## Convention on Nuclear Safety Questions Posted To Austria in 2017

No.	Country	Article	Ref. in National Report	Question	Answer	Support Documents
1	India	General	Article 19, Page 21	It is stated "The international experience is constantly exchanged and updated at these meetings. The result of this information exchange is reflected in the overall technical and organisational status of the Vienna TRIGA facility."  Could Austria share information on implementation of third principle of Vienna declaration on Nuclear Safety with respect to national requirements and regulations?	According to article § 89a of the Genaral Radiation Protection Ordinance the license holder of a research reactor has to perform a periodic safty review (PSR) every 10 years and to submit the results to the competent authority. The competent authority has to evaluate the outcome and may demand improvements to guarantee the safe operation of the research reactor. Such improvements would be formulated in specified conditions and obligations of a license. Furthermore the license holder of a research reactor has to ensure a safety culture on a high level according to article § 89a of the Genaral Radiation Protection Ordinance.	
2	Germany	Article 6	p. 3, 4	Austria reports that TU Vienna has modernised the TRIGA reactor by modifying the reactor instrumentation, primary and secondary cooling systems and the control room. It remains unclear if these modifications will maintain or improve nuclear safety. Can Austria explain in more detail how these modifications contribute to the improvement of nuclear safety in terms of the Vienna declaration?	The modifications and renewals as stated in the 2017 National Report do indeed contribute to the improvement of Nuclear Safety. Substantial improvements include the new reactor-instrumentation and the digital I&C System. This system overhaul guarantees the TRIGA Vienna's safe operation as stipulated in the IAEA safety requirements and are also according to the spirit of the Vienna Declaration. As an example, the operation-parameters of the new reactor instrumentation are controlled and documented through both digital and analogue means.	

3	Germany	Article 6	p. 3	Austria reports on the TRIGA research reactor: "The modernisation of the reactor instrumentation, the control system, the primary and secondary cooling circuit and the reactor control room took place from 2014 till November 2015. The new systems are tested until October 2016. A new licence is obligatory for any further reactor operation." Does this mean that the current licence for TRIGA expired in October 2016 and a new licence is required to operate beyond this date? Has TRIGA already applied for this new operating licence? Is the operating licence in Austria typically granted for a limited period of time? If yes, what is the licensing period?	The ATI research reactor's license is in principle openended. Nevertheless the license may be suspended for certain works necessary for the safety and the proper function on the reactor.  The renewals, mainly of the reactor instrumentation and the digital I&C- system, required the temporary suspension of operation and ultimately of the operating license. This reinstatement required an inspection by the regulatory body to assess the new reactor instrumentation regarding nuclear safety concerns. The ATI- Institut of the Technische Universität Wien applied for the reinstatement of the license, which was granted in October 2016 in form of an open-ended license.	
4	Hungary	Article 6	p.3	"The modernization of the reactor instrumentation, the control system, the primary and secondary cooling circuit and the reactor control room took place from 2014 till November 2015. The new systems are tested until October 2016. A new licence is obligatory for any further reactor operation." What is the expected date for the restart of the ATI reactor?	The ATI- Research Reactor has been restarted in November 2016.	
5	Hungary	Article 6	p.3	It is mentioned that the modernisation of the reactor took place from 2014 till November 2015. Approximately how	No radioactive waste was generated during the modernization. Neither the pipes of the primary circuit nor of the secondary cooling circuit, nor the vent-pipes	

				many cubic meters of radioactive waste was generated during the modernization?	were contaminated.	
6	Germany	Article 7	p. 5	Austria reports that the amendment of the Radiation Protection Act in the year 2015 covered i.a. public participation in the decision-making process. What kind of public participation (e.g. inform, consult, partner, empower) is Austria practicing?	Pursuant to Article 36b of the Radiation Protection Act, participation of the public has to take place for the preparation of the National Radioactive Waste Management Programme in the frame of a Strategic Environmental Assessment (SEA).	
7	Germany	Article 7	p. 5	Austria reports that "the Federal Ministry of Science, Research and Economy has the sole responsibility for nuclear installations and particle accelerators within universities and research institutions of the Austrian Academy of Sciences (formerly: Ministry of Science and Research in agreement with the Ministry of Agriculture, Forestry, Environment and Water Management) as a competent authority responsible for licensing and supervision". Is the Federal Ministry of Science, Research and Economy at the same time also the competent authority responsible for Universities and research institutions in Austria? If so, how does Austria ensure the independence of the licensing and supervisory processes?	The Austrian Universities are fully independent legal entities under the Austrian constitution and public law with their own budgets who manage their own affairs without direct influence from the ministry or any other organization.  The licensing and the supervisory processes concerning the research reactor and the particle accelerators at universities are in full compliance with all requirements, regulations and legislation.	

