can rule out electrical activity on the day of the accident from the SO cord wires touching the back of the enclosure because the arcing signatures noted would have reasonably resulted in tripping of the protective device, namely the test panel circuit breaker. There was no evidence presented that this circuit breaker was found in the tripped position after the accident.

3. The fact that Mr. Erickson was standing on a rubber mat and working on a wood top counter would preclude any possibility of electrical shock occurring directly from, or associated with, the electrical test panel. He reportedly was not touching the test panel at the time of the incident.

4. There was no abnormality or deficiency related to the ship's electrical system or its electrical equipment found during the inspection of the *S/R Wilmington* which caused the unfortunate accident resulting in the death of Mr. Erickson.

[redacted]

[redacted]

OWENS FORENSIC ENGINEERING, INC.

ROGER L. OWENS, P.E.
Phone: 713-782-1212

May 26, 2009

LT [redacted]
US Coast Guard
3101 FM 2004
Texas City, Texas 77591

Re: [redacted] v. Sea River Maritime, Inc.
DOA: 1/7/2009
Our file: 2136.05

Dear LT [redacted]

Attached you will find a copy of our final report in this matter. We have also forwarded a copy of this report to [redacted] If we can be of further assistance, please do not hesitate to call.

Sincerely yours,

[redacted]

Enclosure (8)

10219 Briar Drive • Houston, Texas 77042 • Fax: 713-782-9247 • Cell: 713-829-1113 • E-mail: owenseng@houston.rr.com
Website: www.owensforensic.com

OWENS FORENSIC ENGINEERING, INC.

[redacted] P.E.
Phone: 713-782-1212

May 26, 2009

FINAL
Report of Observations, Findings And Conclusions

Cause 60,346; [redacted] Individually and on behalf of the Estate of Christopher Erickson v. Sea River Maritime, Inc. and The S/R Wilmington; In the County Court at Law Number Two (2) of Galveston County, Texas

DOA: 1/7/2009

OFE file: 2136.05

[redacted]
LCDR United States Nary Retired

Owens Forensic Engineering, Inc.

Enclosure (8)

10219 Briar Drive • Houston, Texas 77042 • Fax: 713-782-9247 • Cell: 713-829-1113 • E-mail: owenseng@houston.rr.com comcast.net
Website: www.owensforensic.com

Introduction

In early February 2009 Owens Forensic Engineering was contacted by your firm and asked to participate in the causation analyses of the referenced electrocution incident. On February 18, 2009 we were provided general discovery relating to this incident including the Accident Reports and early investigative information. On March 24, 2009 we had an opportunity to examine the evidence held in custody by Exxon Mobil Corporation and on April 4, 2009 we visited the S/R Wilmington while alongside in Norfolk, Virginia. Both video and photographic documentation have been previously provided.

This report is based on the information made available as well as our examination of the evidence and the accident scene.

Qualifications

I am the Principal Engineer of Owens Forensic Engineering, Inc. and received a B.S. in Electrical Engineering, with high honors in 1968 from North Carolina State University and a Masters of Electrical Engineering, with a concentration in power and control systems in 1969, from North Carolina State University. It should be noted that because I was on a National Scientific Scholarship I was required to take additional courses in Mechanics, Mechanical Engineering, Mathematics, Thermodynamics and Physics. Further, I was also enrolled in a PhD. degree program in Nuclear Engineering with a concentration in Physics in 1976, at North Carolina State University. I am a Registered Professional Engineer licensed in Arkansas, Texas, North Carolina, Virginia and Alabama and a Board Certified Diplomat in Forensic Engineering by the Council of Engineering Specialty Boards. I initially served as an electrician in the submarine service prior to attending NCSU and worked daily with electrical and mechanical systems. After completion of my undergraduate studies I was commissioned as a Naval Officer and was assigned as engineer of a Frigate operating in the South China Sea. I was subsequently assigned as chief engineer of construction of a US Navy Frigate in Avondale, Louisiana. After the ship was

commissioned, I was assigned as Chief Engineer of a large Amphibious Ship and after completing that assignment was transferred back to NCSU as Commanding Officer of the NROTC. During that Command tour I was asked to assume command of the USS Beacon, which was operating in the Caribbean Sea. I was fortunate enough to be assigned a second tour as Commanding Officer at sea and in 1977 my ship laid the deep-water sonar line in the North Irish Sea. In 1981 I retired from active service as a Lieutenant Commander. It should be noted that as a result of my Naval assignments I have 20 years experience with the operation, maintenance and repair of all types of electrical and mechanical systems. Since December of 1980, I have been a consultant on a variety of engineering matters, including chief engineer for the investigation of the Phillips Chemical Plant explosion in 1989 and the Arco Plant explosion in 1990. I have been involved in the analyses of numerous electrical shock and electrocution incidents throughout my career. My consultations have been with and without regard to litigation. I have testified in numerous lawsuits, for plaintiffs and defendants, regarding the source and cause of failures and fires in electrical and mechanical matters. As a certified professional, I personally limit my areas of consultation to those areas that I am qualified by education and experience. I have qualified as an expert and Professional Engineer in fire causation in both State and Federal Courts and no court has ever found me to be unqualified to testify as a professional engineer in an expert capacity. Although I have been challenged under *Daubert*, no court has ever granted one of these motions seeking to exclude my testimony. I am a member of numerous professional organizations and have published peer-reviewed articles regarding forensic engineering and fire causation. Those publications are listed in my curriculum vitae, which is attached. The evaluations, examinations, and analyses performed in this case fall within my specific areas of expertise as a professional engineer.

