

ABOUT ROLE OF HUMAN FACTORS IN THE BUILDING OF PHYSICAL PROTECTION SYSTEM

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XA0103231

The most serious forms of the illicit turnover represent crimes against the mankind. We can defeat this evil only by paying our common efforts and establishing a protection against this disaster based on the international, national and facilities levels, with preventing any attempt of such a crime or participation in it at the earlier stages.

In our opinion, our contribution into the fight against the illicit turnover has to be focused on ensuring the safe keeping and integrity of nuclear material and radiation sources and on creating powerful and highly efficient physical protection systems.

A special role in establishing the physical protection system (at all levels) pertains to the human factor.

It is necessary to specify a place of this matter within the overall security system.

The nuclear energy sector security (as well as of other national industry sectors) is based on the people: developers, personnel, different level management responsible for decision - making process, the representative of regulatory, controlling and legal structures, and therefore, in general, the role of the human factor can be considered to be significant.

After having analyzed, even in a general way, the status of affair we can see:

- the stage of designing and development of facilities is actually completed.
- The existing concept of protection does not meet current requirements of the physical protection.
- the next period - is the operation when it is necessary to adapt with using capabilities available to the today requirements and to establish conditions under which the human factor could compensate technical backwardness.
- the final stage - the ChNPP decommissioning, the Object Shelter problem. It is obvious that the ChNPP decommissioning process will increase acuteness of the problem related to the physical protection of this facility.

The operative situation while being formed during the physical protection ensuring, first of all, is affected by the following factors:

- political factors: changes in the geopolitical situation caused by fundamental changes, formation of a national state based on a principle of democracy and law, and etc.
- social and economic factors: difficulties originated during the period of transition towards the market economy, decrease in the standard of living; increase in the crime rate and criminalization of social relations and others.
- spiritual wealth and cultural factors: state ideology crisis, deformation of norms of behavior and spiritual values, and etc.

In addition, a new problem suddenly appeared related to the safety and security of the energy complex, that is: uncontrolled processes such as: non-payments, debts on salary for several month period; all these factors affect negatively the level of safety and security.

It is clear, that in such a difficult situation the role of an individual is increasing. Actually, when there is no money for repair, fuel purchase, the biggest thereat is resulted from the situations when it is necessary to make a right decision, i.e, to trip the equipment if any deviations occurs in its functioning or to continue operation regardless the hazard.

Ignorance of the above factors or their non-objective (incomplete, partial ignorance) accounting (consideration) finally can lead to the negative and irremediable consequences.

Thus, the content and the extent of the security of a society, in general, and every person, in particular, directly depend on the functioning of all society's structure, and first of all, on the economic, social, political and legal structures.

As a result, the physical protection system acquires a complex or comprehensive structure.

The given data are very important while explaining the meaning of the notion - physical protection. This term, as you know, allows for functions to ensure the safe operation from the point of view of its resistance to sabotage acts, including a very important function as the guarding, that is : prevention of unauthorized access to the protected territory, to the nuclear installation premises, prevention and minimization of potential negative impact that can directly or indirectly cause a hazard for the environment, life and health of a human being resulted from radiation influence.

The status of security of nuclear installations fully depends on the activities performed by an individual having criminal intentions as well as by another one who is standing on his way. There is a sufficient number of arguments to affirm that the ensuring of the physical protection from the point of view of a human factor, lays the basis for the successful solution of security problem, in general.

The fundamental documents regulating the nuclear material non-proliferation aspects, i.e., Convention on physical protection of nuclear materials, the revision of which is being conducted now under the IAEA's aegis, and the finalized IAEA's Recommendation INFCIRC /225/Rev.4, are used as the standard against which the physical protection level is assessed. The above documents also cover all the nuclear installation and materials.

The Convention suggest to consider as criminal offence the certain actions on illicit use or threat of illicit use of nuclear material for the purpose of damaging the population.

This document also foresees the development of a national system of physical protection and evaluation by the State of thereat related to the unauthorized nuclear material removal. The State should continuously analyze the treat and assess consequences of any changes in this thereat for the physical protection level and methods.

With regard to the nuclear installation that can be subject to sabotage the appropriate physical protection measures should be implemented regardless the category of containing nuclear material. The act of nuclear sabotage can lead to the radiological hazard for the population.

The convention and IAEA' Recommendations pay particular attention to the human factor considering it as a basic executor of functions related to the unauthorized actions or activities on their prevention.

Taking into account the nuclear terrorism has not statistics, while reviewing either options of thereat we proceed from the tentative scenario of the terrorists' actions. Probable nuclear leg-pull that can not cause a real damage to the equipment, if it is well-presented can lead to the panic and disturb a normal operation of an enterprise or cause other negative impact.

The most of terrorist acts including the nuclear compulsion represent the influence upon the public opinion. Even in a case of premeditated sabotage this can result in an unscheduled but normal shut-down of a reactor without any dangers to equipment and environment, that prevents the radioactivity release.

The cases such as: protection perimeter violation, calls with nuclear threats, shooting at guards or equipment, will obviously affect the operation. However, the main purpose will be the propaganda (for instance: to demonstrate that neither plant management nor the government is able to ensure appropriate safety and security level, and thus, to destroy the hopes of receiving more favorable, better opinion of population concerning the NPPs), and not the destruction, takeover or harm to anybody. Such a demonstrative assault can not be prevented in full, however, they are also significant and threaten the security.

At the same time the existing experience shows that terrorists as well as other blackmailers try do not to do a threat. The internal activity and determination make the terrorists groups improve their tactics, and increase the violence.

The scenarios of hostage taking by terrorists can present potential harms, as this repeatedly occurs during the aircraft-related blackmails.

None of organizations can work without confidence in people at all levels. The hiring, guarding, monitoring and registration of people that are performed due to the security reasons, could become so burdensome that will hamper the normal operation of equipment. The full or absolute security can not be achieved.

In order to make a comprehensive evaluation of the terrorism significance we have to take into account political, moral and practical considerations. However, due to the lack of opportunities to assess the treat, the following approach is applied: we do not know if this represents a threat, but it is better to considered it as a threat. Therefore, during structuring of the physical protection system in many countries (France, Canada and others) the guards are not even armed.

Recently, during solution of the physical protection problems the scale inclines to the need to see, first of all, a specific person, to look for measures and ways preventing potential manifestation and preventing conditions for negative actions, and not to count on the force that should be used as an ultimate or extreme measure.