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FOT safety supervision during the operational phase

(Safety supervision)

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1 Purpose of this document

This document describes how the Federal Office of Transport (FOT), an office of the Federal Department of the Environment, Transport, Energy and Communications (DETEC), performs its task as safety supervisory authority in the operational phase for companies subject to federal supervision.¹

This document is intended for interested parties among the public and in the private sector, employees of companies dealing with public transport and government agencies. It is intended to provide a quick overview of FOT safety supervision during the operational phase.

The information in Chapter 2 relates to all phases of safety supervision. Chapter 3 is devoted to the special features of safety supervision in the operational phase.

2 FOT's remit as supervisory authority

2.1 FOT's responsibilities

Various laws assign the FOT the task of supervising safety of companies that are subject to those laws. As the supervisory authority for safety, the FOT is responsible for supervising railway companies (Art. 10 RailA²), cableway companies (Art. 22 CabA³), bus and trolley bus companies (Art. 7 TrG⁴, Art. 52 PTA⁵), inland navigation companies (Art. 1 und 8 INA⁶) and private sidings operators (Art. 22 GCarA⁷). Supervision also includes the enforcement of legislation on the transport of dangerous goods during the operational phase.

For navigation on the Rhine, the FOT acts as a supervisory authority only for matters pertaining to legislation (See 2.3).

2.2 Legal basis of safety supervision

The main legal bases for this task are found in the following legislation:

In general:

- Working hours act (WHA⁸)
- Environmental Protection Act (EPA⁹)
- Electricity Act (ElecA¹⁰)

Railways:

- Railways Act (RailA; SR 742,101)
- COTIF¹¹, with Protocols and Appendices
- Goods Carriage Act (GCarA)

¹ Supervision of conformity of products that may pose a risk to safety: see market supervision concept

² Federal Act of 20 December 1957 on Railways (RailA; SR 742.101)

³ Federal Act of 23 June 2006 on Cableways for Passenger Transport (CabA; SR 743.01)

⁴ Federal Act of 29 March 1950 on Trolley Bus Companies (TrG, SR 744.21)

⁵ Federal Act on Passenger Transport (PTA, SR 745.1)

⁶ Federal Act of 3 October 1975 on Inland Navigation (INA; SR 747.201)

⁷ Federal Act on the Carriage of Goods by Rail and Navigation Companies (GCarA; SR 742.41)

⁸ Federal Act on Employment in Public Transport Companies (WHA; SR 822.21)

⁹ Environmental Protection Act (EPA; SR 814.01)

¹⁰ Federal Act on Weak and Heavy Current Electrical Installations (ElecA; SR 734.0)

¹¹ Convention of 9 May 1980 concerning International Carriage by Rail (COTIF, with Protocols and Appendices; SR 0.742.403.1)

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Waterways:

- Inland Navigation Act (INA)

