

		Impacts: great	facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Non-cover finance obligations to public administration	Penalties from public administration. Damaged good will.	Probability: medium Impacts: great	Measures: Corrections according to demands of legislation in force. Execute: Technical facility finance manager. Responsibility: responsible technical facility top manager.
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Occurrence of natural disaster higher than design one	Disruption of SCPS operation or accident in SCPS.	Probability: low Impacts: great	Measures: According to continuity plan. Execute: responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Aircraft crash on SCPS or in its close vicinity	Disruption of SCPS operation or accident in SCPS.	Probability: low Impacts: great	Measures: According to continuity plan. Execute: responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Failure of external critical infrastructures	Disruption of SCPS operation or accident or failure in SCPS.	Probability: medium Impacts: great	Measures: According to continuity plan. Execute: responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Lack of qualified labour forces	Insufficient of SCPS operation up to its accident or failure.	Probability: medium Impacts: great	Measures: According to continuity plan. Execute: responsible technical facility manager for labour forces. Responsibility: responsible technical facility top manager.
Consumption crisis	Unmarketability of products or services, i.e. economic losses.	Probability: low Impacts: great	Measures: According to continuity plan. Execute: responsible technical facility manager for sale. Responsibility: responsible technical facility top manager.
Critical technical fittings or components are wearied down	Low or disrupted performance, danger of failure or accident of SCPS.	Probability: medium Impacts: great	Measures: According to continuity plan; especially appurtenant development plan. Execute: responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Missing funds on maintenance, repairs and modernization of equipment	Low or disrupted performance, danger of failure or accident of technical facility.	Probability: medium	Measures: According to continuity plan; especially appurtenant development plan. Execute: responsible technical facility project managers, responsible technical

		Impacts: great	facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Internal fire	Losses and damages, disrupted performance of SCPS. Unfulfillment of commitments to third party. Sanctions.	Probability: medium Impacts: great	Measures: According to continuity plan; especially appurtenant response plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Errors in hardware of information system supporting the SCPS control and management	Accident or failure of SCPS, which means loss of fulfilment of commitments to third party. Sanctions.	Probability: medium Impacts: great	Measures: According to continuity plan; especially appurtenant response plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Insufficient maintenance	Frequent disruption of performance, accident or failure of SCPS and their impacts on assets. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions for SCPS.	Probability: great Impacts: great	Measures: According to continuity plan; especially appurtenant response plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Wrong reaction of technical equipment to change of conditions	Frequent disruption of performance. Danger of origination of accident or failure of SCPS and their impacts on assets. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions. Loss of competitiveness.	Probability: medium Impacts: great	Measures: According to continuity plan; especially appurtenant response plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Ineffective safety management system	Frequent disruption of performance, accident or failure of SCPS and their impacts on assets. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions. Loss of competitiveness.	Probability: medium Impacts: great	Measures: According to continuity plan; especially plan for safety ensuring. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Insider	Frequent disruption of performance, accident or failure of SCPS and their impacts on assets.	Probability: medium Impacts: great	Measures: According to continuity plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical

	Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions for SCPS.		fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Errors of top management in section of strategy, conception, supervision and check-up	Frequent disruption of performance, accident or failure of SCPS and their impacts on assets. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions. Loss of competitiveness.	Probability: medium Impacts: great	Measures: According to continuity plan; especially appurtenant response plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Wrong operating rules for normal operation	Frequent disruption of performance up to accident or failure of SCPS and its impacts on assets. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions for SCPS. Loss of competitiveness.	Probability: medium Impacts: great	Measures: According to continuity plan; especially appurtenant response plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Errors in working regime	Overload of personnel which lead to frequent disruptions of performance up to accident or failure of technical facility and its impacts on assets. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions.	Probability: medium Impacts: great	Measures: According to continuity plan and legislation in force. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Insufficient motivation of key personnel	Neglecting the co-operation, frequent disruptions of performance up to accident or failure of technical facility and its impacts on assets. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions. Loss of competitiveness.	Probability: medium Impacts: great	Measures: According to continuity plan. Execute: Appurtenant responsible technical facility project managers, responsible technical facility process managers, responsible persons for technical fittings operation, operator of technical fittings. Responsibility: responsible technical facility top manager.
Errors of critical personnel at work with risks connected with technical equipment, production, transport of material and products	Frequent disruptions of performance due to incidents up to accidents or failures of technical facility. Due to disrupted performance it gets to unfulfillment of commitments to third party. Sanctions. Loss of competitiveness.	Probability: medium Impacts: great	Measures: Continuity plan. Execute: Appurtenant responsible technical facility operator of technical fittings. Responsibility: Appurtenant responsible technical facility responsible persons for technical fittings operation.
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From real data [14], it follows that errors of top levels of management, namely at both cases, the public administration and the SCPS, mean far greater losses, damage and harms to the public assets and assets of the technical facility than errors at the lower levels of management. This is due to the fact that top management has greater possibilities (power, resources, finance) to influence safety-targeted risk management than lower ones.