8	United States of America	Article 7	7.2.1, Pg 5	What is the latest status of efforts to incorporate EC Council Directive 2013/59/Euratom into national law?	Austria is drafting a new Radiation Protection Act and several Radiation Protection Ordinaces for transposing EC Council Directive 2013/59/Euratom into national law. The deadline for the transposition of this directive is February 2018.	
9	Germany	Article 7.2.2	p. 7	Could Austria explain why the minimisation of costs is addressed as the primary reason for issuing a licence before starting construction? This indicates that safety has less priority than economic reasons.	In Austria, the licensing procedure for major installations consists of two stages (construction and operation) whereby radiation protection measures are required at all stages of the licensing procedure. If the licensing procedure for major installations would consist of only one step, the applicant would risk to be obliged making expensive modifications to fully comply with the requirements set by the authority. In adverse cases after large investments were done yet before operation. Therefore a one-stage licensing procedure for major installations could be much more expensive and complex. The Austrian legislation on radiation protection clearly concedes safety a higher priority than economy.	
10	Germany	Article 7.2.3	p. 8	According to Article 17 of the Radiation Protection Act, the regulatory body inspects nuclear facilities to ensure that the facility maintains being state-of-the-art. Can Austria elaborate in more detail what is meant by "state-of-the-art"?	Art.2(36) of the Radiation Protection Act defines the state-of-the-art as technological procedures, based on knowlege of research and development, that are tested and prooved. Comparable procedures, processes and techniques shall serve to specify the state-of-the-art. The TRIGA Research Reactor is annually inspected by the Ministry of Science, Research and Economy as the Competent Authority (Art.17 Radiation Protection Act) in order to ensure that the operation is done in full compliance with the relevant IAEA Safety Standards, with the Austrian Radiation Protection legislation and relevant EU-Directives.	

11	Germany	Article 7.2.3	p. 8	Can Austria explain why the radiation protection officer has to be consulted before proceeding with enforcement actions according to Article 18 of the Radiation Protection Act? How does this influence the inspector's regulatory decision-making?	According to Art. 18 enforcement actions in cases of imminent danger will be promptly taken. The consultation with the radiation protection officer is not mentioned in the law. Therefore it is optional and advisable as appropriate to collect all information neccessary.	
12	Germany	Article 8.1	p. 9, 10	provide more information on the	The budget line of the regulatory authority for the research reactor has slightly increased over the last three years and covers sufficiently the needs.	
13	Germany	Article 8.1	p. 9, 10	Could Austria explain the development of the human resources and the approach to ensure the mandatory knowledge to regulate nuclear facilities?	Since 2015 3 to 5 people were involved in the oversight of the TRIGA Research Reactor. Moreover two external nuclear experts in Radiation Protection, experts of the national authority, dealing with the protection of people working at the reactor-site, and the Austrian Agency for Food and Health Safety (AGES) support the ministerial staff.  Staff members undergo training in order to guarantee their efficiency and competence. The most recent training took place in December 2016. All staff members of the Ministry attend a two-days training-seminar in radiation protection to intensify its competence	
14	Germany	Article 8.1	p. 9, 10	In 2014, Austria responded to a question from Germany indicating that 2 to 3 people were involved in the oversight auf the TRIGA reactor. Even the report for the seventh review meeting does not contain this information, required in INFCIRC	see answer to Q on development of human resoources	

