

# Convention on Nuclear Safety Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting – 2023



**International Atomic Energy Agency IAEA, Vienna**

## **Country Review Report for Switzerland**

**Drafted by Country Group 5**

(Angola, Belgium, Bosnia and Herzegovina, Estonia, Ireland, Mali,  
Oman, Romania, Russian Federation, Senegal, Switzerland, Tunisia,  
United Arab Emirates)

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**Version: FINAL**

*DISCLAIMER: Per INFCIRC 571, Revision 7, Para. 16-19 and Annex IV, Contracting Parties were invited to comment on the implementation of the CNS reporting guidance. Contracting Parties were also encouraged to submit proposed Good Practices, Challenges, and Suggestions prior to the Review Meeting. The draft Country Review Report documents the preliminary observations identified by the Contracting Parties. The Country Review Report is the result of the CNS Review Process and was agreed by consensus by the Country Group.*

## Glossary

*The Glossary provides here the definitions of “Challenges”, “Suggestion” and “Good Practice” according to Annex IV of INFCIRC/571/Rev. 7. The definition of “Area of Good Performance” was agreed upon by the Officers during the CNS Officers’ Meeting on 24-25 September 2019 and confirmed by the Officers at the CNS Officers’ Meeting on 18-19 July 2022.*

A **Challenge** is “a difficult issue for the Contracting Party and may be a demanding undertaking (beyond the day-to-day activities); or a weakness that needs to be remediated.”

A **Suggestion** is “an area for improvement. It is an action needed to improve the implementation of the obligations of the CNS.”

A **Good Practice** is “a new or revised practice, policy or programme that makes a significant contribution to nuclear safety. A Good Practice is one that has been tried and proven by at least one Contracting Party but has not been widely implemented by other Contracting Parties; and is applicable to other Contracting Parties with similar programmes.”

An **Area of Good Performance** is “a practice, policy or programme that is worthwhile to commend and has been undertaken and implemented effectively. An Area of Good Performance is a significant accomplishment for the particular CP although it may have been implemented by other CPs.”

## Executive Summary

Switzerland currently has 4 operating nuclear power reactor units (2 units at Beznau, 1 at Gösgen and 1 at Leibstadt), after Mühleberg NPP was permanently shut down on 20 December 2019. Switzerland also voluntarily reported on its research reactors: it has 4 nuclear research reactors at the Paul Scherrer Institute, of which 3 are in various states of shutdown or decommissioning. Decommissioning of 1 of the 2 original university training reactors was completed in 2019. The other is still in operation.

In 2011, Switzerland decided to gradually phase out nuclear power by prohibiting the construction of new NPPs whilst the existing plants are to be operated for as long as the regulatory body considers it safe to do so. For Beznau and Gösgen NPPs assessments of long-term operation (LTO) have been completed, allowing operation for 10 more years.

3 out of 3 Challenges and 1 out of 1 Suggestions from the 7th Review Meeting have been closed.

The Country Group highlights the following measures to improve safety in Switzerland's national nuclear programme:

- At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland explained that, in December 2022, Leibstadt NPP submitted the documents for its PSR and proof of safety for LTO beyond its 4th decade of operation. The ENSI review project has started and is expected to be completed in 2025. The latest PSR for Gösgen NPP was submitted in 2018 and ENSI expects to complete its review of the Gösgen PSR including LTO in 2023. Beznau NPP submitted its latest PSR in 2018 and ENSI completed its review including LTO in 2021.
- Replacement of analogue control technology with digital is being implemented at Gösgen NPP. One corresponding project was completed in 2022, others are to follow. Preparations and some initial plant modifications for a similar project at Leibstadt NPP are underway. At Beznau NPP, digital control systems are implemented for several systems. At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland also provided more detail on these projects.
- Safety improvements at Gösgen NPP to increase protection against flooding and earthquake hazards. In addition, following a decision in 2015, further enhancements to the existing bunkered special emergency shutdown and heat removal system began in 2018. This will enable the plant to cope with a broader spectrum of external hazards. At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland also provided more detail on these projects.
- Improvements of the filtered containment venting system (FCVS) were implemented at Gösgen NPP (additional filter device) in 2018 and are almost complete at Leibstadt NPP (increased seismic robustness).
- A project to replace the recirculation system at Leibstadt NPP was completed in 2021. This replaced old pipework that could suffer from an increased risk of stress corrosion cracking.
- At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland also provided more detail on its safety culture assessment and learning. It identified some positive practices to share with other countries, including the creation of a Safety Culture Focus Group to prompt a dialogue on safety culture issues.
- In response to several questions during the 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland outlined the additional actions it had taken in relation to emergency preparedness in light of the current situation in Ukraine.

