

**REGULATORY ASSESSMENT
OF THE HUNGARIAN NUCLEAR FACILITIES
IN 2013**

ABSTRACT

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Hungarian Atomic Energy Authority

**H-1036 Budapest,
Fényes Adolf utca 4.**

www.oah.hu,

tel +36 1 436 48 00

Foreword

The assessment of activities of the nuclear facilities – beside the licensing and inspection tasks – belongs to the most important elements of regulatory oversight. One of the main duties of the Hungarian Atomic Energy Authority is to guarantee nuclear safety within the framework of the law, avoid the occurrence of nuclear accidents and using resources that the Hungarian citizens provide it through their elected representatives. The Hungarian Atomic Energy Authority, as part of its nuclear safety oversight activity, annually evaluates the safety performance and the safety level of the nuclear facilities.

The main purpose of the assessment is to supervise and examine the operation of the facilities, reveal the deviations in their early phase in order to avoid them, discover their safety effect and causes and initiate effective measures in order to eliminate them.

The assessment carried out by the HAEA is based on a safety performance indicator system developed individually for each of the facilities and event reports aiming to examine and eliminate the major deviations. The primary purpose of the annual assessment report is to provide a feedback for the licensees of nuclear facilities on the evaluation of nuclear safety related experiences achieved during the last year, primarily from the perspective of the effect of operation on the public, nature and workers of the facility.

In general, it can be stated in respect of the year 2013 that the nuclear facilities belonging to the HAEA's oversight domain – Paks NPP, the Budapest Research Reactor, the Training Reactor of the Budapest University Technology and Economics Institute for Nuclear Technology and the Interim Spent Fuel Storage Facility – operated according to the prescribed conditions and parameters.

It can be stated on the safety performance of Paks NPP in 2013 that there was significant progress at two main assessment areas, there was little fallback concerning the third one in comparison with the previous year. Summarizing the results on the main areas, the advance of safety performance can be observed for two years now. On the other hand an unbeneficial change of safety performance can be read out of the safety evaluation of events.

The safety performance of the Interim Spent Fuel Storage Facility has not changed in one of the main assessment areas and decreased a little in another one in comparison with the last year values.

The safety performance of the Training Reactor of the Budapest University of Technology and Economics Institute for Nuclear Technology did not change in general in comparison with 2012. One main assessment area is still solidly good, a slightly worsening tendency can be seen at the other area, and some progress is seen at the third one.

The safety performance of the Budapest Research Reactor decreased in all the three main assessment areas in comparison with the excellent values that were welcomed last year.

It is still an expectation for the future from the licensees of nuclear facilities to strive after preventing any deficiencies, maintain and enhance the level of safety and safety culture. In order to support the efforts, the regulatory oversight focuses on the deteriorating and unacceptable areas for screening and arresting any negative tendencies.

In addition to maintain and enhance the niveau of nuclear safety, the main duty of the Hungarian Atomic Energy Authority is to oversee the life-time extension of the rest of Paks NPP units, the measures based on the results of the Targeted Safety Re-assessment processing Fukushima experiences, the new unit site characterization and assessment programme and to prepare for these activities in due advance. The employees of the authority are readily undertakes this responsibility in order to protect and keep safe the public and the environment and to prevent safety significant events.



Gyula Fichtinger
Director General of the Hungarian Atomic Energy Authority

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1. Introduction

The essential tasks and duties of the Hungarian nuclear facilities and the regulatory body, the Hungarian Atomic Energy Authority (HAEA) overseeing them are governed by Act CXVI of 1996 on Atomic Energy (Atomic Act).

According to the provisions of the Atomic Act, the HAEA annually analyses and evaluates the safety performance of the nuclear facilities belonging to its competence. The main purpose of the assessment is to provide feedback to the licensees of the facilities on regulatory adjudication of their achieved nuclear safety results in that year to foster the maintenance and enhancement of the nuclear safety level.

Safety has priority over every other aspect in operation of nuclear facilities. Essential target of the regulatory oversight of the use of atomic energy is that it shall not harm in any way the people and nature. It is a further concern that the supervision should not restrict more than reasonable the operation of the facilities and equipment posing the risk and carrying out of activities.