Description of the Incident

Prior to the electrical incident a GE 225 amp, three phase molded case circuit breaker that supplied ventilation to the ship's engine room, failed electrically while in service. We found the main contacts to be severely arced and burned during our inspection of the evidence on March 24, 2009. It should be noted that the circuit breaker that failed was basically a switch with overload protection only. The breaker was not equipped with under voltage protection and there were no auxiliary contacts within the breaker. This type of circuit breaker is commonly referred to as a LVR Type Breaker or a Low Voltage Release Breaker.

During our examination of the evidence on March 24 we found that the circuit breaker that had been drawn from the ship stores was a 225 amp, three phase molded case breaker that was a LVP Type circuit breaker. LVP or Low Voltage Protect breakers are equipped with an auxiliary low voltage coil that senses low voltage on the incoming

line and trips the breaker such as to not burn up down stream equipment that might be sensitive to low voltage. We also noted during our examination that the replacement breaker was also equipped with auxiliary contacts.

At the time of the accident Mr. Christopher Erickson, Third Assistant Engineer, and Mr. [redacted] First Assistant Engineer, had placed the replacement breaker on the test bench. Also on the test bench was a homemade three phase test pigtail (test leads), a fluke digital voltage meter and some wire nuts. Since the LVP style molded case breaker will not allow cycling the contacts manually when line voltage is not applied, it appears that the Mr. [redacted], along with Mr. Erickson, was going to energize the low voltage coil at 480 volts in order to test the operation of the breaker. Apparently, the plan was to test the breaker prior to installing the breaker in the electrical panel.

The line voltage for the test panel is 480 volts, three phase ungrounded. There are various take off voltages on the test panel each controlled by an individual isolation device. The 480 volt test receptacle was protected by a 20 amp molded case breaker but was not equipped with a volt meter or an indicator light. The test pigtail was not original equipment and had open and exposed wiring at the test end of the leads. The blueprint for the test panel calls for Mueller Clips and Insulators to be installed on the test leads.

We were told by the Coast Guard representatives in Norfolk that it was there understanding that Mr. Erickson had asked for the wire nuts immediately prior to the accident. It appears that he was going to attempt to connect the test leads to the Low Voltage relay wiring such as to test the breaker. We were also told by the Coast Guard that the Mr. [redacted] had stated that he thought that the 20 amp breaker for the test receptacle was in the off position. He did not test the receptacle nor did he assume the receptacle to be energized. The most probable accident scenario is that Mr. Erickson was holding the test leads and Mr. [redacted] plugged the pigtail into an energized receptacle. Hand to hand contact across 480 volts would deliver fatal current through the chest of Mr. Erickson.

Causation

The proximate cause of the electrocution incident was the inadvertent energizing of the exposed pigtail wiring which had not been terminated to a level of 480 volts. The assumption by Mr. [redacted] that the isolation breaker for the 480 volt test receptacle was open, based solely on his observation constitutes gross negligence. Every electrical safety publication in the Universe requires the assumption that circuits are energized unless proven to be de-energized ***and*** protected from becoming inadvertently energized. There are other circumstances that contributed to the accident but none that would influence the incident other than the blatant and total disregard for individual safety attributed to the First Assistant Engineer, Mr. [redacted].

Other Important Observations

1. We have not been provided sufficient information to determine if a 225 amp LVR breaker was available on board the vessel or if only a LVP compatible breaker was available. It is important to note that the LVP breaker was a suitable short term substitute if indeed a LVR breaker was not available.
2. Further, we have no information as to authorized the use of the LVP as a suitable substitute.
3. We do not know if authorized pigtails are available in the ship stores nor do we know who and when the accident test leads were provided.
4. Independent of this report we recommended that indicating lights be installed on the test panel in order to notify the operator when voltage is available. Individual voltmeters would be a better choice; however, lights would be adequate.
5. Documented statements and interviews were apparently not taken such as to fully document fact witness observations or to answer the unknowns as stated above.
6. At the time of our visit on board the Wilmington, non terminated wiring connected to the 480 volt source was found inside of the test panel. We can not imagine how that was missed by the ship's company and the Coast Guard post incident.

