



HUNGARIAN ATOMIC ENERGY AUTHORITY

Nuclear Safety Bulletin

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RECENT DEVELOPMENTS IN NUCLEAR SAFETY IN HUNGARY

May 2015

General

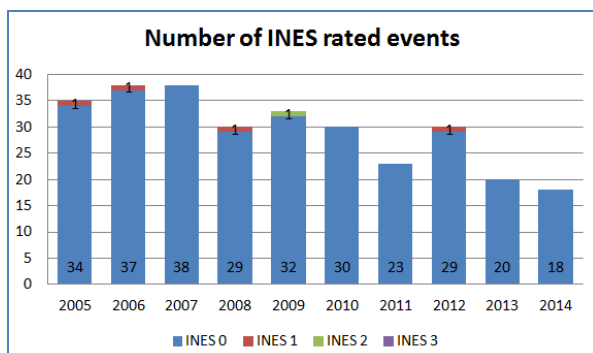
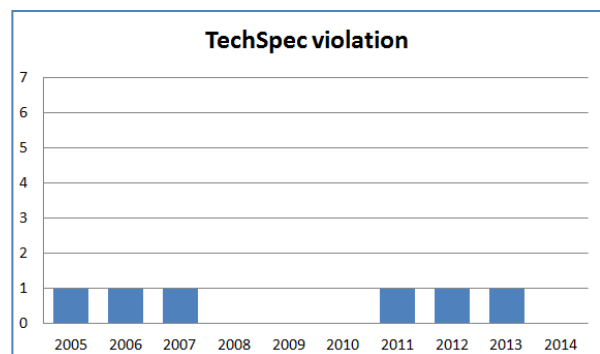
2014 Safety Performance Assessment of nuclear facilities

HAEA regularly evaluates the safety performance of the operators of nuclear facilities. The main sources of data for the assessment are the regular reports and the event reports of the licensees, the protocols of regulatory inspections including the regular and the comprehensive inspections focusing on specific areas, and the reactive inspections. Hungarian nuclear facilities operated safely and there was no danger to the environment public or employees.

Below you can see a short extract from the forthcoming 2014 safety performance assessment.

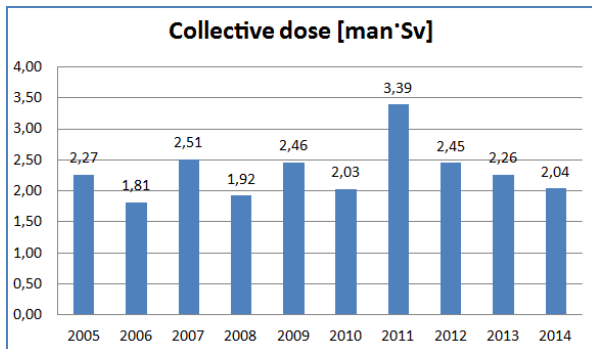
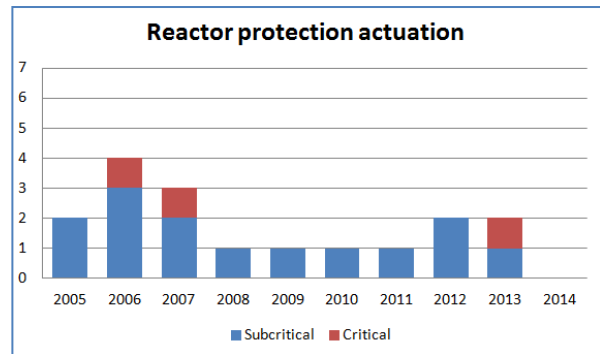
Paks Nuclear Power Plant

There was no technical specification violation in 2014.



Eighteen events have been reported by the NPP altogether, all of which were of category "anomaly", corresponding to Level-0 on the seven level International Nuclear Event Scale (INES).

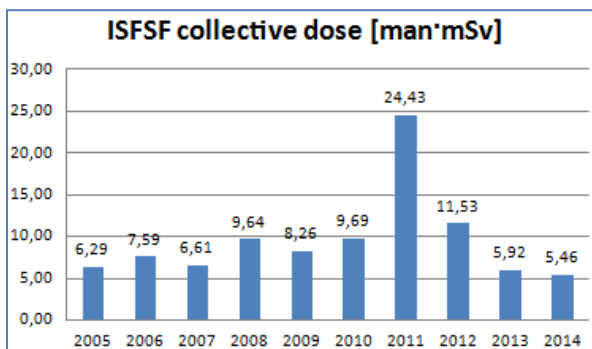
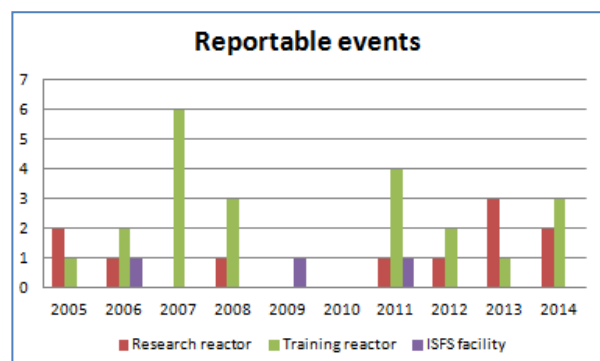
No automatic reactor protection actuation occurred in 2014.