The safety performance of operation can be evaluated as a result of a multi-aspect assessment using quantitative indicators as well as engineering and safety judgement tools.

The inputs of the safety performance assessment are the regulatory inspection results, the operational data, the investigation and analysis of events occurred during operation. For this purpose the HAEA

- Collects operational data, makes trends;
- Investigates and assesses the events occurred in the given year;
- Performs safety assessment of the events;
- Carries out probabilistic analysis of events, examines especially the recurrent events and those caused by human failure;
- Evaluates the safety performance in general with the help of the safety performance indicator system.

During the safety performance assessment the HAEA takes into account the potential hazard of nuclear facilities.

The HAEA defines the assessment criteria of safety performance in a way to take into account the achieved level of safety performance of the nuclear facility, the national and international experience related to use of atomic energy and to support the licensee to enhance its safety performance.

The assessment of safe operation is carried out with quantitative tools to produce indicators that can express the safety level. Beside these safety performance indicators, the regulator also uses the conventional engineering and safety assessment methods, thus the safety performance of the facilities are stated as a result of the complex assessment. In many cases

only a comparison with the conclusions and safety indicators of the previous years yields the desired results.

After the introduction in this first chapter of the assessment, the second chapter includes the assessment summary of each facility. In its first part there is a detailed evaluation of Paks NPP according to the safety performance indicator system. The subchapter includes the safety assessment of the events occurred in 2013 in the power plant and the description of the significant regulatory activities. Each of the fourth to sixth subchapters includes detailed assessment based on Safety Performance Indicator System of the following facilities, respectively: Interim Spent Fuel Storage Facility (ISPSF), Training Reactor of Budapest University of Technology and Economics Institute for Nuclear Technology (BUTE TR) and Budapest Research Reactor (BRR).

2. Assessment summary

In general, it can be stated about the year 2013 that the nuclear facilities belonging under to the competence of the HAEA, that is Paks NPP, Budapest Research Reactor, BUTE TR and ISFSF, operated according to the plans, safety analyses reports, regulations, operation licenses and the operational limits and conditions.

2.1 Paks Nuclear Power Plant

The facility **operated fundamentally according to the prescriptions** in 2013. The values measured by the environmental discharge control were **under the authorised limits by several magnitudes** alike in the last years. The occupational dose is similar to the last years, **the annual dose constraint was not exceeded, and the collective dose decreased in comparison with the last years.**



Picture 2.1-1.: View of Paks NPP (Source: www.atomeromu.hu)

On the performance measured by the safety performance indicator system, it can be declared on basis of the safety indicators that an improvement can be seen in relation to “Safe Operation” and “Safety Conscious Operation” areas in comparison with the previous years, though there was a small decline in the “Smooth Operation” domain.

In the area of “**Smooth Operation**”, the “Unplanned shutdowns and power decreases” indicator deteriorated after three years of good classification, because the “Availability” low level indicator needed some extra activity due to the leakage on the cooling pipeline of the spent fuel pool in unit 3, that prolonged the planned length of the main outage.

The improvement of “Physical barriers” indicator was due to positive changes in “Defect of primary circuit integrity” following the corrective programmes after having revealed the cause of leakages.

The classification of “Reportable events” indicator decreased because of change in “Event reports ordered by regulator” indicator, since the number of such events significantly increased in 2013 in connection with the cases, where the HAEA revealed that the obligations were not or not fully met.

The value “Ratio of work orders over plan” low level indicator is high for all the four units. Therefore the “Systematic arrangement of Maintenance” indicator has been classified as bad on the long term. The reason is that some construction and installation works must be planned as late works due to the delay in planning and licensing phase at the licensee, and some works formerly not foreseen during the main outage. The licensee does significant effort in order to decrease the number of extra works, but the results do not appear yet in the “Systematic Arrangement of Maintenance” indicator.