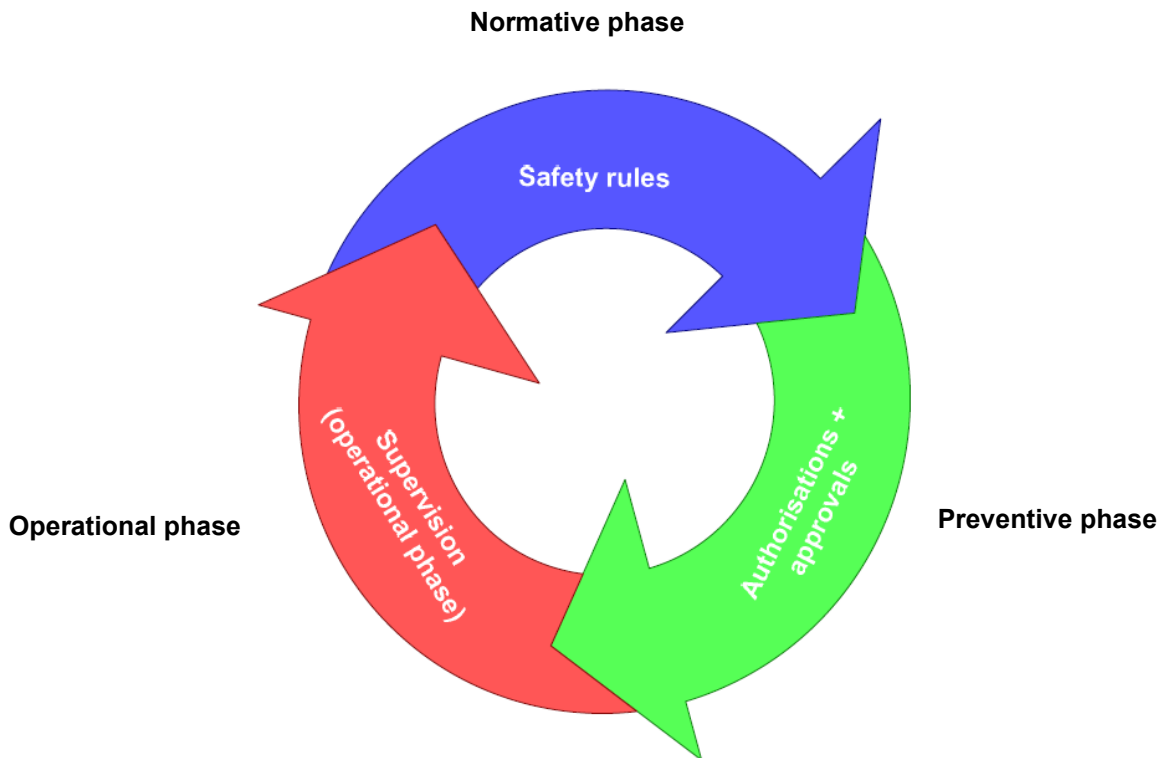
Cableways:

- Cableways Act (CabA)

Buses and trolley buses:

- Trolley Bus Act (TrG)
- Passenger Transport Act (PTA)

2.3 Control cycle for safety supervision



This control cycle shows the interaction of the tasks of the FOT as safety supervisory authority and as regulator. These tasks can be divided into three phases:

2.3.1 Safety-relevant provisions: Normative phase

In its function as regulator, the FOT is responsible for issuing and revising its own safety regulations. Where the FOT does not itself issue regulations (e.g. in the case of acts and ordinances), it drafts principles and drafts which are submitted to the Department, the Federal Council or Parliament. In doing so, the FOT takes into account the international requirements adopted into Swiss national law. The various sectors involved are included in the drafting process. In addition, the FOT plays an active role in the development of international rules and regulations.

2.3.2 Authorisations and approvals: Preventive phase

The FOT is responsible for decisions relevant to safety in connection with a wide range of licences, and permits, the implementation of environmental regulations, the recognition and/or approval of specific categories of personnel and the approval of derogations from its own safety regulations in other areas. In this phase, the practical application of the principles devised during the normative phase is

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assessed. Conditions and/or requirements should also be imposed to ensure compliance with legal provisions.

2.3.3 Monitoring: Operational phase

The FOT is required to monitor companies during the operational phase. It assesses whether public transport companies are fulfilling their responsibility to ensure safe construction, operation and maintenance. In doing so, the FOT must comply, inter alia, with the legislation listed in 2.2.

2.4 FOT principles in safety supervision

In its safety policy, the FOT describes how it exercises its role as safety supervisory authority. Also included in the report are the eight safety principles listed below.

¹ We focus on the safety of people and the protection of their environment.

² We are committed to maintaining safety in public transport at least at current levels, and on a par with that of leading countries.

³ We ensure that all those involved in the delivery of transport services fulfil their responsibilities with regard to safety. This is the basis for the organisation of our safety supervision.

⁴ We ensure effective and preferably goal-oriented safety regulations.

⁵ We assess the aspects relevant to safety in the licensing procedures and during monitoring in the operational phase on a risk-oriented basis with random samples on the basis of known risks.

⁶ We accept risks only when, to the best of our knowledge, they are within tolerable bounds and cannot reasonably be further reduced. Where there are conflicting objectives, safety takes precedence.

⁷ We create general conditions that enable safety measures to be taken as effectively and efficiently as possible.

⁸ We maintain open and active communication about safety in public transport.