The collective radiation dose of employees was low; the elevated value of 2011 fell back to an average level of the previous years. The radioactive releases into the environment were also very small.

Other Nuclear Facilities

In recent years, the number of reportable events is typically between 0 and 4 at the Budapest Research Reactor, the BME Training Reactor and the Interim Spent Fuel Storage Facility. The training Reactor's outlier value in 2007 is related to the aging of the control rod drive unit that has since been replaced.

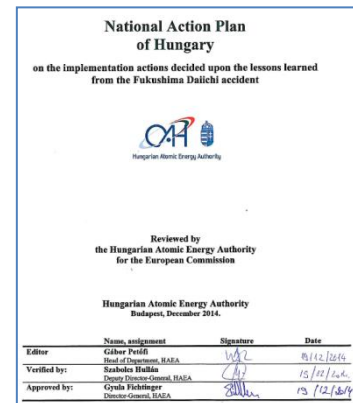


Following the 2011 year's peak, the collective doses of the Interim Spent Fuel Storage Facility are gradually decreasing. The unusually high value in 2011 was caused by some maintenance activities involving higher exposure. The 2013 and 2014 values are the lowest collective doses of the last 10 years.

As a summary, the general evaluation of nuclear safety condition of nuclear facilities showed acceptable and stable safety performance results in 2014.

Update of the post-Fukushima National Action Plan

Following the post-Fukushima stress tests the HAEA developed a National Action Plan (NAcP) to compile the actions decided during the self-assessment process and international reviews. The HAEA published the NAcP on its website. The plan, together with similar plans of other EU member states, underwent an international peer review process, which concluded in relation to the plan that it is in line with the results of the stress tests review and the respective ENSREG guidance.



At the end of 2014 the HAEA reviewed the NAcP report and updated it with the progress of the actions implemented during since the plan has been approved. The updated plan has been published on the HAEA website again and sent to the ENSREG for international peer review, since the ENSREG decided to organize the peer reviewing of the plans again. The review will take place via a preliminary commenting and questioning period and a workshop, where the comments and questions can be discussed and the experiences in relation to the plans implementation can be exchanged.

During the review the following aspects were considered:

- Clarification on any issues identified during the previous review.
- Progress on implementation and update of the NAcP.
- Main changes in the NAcP with justification, including: additional measures, measures removed or modified; changes in the schedule.
- Technical basis leading to the main changes identified in the NAcPs.
- Relevant outcomes of studies and analyses identified in the NAcPs.
- Nationally identified good practices and challenges during implementation so far.

The results of the review were summarized in a new table of the action plan. The main conclusion is that a considerable part of the plan has already been implemented, while there is a time proportional progress made in relation to the most of the remaining actions. According to the revised plan out of the 51 decided actions 16 were completed until the end of 2014. Future deadlines of other 30 actions can be met, while there is an a risk of delay in the case of 5 actions. The final deadline of the actions in the plan is the end of 2018. This is not jeopardized by any of the delays.

The delays are mainly caused by public procurement problems or by change of implementation concept. These projects are construction of a new fire fighter barrack, reinforcement of a building to avoid fall down of panels onto demineralised water tanks,

revision of underground line structures for the case of building settlement, reconstruction works in the Protected Command Centre and building a Backup Command Centre.

On the other hand there are actions that have been completed well before the deadline. The most important completed projects are: water resistant wall penetrations in ESWS machinery rooms, maximization of demineralised water and diesel fuel levels, improvement of blackstart capability, all severe accident modifications are completed, equipment to transport emergency personnel, improvement of cross-supply opportunities between the units.

HAEA internal affairs

Capacity building at HAEA

HAEA is facing human resource and capacity building challenges regarding the new construction plans at Paks NPP site. The preparation for new units licensing is one of the most significant task at the Authority. According to Govt. Decree 1850/2014. (XII. 30.) the Hungarian Government agreed to increase the number of employees at HAEA in two steps.



From the 1st of January 2015 HAEA is entitled to hire 76 new members, then from the 1st of July 2015 additional 10 newcomers will join. Original number of experienced staff was 80, now with newly applied employees it is 120 and HAEA hopes to grow its employee base to almost 170 over the next 3 months. This will cause significant changes in the organization. The job interviews are still continuous and the professional training program is in progress for the selected newcomers. Most of the newcomers are engineers or physicists, about half of them have some work experience, and also half of them have nuclear education or experience.

Radioactive Waste Repositories

The radioactive waste repositories are under the supervision of HAEA

After Government decree 255/2014 (VI. 30.) Korm. (Decree) had entered into force, the HAEA started the supervising activity concerning the two Hungarian radioactive waste repositories. In this framework, at first, the authority collected and organized the associated and available documents (licences, resolutions, assessments, etc.) regarding these facilities. After assessing the current situation HAEA has taken the appropriate actions in relation to

the ongoing proceedings, in order to determine and improve the current level of the safety, and to verify the compliance of local processes with the relevant legal prescriptions.