The “Material condition” deserves to be highlighted, as the “Use of load cycles” low level indicator is out of the favourable range for years now. The HAEA intends to study the reason of exceeding the pro-rata values within the frame of an ad-hoc inspection in 2014.

In case of the rest of the main area’s safety performance indicators, the authority accepts the values, and demands no further actions.

The indicators of **Safe Operation** area after the fallback in 2010-2011 gradually improved. In 2013 there was only one indicator in the alarming range: “Operational Risk” after having two indicators there in the previous year. In the last three years, the value of “TechSpec Violation” was higher than favourable due to 1 violation each year. The TechSpec violation in 2013 occurred during a lock test due to hydro accumulator level fallback.

The remaining indicators of the area were found acceptable by the regulator, and no further actions are considered necessary.

The **Safety Conscious Operation** area basically includes the low level indicators of safety culture suitable for a quantitative representation. The classification of the safety culture niveau is a hard and complex task. Actually rather the niveau change of some attributes can be represented with indicators. In this area Paks NPP made several measures, at the same time there are still significant must-dos according to the regulatory expectations.

Bad classification of “Deviation from planned conditions” indicator has been a recurrent problem for years. Its cause is the high value of “Number of TechSpec modification”.

The “Violation of Licensing Conditions” has a major role in the unfavourable change of “Violations” indicator. In order to improve the discipline on task management, the board of directors is informed on the task due in the next quarter. On this basis, the fulfilment of obligations is followed up and an account is demanded on the weekly meetings.

The “Deviations in the reporting system” indicator was steadily classified non-suitable. In this case, it was not possible to identify any dominant attribute. The deviation was caused by different attributes year-by-year. In 2013, the “Delay of non-immediately reportable events”

low level indicator declined, because the report was not made only in one case – due to violation of the licensee’s internal reporting system – within 14 hours. Significant progress is observed in “Reporting delay of immediately reportable events” in comparison with last year. The third low level indicator, “Delay of event inspection report submitting”, has been keeping for three years its excellent classification reached with systematic progress and works of several years.

In the case of “Radiation protection programme effectiveness” indicator, the problematic low level indicators of the last years, “Work programs at high radiation level”, “Collective dose”, were over the warning limit in the last two years, but their tendency is improving. The improvement is expected to be lasting.

”Corrective actions” indicator has been continuously in warning state since 2008 due to both of the related low level indicators “Corrective actions of event investigations” and “Corrective actions of audits”. The former one changed in a positive way thanks to the management’s attention. Its result is a six years long progress with a small fallback in 2013. The latter one made a progress after the unfavourable result in 2012, because the personnel responsible for the corrective actions now get a warning message on approaching deadlines.

The regulator finds the values of remaining indicators “Industrial safety program Effectiveness”, “Self-Assessment”, “Experience feedback” and “Human factor” acceptable and does not demand further activities or special attention. It must be declared on “Human factor” indicator that it progressed significantly in 2013 if compared with the last years.

The HAEA determines every year the critical safety performance indicators. These are that exceed the acceptable limit for three years. It must be emphasized that there has been a progressing trend in a number of critical indicators since 2007. In 2011-2013 there was only 1 such indicator each year. It was “Ratio of work orders over plan” in 2012-2013.

Events

There were 20 reportable events according to Guideline 1.25. Three of them were immediately reportable events according to paragraph 1.7.4.0900 of the Nuclear Safety Code. The number of both types decreased.

The violation of Technical Specification (TechSpec) occurred once among the events. Two SCRAMs happened, one of them in critical state, the other one in shutdown state. Human failure was detected by event investigations concerning 10 events. The regulator classified 5 events as being recurrent. There was no emergency core cooling system actuation. Natural phenomena did not cause any event, and there was no event in connection with radiation protection.

The system affected most times in 2013 was the diesel generator (9 cases). The HAEA initiated on the basis of this experience the review and analysis of the availability of diesel generators and their auxiliary systems.

The HAEA’s database includes 9 events from 2012, when the non-suitable activity of a contractor contributed to the event. The HAEA pays special attention to examine and manage problems related to contractors’ activity or their surveillance.