				572. This manpower seems to be too low to adequately regulate a research reactor with the different technical topics to be covered by the regulatory body. Does Austria contract external experts to provide technical advice? How does Austria ensure the required know-how of the staff to consider technical advice from external experts in regulatory decision-making?		
15	Iceland	Article 8.1	Article 8 (Regulatory body) p. 9- 11	The responsibility for nuclear matters in a broad scope lies with different authorities at the levels of the federal state and the provinces. The National Report mentions the Federal Ministry of Agriculture, Forestry, Environment and Water Management (Publisher of the National Report), the Federal Ministry of Science, Research and Economy, and the Federal Ministry of the Interior. Furthermore, the Federal Ministry of Health and Women's Affairs, the Federal Ministry of Justice, the Federal Ministry of Transport Innovation and Technology and the Federal Ministry of Labour, Social Affairs and Consumer Protection are involved in different fields of the handling of radioactive materials and radiation protection, while different regional and district authorities are responsible for the	Since there is no single regulatory authority for all matters related to nuclear and radiation safety, the SSAC needs to be combined with a chosen set of related responsibilities. Safeguards and nuclear export controls both flow from the NPT and can be implemented together with considerable efficiency gains. Currently export controls are consolidated in a single export control authority in the Ministry of Economy. In addition to being SSAC this authority is also the National Authority under the Chemical Weapons Convention.	

				implementation of different parts of the Radiation Protection Act. In view of what seems a slightly complex distribution of responsibilities and reporting obligations, does Austria consider its current system the most feasible arrangement possible, especially as regards a defined SSAC (State System for Accounting for and Control of Nuclear Material)?		
16	Iceland	Article 8.1	Article 8 (Regulatory body) p. 9- 11	The responsibility for nuclear matters in a broad scope lies with different authorities at the levels of the federal state and the provinces. The National Report mentions the Federal Ministry of Agriculture, Forestry, Environment and Water Management (Publisher of the National Report), the Federal Ministry of Science, Research and Economy, and the Federal Ministry of the Interior. Furthermore, the Federal Ministry of Health and Women's Affairs, the Federal Ministry of Justice, the Federal Ministry for Transport Innovation and Technology and the Federal Ministry of Labour, Social Affairs and Consumer Protection are involved in different fields of the handling of radioactive materials and radiation protection, while different regional and district	Austria is a Federal State. The description in the National Report gives an overview of all responsibilities for nuclear matters regardless of the scope of the Convention on Nuclear Safety. Regarding the CNS Austria decided since the first RM to report on a voluntary basis on its research reactors. For the research reactor, in operation in the reporting period of RM 7, there is only one single regulatory authority for all nuclear safety related matters, which is the Federal Ministry for Science, Research and Economy. The implementation of Directive Euratom/2013/59 will include considerations to consolidate the regulatory oversight in the future.	

				authorities are responsible for the implementation of different parts of the Radiation Protection Act.  In view of the fact that Austria has several nuclear neighbours and extensive domestic use of radiation, has Austria considered establishing a dedicated regulatory authority for all matters related to radiation- and nuclear safety?		
17	Germany	Article 8.2	p. 9	The regulatory body seems to be conflicting with No. 10 of the code of conduct where independence from organisations promoting nuclear technologies or the operation of research reactors is required. In particular, the financing of the TRIGA reactor (including expenses for nuclear safety) is funded by the Ministry of Science, Research and Economy, which is also the competent licensing and oversight authority. This may impair the regulatory decision-making process. It would be appreciated if Austria could explain how the regulatory body is embedded in the organisation of the Ministry of Science, Research and Economy. Can Austria comment on the independence of the regulatory body within the Ministry of Science, Research and Economy, which has also the task to	The Regulatory Body for nuclear installations and particle accelerators within universities and research institutions is embedded in the Directorate General for universities and universities for Applied Sciences. The tasks of the Regulatory Body are separated from financing the 22 Universities. The requirements of the regulatory body have to be fulfilled and financed by the licence holder in any case. The universities receive a global budget for three years which is part of the performance agreements with each university. The Austrian public universities enjoy full autonomy under the Austrian Constitution (Art 81c B-VG) which encompasses all budgetary matters which are without the scope of direct influence of the Ministry of Science, Research and Economy.	

