



Runaway Train

Introduction

In the mid-1950s the United States launched a nuclear rocket program called Project Rover. The Atomic Energy Commission (AEC) and the National Aeronautics and Space Administration's (NASA) Space Nuclear Propulsion Office jointly administered the test area, later called the Nuclear Rocket Development Station (NRDS) in Area 25 of the Nevada Test Site (now known as the Nevada National Security Site (NNSS)). NRDS was a sprawling complex composed of test cells and assembly buildings. Connecting these facilities was the only railroad ever to operate on the NTS: the Jackass & Western Railroad.



The derailed locomotive lies 180 degrees from its direction of travel as investigators inspect the site.

Background

The Jackass & Western Railroad's purpose was to transport Project Rover reactors or engines assembled in one of the buildings to one of the three test cells within the NRDS complex. To accomplish this, the Jackass & Western Railroad traveled nine miles of track and had a rolling stock consisting of four locomotives, a 17-ton electric prime mover, a 25-ton diesel-electric switch engine, an 80-ton diesel-electric locomotive, and a gas powered "speeder" track maintenance locomotive. In addition, there were four specialty cars, ten flatcars, two dump cars, one railroad crane with multiple track maintenance cars, and multiple engine test cars.

Crash!

The morning of March 8, 1968 was cold and misty. Conditions did not improve by mid-morning when a locomotive operator and a brakeman began moving a flatcar from the Reactor Maintenance/Assembly Disassembly (R-MAD) facility to the Engine-Maintenance Assembly Disassembly (E-MAD) facility. The flatcar contained two shipping casks and a lifting fixture. Each cask weighed almost 43,000 pounds and the lifting fixture added an additional 3,500 pounds of weight.

After traveling approximately three and a half miles, the locomotive operator initiated a final break check prior to beginning his descent to the E-MAD facility. As the engine continued down the track, the brakeman manually applied the emergency mechanical break, to no avail. The brakeman looked outside at the wheels and saw sparks. Instead of slowing, the locomotive continued to gain speed.

The locomotive operator radioed an alert to E-MAD. After several failed attempts, a worker in the E-MAD Master Control Room heard the alert and directed the locomotive's occupants to "jump." The locomotive operator made one last radio transmission to the E-MAD, instructing them to "close their big door and get all personnel out of the way because we're coming through." The operator and brakeman jumped from the runaway train.



The locomotive continued to travel at an excessive speed toward the E-MAD at the same time another locomotive began exiting the E-MAD facility on the same track, setting the stage for a collision. The crew on the locomotive exiting the E-MAD was told to abandon the train. E-MAD Master Control Room personnel then deliberately attempted to derail the runaway train by throwing a spur switch a few hundred yards from the E-MAD building. When the runaway train encountered the switch, it cart-wheeled and landed 180 degrees from the direction of travel. The flatcar derailed, scattering its contents over the immediate area, but did not tip over.



The Jackass & Western Railroad (lower left) at the Engine-Maintenance Assembly Disassembly facility.

Too much weight

Careful examination of the runaway train's wheels found that all four wheels had flat spots on one side as a result of brake locking.

Approximately 200 feet of track required replacement but the two casks exhibited only superficial external damage, leading one investigator to state "All in all, this looks more like a test of railroad track than of shipping casks."

The final investigation report concluded that the accident was caused by too great a load for the locomotive. Grease and moisture on the tracks, lack of sanding equipment on the locomotive, and no brakes on the flatcar were all contributing factors to the wreck.

The jumpers

The operator had no significant injuries and the brakeman suffered from a minor cerebral concussion with abrasions to his arms and right hand. The brakeman was transported to Southern Memorial Hospital for further examination, and the operator was released for normal work that afternoon. The brakeman was returned to normal duty the next workday.

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