

SUMMARY IN ENGLISH

During a major army exercise, Northern Wind, a Combat Vehicle 90A, CV 90, drove over a tent. There were five persons from a reconnaissance group belonging to a home guard unit in the tent. One soldier was killed and three of the others were trapped in the tent, between the combat vehicle and the underlying snow. Those three were excavated but were not physically injured. The incident occurred in darkness in snowy terrain. The tent was well hidden and camouflaged. The reconnaissance group had an observation post who was scouting in a different direction than that from which the CV 90 came and due to the conditions the post did not have the possibility to notice the CV 90 in time. The crew of the combat vehicle had no knowledge of the position of the reconnaissance group and had no opportunity to discover the tent.

The task of the reconnaissance group was to carry out hidden observation and their observation site was therefore designed not to be detected. The investigation shows that there were contradictory requirements between, on one hand, the requirements for tactical conduct of the mission and, on the other, the need to be able to comply with the safety rule that would prevent being overrun by combat vehicles.

During the investigation, no obvious improvement possibility has been identified regarding the performance of the rescue operation. However, the investigation has found that SOS Alarm had no knowledge of the military coordinate system used in the alert, which delayed the SOS Central's emergency rescue resources. This did not affect the performance of the rescue effort, but the SHK considers that SOS Alarm should be able to handle the commonly used military coordinate system MGRS in case of incoming alarms.

The accident was caused by the fact that the applied tactical situation was not adapted to the valid safety rule. The safety rule meant that the minimum distance between ground personnel and combat vehicles should be 50 metres. The rule was supposed to work, but conflicting demands on tactical behavior meant that the rule was not fully applied in practice.

Contributing causes were:

- that the terrain in the area of the observation site did not offer protection against combat vehicles,
- that the occasionally extensive traffic that occurred on the road, out of sight of the patrol, reduced the possibility for the observer to distinguish the engine sounds, and
- that the reconnaissance patrol did not have full understanding of Combat Vehicle 90's behavior in the terrain in question.

Safety Recommendations

SOS Alarm claims that measures have been taken after the occurrence in order to enable SOS operators to easily obtain a position from mediated coordinates, regardless of coordinate system. After the event in question, SOS Alarm has ordered that the military coordinate system MGRS should be included in the Coordinate Analysis function. According to SOS Alarm, MGRS is expected to be implemented in 2020. The investigation therefore refrains from issuing a safety recommendation regarding this.

The Swedish Armed Forces Safety Inspectorate has issued a number of recommendations to the Armed Forces as a result of its investigation of the occurrence. SHK has been informed of these. In line with these recommendations SHK finds reason to issue the following safety recommendations.

The Armed Forces are recommended to:

- Ensure that established safety rules can be applied in all management levels and exercise scenarios. *(RM 2020: 01 R1)*
- Introduce an electronic management and position monitoring system that allows for improved safety monitoring of trained units. *(RM 2020: 01 R2)*
- Introduce a joint Armed Forces method to disseminate information on combat vehicles' behaviour and the safety risks that this entails, to the units that will be exercising in the same area as combat vehicles. *(RM 2020: 01 R3)*
- When future modifications are made in the fleet of Combat Vehicles 90 (RENO), harmonize the changes in order to avoid increasing safety risks due to further differences in the modification status. *(RM 2020: 01 R4)*