Joint Convention
Questions Posted To Belgium in 2018

Q.No *		Article General	Ref. in National Report A.2, P9

Question/ Comment: Since the bankruptcy of Best Medical Belgium S.A. (BMB), ONDRAF/NIRAS is in charge of cleaning and dismantling the former BMB facility in Fleurus. It is responsible for all remediation and decommissioning activities on that portion of the installations of this former production site. Who bear the fees of cleaning and dismantling the former BMB facility? Please introduce the financial assurance mechanism for decommissioning and waste treatment for the nuclear technology utilization facility.

Answer: Through contracts signed in 1990, the Walloon Region is financially responsible for the cleaning and dismantling operations of the majority of the former S.A. Best Medical Belgium (BMB) facilities in Fleurus. BMB stays the financial responsible for the cleaning and dismantling operations of the Sr-90 :Y-90 facilities. This cost is currently covered by the Insolvency Fund managed by ONDRAF/NIRAS.

Q.No *		Article General	Ref. in National Report A.2, P10

Question/ Comment: As stated in Page 10 “A fundamental change was made to radiological limits of the waste that will be accepted into the facility. Contrary to an approach based on backward calculations, starting from dose constraints and calculating admitted concentrations and quantities from there, a new approach was developed based on the actual foreseen inventory of the facility, and adding some margin and admitting some heterogeneity to that, in order to obtain workable limits.” Please give more information about the advantages and disadvantages of the backward approach and the new “forward” approach. What is the main difference of the results use the 2 calculations mentioned above during the licensing process for the surface disposal facility in Dessel?

Answer: Backwards calculations were proposed by NIRAS/ONDRAF in the safety case of the cAt facility. The waste acceptance criteria on the maximum concentrations and overall radiological capacity of the facility were calculated as the maximum concentrations/radiological content below dose constrains as calculated by safety calculation. That is if 1Bq of Pu-239 is calculated to cause N mSv/y in the expected evolution then the maximal content of Pu-239 in the facility is (0,1 mSv/y) divided by N. Where 0,1 mSv/y is the dose limit requirement within the expected evolution scenario. Summation technique is then used to take into account all the radionuclides while staying below the limit.

This technique was proposed because a significant part of the waste that will be disposed of in the facility are yet to be produced and large uncertainties can be associated with those; for example, the quantities and types of waste can change drastically with the construction of new reactors. The radiological capacity would therefore be a large envelope of the future actual inventory of the disposal. This allows flexibility and clarity in the long-term management of unexpected future waste.

FANC has objected to this technique in the review of the safety case for several reasons. Chiefly, optimisation of the protection was not demonstrated within this

technique because any improvement that would lead to a better long term protection of the population from the radiological hazards of the disposal would not lead to lower the radiological impact on the population but to loosen the WACs of the facility. Some of the maximum concentrations resulting from this technique were very high, even above concentrations encourred in vitrified HLW, demonstrating that these limits were in fact not limiting.

After exchange between FANC and NIRAS/ONDRAF, the safety case is going to be updated as follow:

A prospective radiological inventory was determined using current ONDRAF/NIRAS best estimate projections.

An envelope of this inventory was determined and called “operational limits”; whenever the inventory remains within the operational limits, it is considered that the inventory remains unchanged.

“Disposal limits” will also be set according to the inventory. These disposal limits would be included in the licence conditions and any update of the inventory higher than the disposal limits would require a new licence while an update within the disposal limits would only necessitate an update of the safety case that the regulatory body should deem minor.

Safety calculations will be, in the updated Safety case, carried out using the the operational limits and will need to demonstrate the respect of dose limits and constraints

Q.No *		Article General	Ref. in National Report A., 2

Question/ Comment: Article I states that non-conforming waste originating from the NPP containing cemented RAW have been identified during the routine inspection.
Have you identified any non-conforming waste package containing bituminous product during the routine inspections as well?