The complete FOT safety policy can be found at:

www.bav.admin.ch

→ Topics A-Z → Safety

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2.5 Roles

2.5.1 Separation of roles between companies/FOT

The legislation referred to in chapter 2.2 makes the public transport companies responsible for construction, operation and maintenance. They must take all measures necessary to be able to guarantee safety in their area of responsibility. This includes organising themselves appropriately, knowing the condition of their vehicles and installations, training their staff, knowing their processes and putting these into practice, and, if necessary, seeking outside specialist expertise. The companies are also responsible for the quality of services provided externally.

The companies must cooperate with the FOT and provide it with the necessary information for its inspections, allow the inspection of files, grant access to the rooms, facilities and vehicles and provide the necessary personnel.

The FOT must conduct random risk-oriented testing in order to gauge whether the public transport companies are meeting their responsibilities in full.

Due to this separation of roles, the FOT is not able to act as a technical expert on behalf of, or in place of the public transport companies: the FOT, in its capacity as a supervisory authority, is not permitted to evaluate its own safety-relevant work that it might carry out in the role of a technical expert.

It also follows from this separation of roles that random risk-oriented testing by the FOT in no way substitutes the management, supervision and monitoring activities that the company is itself required to carry out.

Risk-related approach means a selective inspection of safety-relevant aspects. The aspects selected for inspection are determined by awareness of specific risks (see 3.2).

In its risk assessment, the FOT therefore systematically analyses a variety of information, and, on that basis, determines the areas in which there is a need for action. The FOT's technical specialists are involved in this assessment. Action may be required in all three phases of the Safety Supervision Control Cycle.

The random approach means that the supervisory authority does not check all documents and processes in detail. Consequently, the authority does not carry out comprehensive inspections of files or data, but instead assesses selected elements within selected risk-related aspects. The only legally-stipulated exceptions to this approach relate to environmental protection and safety approvals.

Monitoring is carried out on the basis of the legal requirements; there is no contractual relationship between the FOT and the audited companies. The employees of the FOT are subject to departmental, business and professional secrecy under the Federal Personnel Act. They are also required to recuse themselves if there is a potential conflict of interest.

In the event of any loss or damage resulting from the actions of FOT employees, liability falls on the state in the first instance. FOT employees may not be prevented from performing official duties. In its actions, the FOT must observe the principles of legality, proportionality, necessity and subsidiarity.

2.5.2 Role of the FOT in the event of accidents

Managing an incident and resuming operations are the direct responsibility of the company. The company does not require authorisation or approval from the FOT to resume operations.

The FOT does not play a direct role in the management of the incident, the immediate investigation of the cause of the accident, or in the decision to resume operations.

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The FOT examines whether other companies need to take any action based on the findings from accidents.

If modifications are made by the company to its installations or operating regulations following an accident, the FOT is then the authority responsible for approving such changes where necessary.

The task of investigating the accident falls to DETEC's Swiss Transportation Safety Investigation Board (STSB-RN). This body carries out its activities in accordance with the Ordinance on the Safety Investigation of Transportation Incidents¹². The SAIB-RN sends a report of its findings to the FOT and to those involved. If this report includes recommendations, then these should be addressed to the FOT. The recommendations are then included in the risk assessment described in Chapter 2.5.1. The FOT may need to take action on these. This need for action may affect the entire control cycle for safety supervision (see 2.3).

The FOT informs the SAIB-RN of the measures taken or justifies its decision not to take measures. In addition, the FOT tests out whether the recommendations could also be relevant to other companies.

2.6 Organisation

2.6.1 Safety supervision in the FOT

In order to separate the role of safety supervision as far as possible from the other functions of the FOT, the authorisation processes are carried out in the Infrastructure Division and the financial processes in the Finance Division. The material technical safety assessments are conducted by the relevant safety authority (shown here in green). The units marked green constitute the FOT's safety supervisory authority.

