

## SAFETY SYSTEMS OF MODERN RUSSIAN NPPS

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In the conditions of constant growth of the lack of electricity supply in the world, getting electric power is the aim of the greatest importance for any country. One of the most reliable ways is getting it by the means of NPPs.

Modern Russian NPPs are complicated industrial objects whose work is connected with potentially dangerous, including radioactive, substances. So the maintenance of the safety of NPPs for their workers, people who live in nearby cities and for the environment is undoubtedly the most important and actual question.

This work is devoted to the studying of the reliability of Russian NPPs, for which safety systems are responsible. They operate on basis of different (active and passive) principles of safety. In this work the safety of modern Russian NPPs is demonstrated on the plain level for pupils of 10-11 forms using the accident situation similar to the one happened on Fukushima NPP in Japan in 2011.

The objective of the work is the studying of the safety systems of NPPs and their reliability.

Goals:

1. Do the research about the structure of the NPP.
2. Analyse the safety systems of the modern NPPs.
3. Ensure in the reliability of the safety systems of NPPs.
4. Master the analytical simulator «TOMAC» for modelling the accident situation.
5. Create the description of the laboratory work for students.
6. Carry out the laboratory work.

The result of the work: the description of the laboratory work for pupils of 10-11 forms “The calculation of the time allowance that the personnel of the NPP have to take actions for preventing the destruction of spent nuclear fuel in the cooling-down pond in the accident situation involved full black out of the power station.”

### References

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