				promote research and to finance TU Vienna?		
18	Germany	Article 9	p. 13, 14	Regarding INFCIRC572, could Austria report on the applied instruments by the licence holder to ensure that nuclear safety has always highest priority?	There are requirements in the articles 89, 89a, 89b, 89c and 90 of the General Radiation Protection Ordinance for licence holders of research reactors to ensure nuclear safety.	
19	Germany	Article 10	p. 13	Austria reports "As during the past 51 years of operation the Atominstitut continues to apply the highest possible safety standards both to organisational and technical aspects." However, TRIGA in Vienna has been in operation since 1962 (p. 3). Could you clarify what your statement implies for the time period of 1962 – 1965 when TRIGA in Vienna was already in operation?	The statement in Art. 10 refers of course to the period of 1962-1965. The mentioned "past 51 years" should be read as "past 54 years". This can be considered an editorial oversight.	
20	Germany	Article 10	p. 13	Austria reports on the renewal of TRIGA, i.a. a new digital I&C system. Has Austria considered adequate security provisions against cyberattacks?	Security aspects are out of scope of the CNS. However several security considerations and measures coincide with Nuclear Safety improvements. The new digital I&C system that was installed in 2016/2017 is fully airgapped and several additional administrative measures have been taken to ensure against a cyber intrusion.	
21	Argentina	Article 11.2	Pag. 14	In the report it is said that "the personnel of the Austrian research reactor is improving its competences by taking part in courses, workshops and Conferences as well".  Is there a national education and	The education, continuing education and training for research reactor- staff are regulated in Art. 43 of the Radiation Protection Ordinance and controlled at the annually during the Art. 17 Radiation Protection Actinspections by the Competent Authority and of course during every licensing process.	

				training program to assure personnel competences? If so, how is this programme considered by the reactor operator and the Regulatory Body and how is it included specifically in the licensing process?		
22	Argentina	Article 12	Pag. 14 (Human factors)	Could you please provide details about the way Austria classifies human and organizational factors into 12 reactor systems?	The mentioned "12 reactor systems" should be read as "10 reactor" systems. The number of 12 reactor systems can be considered an editorial oversight.  All log entries were manually classified into the following 10 categories:  1. reactor block, fuel and internals  2. cooling systems  3. confinement/containment  4. instrumentation and controls  5. electrical distribution  6. auxiliaries  7. experimental facilities  8. documentation and configuration management  9. other (non SSC)  10. service	
23	Argentina	Article 14.1	Pag. 15	The report states: "The Atominstitut of the Technische Universität Wien submitted the Periodic Safety Review (PSR) at the end of 2014. In May 2015 the Federal Ministry of Science, Research and Economy approved the PSR, but demanded improvements of all systems and components. This could be achieved together with the	Emergency planning and radiological impact have been assessed. These safety factors are included in the Safety Report (Sicherheitsbericht), which is part of the Periodic Safety Review (PSR) according to Art. 89a/10 of the Radiation Protection Ordinance. The demanded improvements by the competent authority referred partly to radiological impacts.	

				planned new reactor instrumentation, which is completed by now".  Has the impact of improvements on PSR safety factors like Emergency planning and Radiological impact been assessed? Please provide additional information.		
24	Germany	Article 14.1	p. 15	What are the findings of the periodic safety reviews and what improvements are requested by the regulator? Could Austria comment on how these improvements could be completed together with the new reactor instrumentation?	Major findings of the PSR stipulated the renewal of certain parts of the reactor instrumentation in order to keep the reactor operational in the long-term.  The conditions can on the one hand be seen in close context with the then-planned new reactor-instrumentation. On the other hand findings in the PSR referred to the operation and on-site controls of the ATI staff in order to increase radiation protection.  The requested improvements included the new reactor-instrumentation, the new I&C System, the renewal of the primary and secondary cooling systems, the control-room and the whole ventilating- system.  The ATI has addressed all relevant findings in the PSR.	
25	Argentina	Article 15	pag.16	The Report says that "depending on the level of estimated collective dose, a dose relevant task must be controlled by a radiation protection officer". Is this the only criteria considered to assign a radiation protection officer to a task? Please provide additional information.	Accordings to the Austrian legislation, primary responsibility for safety lies with the licensee, who has to nominate and consult a radiation protection officer. For specific situations ("dose relevant tasks"), the authority (or e.g. the standard operation procedures) can require, that the radiation protection officer has to be permanently present at the workplace in order to assure safe operation.	
26	Argentina	Article 15	pag. 16	Could you inform about the values of dose constraints defined in Radiation Protection Ordinance?	Austria has a dose constraint of 0.3 mSv/year in the area "public exposure in non-nuclear industries" for the controlled discharge of gaseous or liquid radioactive	