The continuity plan used for SCPSs is a strategic plan for the management of security and development of SCPSs enshrined in the SCPS safety management system. The plan is based on the method of managing the integral safety [6]. The plan lists not only data relevant to the SCPS operation, but also a way of solving problems that can seriously impair the SCPS operation and competitiveness. It includes:

- a way of resolving the risks that have a source outside SCPS and will seriously affect the SCPS with appropriate responsibilities and procedures for resolving the conflicts between the public interest and the SCPS interest,
- procedures to ensure safe SCPSs over its intended lifetime so that the SCPS provides quality products or services, is competitive and does not endanger itself and its surroundings,
- due to the dynamic development of the SCPS and the surrounding, which are not necessarily synergic, the reactions to the change in conditions, including emergency and crisis management measures, which are elaborated in detail and ensured in all respects for all levels of management of the SCPS, in addition, for critical SCPS that are vital to ensuring the basic functions of the State, there is also a crisis preparedness plan containing the measures and way of their ensuring to support the State at response to critical situations.

In order to the risk management plan may fulfil its role, it needs to be based on quality data processed by experts using the quality methods and be backed by legislation that ensures well-divided competences and enforces responsibilities, thereby contributing to building a safety culture in society.

7 Conclusion

The analysis of database of the SCPS accidents and failures shows that in spite of a lot of knowledge on SCPSs' structures, interdependences, risks and safety, the SCPS accidents and failures have been forever occurred. Very significant source of accidents and failures is the human factor, especially in areas associated with: management on all hierarchical levels; the highest on the top level; maintenance of critical technical fittings and components; risk-based inspections, the frequency of which needs

to correspond to fittings and components criticality; critical fittings, components and personnel working modes; and critical personnel education and training.

The causes of this reality are several: world dynamic variability; insufficient human knowledge and capabilities; slow application of knowledge and lessons learned into practice; and unsatisfactory awareness on risks and their consequences for technical facility and public interest.

Based on a detailed analysis of documentation on accidents and failures of SCPS [14], it can be concluded that very often an accident or failure occurs because:

- to date, outdated methods of risk assessment are used for complex technical facilities, e.g. tree models that do not consider confluences of phenomena,
- the operators or owners are mainly oriented towards performance (i.e. profit) and the public administration allows them to do so,
- personnel in contact with the causes and impacts of the risks do not have sufficient competence to implement proactive measures and operating regulations adapted to current conditions (normal, abnormal, critical),
- technical decisions are due to products of various particular, political or economic pressures and do not consider the specific risks that arise during operation.

The basic reasons why operators of SCPSs are not willing to influence the risks are usually:

- lack of awareness of the risks and their impact on and around the technical facility,
- subjective feelings of the responsible person, who does not consider the risk to be important,
- the idea that the risks relate to the distant future,
- the steps leading to the identification of the risk and its reduction are mostly contrary to the immediate (mostly economic or political) interests of the operator or owner,
- a particular competent worker is usually not the one, who can make direct decisions about the steps to reduce the risk.

Incorrect settlement of risks in technical facilities is due to:

- decision-making processes directly in technical facilities tend to be multi-level. At a level, on which increasing risk symptoms can be realistically identified and the risk involved is appreciated, it is not possible to decide on the additional costs of eliminating that risk,
- it is insufficient awareness on risks, their management and settlement. Working with risks is understood to be an activity consisting in compliance

with standards and regulations, which is not true, as the rules in place cover only 68.4 % of the possible conditions [2]. Programmes of the vast majority of training courses taking place often exacerbate this inadequacy,

- engineers in operation and its management has narrow understanding the safety; the orientation on the technical safety of the equipment is prevalent in such a way that the technical equipment does not pose a hazard during the service life,
- there is a lack of cooperation among professions – builders, engineers, economists, chemists, computer scientists, recruiters, etc. – each profession works separately, which does not allow to solve interdisciplinary and multidisciplinary problems,
- many top managers are convinced that everything is eternal, i.e. they do not consider changes in technical equipment over time and with changes in conditions, thereby underestimating the maintenance, repair, skill and compliance with work regimes that respect physical, chemical and biological regulations.

Due to dynamic world development, technical facilities parts ageing, wear and tear, and limited human knowledge, sources and capabilities, technical facilities' managements and public administration need to be prepared for important risk realizations in next time. For this purpose, we propose to use above given tool "Risk Management Plan" that respects present knowledge on technical facilities' response and the lessons learned from past responses to accidents and failures, the causes of which were connected with their operation. Its example for SCPS, which was tested in practice [14], is shown above

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