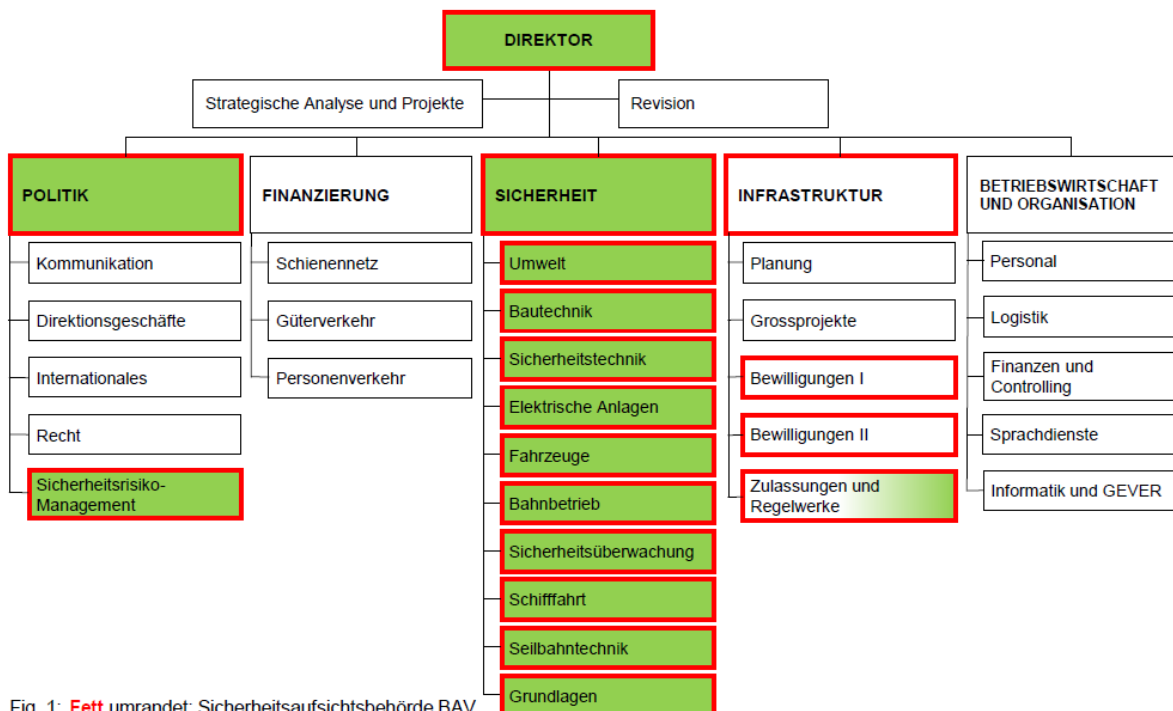


Fig. 1: **Fett** umrandet: Sicherheitsaufsichtsbehörde BAV
Eingefärbt: Stellen im BAV, die materiell für die Sicherheit zuständig sind

¹² Ordinance of 17 December 2014 on the Safety Investigation of Transportation Incidents (OSITI, SR 742.161)

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2.6.2 Safety supervision

2.6.2.1 Process sections

Safety supervision is managed by the **Navigation** (for federally-licensed passenger boat companies) and the **Safety Supervision** sections (all remaining transport operators under the FOT's supervision)

These two sections are responsible for organising and carrying out the supervision of transport companies during the operational phase. They plan and organise audits, the monitoring of operations and inspections in accordance with risk-related principles (see Chapter 3.3.1).

Trained and certified lead auditors work in these sections. Each of these auditors exercises various roles:

- As lead auditor, each is responsible for the organisation and the conduct of the supervisory duties allocated to him or her, and for reporting accordingly.
- As contact person for a number of companies, each maintains continuous, co-ordinated contact with the allocated companies. This ensures that the companies know whom they need to contact for questions on safety supervision. The contact person also monitors the implementation of the requirements imposed as part of the monitoring process in the allocated companies. The contact persons in the Navigation Section participate in regular risk-oriented inspections under Art. 50 of the DETEC Implementing Provisions relating to the Shipbuilding Ordinance (AB-SBV)¹³.
- As a specialist in a given field, each is responsible for a technical area of supervision. In this role, he or she works closely with the corresponding internal FOT technical specialists. This ensures the mutual furthering of technical and methodological expertise.

2.6.2.2 Technical sections

The technical sections are responsible for all technical phases of safety supervision. As such, they support the Safety Supervision and Navigation sections during monitoring in the operational phase when their expertise is required.

This support comprises the preparation of specific technical check lists and the technical assessment of data. In addition, the specialists in the technical sections are also deployed as technical auditors for supervision on site.

2.6.2.3 Risk management

In addition to its other duties, the Risk Management & Management Support unit is responsible for the further development of safety policies (see Chapter 2.4) as a basis for safety supervision.

