Approved methods for SHE incident investigation

SSC17-005

Public information

Version 1.1

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Document history

Date	Changes	Version	Author	Authorisation
17-03-2017	-	1.0	F. Geijlvoet (SSC)	R. Marchal (senior manager, SSC)
14-12-2017	Distinction Major and Minor SHE incidents and the method to be used. BAuA method added to list.	1.1	F. Geijlvoet (SSC)	D.J. Haverkamp (senior manager a.i., SSC)

Information protection classification

A1, I1, C1	Public information

Contents

1. Introduction

1.1 Purpose and aim

The TenneT requirements for the investigation of SHE incidents are described in the Guideline *Reporting, investigating and reviewing SHE incidents* (SSC15-009). As to the method that must be used for the investigation of SHE incidents, the guideline makes a distinction between Major and Minor SHE incidents. This document contains a limitative list of methods that can be used investigating Major SHE incidents. For Minor SHE incidents, no specific method is required, other than that the method enables the investigator to analyse the incident in a systematic way.

1.2 Scope

This document applies to all TenneT activities and TenneT contractor activities.

1.3 Main changes compared with the previous version

The distinction between Major and Minor SHE incidents and the method to be used in either case was added. BAuA Leitfaden zur Untersuchung von Arbeitsunfällen was added to the list of approved methods.

1.4 Relation to other TenneT documents

This document is related to the Guideline *Reporting, investigating and reviewing SHE incidents* (SSC15-009).

2. List of methods

The list of methods presented in the table below was selected on the capability of the method to determine underlying (root) causes. The list is non-limitative. If the investigator uses one of the methods listed below, the investigator will be able find both direct and underlying (root) causes of the SHE incident, provides the method is applied correctly. The use of a method doesn't guarantee that the quality of the investigation is good, in the sense that the results are valid and reliable, but it will enable the investigator to identify the causes in a systematic way.

If the investigator wishes to use a method that is not on the list, please contact safety@tennet.eu before the analysis is started in order to discuss the method so that it may be added to the list if evaluated positively. If this is not done, the chances are that TenneT will not approve of the investigation after the results are communicated with TenneT on the grounds that no underlying causes are established.

Nr	Name of the method	Also known as
1	STAMP	System-Theoretic Accident Model and Processes
2	Acci-map	
3	Achilles	
4	Apollo RCA	Apollo Root Cause Analysis / ARCA
5	BAuA	Leitfaden zur Untersuchung von Arbeitsunfällen
6	3CA	Control, Change Cause Analysis, CCCA
7	ECFA+	Events and Conditional Factors Analysis
8	ETA	Event Tree Analysis
9	ETBA	Energy Trace and Barrier Analysis
10	FTA	Fault Tree Analysis
11	HFACS	Human factors Analysis and Classification System / Human Reliability Analysis
12	HPES	Human Performance Enhancement System
13	LOPA	Layer of Protection Analysis
14	MORT	Management Oversight and Risk Tree
15	MTO	Man, Technology and Organisation analysis
16	PRISMA	Prevention and Recovery Information System for Monitoring and Analysis
17	S137	
18	SIRE	Systematische Incident Reconstructie en Evaluatie
19	SOAT	Systematic Cause Analysis Technique
20	SOL	Sicherheit durch Organisationales Lernen
21	Storybuilder / ORCA	
22	TapRoot	
23	Tripod Beta / Tripod TRACK	Tripod Analysis and Categorisation Kit

3. References

The methods in this document were selected based on the information in the literature listed below.

Alphen, W. van, Gort, J., Stravast, K.and Zwaard, A (2015). *Leren van ongevallen; een overzicht van analysemethodieken*. The Hague, Sdu publishers.

Fahlbruch, I. and Meyer, I. (2013). *Ganzheitliche Unfallanalyse; Leitfaden zur Ermittlung grundlegender Ursachen von Arbeitsunfällen in kleinen und mittleren Unternehmen*. Dortmund, Federal Institute for Occupational Safety and Health.