Answer: A limited number of non-conform bituminous waste was identified in the past (before 2005) and this was reported at the 2nd Review Meeting in May 2006. Main non-conformities for this bituminous waste were due to swelling of the bituminous matrix, requiring the emplacement of the affected waste drums in a storage overpack and a specific control and surveillance programme.

Q.No *		Article General	Ref. in National Report p. 1, Section A.1

Question/ Comment: The operation period of the old nuclear power plants Tihange 1 and Doel 1&2 was extended to 50 years.
Is there an adequate infrastructure in place to manage SF and RW resulting from the extended operating time of the oldest reactors and in case the operating time of the newer reactors is extended?

Answer: Spent Fuel: For Tihange 1 and Doel 1&2, the construction of a new storage building is planned.

Radioactive Waste : Operational RW produced during LTO will follow the existing waste route to final near surface disposal that is expected to be operational

to accept RW from 2023 on. The capacity of the near surface disposal is designed with a margin on its capacity and has a modular concept which should allow additional capacity extention if required.
The main part of the RW will come from dismantling of the NPP's itself. The smaller part that comes from operational activities and LTO has only slightly increased the total volume of RW

For radioactive waste management from the nuclear power plants ONDRAF/NIRAS takes account of the increasing prospects of radioactive waste to be stored and disposed of. The storage capacity needed in the future is being assessed in function of the time when the surface disposal facility in Dessel will become available, depending on the outcomes of the license application

Q.No *		Article General	Ref. in National Report p. 11, Section A.2

Question/ Comment: Belgium is allowed to take charge of a quantity of radioactive waste from Luxembourg every year as long as the volume of such waste once conditioned does not exceed 0.1 m³.
What actions will be taken if the conditioned waste exceeds this volume?

Answer: This is not expected and given the very low volumes, this is not seen as a major issue.

Q.No *		Article General	Ref. in National Report p. 7, Section A.2

Question/ Comment: Regarding the short term management of so called "Non-conform waste from NPPs", affected by an "alkali-silica reaction" (ASR), it is reported that 175 waste packages have been inspected by ONDRAF/NIRAS for ASR, 144 of them with positive findings. The report then envisages a dedicated storage facility for ASR-affected waste drums.
Is this facility limited to the 144 ASR-affected waste drums already identified? What is the plan regarding waste drums of similar origin that have not been inspected to date (if there are any)?

Answer: The design of the dedicated storage facility will encompass a thorough evaluation of the number of drums which are potentially affected by the ASR phenomenon. The exact number of drums which will be stored in this facility will be known once this evaluation has been completed. However, this number will exceed the 144 drums which have already been identified.

See also the answer to the question of Italy on section A.2(4).

Q.No *		Article General	Ref. in National Report p. 10, Section A.2.

Question/ Comment: Regarding regulatory framework developments it is reported that a proposed "Royal Decree aiming to avoid situations which can give rise to possible liabilities of radioactive waste or of installations to be dismantled" requires, inter alia, "a surveillance of the filling level of on-site storage installations, with a notification to the FANC in case of unexpected exceedance of a predefined filling level."
It seems that this will be a future general requirement, applying to all kinds of radioactive waste storage facilities. Could Belgium please give an example to illustrate a process that might lead to an "unexpected exceedance" (in terms of volume, mass or activity?) of a licensed filling level, and the consequences such an

exceedance could have for the licence holder?

Answer Typical situations include :
- Unavailability of transport means for the evacuation of waste outside the facility
- Unavailability of treatment facilities (on site or at Belgoprocess)
The FANC considers that the available storage capacity (i.e. the difference between the physical capacity and the predefined level) should be in the range of +/- 6 month of waste production for nuclear (Class I) facilities, in order to avoid unsafe waste storage conditions in case of such unexpected situations.
The use of the available storage facility for such circumstances has to be notified to the FANC. The Licensee has to elaborate and implement an action plan to come back within normal conditions within one year.

Q.No *		Article General	Ref. in National Report p. 10, Section A.2.