2.6.2.4 Risk-oriented inspections: scientific bases

In addition to its other duties, the Scientific Bases Section is responsible for the risk assessments mentioned in Chapter 2.5.1. It advises the FOT on technical aspects of its risk-oriented monitoring activities. This helps to ensure that the FOT sets the right priorities when monitoring in the operational phase.

2.6.2.5 Supervision of cableways: Accreditation

With regard to cableways, the FOT carries out its supervisory activities as an inspection body in accordance with ISO/IEC 17020. The FOT is accredited as an inspection body, Type A (SIS 114) by the Swiss Accreditation Service (SAS). The organisational efficiency, the processes and procedures of supervision and the technical expertise of those involved are all confirmed by this accreditation.

¹³ Implementing provisions of DETEC on the Shipbuilding Ordinance (AB-ShipBO, SR 747.201.71)

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3 Safety supervision during the operational phase

3.1 Delimitation

Safety supervision is primarily concerned with organisational, operational and technical considerations relevant to safety. Aspects such as financial controlling are handled by other organisational units of the FOT.

Key financial figures may however be taken into consideration as a basis for preparing and carrying out safety supervision.

3.2 Planning

Supervision is planned and carried out on a risk-oriented basis. The risks are analysed and assessed based on variety of information. Important sources of information are not only the safety-relevant information from reports of incidents, risk alerts and accident investigation reports received by the FOT, but also information from company reports and safety reports from companies submitted to the FOT on an annual basis. In addition, findings and data from approvals carried out during the preventative phase are also included in the risk assessment.

The Safety Supervision Section plans its supervision activities taking the overall picture of potential risks into account. In so doing, it determines what companies, installations and technical areas should be monitored and which instruments are to be used. The planning of the supervision activities also takes into account the size of the company and the type of transport concerned as well as the duration of validity of operational permits, licences and safety approvals and certificates in the case of railway companies.

If necessary, the planned supervision activities can be complemented with reactive supervision. These include audits, monitoring of operations, or inspections required in light of new information (e.g. incident reports or reports from third parties).

3.3 Implementation

3.3.1 Instruments

The FOT primarily uses two instruments in its safety supervision activities: audits and monitoring of operations. Inspections are also carried out in individual cases.

The aim of an **audit** is first and foremost to examine the organisation and processes of a company. The audit assesses the correct application, efficiency and effectiveness of the safety management systems and the interaction of the processes. The entire company, from management down to individual aspects of the operation or individual installations may be included when carrying out an audit.

Audits are carried out up to the level of operational management. Duties and processes of boards of directors do not form part of the FOT's safety supervision.

As a rule, audits are announced in advance.

When **monitoring operations**, operative processes are examined during ongoing operations and checked for plausibility or assessed. The focus is on monitoring compliance with regulations and processes. A check is also made of whether the staff are sufficiently trained to carry out their duties, whether the necessary aids are available to them, whether the processes defined by the company are put into practice during operations and whether these processes are able to fulfil their objectives in practice. The monitoring of operations is therefore not normally carried out with the involvement of managers, but rather with those responsible on site.

The monitoring of operations in the area of navigation mainly involves assessing the completeness and readiness of a ship's safety-relevant installations and equipment.

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Instruments such as **audits and monitoring of operations are often carried out in combination**: Monitoring of operations is also carried out as part of an audit. The findings from monitoring of operations are used in the audit to identify processes with potential for improvement. With this procedure, it is possible to check within a company the entire functional chain, from the specification of processes at management level to the work actually done by individual staff members, or even to check the effect that these processes have on the condition of installations.

Consequently, the management receive a neutral assessment of the processes and their impact within the company.

Inspections examine specific aspects, normally the technical condition of a part of an installation, of a vehicle or of a ship. Inspections generally take place outside regular operation.