					material.  There is also a dose constraint of 0.3 mSv/year defined for the application of unsealed sources in the environment in the General Radiation Protection Ordinance.	
27	Germany	Article 15	p. 15, 16	Austria has not provided the main results of measured doses of exposed workers as required in INFCIRC572. Did Austria observe an increase in the collective dose or a higher maximum dose of staff or contracted personal during the modification of the TRIGA reactor?	There wasn't any increase in the collective dose or a higher maximum dose of staff or contracted personal during the renewal-works at the TRIGA Reactor.	
28	Slovenia	Article 15	p. 16	Text: The release is supervised by the licensing authority. Question: Could you explain how this supervision is done. Are the members of the licensing authority present at taking the samples in order to evaluate the quality of the sampling/samples?	The supervision is done by the Austrian Agency for Food and Health Safety (AGES) as expert body of the Ministry of Science, Research and Economy. The annual supervision-report of AGES is presented and discussed at the annual inspection according to § 17 Radiation Protection Act at the reactor-site.	
29	Germany	Article 16	p. 18	Austria mentions several types of emergency exercises. Could Austria provide more information on the following: How is emergency preparedness organised? Does it include on-site accident management or external emergency procedures? Are the different types of emergency exercises performed on a regular basis? How frequently? Who participates in the exercises, are they	The on-site EPR is legally based on the Austrian Radiation Protection Act and the General Radiation Protection Ordinance: A safety report and an emergency plan are preconditions for licensing. For the research reactor there are detailed requirements for the content and the structure of the on-site emergency plan. Emergency exercises for the research reactor have to be conducted by the operators on regular basis. The frequency of the exercises is determined by the regulatory body for the research reactor.	

				only for operating organisation (TU Wien/ATI)? How often are they conducted in Austria?	The members of the reactor safety commission (radiation protection, reactor operation and nuclear safety) are in constant contact with:  • the IAEA emergency response center  • the local fire department  • the local police department  • the Federal Ministry of the Interior Furthermore, yearly evacuation exercises are performed for the staff of the institute, in cooperation with safety personnel of the Technical University of Vienna and external observers. The off-site EPR is legally based on the Austrian Radiation Protection Act (§§36-38) and the Ordinance on Interventions.  Requirements for off-site EPR exercises are part of the Ordinance on Intervention. In the emergency plans all types of exercises, participating organizations and their specific ere-examiations are listed. The emergency plans ("Interventionspläne") are available for the public at: www.bmlfuw.gv.at/umwelt/strahlenatom/notfallplanung/behoerdlichevorkehrungen/notfallvorsorge.html	
30	Germany	Article 16	p. 18	Are "large-scale" off-site exercises with participation of all interested parties at national level (operating organisation, competent authorities, other supporting organisations, e.g. police, fire brigade, etc.) performed? If yes, are the competent authorities involved in the exercises in an active way, or are they only passive observers?	Large scale (Austrian wide) off site exercises such as the INTREX-2012, MELDEX- 2015 and the INEX-5/INTREX-2016 were organized with active participation of all competent authorities and the main response organizations at federal and provincial level including all relevant Austrian Ministries, the Federal Crisis Disaster Management Board, the crisis staff and regional alerting centers in all Austrian Provinces. Supporting organizations such as the Austrian intervention teams (radiation protection experts of the Austrian police, sampling and measurement teams and	

					labors) were partly involved. However, none of these exercises was focused specifically on the research reactor.	
31	United States of America	Article 16	16.1, Pg 17- 18	Please summarize key observations or insights from recent emergency preparedness exercises.	The last Austrian wide off site exercise was the INEX-5/INTREX-2016 in March 2016 which was conducted together with Slovenia, Italy, Croatia and Hungary. The key observations were:  • The information provided by the accident land was excellent and comprehensive  • International coordination of protective measures and information of the public turned out to be difficult in the urgent phase because of the pressure and the lack of time to prepare and implement first protective actions.  • According to the exercise weather conditions chosen (very unstable weather with fluctuating wind directions) dispersion results of decision support systems were not usable and the HERCA/WENRA approach for severe accidents and high uncertainties was used for deciding on protective actions in the warning phase  • Assessment of the exposure situation and the decision on protective measures in Austria as well as the communication between federal and regional authorities worked well	
32	United States of America	Article 16	16.1, Pg 18	To what extent is social media and new technology (such as smartphone apps, GPS, etc.) used to inform the public of radiation or nuclear concerns?	Social media coverage in an emergency situation requires large human resources to be helpful. Therefore the focus in Austria is still on the "conventional" communication channels to inform the public (Austrian wide siren system, TV and radio inserts, Austrian Press Agency, dedicated homepages, call center,). However, the prepared text templates for media information	

