

Executive Summary

TRA's Train No. 7202 at Xinzuoing Station

On June 10, 2020, at 11:24. The freight train No.7202 of the Taiwan Railway Administration (TRA) departed from Zuoying Depot and was bound for Xinzuoing Station stabling track No.4, was coupling with wagon and brake van. In the coupling process, the brake van run away from the stabling track No.4, passed through the west main line, crossover, the second east main line, to the east main line (TK395+400), and then passed by the Zuoying Station and the NeiWei Station, stop at east main line TK399+680. There was no fatalities and injuries in this occurrence.

According to the Transportation Occurrences Investigation Act, the Taiwan Transportation Safety Board is responsible for investigating major transportation occurrences that arise in the R.O.C. territory. This accident is considered as a major transportation occurrence within the scope of investigation. The Railway Bureau and TRA were invited to participate in the investigation.

The investigation report was approved by the 34th Board Meeting on January 7, 2022, and published on January 26, 2022.

After comprehensive investigation and analysis of the factual data, a total of fifteen conclusions and four safety recommendations were obtained, which are detailed as follows:

Findings

Findings related to probable causes

1. The coupling information in the duty sheet that the driver got before

the duty was incomplete, and guidance from the shunting master of Xinzuoqing Station during the push operation was unclear and discontinuous, causing the accident.

2. The train driver of the accident considered that there were no stabled trains on the route and therefore did not act to prepare to stop. The driver assistant was unaware that there was no guidance from the shunting master and didn't remind the train driver to stop before the stabled train, causing a collision.
3. Before coupling, the brake of the brake van was released, causing the brake van to decouple and runaway after colliding with the locomotive.

Findings related to risk

1. Unlike other stations, Xinzuoqing Station does not need to issue a shunting movement plan to the train crew. If the shunting information is not on the duty sheet, the train crew can easily be unaware of the risks while coupling.
2. The shunting master of Zuoying Rolling Stock Branch reminded the driver that there was a train on the route; the driver replied that he would go to Zuoying Station to pick up someone. Both sides did not follow the call-reply mechanisms and confirm the instructions.
3. The shunting master of the Zuoying Rolling Stock Branch did not lead the train to the border between Zuoying Rolling Stock Branch and Xinzuoqing station and handover the train to the shunting master from Xinzuoqing station.
4. When the train passed the shunting signal SS3 and entered the refuge track of Xinzuoqing Station, without leading by the Xinzuoqing Station shunting master, the driver did not stop to confirm but moved the train to the S4 track of the Xinzuoqing station by push operation, which is incompatible with the TRA's regulations.

5. The shunting master of Xinzuoqing Station did not move to the border and inform the driver about the shunting signal indication and the open wagon and the brake van stabled on the S4 track, but only provided the train driver with the remaining distance by radio when the train was approaching the stabled cars, which is incompatible with TRA's regulations.
6. During shunting, the radio communication between the train driver and the shunting master was mostly in Taiwanese, and they used slang for some terms; there was no confirmation between each other during the conversation, resulting that the information of trains stabled on the S4 track was not being correctly transferred to the train driver and there was a contradiction situation.
7. Before coupling, the shunting master of Xinzuoqing Station removed the wheel chock and released the manual parking brake of the open wagon and the brake van, in breach of the regulation that parked cars must have brakes on before coupling. The shunting master trained by mentorship did not understand this regulation.
8. The shunting master of Xinzuoqing Station did not notify the duty station master immediately after the car runaway. The station master couldn't trace the runaway path as it happened and informed the dispatcher of the General Dispatching Office in time, probably delaying the time to respond.

Other findings

1. According to signal replay, all signals were functioning normally during shunting.
2. There is no evidence showing that the shunting master's working performance is affected by fatigue, alcohol, or drugs in this case.
3. According to the test and voice records, the onboard radio of

locomotive R28 functioned normally.

4. The dispatchers of the General Dispatcher Office monitored and responded immediately to the accident, which complies with the emergency response regulations.

Safety Recommendations

To TRA

1. Enhance the duty sheet, emphasizing the pre-task work items and their sequence.
2. Stipulate an SOP for the handover of shunting tasks across two unit jurisdictions, especially with information on coupling tasks, on-site guidance procedure, handover between the two responsible areas, and confirming the train brake unreleased before coupling, directing drivers to operate under the guidance of shunting personnel, and reporting incidents for emergency response.
3. Enhance the employee training and safety management mechanism and formulate the handover procedure of the operation manual soon, as the basis of training, certification, and execution of work. Ensure shunting masters and train drivers follow train shunting SOP.
4. Stipulate performance assessment for the usage of the dispatching radio, and ensure the confirmation of personnel communication through repeating be implemented.

Note: The language used in the occurrence investigation Final Report is in Chinese. To provide a general understanding of this investigation for the non-Chinese reader, the Executive Summary of the Final Report was translated into English. Although efforts are made to translate it as accurately as possible, discrepancies may occur. In this case, the Chinese version will be the official version.