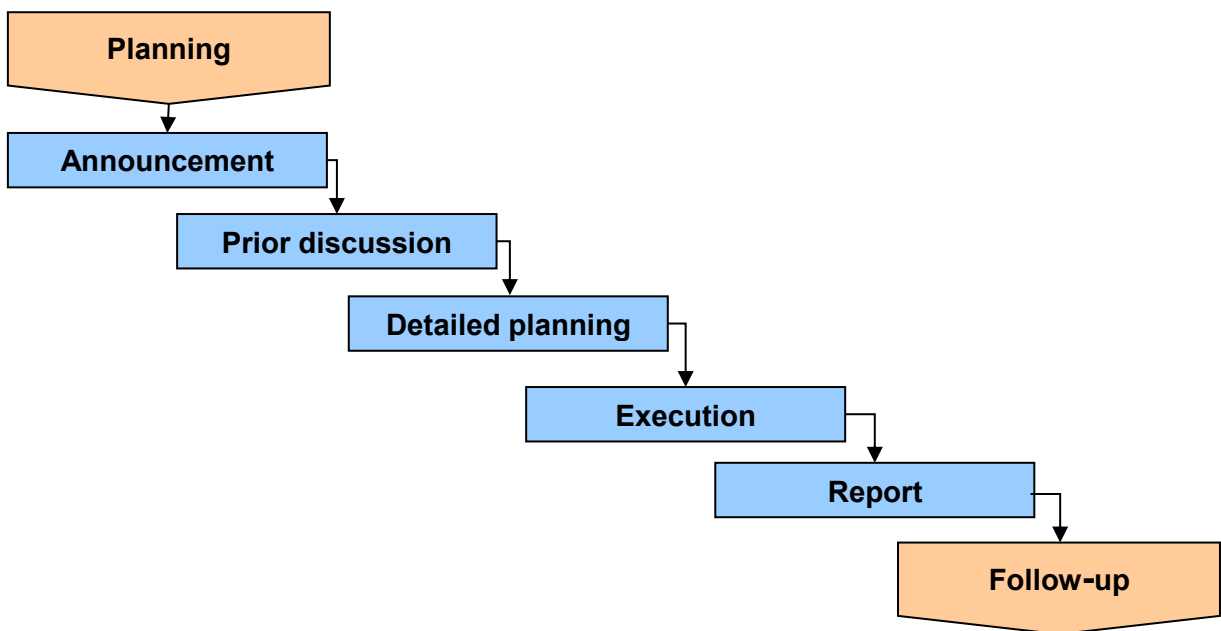
Monitoring of operations and inspections may be conducted with or without prior notice.

3.3.2 Working basis

The supervision work of the FOT is conducted on the basis of structured and standardised procedures. Questionnaires and check lists are used to ensure that audits and monitoring of operations are carried out uniformly and systematically. This ensures that each subject and each company is examined on the basis of the same guidelines.

3.3.3 Process

The typical supervisory process described in the previous chapters is shown here, taking an audit by way of example:



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3.3.4 Findings and assessments

During monitoring, random risk-oriented checks are carried out to determine whether the company is organised so that it is capable of controlling the risks and complying with the legal obligations, and whether processes and products comply with the requirements.

For the assessment, objective findings are made, if possible in close cooperation with the company. This assessment is then compared with legal or normative requirements, safety risks and internal company specifications.

3.3.5 Instructions

If the FOT determines that safety has been compromised or a legal requirement has not been complied with, it orders the measures required to restore compliance with the regulations.

The FOT gives instructions if

- the company immediately takes appropriate measures to remedy the defect (→ corrective measures),
- the defect is not directly relevant to safety,
- it is simply a case of there being potential for improvement.

The FOT issues requirements, if

- the assessment of the findings or the order to remedy it is contested,
- the defect is directly relevant to safety or the system,
- there is a high level of interest on the part of the FOT in documented repair,
- immediate measures were ordered in the event of imminent danger,
- instructions from previous audits have not been implemented or have not been implemented sufficiently.

In serious cases (immediate danger), immediate measures are ordered after the company has been given the opportunity to state its position. These measures may include the shutdown of a plant or operating processes. Immediate measures can be ordered orally. If necessary, other authorities (e.g. the police) can be called in for administrative assistance to enforce immediate measures. A written order is issued immediately after the on-site monitoring.

An official requirement includes a presentation of the facts, an assessment of risks and comparison with legal requirements and the order i.e. the concretely formulated request to remedy the defect in specified, documented form by a set deadline. The FOT specifies which checks it will carry out to comply with the conditions.

Based on the need to ensure safety, the FOT grants the company a deadline to remedy the defect and to comply with the requirement.