New experience: small cracks were revealed on the main coolant pumps (MCP). Intensive examination began involving the manufacturer in order to treat the problem.

The HAEA and its TSO, the Nuclear Safety Research Institute carried out the probabilistic safety analysis of the reportable events of Paks Nuclear Power Plant in order to find out what was the effect of the individual events and the events in general to the safety of NPP. In the examined time interval, even the core damage frequency increase caused by all the events was low and the Core Damage Frequency was under the authorised limit.

The safety assessment of events does not show significant change in comparison with the last years. It is still necessary to enhance the effort of the licensee, eliminate the deficiencies in order to keep and maintain the niveau of safety and safety culture. The regulatory oversight focuses on the areas getting worse or classified unacceptable.

Licensing

The HAEA issued 120 decisions in 2013 in connection with Paks NPP. This number is slightly lower than in the previous year.

The HAEA is the construction authority at first instance for nuclear facilities. In the field of construction 20 decisions were issued, which is essentially equal to the last year value. The licensing was supported with several common walk downs of regulatory body representatives and NPP experts.

A significant part of regulatory decisions in connection with Paks Nuclear Power Plant is in connection with the following topics:

- Modifications necessary to lifetime extensions,
- Performing safety improvement activities originating from Periodic Safety Review (PSR) and Targeted Safety Review (TSR),
- Equipment reconstruction or replacement to a modern one,
- Elimination of deviations detected during equipment checks and maintenance,
- Detection and elimination of reasons of spent fuel pool leakage.

Major part of licensed construction activities are in connection with the realization of modifications, building reconstruction, improving earthquake durability and fire barrier integrity.

Inspection

The HAEA conducted 326 separate regulatory inspections documented in records. 256 of them were on-site inspection. In case of 33 of these the inservice tests of the safety systems and equipment were witnessed. In addition, 24 ad-hoc inspections were conducted on nuclear safety. 29 inspections were conducted in connection with the shipment of fuel assemblies having been damaged in 2003 and stored in cans in unit 2 spent fuel pool.

The HAEA inspected events in connection with operation in 9 cases and the documentation of pressure vessel reviews in 53 cases.

The nuclear safety inspectors inspected the acceptability of the preliminary safety assessment of planned modifications in 173 cases. They took part in factory acceptance tests and inspected the realization of modifications on-site in 38 cases.

There was no need for immediate action and intervention affecting the operation during the inspections.

2.2 Interim Spent Fuel Storage Facility

The HAEA states on the basis of safety performance assessment of ISPSF in 2013 that the facility **operated according to regulations, but the fulfilment of regulatory prescriptions were late in several cases**. The operation did **not cause any health risk increase either for ISFSF employees or the public**. The value of occupational dose is similar to the last years. The radioactive discharge was preferably good and remained significantly under authorised limits. The facility operated in accordance with the provisions and the Operational Limits and Conditions (OLC).

The performance decreased on one main area because of an indicator getting worse and is unchanged on the other main area in comparison with last year values.



Picture 2.2-1: ISFSF fuel recharge machine (Source: <http://www.rhk.hu/letesitmenyeink/kkat/a-kkat-uzemeltetese/>)

In case of “**Smooth and Safe Operation**” indicator in “Acceptability of fuel loading time planning” an over-planning was already observed in 2012-2013. The planned and real spent fuel loading time differed. Experience shows that loading takes significantly less time than planned. At the rest of low level indicators of “Condition of systems and components” indicator, such the “Suitability of gas supply”, “Suitability of installed radiation protection systems”, the performance is good following several years of improving trend. The remaining indicators of the area (“Storage parameters”, “Events”, “Risk to nature”, “Risk”) have been appropriate for years.

In “**Safety Conscious Operation**” area, the number of “Violations” deserves to be highlighted due to late fulfilment of regulatory prescriptions, because its value increased in comparison with last years. The documentation on fulfilment of 14 of 21 regulatory conditions due in 2013 was submitted too late and 2 were not fulfilled. This is the highest value in the last 9 years. The regulator initiated revealing and eliminating the cause of this defect. The “Collective dose” was the lowest value in the last 9 years. The other indicators “Strive to improve, self-assessment”, “Experience feedback”, “Radiation protection effectiveness” and “Industrial safety program effectiveness” have favourable value from the beginning.