The Country Group identified the following Challenges for Switzerland:

- Challenge 1: A shortage of qualified staff (for operators, sub-contractors and nuclear safety regulators) which, due to the ban on nuclear new build and the increased demand from decommissioning activities, is a serious challenge to maintaining competence in the medium to long-term.

In addition, the Country Group identified 0 Suggestions, 3 Areas of Good Performance and 1 Good

## Country Review Report for Switzerland

### Practice.

The Country Group concluded that Switzerland:

- Submitted National Reports for the 8<sup>th</sup> CNS Review Meeting and for the Joint 8<sup>th</sup> and 9<sup>th</sup> CNS Review Meeting, and therefore complies with Article 5 and in time, following Rule 39 of INFCIRC/573 Rev. 6.
- Attended the Joint 8<sup>th</sup> and 9<sup>th</sup> CNS Review Meeting, and therefore complies with Article 24.1.
- Held a national presentation and answered questions during the Joint 8<sup>th</sup> and 9<sup>th</sup> CNS Review Meeting, and therefore complies with Article 20.3.

## **1. Basic Information on Switzerland's Nuclear Programme**

Switzerland currently has 4 operating nuclear power reactor units (2 units at Beznau, 1 at Gösgen and 1 at Leibstadt), after Mühleberg NPP was permanently shut down on 20 December 2019. Switzerland also voluntarily reported on its research reactors: it has 4 nuclear research reactors at the Paul Scherrer Institute, of which 3 are in various states of shutdown or decommissioning. Decommissioning of 1 of the 2 original university training reactors was completed in 2019. The other is still in operation.

In 2011, Switzerland decided to gradually phase out nuclear power by prohibiting the construction of new NPPs whilst the existing plants are to be operated for as long as the regulatory body considers it safe to do so. Swiss law requires that Periodic Safety Reviews (PSR) are carried out at the end of each decade of operation. After the fourth decade of operation, the Periodic Safety Review shall include an additional safety case for long-term operation (LTO). For Beznau and Gösgen NPPs assessments of LTO have been completed.

## 2. Follow-Up from Previous CNS Review Meeting

### 2.1 Challenges

Switzerland provided the following updates on Challenges identified during the 7th CNS Review Meeting:

Challenge 1: Open issues from the IRRS Follow Up Mission in 2015 (RF1): “The government should:

- (a) strengthen ENSI’s independent regulatory authority by giving ENSI the ability to issue binding technical safety requirements, licence conditions on nuclear safety, security and radiation protection, and
- (b) strengthen ENSI’s position as the competent, technical authority, by having NSC provide their technical safety input to ENSI solely in an open and transparent manner.”

This topic was discussed in parliament and a report from the Swiss Federal Council was requested. The report from the Federal Council concluded that implementing the Recommendation would weaken the role of both the DETEC and the Federal Nuclear Safety Commission (NSC) and that the current distribution of roles between DETEC, ENSI and NSC was as desired by the Swiss Parliament. Further, the Federal Council does not share the opinion of the IRRS mission that the existing legislation could lead to incorrect decisions in the area of nuclear safety. These concerns are sufficiently considered with the existing legislation and case law. This Recommendation has therefore not been implemented.

Based on the above arguments the IRRS mission in 2021 withdrew recommendation RF1.

Follow Up Status: Closed

Challenge 2: Finalizing the investigations concerning UT (ultrasonic testing) indications at Beznau RPV.

Beznau NPP has submitted its final safety case and a review by ENSI and its international expert group was completed in early 2018. It was concluded that the safety case was robust and that the UT indications were caused by agglomerates of alumina inclusions, formed during manufacturing, which do not significantly affect the materials properties relevant for structural integrity or irradiation sensitivity.

The reactor was restarted in March 2018, with a requirement to repeat the UT inspection in the area where the highest UT amplitudes are located. At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland confirmed that the planned 2022 re-inspection has been completed and found that there had been no changes in the UT characteristics and there were no safety concerns.