The HAEA has facilitated the communications with the licensee, conducting consultations with the PURAM Ltd. about the expectations of the authority regularly, and implemented the practice of weekly reports, under which the licensee shall report to the HAEA about its activities and events occurred in the facilities regularly.

HAEA has begun to develop Regulatory Guidelines about the recommendations of the completion method for the requirements prescribed by the Decree. HAEA has also started the establishment of a Performance Indicator System to be applied for the two facilities. The data in the system are arranged in 3 groups indicating how the facility operates smoothly, with low risk, with a positive safety attitude. Each facility has 19 indicators with different thresholds of compliance. The repositories will be first assessed in accordance with the indicator system concerning the operational experiences of 2014.

By the end of the year 2014 altogether 5,480 drums were delivered into the Bataapáti National Radioactive Waste Repository from the nuclear power plant, which contain solid, low and intermediate level radioactive waste. More than the half of these waste packages has been disposed of in the first underground chamber (K1) formed at 250 m under the surface. Currently, parallel with the operation the establishments of additional chambers (K3, K4) are in progress.



The first underground chamber (K1) in the National Radioactive Waste Repository in Bataapáti

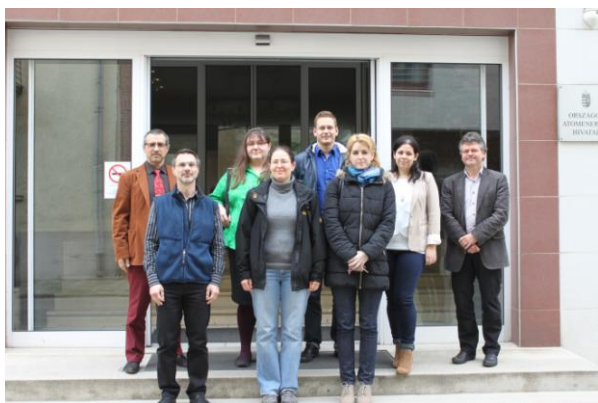
In the case of the Radioactive Waste Treatment and Disposal Facility (RWTDF) in Püspökszilágy, due to an incident occurred with processing of AM-241 at the end of 2013, the licence for conditioning the received wastes and for the operation of waste processing

systems was withdrawn. PURAM has to modify the ventilation system to restart the waste processing.

In the second half of 2014 the HAEA performed 15 (9 in Bataapati NRWR and 6 in Puspokszilag RWTF) documented on-site inspections.

Emergency Preparedness and Response

Trilateral cooperation project between Austrian and Hungarian organizations on comparison of environmental simulation software results



On 24 November 2014 during the 20th bilateral meeting under the agreement between the Government of Austria and the Government of Hungary on issues of common interest in the field of nuclear safety and radiation protection Austrian and Hungarian governmental organizations decided to initiate a trilateral cooperation

project on comparison of environmental simulation software results. The objectives of the trilateral series of comparison with RODOS and SINAC environmental simulation software were defined as to compare input parameters and default values that are used by the software; to compare and analyze the calculation results; to learn from each other, exchange experiences about the software tools; and to deepen the cooperation between the Austrian and the Hungarian parties.

The project was launched with a kick-off meeting in March 2015 with the participation of experts representing the Ministry of Agriculture, Forestry, Environment and Water Management (Austria), National Directorate General for Disaster Management (Hungary) and the Hungarian Atomic Energy Authority.

The comparison process consists of several steps like (i) making the calculations with preliminary agreed input parameters; (ii) recording, sharing and comparing simulation results; (iii) analysis of causes of possible deviations and specific behaviour of the results. Possible measures have also to be defined for reasonably reducing differences and/or deviating behaviour of results.

The cooperation project is expected to contribute to identification of good practices in connection with the use of environmental simulating software tools, a deeper understanding

of the significance of initial settings and values used in the different software. It is also expected that a common platform and sharing of experiences with the developers will be established.

Visit of Bulgarian Experts at the HAEA

At end of January 2015 four experts of the Bulgarian Nuclear Regulatory Agency (BNRA) visited to the HAEA with the support of the International Atomic Energy Agency (IAEA). With the help of HAEA Emergency Management Section professionals Ms Krasimira Ivanova, Ms Deyana Dosieva, Mr Ivan Nikolov and Mr Svetoslav Georgiev got acquainted with the trainings and exercises related to emergency



preparedness and response (EPR) in the regulatory authority and at the national level at Hungary.

Mr Géza Macsuga gave them detailed information about the Hungarian Nuclear Emergency Response System; the Roles and responsibilities of HAEA in the area of EPR; the National Nuclear Emergency Response Exercise 2013. Mr Csaba Balogh, Mr András Kármán and Mr Márton Keresztes made presentations about the Initial and refresher training programs of Nuclear-, Radiological- and Management Group of HAEA ERO. Besides, the guest visited the Emergency Management Centre of Paks Nuclear Power Plant (NPP), where they learnt about the training system in EPR at the NPP.

At the end of their 5 days long visit the representatives of the Bulgarian regulatory body appreciated the help of the HAEA and looked forward to further cooperation.