Events

No reportable event, such OLC violation, OLC in force, event due to nature phenomena and radiation safety related event, occurred in 2013 in ISFSF.

Licensing

The HAEA issued 12 decisions related to the ISFSF. The most important regulatory decisions were on the facility extension. For long term operation of the NPP units, it is necessary to extend the facility with new vaults. The construction and commissioning of vaults providing interim storage for spent fuels is performed in a modular way. The extending of ISFSF with four vaults was finished with commissioning of vaults 17-20 in 2013. Considering the inseparable, common operation systems of vaults 1-16 and vaults 17-20, the HAEA released a joint operational licence for vaults 1-20. The HAEA released the construction licence of the next four (21-24) vaults.

An important job was the licensing of I&C reconstruction of the safety equipment. The HAEA prescribed the I&C reconstruction of the systems with safety function in the decision concluding the assessment of the periodic safety review. The I&C reconstruction touched the fuel loading machine, the fuel assembly dryer system, fuel assembly positioning system, ventilation, the spent fuel entrance hall and the communication between ISFSF and Paks NPP. During reconstruction, the original functions remain unchanged, only the instrumentation is replaced to a modern one, and some modifications found to be necessary on the basis of operating experience are made. The HAEA granted the licences necessary for the modification, so the reconstruction of the spent fuel loading machine will be carried out in 2014 depending on the spent fuel loading schedule. The rest will be finished by the end of 2015.

In addition to this, there were decisions made on training and qualification of the staff and on the action plan in connection with the comprehensive inspection in 2012.

Inspection

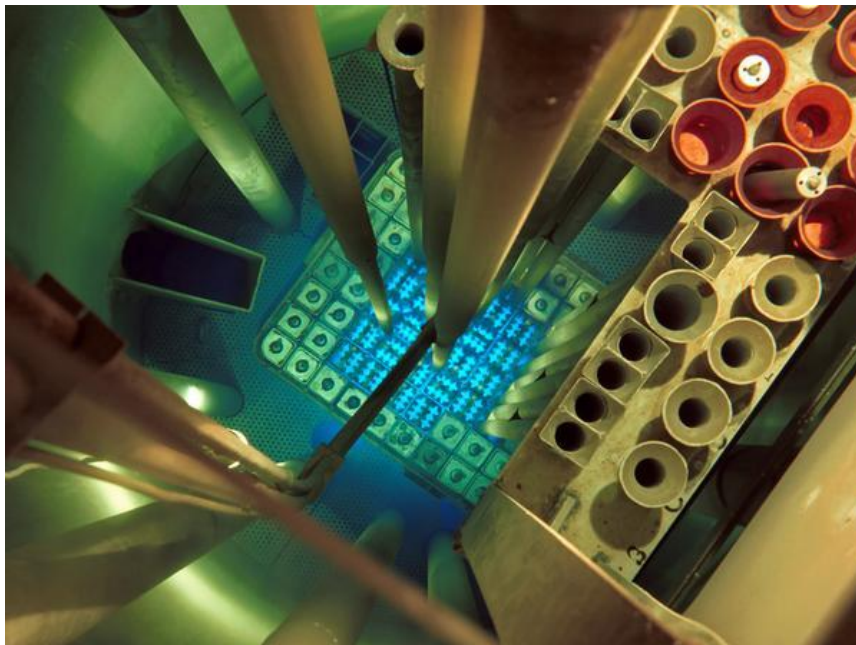
Following the comprehensive inspection in December, 2012, the HAEA inspected the facility’s nuclear safety on-site in three cases. One of these was the inspection of the loading machine drive mechanism and review of the instrumentation and control reconstruction. The HAEA concluded during the inspection that the modification gained its goal, no problem risking safety was detected and there was no need for regulatory action. Another inspection examined the collective dose in connection with the safety performance assessment: No regulatory action was necessary during the inspection of registration and searching of

dosimetry data. In addition to this, the HAEA inspected one time the spent fuel loading and took part in a quality assurance audit of a contractor of the PURAM Ltd.