					which are adjusted to the real situation in an emergency will be spread as basic information also in the social media (twitter and facebook). Concepts for using new technology are currently developed.	
33	United States of America	Article 16	16.1, Pg 18	How often does Austria participate in joint emergency preparedness drills with neighboring countries?	With most neighbouring countries the frequency of joint exercises is typically yearly or every two years. For example there is an arrangement with the Czech Republic based on the bilateral agreement to exercise jointly once per year. This exercise focuses on the bilateral data exchange, the operation of the decision support system and the decision making of first protective actions.	
34	Czech Republic	Article 16.1	p. 16	How often is the emergency plan at the federal and provincial level updated?	The emergency plans at the federal and provincial level have to be reviewed periodically (yearly) and updated if needed.  The federal emergency plans are currently updated taking into account the additional requirements of the Directive 2013/59/Euratom (BSS).	
35	Slovenia	Article 16.1	p.17	Management of iodine prophylaxis (in the table) What is the arrangement for iodine prophylaxis?	About seven million packages of potassium iodide tablets (each one contains ten tablets) are stockpiled for the population. To ensure a timely intake of the tablets, a concept of stockpiling has been conceived, consisting mainly of the following:  1. Keeping a stockpile in schools and childcare facilities.  2. Keeping a stockpile at home for individuals below the age of 40. The most important target groups (people under 18 years of age, pregnant or breastfeeding women) can get the tablets for free at any pharmacy; people between 18 and 40 years can buy them at a low price.	

					3. Keeping a stockpile in pharmacies and in other decentral places to ensure a quick supply of people who are not covered by the first two supply lines.	
36	Slovenia	Article 16.1	p. 18	A call centre for answering questions from the public has been established. Q.:Is this a dedicated call centre for nuclear and radiological emergencies? How many positions does it have?	The call center of the Austrian Ministry of Interior is dedicated to all large scale disasters including nuclear and radiological emergencies and can be operated on a 24/7 basis. Dependent on the type of disaster the call center agents are briefed and supported by the responsible competent authorities. The call center has 20 positions for answering the calls. The experience of the operation of the call center gained during the Fukushima nuclear emergency was very positive and valuable for future nuclear emergencies.	
37	Germany	Article 17.3	p. 19	Could Austria provide more information on the reassessment of the site-specific hazards for the TRIGA reactor? What are the obligations in the national legal and regulatory framework?	Article 89 of the General Radiation Protection Ordinance lays down the obligations regarding siting and construction of research reactors. According to this article the influence of site-specific external elements like earthquakes, extrem meteorological conditions or human influences have to be considered for the site selection.	
38	Czech Republic	Article 17.4	p. 28	The report states: "Being a Member State of the European Union, Austria has contributed and will continue to contribute to all activities which aim at continuously improving nuclear safety". and "Austria's high interest in the safety of nuclear facilities, except for the domestic nuclear activities as	It is planned to install three additional highly sensitive seismic stations in Upper- and Lower Austria until 2019. In addition, the Zentralanstalt für Meteorologie und Geodynamik (ZAMG) co-operates with the Institute of Physics of the Earth (IPE) at the Masaryk University in Brno which operates three seismic stations in the Czech Republic for monitoring the seismicity since 1992 and exchanges seismic data ever since.	

described in chapter 7.6, relates
primarily to environmental and health
concerns arising from the operation of
nuclear power plants in Austria's
neighbourhood".

For a more accurate assessment of the
seismic hazard of Czech NPPs, data
measured from a network of seismic
stations in the northern part of Austria
(the southern part of the Bohemian
massive on Austrian land) would be
needed. There are no seismic stations
in this region.

Has the extension of a seismic
network in this area been planned?