Discussions re the test Bench

We are of the opinion that utilization of the test bench presents somewhat unique guidelines. Operating procedures, permitting etc. simply are unrealistic in situations where the test bench is being utilized to solve electrical problems. It very well may be that in this case, the breaker was being energized in order to find out how to utilize a LVP type breaker in the ventilation panel. That assumption is not critical to the causation analyses but is an example of a requirement to use the test panel with energized test leads. On occasions that the test panel is being utilized we recommend the following:

1. The chief engineer has to approve of the activity.
2. The most experienced electrical person would supervise the testing.
3. The two man rule would be in effect and
4. The guidelines set forth in NFPA 70E would be followed to the letter.

Conclusions

This accident occurred when Mr. [redacted] First Assistant Engineer, plugged the 480 volt pigtail into an energized receptacle. Simultaneously in time Mr. Erickson was holding the exposed wiring at the load end of the pigtail. Mr. Erickson was fatally electrocuted when current passed through his body.

In regards to the accident investigation conducted by the Coast Guard, we made the following observations:

1. Since we were independently contacted by the local Coast Guard and asked to assist them in their investigation, we are not exactly sure of the status of their investigation prior to being challenged by the family of Mr. Christopher Erickson.
2. We were provided no detailed interviews with the fact witnesses.
3. The interior 480 volt exposed wiring in the test panel was not detected and hence not eliminated as a potential voltage source for the accident.
4. No action was taken in regards to the blatant disregard for standard safety procedures by the First Assistant Engineer.
5. We agree that the electrical incident that caused the death of Mr. Erickson was accidental.

U.S. Department of Homeland Security

United States Coast Guard

Commanding Officer
United States Coast Guard
Marine Safety Unit Galveston

3101 FM 2004
Texas City, Texas 77591
Phone: (409) 978-2700
Fax: (409) 978-2671

16711
May 27, 2009

SeaRiver Maritime, Inc.
Attn: Mr. [redacted]
800 Bell Street Basement
Houston, TX 77002-7427

Dear Mr. [redacted]

On January 7, 2009, a marine casualty occurred onboard the SEA RIVER WILMINGTON (Official Number 658494) that ultimately resulted in the death of Third Assistant Engineer Christopher B. Erickson. The U.S. Coast Guard is actively investigating this casualty.

Although the investigation is still ongoing, evidence collected to date combined with a review of the SeaRiver Maritime Inc. Safety Management System (SMS) indicates that applicable electrical safety elements of the SMS were not implemented or followed by crew members engaged in electrical work. More specifically, the three licensed engineers who were working in the electrical workshop at the time of the casualty did not address the work they were performing in the workshop (which involved the use of energized 480V conductors) in a Job Hazard Analysis, the engineers were not adhering to personal protective requirements outlined in the SMS, and no safety observer was utilized. These actions represent an implementation failure of the SMS and are considered a major non-conformity. Since this is an on-going investigation, this is not a complete list of SMS failures related to this marine casualty.

Additionally, objective evidence exists that the SMS for the SeaRiver fleet does not adequately cover or account for electrical work being carried out in electrical workshops, use of electrical test panels, and the use of portable electric test leads. This represents a critical gap in a primary objective of your company's SMS to provide for safe practices, a safe working environment, and to establish safeguards against all identified risks.

The U.S. Coast Guard is the flag administration for SEA RIVER WILMINGTON that provides for the implementation and enforcement of 33 CFR § 96, Rules for the Safe Operation of Vessels and Safety Management Systems, and the International Safety Management (ISM) Code. The U.S. Coast Guard administers this responsibility through delegation to the American Bureau of Shipping (ABS). Although the SEA RIVER WILMINGTON is enrolled in the Alternate Compliance Program and ABS is delegated the authority to provide for primary SMS compliance under this program, as a result of this marine casualty, the U.S. Coast Guard is exercising its authority to engage in oversight of SeaRiver Maritime's SMS.

16711
May 27, 2009

SeaRiver Maritime Inc. is required to take the following action:

Provide a comprehensive written summary of the completed, current, and anticipated actions by SeaRiver Maritime Inc. to report, investigate, analyze, and correct the major non-conformity outlined in paragraph two and address the gaps in the SMS discussed in paragraph three.

Should you have any questions, please feel free to contact LCDR [redacted] at (409) 978-2704.

Sincerely,

[redacted]

J. E. ELLIOTT
Commander, U. S. Coast Guard
By Direction
Officer in Charge, Marine Inspection

Copy: Coast Guard Office of Vessel Activities (CG-543)
Coast Guard Liaison to Authorized and Recognized Classification Societies
Commander, Coast Guard Sector Houston-Galveston
SeaRiver Maritime Inc., Mr [redacted] Esq.

Enclosure (9)