2.3 The safety performance indicators of the Training Reactor of BUTE Institute for Nuclear Technology

The HAEA states on the basis of safety performance assessment of BUTE TR in 2013 that the facility **worked according to regulations**. The operation did **not cause any health risk increase either for TR employees, training participants or the public**. The value of occupational dose is similar to the last years. The radioactive discharge was preferably good and remained under authorised limits. The reactor operated in accordance with prescriptions and the Operational Limits and Conditions (OLC).

The performance described by the safety performance indicator system is decreasing in one of the main areas, advancing in another as effect of one of the low level indicators and is stable good in the remaining main area in comparison with the last year values.



Picture 2.3-1: Budapest Univ. of Techn. and Ec., Training Reactor, core (Source: www.nti.hu)

The classification of the “**Smooth Operation**” has been stable good for years. All the indicators of the area, “Operational parameters”, “Condition of SSCs” and “Safety barriers”, have continuously shown good quality for years from safety point of view. The “Reportable events” has a satisfactorily low value.

In the “**Safe Operation**” area, the “Shutdown system failure” has increased, because two failures happened. The licensee has fixed the problem with replacement. The area’s other indicator “Risk” did not show problem. The “Discharges” indicator made of “Gaseous discharge”, “Liquid discharge” and “Solid radioactive discharge” has had a favourable value for years.

The performance of “**Safety Conscious Operation**” area improved, because the “Number of violations” decreased in comparison with the last years and the value of “Events due to human failure” decreased. All the other indicators, “Strive to improve, self-assessment”, “Experience

feedback”, “Radiation protection effectiveness”, “Industrial safety effectiveness”, have favourable value.

Events

One reportable event occurred in 2013 in the Training Reactor, when a foreign body was found on the rack surrounding the core. No event with SCRAM, OLC violation, OLC in force, event caused by natural phenomena or related to radiation safety occurred.

Licensing

The HAEA issued 4 decisions related to BUTE TR on training of staff, qualification of staff, preparation of decommissioning and reconstruction or replacement to a modern one in terms of equipment. The comprehensive reconstruction of the technological measurement chains and other components is the most important. These chains and related equipment, auxiliaries represent the technology of the 1980s, they are obsolete. Repair is impossible due to termination of manufacturers. The new parts to build-in are reliable, up-to-date elements, which can withstand the accident environmental conditions. Due to resource constraints, the reconstruction will be hopefully implemented in 2014.

The licensee of the facility reported completion of six PSR obligations. On the basis of the submitted documentation, the HAEA accepted the fulfilment of three of them and expects further measures in relation the rest. The accepted measures were drive mechanism reconstruction of the shutdown and control rods, conceptual plan of spent fuel shipment from the facility and the primary circuit valves earthquake withstanding capability review.

Licensing

The HAEA has carried out on-site inspections in two cases in order to supervise the periodic maintenance activities. The regulator examined in an ad-hoc inspection the administration and registration of prescriptions, because their number became higher in the years before 2013. No such administrative defect was detected that can explain the defects. The areas under inspection were in accordance with the legal prescriptions. No regulatory intervention was necessary. In order to maintain the improving tendency of 2013, the awareness of the operator and the regulator is still necessary.

2.4 Budapest Research Reactor

The HAEA declares that on the basis of safety performance of BRR in 2013, the facility was **operated according to the legal prescriptions**. The operation of the facility meant **no health risk improvement neither to BRR staff nor the public**. The occupational dose was within the range of the last years. Radioactive discharge was preferably low and remained significantly under authorised limits. The operation of the reactor was in accordance with prescriptions and keeping the Operational Limits and Conditions (OLC).

However, the performance shown by the safety indicator system has slightly decreased in all three main assessment areas due to one or two indicators in each of the areas in comparison with the excellent values of the previous years.