Question/ Comment When reporting about changes in the design of the planned Dessel repository the report states that “an anti-bathtub system will be integrated in the design”.
Could Belgium please describe in general terms what this means technically?

Answer An anti-bathtub system means that an accumulation of water within the disposal facility is avoided by ensuring that the amount of water per unit of time leaving the disposal facility at the bottom is higher than the amount of water per unit of time infiltrating in the disposal facility at the top.

Q.No *		Article General	Ref. in National Report n/a

Question/ Comment … thanks Belgium for its comprehensive national report

Answer Thank you for your comment

Q.No *		Article General	Ref. in National Report Section A 2(7); Pg 11

Question/ Comment It is noted that a Task Force created by the Federal Council of Ministers in November 2016 identified all interfaces between the FANC and ONDRAF/NIRAS and domains with gaps or lack of clarity in terms of roles and responsibilities of the two agencies and formulated 4 proposals for improvement:
1. the acceptance system for radioactive waste;
2. the management of interdependencies of the successive waste management steps, and the transfer of waste to ONDRAF/NIRAS;
3. national policies for disposal and the implementation through the national programme;
4. interventions and site remediations.

In July 2017 the Council of Ministers approved the 4 proposals for improvement and tasked the responsible Ministers to develop and to propose the required legal and regulatory modifications to implement these improvement proposals in the national framework.

It is acknowledged that the National Report advises this work is ongoing. We would be grateful if Belgium could expand on the governance arrangements to address these improvements and of any progress to date indicating if any legal and regulatory modifications have been identified.

Answer For the first item i.e. the acceptance system for radioactive waste, FANC and

ONDRAF/NIRAS have worked out the legal (laws) and regulatory (Royal Decrees) modifications in detail and plan to introduce to the government the proposals of modification of the laws determining the roles and responsibilities of both organisations as well as the implementing Royal Decrees. With these legal and regulatory modifications, the process for the definition and for the approval of the socalled “general rules” for the derivation of the waste acceptance criteria, and the roles of ONDRAF/NIRAS, i.e. to propose them, and of the FANC, to give a binding advice on them, are fixed.

The second item is related to management of the financial risks and safety risks related to radioactive substances and nuclear installations that are no longer in use. For this FANC has worked out a process for their detection and systematic declaration respectively “as waste” (for substances) or “as definitively stopped” (for installations). ONDRAF/NIRAS is informed and involved, and by consequence the further management either by the holder/owner or by ONDRAF/NIRAS is ensured.
ONDRAF/NIRAS and the Federal Public Service of Economy have now to work out the related financial arrangements., Only when these are ready, Royal Decrees can be proposed to the government.

For the third item, ONDRAF/NIRAS has proposed to the Ministry of Economy and the Ministry of Energy a proposal of Policy decision related to geological disposal. On 01/04/2018, it was not yet transmitted to FANC for advice. In the meanwhile FANC has worked further on proposals for Royal Decrees related to the licensing procedure for disposal facilities and regarding the safety (WENRA SRL’s) of waste disposal.

For the last item, the main action relates to the transposition into the Belgian legislation of the Directive 2013/59/EURATOM on Basic Safety Standards. The proposal for a Royal Decree has been worked out by FANC and is now following the process for advices, approval and promulgation which is expected later this year

Q.No *		Article General	Ref. in National Report Section A 2(8); Pg 11

Question/ Comment: Noting the bilateral agreement signed in 2016 between Belgium and Luxembourg to establish the technical and financial framework for the management and disposal of Luxembourg radioactive waste by Belgium, could Belgium elaborate on the benefits and value in formalising this agreement from the referenced 1994 authorisation.

Answer: Formalising the agreement from the 1994 autorisation is an obligation of the Directive 2011/70/Euratom (article 4.4).

Q.No *		Article General	Ref. in National Report n/a

Question/ Comment: Areas of Good Performance/ Good Practice:
• Communications and Transparency efforts

• Frequent mention of initiatives around safety culture.

