



## Safety recommendation no. 133

<b>Date of the publication</b>	08.05.2018
<b>Number of the final report</b>	2014030301
<b>Safety deficit</b>	<p>On 3 March 2014 at 13:50, the foremost axle of a Bm 6/6 locomotive in tow derailed shortly after the station at Neyruz. The investigation showed that the axle had broken more than 5 km before the derailment.</p> <p>The derailment of the foremost axle of the Bm 6/6 locomotive was caused by axle fracture due to crack initiation through corrosion. The systemic reason for the axle breaking was determined to be the substantial overrun of the deadline for the specified overhaul.</p> <p>Locomotive Bm 6/6 No. 18509 had been parked for several years, and put back into service without checking the condition of the axle shafts.</p> <p>After long downtime, corrosion may have caused damage to the axle shafts, and may lead to cracks and thus weaken stability. These may not be identified without the necessary ultrasound checks. It is not known how many axles are in a similar condition.</p>
<b>Safety recommendation</b>	The FOT should ensure that all axles of the same type as those of Bm 6/6 should be subjected to complete non-destructive testing
<b>Addressees</b>	Bundesamt für Verkehr
<b>Stage of the implementation</b>	Implemented. In a letter dated 24 October 2018, the FOT called on all owners of Bm 4/4 and Bm 6/6 locomotives to ensure that a regular, non-destructive crack test is carried out at the intervals specified in the vehicle maintenance instructions. If evidence of these periodic tests cannot be provided, a new test must be carried out as soon as possible. In addition, before a locomotive that has been mothballed or taken out of service for a lengthy period can be put back in service, a non-destructive test of the axles must be carried out. The results of the test must be documented. The owners had until 31 January 2019 to inform the FOT of the measures taken.
<b>Investigation report concerning the safety recommendation</b>	<u>Schlussbericht</u>