

SUMMARY IN ENGLISH

During OPEVAL activities¹ to develop the capability to conduct SPIE² operations against a vessel on 15 October 2015, a serious incident occurred when a Helicopter 16 that had eleven soldiers attached to a SPIE rope lost its position over the vessel. The rope became caught in the vessel temporarily and the people on the rope were dragged towards the vessel's gunwale, resulting in minor injuries.

In this investigation, the Swedish Accident Investigation Authority (SHK) is able to establish that there have been major shortcomings in both the production of the OPEVAL plan for SPIE and the implementation of OPEVAL SPIE. These shortcomings can primarily be traced back to limitations in terms of knowledge and relevant experience of similar mission profiles involving vessels. These shortcomings have been present throughout the chain of command, from the crew up to those with decision-making responsibility for the implementation. The lack of such expertise has resulted in no one at any level having understood what risks have been taken and the commander and his crew not having been given the requisite support in advance of and during the implementation of the operation. Splitting up the planning and implementation of OPEVAL SPIE between the Air Combat Training School's Tactical Development Training Unit Helicopter (LSS UTV LUFT TU HKP) and the 23rd division of the Helicopter Wing has resulted in the areas of responsibility becoming unclear, which risks leading to essential actions not being taken.

The investigation has also shown that the SPIES installation lacked airworthiness approval and its use in the operation was therefore not permitted. It has emerged that there was a difference of opinion between the Swedish Defence Materiel Administration (FMV) and the Armed Forces concerning which requirements applied and how these were to be interpreted. This resulted in the Armed Forces believing it had more opportunities than before to approve new material for use in a simpler manner.

It has also emerged that there was a serious pressure of time as a result of a desire to develop new capabilities quickly. Combined with the limited knowledge and experience of similar mission profiles involving vessels, this resulted in the work not taking place in a sufficiently structured and safe manner, which in turn led to risks not being identified and managed in an appropriate manner. A "can-do culture" exists.

At the time of the occurrence, there was a lack of sufficient oversight from senior Flight Operations officers with respect to Flight Operations within the 23rd division. Without such oversight, operations cannot be led and controlled safely and in accordance with the Armed Forces' regulations.

¹ The term OPEVAL is used within the Swedish Armed Forces to denote Operational Evaluation, which is a method used within the Armed Forces' flying operations to introduce new systems and capabilities in a systemic, controlled and safe manner.

² SPIE (Special Patrol Insertion and Extraction) is a method used to conduct tactical transport operations which involves patrols hanging from a rope under a helicopter.

The Supreme Commander's directional document from 2010, in which the focus was on creating a safety management system (SMS) based on international civilian standards adapted to military aviation, has not been implemented. Parts of an SMS are described in the governance documents, but not in full and there are shortcomings in the application of those parts that do exist.

SHK is able to establish that the data that was made available to the Military Helicopter Inquiry (Militärhelikopterutredningen) in 2010 and which constituted a basis for the acquisition of further helicopter resources has never been applied in practice in the Armed Forces' flying operations.

The Swedish Military Flight Safety Inspectorate's (FLYGI) supervisory operations have not been capable of identifying the fundamental shortcomings in the system. The Flight Safety Inspector's independence should be reinforced. In addition, a state safety programme (SSP) should be drawn up for military aviation.

The incident was caused by shortcomings in terms of the prerequisites necessary in order to implement OPEVAL SPIE in a safe manner. These shortcomings have consisted of:

- A lack of knowledge and relevant experience among the Flight Operations leadership and the crew in terms of helicopter operations involving vessels.
- Insufficient time for preparations.
- Shortcomings in the organisation and expertise available within the Air Combat Training School's Tactical Development Training Unit Helicopter (LSS UTV LUFT TU HKP).

Contributory factors have been weaknesses in the safety culture within the helicopter operations investigated and a lack of oversight in operations within the 23rd division from senior Flight Operations officers.

Underlying factors, in terms of how this has been able to arise, have been the lack of an implemented and functional SMS in the Armed Forces' Air Operator.

Safety recommendations

It is recommended that the Swedish Armed Forces:

- Review the organisation and implementation of OPEVAL helicopter, taking into account the weaknesses identified in section 2.1 with respect to expertise, risk evaluation, commencement and termination criteria, pressure of time and divided responsibilities. *(RM 2017:01 R1)*
- Audit previously conducted OPEVAL within helicopter operations in order to ensure that these have been implemented in a correct manner on the basis of reasonable levels of safety. *(RM 2017:01 R2)*
- Ensure that senior Flight Operations officers have the requisite expertise with respect to current helicopter systems and mission profiles to enable them able to lead and support subordinate personnel and assess their capability. *(RM 2017:01 R3)*

- Ensure that FlygSäk (Flight Safety) has the requisite expertise with respect to current helicopter systems and mission profiles and sufficient resources to monitor and analyse the aviation safety situation and management systems application in a satisfactory manner. *(RM 2017:01 R4)*
- Create and implement an SMS that is adapted to the Armed Forces' military aviation and ensure that the requisite training is provided to the officers concerned. *(RM 2017:01 R5)*
- Clarify the meaning of FMV's technical design responsibility so that the organisations and responsible persons involved have an understanding of and are in agreement as regards the interpretation of SAMO (coordination agreement between FMV and the Armed Forces). (refer to section 2.7.3). *(RM 2017:01 R6)*

It is recommended that Flight Safety Inspector:

- Reinforce the supervision of the Armed Forces' helicopter operations in order to ensure the safety of these operations until such time as the SMS is implemented by the Armed Forces' Air Operator. *(RM 2017:01 R7)*
- Draw up a state safety programme (SSP) for military aviation. *(RM 2017:01 R8)*
- Ensure that amendments to the RML are implemented in a manner that is quality assured and that all the organisational units involved in the change process are fully aware at all times of their respective roles and interfaces and that they agree on the division of responsibility (refer to section 2.7.3). *(RM 2017:01 R9)*
- As part of its supervisory role, audit the new reporting system on the basis of the requirements in the RML and the reporting culture within helicopter operations on the basis of the shortcomings identified in this investigation (refer to sections 2.5.5 and 2.5.6). *(RM 2017:01 R10)*
- Investigate in more detail the feasibility of strengthening the independence of the supervisory function and consider making a request to the Swedish Government in this respect (refer to section 2.6). *(RM 2017:01 R11)*