• Progress in development of legislation in strengthening independence of the

regulatory body.

• The roles and responsibilities between the regulator and the National Agency for Radioactive Waste Management have been clarified.

Answer Thank you for your comment

Q.No *		Article General	Ref. in National Report n/a

Question/ Comment Challenges:
• On-going challenge of the Development of plan for radium-bearing waste

• Developing its management system

Answer Thank you for your comment

Q.No *		Article General	Ref. in National Report A.2(4), 6

Question/ Comment Concerning the management of the non-conform waste from NPPs (ASR affected waste), could Belgium provide information if this phenomena affects all the drums or only partially and if the conditioning process has been modified after the discovery of ASR-affected waste drums?

Answer ONDRAF/NIRAS considers all drums containing evaporator concentrates and ion exchange resins conditioned by the nuclear power plant of Doel as potentially affected by the phenomenon. The results of extensive inspections show that drums containing evaporator concentrates are more affected by the alkali-silica reaction (ASR) than drums comprising ion exchange resins. Drums containing evaporator concentrates that were opened during visual inspections showed significant gel production. On drums comprising ion exchange resins only limited gel formation was observed.
ENGIE Electrabel – the operator of the Doel nuclear power plant – develops new processes for the conditioning of evaporator concentrates and ion exchange resins. These recipes for the conditioning matrices used by these new processes take into account the lessons learned during the investigation of the phenomenon and focus on using ingredients to avoid ASR. The conditioning processes which produced the ASR-affected drums are no longer used by the Doel nuclear power plant as ONDRAF/NIRAS suspended their qualifications.

Q.No *		Article General	Ref. in National Report A.2(9), 11

Question/ Comment With reference to the Waste acceptance system of ONDRAF/NIRAS in connection with the development of the surface disposal facility, could Belgium clarify if the waste packages (such as heterogeneous bituminized conditioned waste packages) for which non conformities were found in the past, will be accepted?

Answer No general answer can be given, as this will have to be assessed on a case-by-case basis and in interaction with the safety authorities, as part of the formal waste acceptance process for disposal. A decision to accept non-conform waste in the surface disposal facility will be based on the result of an evaluation of the risks for disposal safety due to the non-conformity, and taking into account the range of possible compensating and/or corrective actions. The latter should comply with the license of the disposal facility.

Q.No		Article	Ref. in National Report

*		General	A.2(3), 6

Question/ Comment: With references to the Belgian national programme at pag.6 a link is indicated but seems not to be the correct one. Could Belgium provide an updated link to the English version of the National Programme ?

Answer: https://economie.fgov.be/sites/default/files/Files/Energy/National-programme-courtesy-translation.pdf

We apologize for the uncorrect link.

Q.No		Article	Ref. in National Report
*		General	A.2(6), 10

Question/ Comment: With references to the ongoing licensing process related to the surface disposal facility, could Belgium provide a description of timeschedule and steps foreseen for the licensing procedure (construction, operation and closure)?

Answer: Safety case will be updated according to the comments of the regulatory body by fall 2018.
The scientific council on ionising radiation will hear the project and give its preliminary advice in December 2018 or February 2019.
The licence is currently expected to be delivered by the end of 2019 or early 2020.
Construction is planned to start in 2020.
Disposal operation should start in 2022.

Q.No		Article	Ref. in National Report
*		General	A.2(6), 10

Question/ Comment: With references to the ongoing licensing process related to the surface disposal facility, it is mentioned that fundamental changes have been made to the radiological limits of the accepted waste.
Could Belgium provide more information on these changes? Have been consequently occurred any update of the existing waste acceptance criteria ?