Follow Up Status: Closed

Challenge 3: Decommissioning of Mühleberg.

The requirements for the final decommissioning plan are described in the Nuclear Energy Act, the Nuclear Energy Ordinance and in ENSI’s technical guideline G17, which is in accordance with the WENRA Safety Reference Levels and the respective IAEA Safety Standards on decommissioning.

ENSI published guideline G-17 in April 2014, which stipulates the requirements for the decommissioning of nuclear installations in Switzerland. It also specifies the detailed requirements for the application documents regarding decommissioning. The operator of Mühleberg NPP submitted the decommissioning concept in December 2015. The submitted documents have been reviewed by the authorities. Based on the authorities’ advisory opinions, DETEC has issued the legally binding decommissioning order that regulates the decommissioning process in June 2018 – more than one year before final shutdown. This ensured that any potential appeal procedures could be finalized before the plant’s planned shutdown on 20 December 2019. Immediately after final shutdown, the operator started some preparatory dismantling activities with spent fuel still on site.

Transport of the fuel to the Swiss central interim storage facility in Würenlingen (Zwilag) started at the end of 2021. At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland stated that it was expected that all fuel will be removed by September 2023.

According to BKW’s plans the dismantling of Mühleberg NPP will take 11 years until the plant can be released from the supervision required by nuclear energy legislation in 2030.

Follow Up Status: Closed

## 2.2 Suggestions

Switzerland provided the following updates on Suggestions identified during the 7th CNS Review Meeting:

### Suggestion 1: Report on the progress of the root cause analysis concerning the dry-out issue of the Leibstadt NPP during the 8th RM.

An extensive root cause analysis was initiated in 2016, which included hot-cell examination (with both destructive and non-destructive testing) of 3 fuel rods at the Paul Scherrer Institut (PSI). Zn-rich CRUD deposition was found to be the reason for the V-shaped marks (and not dry-out). Normal burnup-related behaviour was found in relation to wall thickness and hydrogen uptake. A waterside corrosion of up to 20 µm was measured. The vendor review however led to the conclusion that a calibration error had led to their misinterpretation of the dry-out hypothesis. After correction, the results fitted with the PSI results.

The most plausible explanation coming from RCA is considered to be a steam pocket between the lateral cladding surface and the CRUD deposits, causing disruption of the heat conduction and fast growth of the oxide layer. The adapted operation (reduced assembly power and core flow measures) appears to have been successful, according to inspection results and no additional CRUD has formed in the meantime. The reason for the high local CRUD deposits was investigated further from 2019 until March 2022 and the results made available to an international review team led by EPRI. More than 350 fuel assemblies have been inspected and no new findings have been identified. A gamma scan campaign has also been carried out and based on the results a plant manufacturer. Safety information communications have been published resulting in changes that have led to the avoidance of future V-shaped marks and CRUD deposition. All investigations are closed.

Follow Up Status: Closed

### 3. Measures to Improve Safety

#### 3.1 Changes to the Regulatory Framework and the National Nuclear Programme

Since the last Review Meeting, the Country Group took note of the following changes to the regulatory framework and the national nuclear programme:

- Switzerland has decided to phase-out nuclear energy as part of its Energy Strategy 2050, which has entailed a partial review of the Nuclear Energy Act in 2018 (NEA). New nuclear build is prohibited but Switzerland has, however, decided not to restrict the operational lifetime of its existing NPPs. The NEA also includes a ban on reprocessing spent fuel elements and exports for this purpose.
- A number of other legal documents have been revised since the Swiss National Report to the 7th Review Meeting:
  - Nuclear Energy Ordinance (NEO) which includes a requirement for additional proof of safety for LTO to be submitted and specifies a number of areas that must be addressed, which include “material ageing” and “conceptual ageing”;
  - Ordinance on the “Assumption of Hazards and the Evaluation of Protection against major Hazards”;
  - Radiation Protection Ordinance;
  - Ordinance on the “Methodology and Boundary Conditions for the Review of Criteria for the Provisional Shutdown of NPPs”;
  - Ordinance on “Emergency Protection in the Vicinity of Nuclear Installations”;
  - Ordinance on the Staff of the Federal Council National Emergency Operations Centre;
  - Federal Law on Civil Protection and Civil Defence;
  - Ordinance on Civil Protection;
  - Decommissioning and Disposal Fund Ordinance.
- Several new ENSI guidelines have been issued:
  - ENSI-G02 Design Principles for Operating Nuclear Power Plants (2019);
  - ENSI-G12 Radiation Protection in Nuclear Installations (2021);
  - ENSI-G23 Design Principles for other Nuclear Installations (2021);
  - ENSI-G22 IT Security in Nuclear Installations (2021);
  - ENSI-B08 Non-Destructive Testing of Pressure Vessels and Piping Important to Safety (2022).
- ENSI has started a programme to investigate how learning from project experience is anchored in the organizational structure of the operating organizations.
- ENSI has published a document on Integrated Oversight.
- ENSI has published a document on Oversight of Safety Culture in Nuclear Installations.
- An ENSI inspection focussed on supply chain management was carried out in 2017.
- In 2021, the last part of a series of three documents focused on Fukushima Daiichi was published: “Human and Organizational Factors”.

