

OXYGEN CONTENT CASUALTY

The Story

On 20 December 1974, an experienced U.S. Coast Guard Marine Inspector assigned to the Coast Guard Marine Inspection Office at New Orleans was detailed to inspect two barges located on the canal at Harvey, Louisiana. This inspector, a Coast Guard Chief Warrant Officer, had served in Merchant Marine Safety assignments for approximately four years, having served previously in the Norfolk, VA office. He had served over 26 years in the Coast Guard.

The barges which he was detailed to inspect, EXXON 158 and EXXON 171, are known as tank battery barges. Each is compartmented into six internal spaces and is fitted with two oil field storage tanks and four separator tanks with associated piping topside. Entry below decks is through a single manhole opening to each compartment. The gooseneck vent opening into the forward and after pairs of compartments are generally kept plugged because of local operating requirements.

Upon arrival at the barge site, the inspector met with the owners representative and discussed inspection procedures. The inspector was interested in examining below-deck barge structure. Gas Free Certificates for the barges were not available, but the inspector did have a copy of a certificate issued some eight months previous for the EXXON 153. Since below-deck spaces were piped to contain only water ballast, and since these tanks had not been opened since issuance of the Gas Free Certificate, it was decided to go ahead with the inspection. The barge EXXON 171 was to be inspected first, followed by the EXXON 158.

Inspection of the first vessel proceeded without incident. Each space was opened for the inspector, he entered, made his inspection, and then proceeded to the next tank. At all times a company representative was with him or nearby. As the aftermost starboard compartment of the EXXON 158 was opened, air was heard rushing into the space, indicating that the compartment was under partial vacuum. The compartment immediately forward was then inspected, after which the two men discussed whether to continue the inspection or break for lunch; they decided to continue. The inspector entered the after starboard compartment, apparently unseen by the company representative who had gone forward to check on work in progress by two of his employees. Not seeing the inspector a few minutes later, he proceeded aft and found him lying unconscious in the bottom of the compartment. In an attempt to assist, he also entered and became unconscious but fortunately came to quickly and was able to get out of the space. After he was removed from the compartment attempts were made to revive the inspector, but with no success. He was later pronounced dead on arrival at the local

hospital.

Lesson Learned

Review of the casualty revealed none of the tanks were examined for oxygen content prior to entry. Further, no mechanical ventilation was used to "air out" the tanks prior to entry. Examination of the tank sometime later showed that it contained 17 percent oxygen, and the adjacent port side compartment was found to contain only 12.3 percent oxygen. The cause of this casualty can be attributed to inattention to details specifically, failure to test the below-deck compartments for oxygen content.

Prevention Through People



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