Answer: The waste acceptance criteria on the maximum concentrations and overall radiological capacity of the facility were calculated as the maximum concentrations/radiological content below dose constrains as calculated by safety calculation. That is if 1Bq of Pu-239 is calculated to cause N mSv/y in the expected evolution then the maximal content of Pu-239 in the facility is (0,1 mSv/y) divided by N. Where 0,1 mSv/y is the dose limit requirement within the expected evolution scenario. Summation technique was then used to take into account all the radionuclides while staying below the limit.

These WACs are now determined by determining a prospective radiological inventory using current ONDRAF/NIRAS best estimate projections. An envelope of this inventory was determined and called “operational limits”; which are now the basis of the WACs of the facility.

The chemical WACs of the facility were also updated towards stricter values of celulosis and chlorine. Those stricter chemical constrains lead to stricter WACs to waste treatment processes (among which those operated by waste producers). The process of updating WACs is still ongoing within ONDRAF/NIRAS.

Q.No		Article	Ref. in National Report
*		General	A.2(6), 11

Question/ With references to the long term safety assessment it is mentioned that has been

Comment modified.

Could Belgium provide details on the scenarios taken into consideration and on which radiological criteria they have been assessed?

Answer Expected evolution scenario is assessed towards a dose constraint of 0.1mSv/y.

Altered evolution scenarios are individually assessed towards a risk constraint of 10e-6/y; overall the scenarios, the risk constraint is 10e-5/y .

Human intrusion scenarios are assessed towards a reference value of 3mSv for the intruders and 3mSv/y for the deferred effects of the intrusion.

Penalising scenarios which are stylised scenarios assessing the residual risk after loss of performance of the disposal system (~ 2000 years after closure) are assessed towards a reference value of 3mSv/y

Q.No *		Article General	Ref. in National Report Section A.2/ p. 5

Question/ Comment On page 5 it is stated: “A proposal for a Royal Decree on the Safety Requirements for Waste Disposal Facilities is in development at the FANC. In 2015, the WENRA published reference levels for waste disposal facilities. In 2016-2017, the FANC project has been benchmarked with the WENRA’s RLs and slightly adapted, in order to fully comply with the WENRA requirements. It is expected that this project will be submitted to the Minister of Home Affairs for approval and enactment by end 2017.“ Has the Royal Decree on the Safety Requirements for Waste Disposal Facilities already entered into force? Does this decree comply also with the relevant IAEA Safety Standards (e. g. SSG-23)?

Answer This Royal Decree has not yet entered into force, it is being finalised on the basis of the comments of ONDRAF/NIRAS and will then be ready to start the official procedure for its approval and promulgation. As the WENRA SRL’s are mainly based on the IAEA Safety Standards and for disposal specifically SSG-23, the proposed decree complies with SSG-23.

Q.No *		Article General	Ref. in National Report General

Question/ Comment Are there any legal provisions for the treatment of foreign radioactive waste (particularly in case of incineration of RAW)? If any, more detailed information on these provisions would be welcome (e. g. limits and conditions for effluents, the methodology of declaring the activity and nuclide composition of the imported and re-exported RAW, chemical composition of RAW and of the final product, etc.).

Answer The physical, chemical and radiological characteristics of the foreign waste must be conform to the operation licenses.
The procedures for characterization of the waste must be validated by an independent and certified authority.
Acceptance criteria for foreign radioactive waste that must be met are similar to the acceptance criteria of Belgian waste.
After treatment the ashes are sent back to the foreign customer. The ashes produced in this process will be collected in 200 l drums. The ashes will be examined for conformity with the applicable conditions (IAEA safety standards No. TS-R-1) and ADR regulations (must comply with LSA-II for transport in IP2 package).

The characterization of the ashes is done by several measurements of samples of the ashes combined with a representative isotope vector

Q.No *		Article Article 3.1	Ref. in National Report 92

Question/ Comment: Could you provide some examples of detected cliff-edge effects and methodology for detecting them?