Picture 2.4-1: Budapest Research Reactor, reactor hall (Source: www.bnc.hu)

In the area of “**Smooth Operation**”, the “Unplanned shutdown and power decreases due to internal errors” has increased. There was a leap in number of failures of “Radiation control system” equipment. The licensee and the authority have to make greater efforts to eliminate the problems causing technical issues, which influence the value of the indicator. The classifications of “Cooling and ventilation systems”, “Safety systems”, “Nuclear measurement chains” and “Primary and secondary circuit technology measurement chains” are good. It can be declared on the rest of the indicators in the area that the “Condition of safety barriers” is satisfactory, and the “Event number” is low.

The “Failure of SCRAM system” indicator deserved to be highlighted in “**Safe Operation**”, because one reactor operator observed once the failure of shutdown rod position indication. Considering the reactor trip system, it must be stated that the first “real SCRAM” since 2002 occurred in 2013, because the reactor operator shut down the reactor due to cooling tower failure. This event did not endanger safety, because the SCRAM system worked well. The other indicator, “Risk”, of the area has been showing a solid acceptable niveau for years. The “Discharges” indicator consisting of “Gaseous radioactive discharge, noble gases”, “Liquid

radioactive discharge” and “Solid radioactive waste” low level indicators has been standing on a favourable value for years.

The “Prescription violation” deserves to be highlighted in “**Safety Conscious Operation**” area, because the number of prescriptions fulfilled late rose in the last years. The operator has to reveal the causes, because in the next years there will be more obligation than usual as a result of the Periodic Safety review finished in 2013. Another deteriorating indicator is “Collective dose” in this area. Its value was not exceptionally high, but it had increased by 10% in comparison with the average of the last 3 years. The other indicators like “Experience feedback”, “Striving for improvement, self-assessment” and “Industrial safety” is on a good level.

Events

At Budapest Research Reactor 3 reportable events related to SCRAM happened in 2013. In addition two events belonging to the “Operation with low risk” area a third one occurred due to a failure of the facility’s external power supply. No event occurred with OLC violation, or OLC in force caused by natural phenomenon or related to radiation safety, human failure and there was no recurrent event.

Licensing

The Periodic Safety Review (PSR) due in each 10 years of the Budapest Research Reactor was carried out from February 7 to November 6, 2013. The PSR report was developed with the help of a guide taking into account the experiences of the Fukushima accident and released by the HAEA. In addition to the HAEA, South Transdanubian Inspectorate for Environment, Nature Conservation and Water Management, the National Public Health and Medical Officer Service Office of the Chief Medical Officer, the local Fire Department and Directorate General for National Disaster Management took part in the process.

The **HAEA** found the Budapest Research Reactor to be appropriate for further operation, if the prescribed conditions are fulfilled, and **granted the operation licence for 10 years on the basis of the safety review** on November 21, 2013.

The HAEA has ordered to carry out 27 safety enhancement measures in 2013-2016 as a conclusion of the review. The measures refer to the review of safety analysis, the facility’s earthquake-proof design review, environmental qualification of safety critical equipment, ageing management review, modernization of technology systems, control system review, review of event and operation related processes.

The HAEA has obliged the licensee to submit a semi-annual report in order to inform the regulator on the progress of the safety enhancement measures. The main part of the prescribed measures needs intervention into the technological systems and equipment and need regulatory licence. The HAEA carries out the regulatory supervision of these activities through licensing processes and on-site inspections.

The most important regulatory decisions were related to the PSR, but among others there were decisions on the use of low enriched fuel and training and qualification of personnel.

Inspection

The HAEA has carried out on site inspection 7 times to ensure the safety of the nuclear facility. Two of them were related to fuel conversion, when the inspections revealed that the conversion to low enriched fuel has been successfully finished according to the plans. One inspection connected to the findings of the regulatory assessment of the Periodic Safety Review. During an ad hoc on-site inspection the HAEA studied the cause of failure of the cooling tower. The rest of the inspections focused on maintenance process, radioactive waste management and radiation protection program, exams of licensed personnel. There was no safety jeopardizing problem identified and no regulatory action was necessary.