

TANK BARGE EXPLOSION

The Story

At approximately 2027, 9 November 1974, a series of explosions occurred aboard the tank barge RTC 200 moored in Kill Van Kull in the New York area. The explosion caused the adjacent tank barge RTC 320 to ignite and explode. Both barges became engulfed in the resulting flash fire. The shock waves produced by the explosions broke windows in businesses and homes as far away as one-half mile. Both vessels sustained severe structural damage and dock facilities suffered minor fire damage. Despite the magnitude of the explosions there were no injuries or loss of life. Damage to the vessels is estimated to exceed \$1 million.

On Wednesday, 6 November the tank barge RTC 200 discharged a cargo of gasoline. A hull leak was discovered in No. 2 starboard cargo tank. The vessel continued its scheduled cargo assignments with the No. 2 cargo tank secured and not used to carry cargo. On 6 November the vessel proceeded to the Standard tank cleaning docks in Bayonne, N.J., to rinse tanks in preparation for loading a cargo of unleaded gasoline. It is not known if the No. 2 cargo tank was rinsed at this time. The vessel operated without incident on 7 and 8 November, carrying mixed cargoes of kerosene and No. 2 oil. On 8 November, the tank barge loaded a cargo of 93 octane gasoline at the American Oil terminal at Carteret, N.J. The cargo was discharged at the American Oil Terminal, Newtown Creek, Brooklyn, on 9 November. The vessel was boarded by Captain of the Port personnel during discharge operations, no violations were found. The vessel then proceeded to the Kill Van Kull waterway yard under tow. The vessel was to be laid up at the yard until its next scheduled cargo assignment.

At approximately 1940 on 9 November, the RTC 200 arrived at the yard, and was moored port side to the starboard side of the Tank Barge RTC 320. The bargemen aboard the RTC 200 tended fenders forward and aft; the barge was made fast to the TB RTC 320. The personnel aboard the RTC 320 remarked that the RTC 200 landed "hard" against the RTC 320. As the bargemen aboard the RTC 200 made the vessel fast to the RTC 320, the workmen aboard the RTC 320 completed repairs to the port deep well pump and left the vessel. At approximately 2000 the bargemen secured the Tank Barge RTC 200 and walked across the main deck of the RTC 320 and up the dock to check out with the night watchman.

The barge captain and mate were met by the night watchman, who informed them that the company had left instructions for the bargemen to install blowers to ventilate and gas-free the No. 2 tank aboard the RTC 200. The tank was to be inspected to determine the extent of the reported leak. The watchman accompanied the bargemen to the dock and gave them two electric industrial blowers. The men then proceeded to install the blowers. Meanwhile, aboard

the RTC 320 the barge's captain was busy stowing tools in the cabin. The repair work aboard the RTC 320 was completed and he was preparing to shut the barge down for the night. The main spotlight and generator were in operation onboard the RTC 320. The captain and mate boarded the RTC 200, and by the light of the RTC 320's spotlights started securing a blower into the expansion trunk of No. 2 port tank. The captain lashed a blower to the ladder of No. 2 port. He sent the mate back to the dock house to get electrical extension cords for the blowers. During the mate's absence the captain lashed the other blower into No. 2 starboard. He did not examine the blowers before installing them, nor did he examine the blower's electrical cords. The blowers were made fast to the ladders of the tank with manila line. The line was doubled to prevent the blowers from vibrating loose. After he secured the blowers in the expansion trunks, he left the barge. He went to the dock house and informed the night watchman that the blowers were set up but still required electrical extension cords before they could be operated. At approximately 2015 he left the yard to go home.

The mate found an electrical extension cord and returned to the RTC 200. He completed the setup of the electrical wires to the port blower. He did not examine the cord or fittings prior to making the installation. A yard worker assisted him in locating a junction box on the dock. At about 2010 he started the port blower and then left the RTC 200 and proceeded to the dock house. He then made arrangements with a yard mechanic to complete the setup of the starboard blower. He then left the yard. The yard mechanic located another extension cord, connected it to the starboard blower and activated it. Hearing both blowers operating, he left the barge and went to the dock house. The explosion occurred at approximately 2027, ten minutes after the starboard blower had been started.