#### 3.2 Safety Improvements for Existing Nuclear Power Plants

The Country Group took note of the following implemented and planned safety measures for existing



nuclear power plants in Switzerland:

- At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland explained that, in December 2022, Leibstadt NPP submitted the documents for its PSR and proof of safety for LTO beyond its 4th decade of operation. The ENSI review project has started and is expected to be completed in 2025. The latest PSR for Gösgen NPP was submitted in 2018 and ENSI expects to complete its review of the Gösgen PSR including LTO in 2023. Beznau NPP submitted its latest PSR in 2018 and ENSI completed its review including LTO in 2021.
- Replacement of analogue control technology with digital is being implemented at Gösgen NPP. One corresponding project was completed in 2022, others are to follow. Preparations and some initial plant modifications for a similar project at Leibstadt NPP are underway. At Beznau NPP, digital control systems are implemented for several systems. At the Joint 8th and 9th Review Meeting, Switzerland also provided more detail on these projects.
- Safety improvements at Gösgen NPP to increase protection against flooding and earthquake hazards. In addition, following a decision in 2015, further enhancements to the existing bunkered special emergency shutdown and heat removal system began in 2018. This will enable the plant to cope with a broader spectrum of external hazards. At the Joint 8th and 9th Review Meeting, Switzerland also provided more detail on these projects.
- Improvements of the filtered containment venting system (FCVS) were implemented at Gösgen NPP (additional filter device) in 2018 and are almost complete at Leibstadt NPP (increased seismic robustness).
- A project to replace the recirculation system at Leibstadt NPP was completed in 2021. This replaced old pipework that could suffer from an increased risk of stress corrosion cracking.
- At the Joint 8th and 9th Review Meeting, Switzerland also provided more detail on its safety culture assessment and learning. It identified some positive practices to share with other countries, including the creation of a Safety Culture Focus Group to prompt a dialogue on safety culture issues.
- In response to several questions during the 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland outlined the additional actions it had taken in relation to emergency preparedness in light of the current situation in Ukraine.
  - It has not needed to revise its emergency response arrangements but it has been following the developing situation closely. The National Emergency Operations Centre has been monitoring the situation, collecting and assessing data and sharing this via an electronic platform with all Swiss emergency response stakeholders.
  - This Swiss Meteorological Office has been carrying-out daily radioactivity dispersion modelling for Ukrainian facilities.
  - A sub-ordinate element of the Federal Civil Protection Crisis Management Board has been meeting to consider any radiological safety concerns as well as other impacts on Switzerland. This had initially been fortnightly but had now reduced to every two months.
  - There have been many questions received from the Swiss public. Answers have been co-ordinated across the relevant federal agencies.

### 3.3 Response to International Peer Review Missions

In the reporting period Switzerland voluntarily participated in the first European Topical Peer Review on Ageing Management in 2017 and hosted an IPPAS Mission in 2018 which included Module 5 (Computer Security). The resulting action plan for European Topical Peer Review is expected to be

completed by the end of 2023. ENSI will voluntarily participate in the second Topical Peer Review on fire protection in 2022-2024. An IPPAS follow-up mission will be held in November 2023.

All Swiss NPPs have received OSART missions but no further OSART missions are planned in Switzerland for the time being. This is also because all Swiss NPPs are regularly involved in the WANO Peer Review process. The National Report for the Joint 8<sup>th</sup> & 9<sup>th</sup> Review Meeting states that Swiss NPPs are involved in either a WANO Peer Review or follow-up mission every 2 to 3 years.

