Fig. 9. Technical installation with SMR process management levels.

In knowledge-based process management, the strategic level determines the basic directions of development, from which it follows which processes need to be modified or created, what organizational changes will need to be made, where to get know-how, financial resources, etc.

The tactical level of process management helps to organize the activities necessary for the implementation of long-term goals. Answers to the questions of how to set up processes, in what condition to maintain them and how these processes must cooperate with each other are sought.

Operational management decides on the specific distribution of resources in the process (human, technological, financial) and also on the performance of individual activities within the set processes (how to perform a specific operation). The aim is to ensure the of knowledge and skills among workers.

At the technical level, specific problems are solved. It should be remembered that the most challenging negotiations with risks take place at this level; the resistance and resilience of elements, equipment, components and entire systems increases, and according to data from practice, the success rate of technical measures is between 40 and 80%.

A significant effect and competitive advantage are achieved by the entity (territory, organization) only by harmonizing all levels of management. The aim is to achieve a condition where processes are defined and managed on the basis of strategy, operational management is not just extinguishing emergencies. The processes are improved on the basis of knowledge transferred from the operation. New knowledge stemming from process control is then quickly reflected back into the strategy and provokes another fundamental change or changes in the development of the subject.

According to the TQM scientific theory [21] and according to the authors´ experience to date, in connection with problem solving, it is necessary to consider the possibilities that exist at each level of management when determining the division of tasks and responsibilities in ensuring safety. The possibilities are determined by both, the powers and the availability and amount of available resources, forces and means that are needed to solve:

1. At the operational management level of technical installation with SMR, well-structured problems can be successfully solved.
2. At the middle management level of technical installation with SMR both, the structured problems and the poorly structured problems that are not associated with great risks to the technical installation with SMR can be successfully solved.
3. At the top management level of technical installation with SMR, complex and unstructured problems that have risks that can be controlled using the tools that only the top management of the power plant with SMR has at its disposal.
4. Only through mutual cooperation of public administration and top management of technical installation with SMR can complex and unstructured problems of large scale with great risks be solved.

In the case of technical installation with SMR of transnational scope, international cooperation is necessary. The highest responsibility is at the political level, where concepts are set and finances are decided.

A number of supranational institutions (EU, IAEA, IATA, ICAO, OECD, etc.) require for critical technical installations (those with SMR belongs to them) the preparation of documentation on safety in the form of a safety report, which means that it is a document supporting the safety of the monitored entity. The document in question is intended for the management activities of technical installation with SMR of operator and for the needs of the relevant public administration bodies (state supervision) as well as for informing the public. In real case, this document describes the adaptation of generic model of safety management to real technical installation with SMR.

In general, a safety report of technical installation with SMR. is a set of documents that contain information about the monitored entity, its location and activities, the organization and control system with respect to the prevention of accidents and failures, a description of technical installation with SMR surroundings and the environment, a description of the equipment and an inventory of hazardous substances present in the technical installation with SMR, the identification and analysis of the risks of accidents and failures, their evaluation and preventive measures, measures related to preparedness for dealing with accidents and failures, and limiting their impacts, as well as map documentation. It monitors the processes shown in Figure 2 and is the basis of the integral safety management system of the monitored entity.

The safety report of technical installation with SMR needs to be processed already in the concept phase (preliminary), refined in the design and construction phase, and systematically updated during the operation. It provides a set of policies and rules for maintaining the safety and improving it. In practice, it is implemented by its transposition into internal regulations, which are mandatory. It is the basic tool of the safety management system (SMS) of entity [10,11]. In terms of responsibilities, it is created hierarchically at different levels of details, and since the highest competencies are in top management [23], so the division of responsibilities is done from top to bottom.

An important document of the safety report for technical installation with SMR as important critical facility, which is vital to ensuring the basic functions of the State is the continuity plan [10], which is the strategic plan for the management of safety and development of technical installation with SMR, which is anchored in the SMS. The plan is based on the way of integral safety management and it contains not only data important for the operation of technical installation with SMR, but also a way of solving the problems that can seriously disrupt the operation and competitiveness of technical installation with SMR. In accordance with [10], the entity continuity plan has higher goals than the risk management plan and it includes procedures:

1. How to deal with risks that have a source outside the technical installation with SMR and seriously affect it. It contains clearly determined responsibilities and procedures for resolving the conflicts between the public interest and the technical installation with SMR operator.
2. How to ensure a safe technical installation with SMR for the planned lifetime, so that technical installation with SMR may deliver quality products and services, it is competitive and does not endanger itself and its surroundings.
3. How to coordinate changes caused by dynamic development of technical installation with SMR. and its surroundings, which are not necessarily synergistic, the response to the change of conditions, including the emergency and crisis management measures, which are elaborated in detail and ensured in all aspects for all levels of management of technical installation with SMR., i.e. it is attached a crisis preparedness plan that contains measures and their ensuring, and way for support the State in critical situations.

To ensure the correctness and expertise of the safety report, it must be approved by the State authority, i.e. the State must have a safety oversight authority, which is codified by law. Due to reality that risks are site-specific, the generic model presented above must be adapted to site conditions and legislation which is in force in a given region.

7 Conclusion

The article summarizes the knowledge on complex technical installations safety management during their lifecycles (i.e. from sitting to decommissioning). The safety management is based on continuous risks´ management, namely partial ones and integral one. For determination of integral risk, the special decision support system is used and for decision-making on its acceptability, the general principles used by the UN, WB, Swiss Re etc. are recommended [10].

Because technical installation with SMR belongs to complex technical installations , it is made the technology transfer, and on the base of analogy method, it is constructed the generic model for management of safety for it. All figures (1-8) show the solution of main parts of safety management of technical installation with SMR. Its safety report needs to be processed already in the concept phase (preliminary), refined in the design and construction phase, and systematically updated during the operation of this technical installation. This safety report provides a set of policies and rules for maintaining the safety and improving it. In practice, these demands are implemented by transposition into internal regulations, which are mandatory in the given country.

The generic model of technical installation with SMR includes: definition of the objective and focus of safety management; description of accidents and failures; proposals for risk management decision-making; discussing the package of measures and activities with key actors; monitoring principles and lessons learned for correction applications.

The safety management of technical installation with SMR includes: the concept of increasing safety; the definition of safety-related roles and their tasks; a risk management process for the benefit of safety; a system for operational risk management decision support, including a value scale to determine the level of risk that technical installation with SMR poses to its surroundings and a value

scale to determine the degree of contribution of technical installation with SMR to its surroundings; division of responsibilities; and safety documentation.

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