Prior to the explosions, and while the yard personnel were installing the blowers aboard RTC 200, the barge captain was working on the deck of the RTC 320. As he completed his deck chores and was about to secure the main deck floodlight there was a violent explosion on the forward starboard section of RTC 200. The explosion was described as being very loud, "like a rocket". A series of explosions then followed. The initial explosion was described as causing a very bright orange ball of flame. the captain attempted to escape from the RTC 320. He was running to the starboard side of the barge when the force of one of the secondary explosions threw him off the main deck. He landed on his feet in a semi-crouched position and ran from the dock, seeking protection of some temporary storage sheds located in the parking lot. As he ran, he heard another series of explosions. It was reported that another man hearing the initial explosion raced up on deck of the RTC 320, and was blown off the stern of the barge into the water. He then swam under the dock, climbed aboard a tug, and reboarded the RTC 320 in an attempt to rescue the captain. With a portable fire extinguisher in hand, he reached the aft portion of the burning barge and searched for the captain for some time before being forced to retreat. The personnel in the dock house fled and took refuge in the parking lot. After the explosions had subsided the employees began to organize efforts to control the fire and account for the personnel.

The New York City Fire Department responded immediately and shore and land units arrived

within minutes. Several company employees boarded in an attempt to insure that all accessible ullages and hatches were closed in order to prevent further explosions. All but two employees were accounted for. At about 2035 the New York City Fire Department started fire fighting efforts.

As these efforts were underway, the RTC 200 burned through her mooring lines and drifted on the ebb tide into the Kill Van Kull waterway. The moored tugs cast off lines and proceeded into the Kill Van Kull immediately after the explosions. The tug CURTIS REINAUER took immediate action to control the drifting RTC 200. She was successful in preventing further drift, but in doing so became entangled in the drifting mooring lines. The tugs PAMELA and NANICE ANN REINAUER stood by the disabled tug and barge until the entangled tug was freed. At approximately 2230 the RTC 200 sank by the bow on the southern margin of the Kill Van Kull waterway. At approximately 2248 the shoreside fire was declared under control. During this time three New York City fireboats and two Coast Guard harbor tugs assisted in the firefighting efforts. At 2300 the shoreside fire was declared out.

At 0015 on 10 November, the semi-submerged remains of the RTC 200 were beached on the property adjacent to the RTC yard. Local safety broadcasts for mariners transiting the Kill Van Kull were issued. At 0025, all employees were accounted for and it was ascertained that no injuries had occurred.

Lesson Learned

There is evidence in the record to indicate that the gas-freeing of the tanks aboard the RTC 200 was a routine task, which had been successfully accomplished on prior occasions. The record also indicates that the company yard and barge personnel had received "on the job" instructions concerning the manner in which gas-freeing tasks and blower installations were to be performed. The four persons involved in the installation of the blower on the RTC 200 had varying levels of experience in gas-freeing operations and shipyard procedures. None of the personnel however had received formal safety training in the handling of gasoline. The company had no written orders, safety checklists, or specific procedures to be adhered to during this type of gas-freeing operations. Prior to this casualty, gas-freeing operations were pursued in the normal course of business, and the safety aspects of the operation were generally overseen by the yard foreman or manager. On the night of this casualty the employees simply followed the terse company orders. Since the gas-freeing operation was commenced on a weekend, the normal complement of yard personnel were not on duty, and no one person was in a supervisory capacity to oversee the setup of the blowers. As a direct

result of this casualty the company has taken remedial action to prevent the possibility of a similar situation occurring. The company has now modified existing procedures and is utilizing pneumatic mechanical venting equipment. The company is continuing to utilize the OSHA training program to have selected employees certified as cognizant personnel.

Prevention Through People



[Section Index](#)

[Main Index](#)

[Next Lesson Learned](#)

[Marine Safety and Environmental Protection](#)

[USCG Homepage](#)

[Webmaster](#)

[Disclaimer](#)

[Created 5/16/98](#)

[Updated](#)