Switzerland also conducted IAEA Safety Culture Self-Assessments at Beznau NPP in 2019 and 2020, and at Gösgen NPP in 2022.

An IRRS mission was received in 2021. This resulted in 7 recommendations (2 directed towards ENSI and 2 towards the Swiss government), 13 suggestions, 2 good practices and 9 areas of good performance. At the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting, Switzerland provided further detail on these findings. ENSI will implement measures directed towards the regulatory body in co-operation with other national stakeholders where necessary. The relevant Swiss governmental authorities have been informed on the findings directed towards the government. A follow-up mission is planned for 2025-2026.

## 4. Implementation of the Vienna Declaration on Nuclear Safety (VDNS)

On 9 February 2015, the Contracting Parties adopted INFCIRC 872 “Vienna Declaration on Nuclear Safety”, which is a commitment to certain principles to guide them in the implementation of the CNS’ objective to prevent accidents and mitigate their radiological consequences, should they occur. The Contracting Parties agreed to discuss the principles of the Vienna Declaration on Nuclear Safety in their National Reports to the 7<sup>th</sup> and the subsequent Review Meetings.

The Country Group made the following observations:

- The first principle regarding design and construction of nuclear power plants are enshrined in the Nuclear Energy Act (NEA) the Nuclear Energy Ordinance (NEO) and ENSI guidelines. The NEA requires a general licence issued by the Federal Council for anyone intending to construct or operate a nuclear installation. With the Swiss Energy Strategy 2050, several affected acts were revised and the granting of general licenses for the construction of new nuclear power plants has been prohibited since January 2018. Nevertheless, the preventive and protective principles for new nuclear power plants are still valid, in particular as a basis for back-fitting requirements for existing power plants.
- Regarding the second principle, the Swiss NEA requires that a PSR is conducted at least every 10 years at the end of each decade of operation. There is a dynamic requirement and precautionary principle for existing NPPs. The NEA requires that the license holder shall “back-fit the installation to the necessary extent that it is in keeping with operational experience and the current state of back-fitting technology, and beyond insofar as further upgrading is appropriate and results in a further reduction of risk to humans and the environment”. The guideline ENSI-G02 “Design Principles for Existing NPPs” records the state of back-fitting technology used in Article 22. of the NEA. The dynamic requirement and the precautionary principle for existing NPPs in the Swiss legal framework ensure that safety improvements according to international good practice are implemented in a timely manner.
- Regarding the third principle, the NEA outlines a dynamic requirement stipulating that precautionary measures “are required in accordance with experience and the state of art in science and technology”. Therefore, in Switzerland, internationally accepted principles must be taken into account even by the minimal requirements for new NPPs. The relevant IAEA safety standards are incorporated in the Swiss national requirements and regulations as the IAEA safety standards are essentially used to define the latest state of the art of science and technology. Other good practices are taken into account through the precautionary principle.
- Switzerland reports that its national requirements and regulatory regime incorporates appropriate technical criteria and standards to ensure that the principles of the VDNS are achieved in Switzerland.
- Switzerland reported a number of safety improvements to its existing NPPs as described in Sections 2.1 and 3.2.

## 5. Results of the Review

### 5.1 General Quality of the National Report

Contracting Parties and officers were invited to provide general comments on Switzerland's implementation of the obligations of the CNS (e.g., report submitted on time), efforts for addressing challenges, the general quality of its National Report, transparency issues, and the compliance with the CNS guidance documents and special peer review topics identified in the previous CNS Review Meeting or specified by the President of the CNS.

With regards to the general quality of the National Report and transparency issues, the members of the Country Group made the following observations:

- The Report is qualified to be generally comprehensive and reader friendly.

With regards to the compliance with the requirements of the CNS and its Guidelines, the members of the Country Group made the following observations:

- The Report for the 8<sup>th</sup> CNS Review Meeting was submitted before the deadline of 15 August 2019.
- The Report for the Joint 8<sup>th</sup> and 9<sup>th</sup> CNS Review Meeting was submitted before the deadline of 5 August 2022.
- The content and structure of Switzerland's National Report for the Joint 8th and 9th CNS Review Meeting complies with the CNS guidance.
- The directions of the Summary Report of 7th CNS Review Meeting were taken into consideration in the Report for the Joint 8th and 9th CNS Review Meeting.