The setting of deadlines does not constitute acceptance or tolerance of the defect or even approval of a derogation and does not release the company from its responsibility. If the company does not comply with its obligations within the set deadline, the FOT can order the measures and enforce them legally if necessary.

After making suggestions for improvements, the FOT checks how the company has handled the issues in subsequent monitoring. It checks whether requirements have been met within the deadlines set (see 3.4).

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3.3.6 Communication on-site

The results of a supervision activity are communicated orally to the company at the end of an audit or monitoring of operations.

These results comprise the general impression of the auditors, the most important safety-related findings arising from their assessment, and any measures that require to be taken. The results communicated on-site reflect the impressions of the auditors and represent an external view of the company.

The company is responsible for assessing and, if necessary, rectifying any defects from the time of their verbal communication on site. This also applies if the FOT has not yet assessed or ordered measures to be taken.

If a specific aspect on-site cannot be sufficiently assessed by the auditors, they communicate the findings they have. The auditors subsequently make the necessary clarifications and inform the company of the result.

3.3.7 Supervision report

A supervision report is generally produced within a month for all supervision activities, irrespective of whether safety-relevant findings were made or not.

The supervision report contains a brief description of the monitored areas or processes, an overall impression of how the safety obligations are being met, instructions and requirements. It presents the results which were communicated orally on-site, supplemented by any results of subsequent clarification.

As a rule, the supervision report is sent to the operative management.

The results of the monitoring activities always represent an assessment of the FOT auditors. Therefore, the results are an external opinion on risk-related, selected safety-relevant activities of the company, based on random probes.

3.3.8 Appeals

If a company does not agree with a requirement, it can, in return for a fee, request that a contestable order be issued.

The company may appeal against the order before the Federal Administrative Court.

3.3.9 Criminal law aspects

It is not part of the supervision carried out in the operational phase to assess the criminal relevance of findings. In the event that findings are made that may be criminally relevant, these will be communicated to the company in the form of findings, and recorded in the supervision report. The internal units of the FOT responsible for criminal matters will also be notified. These units will then clarify the criminal relevance, can communicate with the company with regard to this and, if necessary, file a criminal complaint with the relevant authorities.

3.3.10 Areas under the responsibility of other authorities

If the FOT makes findings during on-site monitoring in areas for which other authorities are responsible (e.g. occupational safety, fire protection, power plants under the responsibility of the ESTI, etc.), it will notify the company of its observations but will not issue any requirements. The FOT shall inform

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the responsible authorities of its observations. These authorities may then work with the company to decide what subsequent action should be taken to address the observed issues.

3.4 Follow-up

3.4.1 Monitoring of requirements (follow-up)

If the FOT issues requirements orally or in a formal decision as part of its supervisory activities, it makes sure that proof is received that the defect has been rectified on time. If proof is not submitted on time, the company is sent a reminder.

If necessary, the FOT can issue a contestable order to enforce the requirements imposed or to have it enforced. Irrespective of whether this order is issued, further (criminal, licencing and concession) proceedings may be initiated.

The FOT usually processes the comments received relating to requirements within one month. It assesses the comments and any documentation submitted against the criteria laid down in the requirement.

If meeting a requirement requires the company to carry out significant work, the FOT can request interim reports in the form of project plans and status reports.

In practice, whether a requirement has been met can be verified in a subsequent monitoring process.

3.4.2 Findings from the supervision

In some cases, findings from the supervision may be important for other processes and tasks of the FOT. This applies, in particular, to the processes of the Scientific Bases Section, but also to the technical sections, or to other FOT sections carrying out processes (see also Safety Supervision Control Cycle, Chapter 2.3). Accordingly, both the technical sections involved and the Scientific Bases Section receive copies of the supervision reports. In addition, the Scientific Bases Section receives structurally presented information from the supervision activities.

The findings from supervision are processed to ensure that appropriate use is made of the information in the relevant processes and that the FOT can update both the risk assessments used in its supervisory activities and its safety-related technical and operational assessments. This applies in particular to safety certificates and/or approvals for railway operations.

3.4.3 Information to the Director

The Safety Supervision Section will inform the Director annually about the results of safety supervision. This information will include data on the supervision activities carried out and the main findings.