SAFETY ALERT	
Subject	Infrastructure - signalling system
Equipment	Hydraulic actuator of switch (type S60UNI/400/0,074)
Description	On 06/02/2020 the high-speed train AV 9595 of Trenitalia, departed at 5:10 am from Milan central station, derailed at 5:30 am on the switch n.5 at Livraga station on Milan - Bologna high speed line, travelling at about 295 km /h. In the accident the traction unit dragged the first wagon detaching from the rest of the train. The traction unit bumped into a parked vehicle and subsequently against a service building. The succession of impacts also led to the overturning of the two vehicles. In the accident the two train drivers died and 27 passengers were injured. It was detected that the switch n. 5 was positioned for the diverging track even if the train had an ERTMS L2 full supervision movement authority at the max speed of 295 km/h. Initial reports suggest a malfunction due to a reversed wiring inside electro hydraulic actuator (serial number SIT 8318681900083) installed on the point of switch n. 5 (type S60UNI/400/0,074) produced by Alstom Ferroviaria Spa. The reversed wiring caused the anomaly on the position control of the switch. It was verified that, by applying the aforementioned actuator on a different switch, the interlocking system detects an inverted position than the one actually taken by the switch. As a result even if the switch is in a reversed position on site, the interlocking system detects it as it is in a normal position. The anomaly could also occur in actuators of different production lots. The malfunction occurred just after the installation of the component during a maintenance activity. It is possible to assume that the on-site check of the switch physical position, before the beginning of the railway operation, allows to check the difference between the physical position and the one detected by the interlocking system.
Country	Italy
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