### 5.2 Participation in the Review Process

With regards to Switzerland's participation in the review process, the members of the Country Group made the following observations.

In the 8<sup>th</sup> CNS Review Cycle, Switzerland

- posted questions to Contracting Parties.
- delivered answers to the questions of Contracting Parties on time.

In the 9<sup>th</sup> CNS Review Cycle, Switzerland

- posted questions to Contracting Parties.
- did not deliver answers to the questions of Contracting Parties on time (answers were provided after the required date).
- delivered its national presentation during the Joint 8<sup>th</sup> and 9<sup>th</sup> Review Meeting.

### 5.3 Challenges

The Country Group identified the following Challenge(s) for Switzerland.

- Challenge 1: A shortage of qualified staff (for operators, sub-contractors and nuclear safety regulators) which, due to the ban on nuclear new build and the increased demand from decommissioning activities, is a serious challenge to maintaining competence in the medium to long-term.

### 5.4 Suggestions

The Country Group identified no Suggestions for Switzerland.

### 5.5 Good Practices and Area of Good Performance

During the peer review of Switzerland's National Report, the Contracting Parties were invited to recommend Good Practices and to highlight Area(s) of Good Performance.

The Country Group identified the following Good Practices:

- Good practice 1: The allocation of a dedicated annual budget from the Swiss government to ENSI, with the necessary legal framework, to specifically provide for conducting research and participating in research projects in support of regulatory activities.

The following Areas of Good Performance of Switzerland were commended by the Country Group:

- Area of Good Performance 1: Projects and modifications are subject to a four-step procedure, consisting of the concept, the detailed design, installation and commissioning of the systems. This means that safety submissions need to be submitted and approved prior to implementation to ensure they are appropriate and compliant with safety requirements.
- Area of Good Performance 2: ENSI's comprehensive regulatory framework on ageing management, including non-accessible plant areas, incorporating the requirements of the revised IAEA Safety Guide SSG-48 and its co-operation with the IAEA and ENSREG.
- Area of Good Performance 3: The ENSI "Oversight Safety Culture" project (initiated in 2012 and updated after the 2021 IRRS mission) with the aim to assess the safety culture inside ENSI, to identify shortcomings and to define corrective actions.

### 5.6 Response to COVID-19 Situation

The Country Group took note of the following information related to the COVID-19 pandemic:

Switzerland reported that the licensees took the following actions to address difficulties from the pandemic:

- Pandemic Plans were implemented aimed at minimalization of personnel and contacts, keeping compliance to the minimum requirements
- Where possible working at home, reduction of meetings, set of on-site measures to prevent spreading of contaminations, exercises with reduced numbers of staff, quarantine measures for external workers.
- In accordance ENSI 2020 outages were reduced by postponing non safety related work, while in 2021 outages were extended somewhat because of the backlog.

Switzerland reported that the regulator took the following actions to address difficulties from the pandemic:

- Establishment of pandemic task force.

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- Introduction of 3-level pandemic action model (normal, particular and extraordinary).
- Working at home, video-conferencing, social distancing at the office and closure of recreation rooms.
- Emergency exercises with limited/minimum strictly protected staff.
- On-site inspections with limited numbers of staff, less important ones were delayed.

Switzerland identified the following lessons learned from the pandemic:

- Sudden exposure to unknown pandemic needed flexibilities on all parties.
- ENSI's pandemic plan existed but needed adaptation to the real life, including several internal procedures.
- Remote inspections were not considered practicable generally, while the legal situation for live-streaming from the NPP is unclear.
- Lack of social contact and/or direct professional exchange.

## **6 Fulfilment of CNS Review Requirements**

The Country Group concluded that Switzerland

- Submitted National Reports for the 8<sup>th</sup> CNS Review Meeting and for the Joint 8<sup>th</sup> and 9<sup>th</sup> CNS Review Meeting, and therefore complies with Article 5 and in time, following Rule 39 of INFCIRC/573 Rev. 6.
- Attended the Joint 8<sup>th</sup> and 9<sup>th</sup> CNS Review Meeting, and therefore complies with Article 24.1
- Held a national presentation and answered questions, and therefore complies with Article 20.3