

Reporting Body

IT
Ministero delle infrastrutture
e dei trasporti

ID

IT-2188

**Occurrence
Summary****What**

Date of occurrence	27-03-13	Location name	Firenze Cascine
Local time	07:50	Latitude	43:46:16 North
Event type	Rolling stock events Fire in RS (Fire in loco)	Longitude	11:14:53 East

Description Train 3024, relation Siena - Firenze Santa Maria Novella, still on track 2 of Firenze Cascine, was affected by fire in the cab of the locomotive 445-1039.

Direct Cause descrip Failure of the weld bead on the upper part of the joint compensator of the exhaust pipe of the hot gases of the turbine in the diesel engine room

Final Report

Nam	Desc	Type	Size	Last	Orga	Repo
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Other Attachments

Nam	Desc	Type	Size	Last	Orga	Repo
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What

Title Fire in RS, 27/03/2013, Firenze Cascine (Italy)

Occurrence type Rolling stock events
Fire in RS

Occurrence Class Accident

Date of occurrence 27-03-13

Local time 07:50

Events Rolling stock events - Fire in RS (Fire in loco)

Descriptions

Language English

Translation provider Information providers own translation

Description Train 3024, relation Siena - Firenze Santa Maria Novella, still on track 2 of Firenze Cascine, was affected by fire in the cab of the locomotive 445-1039.

Location name Firenze Cascine

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Railway System type	Railway	Country	Italy
Location type	Station	Border Country	
Line type	Double track	Line number	
Allowed line speed		Km number	
Latitude	43:46:16 North	Longitude	11:14:53 East
Location description	Line Firenze - Empoli		
Additional location in			
Location type details	Plain track	Fixed installations	

Occurrence details

Railway vehicles

Movement type	Regional passenger train	Train number	3024
RU	Italy Trenitalia SpA	Wagons overturned	No
Train speed at mom		Passengers onboard	Yes
Vehicle description	Locomotive 445-1039		

Other objects involved in the occurrence

Other objects

Parties involved

IM Involved	Italy - RFI SpA	RU	Italy - Trenitalia SpA
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	Fatalities	Serious injuries	Minor injuries
Passengers	0	0	0
Staff	0	0	0
Level crossing users	0	0	0
Unauthorised persons	0	0	0
Others	0	0	0
Total	0	0	0

Material consequences

Material Damage	Rolling stock	Estimated total mate	150 000 - 2 000 000 €
Damage description	Rolling stock (loco): 310 000 €		

Images

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Causation

Causes

Language	English	Translation provider	Information providers own translation
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Direct Cause description

Failure of the weld bead on the upper part of the joint compensator of the exhaust pipe of the hot gases of the turbine in the diesel engine room

Underlying and root causes description

1. lack of integrity and wear checks of the joint compensator of the exhaust pipe of the hot gases of the turbine
2. type of fire extinguisher on board the locomotive D445

Causation classification

Rolling stock events - Fire in RS (Fire in loco)

- 1 - Vehicle superstructure (Engine problem)
 - 1 - Maintenance of rolling stock (lack of integrity and wear checks)
 - 2 - Design (type of fire extinguisher on board)

Recommendations

Recommendation

Issuing information

Recommendation title	No. 1		
Recommendation ID	REC-000022	End implementer	RU
Status	Sent to addressee	Addressee	NSA
Issue date	13-11-13		

Recommendation texts

Language	English	Translation provider	Information providers own translation
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Recommendations text

It is recommended to the National Safety Authority to ensure that the railway company Trenitalia SpA analyzes and evaluates the possibility of introducing amendments to the Maintenance Plans, providing, if necessary, carrying out all the necessary checks to ensure the integrity and state of wear of the joints compensating the exhaust pipe of the hot gas turbine locomotive D445, and, in general, carrying out specific checks on all components for which there are only disassembly and reassembly works in the periodic review.

Implementation information

Implementation status	Implementation date
Unknown	

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NSA Response

NIB Comment

Recommendation

Issuing information

Recommendation title	No. 2	End implementer	RU
Recommendation ID	REC-000023	Addressee	NSA
Status	Sent to adreesee		
Issue date	13-11-13		

Recommendation texts

Language	English	Translation provider	Information providers own translation
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Recommendations text

It is recommended to the National Safety Authority to ensure that the railway company Trenitalia SpA analyzes and evaluates the possibility of introducing technical changes for components subject to both specific and heavy thermal cycles involving stress if from checks indicated in the recommendation No.1 arises that for these components can not be guaranteed the necessary margins of operational safety

Implementation information

Implementation status	Implementation date
Unknown	

NSA Response

NIB Comment

Recommendation

Issuing information

Recommendation title	No. 3	End implementer	RU
Recommendation ID	REC-000024	Addressee	NSA
Status	Sent to adreesee		
Issue date	13-11-13		

Recommendation texts

Language	English	Translation provider	Information providers own translation
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Recommendations text

It is recommended to the National Safety Authority to ensure that the railway undertakings that possess the type D445 locomotives in its fleet of rolling stock, in the shortest possible time, the making of a generalized campaign of thorough inspection of all joints compensators of this type of locomotives , operating both with visual and instrumental controls and even with "non-destructive" checks.

Implementation information

Implementation status	Implementation date
Unknown	

NSA Response

NIB Comment

Recommendation

Issuing information

Recommendation title	No. 4		
Recommendation ID	REC-000025	End implementer	RU
Status	Sent to addressee	Addressee	NSA
Issue date	13-11-13		

Recommendation texts

Language	English	Translation provider	Information providers own translation
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Recommendations text

It is recommended to the National Safety Authority to ensure that the Railway Undertakings that have in their fleet of rolling stock locomotives type D445 evaluate the possibility of modifying the type of sprinkler system, transforming it into "automatic" dual-threshold intervention of the probes (1st threshold optical acoustic alarm, 2nd threshold activation of the automatic extinguishing dispensing), in analogy to systems installed on other types of rolling stock.

Implementation information

Implementation status	Implementation date
Unknown	

NSA Response

NIB Comment

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Causation links

Rolling stock events - Fire in RS (Fire in loco)

Subsystem - Rolling stock - Locomotives and traction units - Vehicle superstructure (Engine problem)

Causal factors - Maintenance - Maintenance of rolling stock (lack of integrity and wear checks)

Causal factors - Design (type of fire extinguisher on board)

Investigation details

Legal Basis National rules imposed by implementing of the Safety Directive 2004/49/EC - in light of Article 19, §2 of SD - (a) the seriousness of the accident or incident

Other reason descrip

ID	IT-2188	Reporting Body	Ministero delle infrastrutture e dei trasporti
National investigatio		Investigator in charge	
Occurrence creation	12-04-13 18:19:13		
Decision to investigate	29-03-13		
Declaration date	12-04-13		
Date of IM/RU notific			

Report Type	Final report	Workflow Status	Validated
Report Version	2	Investigation Status	Open

Other Attachments	Name	Descriptio	Type	Size	Last	Organizati	Repositor
	Raccoman dazioni_Fi renze_Cas cine.pdf	Recomme ndations	applicatio n/pdf	25992	1/14/2014 2:50:30 PM	Softeco	

Final Report	Name	Descriptio	Type	Size	Last	Organizati	Repositor
	Testo_(Co pia_Lavor o).doc	Final report	applicatio n/octet-st ream	1155584	1/14/2014 2:47:31 PM	Softeco	