Answer: Cliff edge effect are defined as “An instance of severely abnormal conditions caused by an abrupt transition from one status of a facility to another following a small deviation in a parameter or a small variation in an input value.”
In the frame of the Stress Tests, an assessment of design bases, existing margins and cliff-edge effects was performed in relation to risks related to the site characteristics like earthquake, flooding and extreme weather conditions. Natural phenomena associated with a pre-defined return period (from 1,000 to 10,000 years) could not lead to unacceptable consequences (i.e. no cliff-edge effect).

Q.No *		Article Article 7	Ref. in National Report section A.2 (6) page 10/144

Question/ Comment: ONDRAF/NIRAS submitted to the FANC the license application for the surface waste disposal facility in Dessel in January 2013. In June 2013, FANC requested supplementary information. During the course of 2013 and beginning of 2014, a detailled review by FANC and BelV took place. Between 2014 and 2017 many changes took place and most of the questions were answered about the lack of demonstration that an optimization process followed when developing the design, the lack of operational risk analysis and the long term safety assessment taking due account of the uncertainties.
What experience feedback from similar facilities was taken into account?

Answer: Internationnal good practices from different surface disposal facility such as the CSA in France were taken into account in the design as well as in the safety case review of the facility.

See also answer to the question posted by … [article 14 answer]

Q.No *		Article Article 7	Ref. in National Report p. 94, Section G.5.1.a) (2)

Question/ Comment: Spent fuel storage building DE:
“monitoring the radiation level around the storage pools and checking indirectly if the layer of water separating the radioactive fuel from the handling areas is thick enough;”
Could Belgium please explain how the indirect water level measurements are performed in detail? Are there also direct measurements of the water level?

Answer: In the DE (spent fuel storage) building, each dock and each pathway between docks are equiped with level sensor that give a measurement of the water level. Those values are sent to an automate that is located in an auxillary electrical room of building DE.

The automate sents those values to the main control room where the operators can check the water level in the docks. The values are expressed in terms of percentage: 100% = full. In case of a lowering of the level, an alarm is triggered (low level = 8 m above the level of the top of the assemblies). The low level is the one required by the Technical Specification (T.S. 16.3.9.2.1.2).

Prior to any handling, the fuel agents check the value of the water level and verify that it is compliant with the Technical Specification values

Q.No *		Article Article 9	Ref. in National Report Section A,2 (4) - page 7/144

Question/ Comment: Management of the non-conform waste from NPPs (ASR afected waste)
An alkali-silica reaction (ASR) has been identified as the root cause of the presence of yellow gel-like material on the outer surface of waste packages.
What were the missing steps in the qualification program of the conditionning of these low level waste packages?

Answer: The waste acceptance system has been improved on the following fields:
• Waste acceptance criteria now include requirements pertaining to tests an operator has to perform on the raw materials of the recipes used by his conditioning processes;
• Updates of the waste acceptance criteria focus increasingly on detrimental effects in matrices used by the conditioning processes;
• Inspections carried out by ONDRAF/NIRAS will focus on supply change management as used by the operator of a conditioning process;
• The number of inspections carried out by ONDRAF/NIRAS will be increased further enhancing the on-site presence of ONDRAF/NIRAS.

Q.No *		Article Article 10	Ref. in National Report Section A - A.1 - page 3/144

Question/ Comment: For the long term management of the high level and/or long-lived waste ONDRAF/NIRAS had submitted its waste plan in September 2011 to the Federal Government with all the elements to allow an informed decision in principle to be taken regarding the begian policy for the long-term management of high-level and/or long-lived radioactive waste (inclusing spent fuel if declared as waste). ONDRAF/NIRAS resubmitted its proposal in May 2015, conform to the legal procedure for national policy decisions, as defined in the law of June 3, 2014, transposing the EC Directive 2011/70/Euratom. No policy decision has been taken till now (October 2017).
Could Belgium provide information on when the decision could be made?

Answer: Based on the proposal provided by ONDRAF/NIRAS, the Federal Government is currently preparing a policy decision regarding the long-term management of ILW and HLW. An update will be given at the sixth review meeting.

Q.No *		Article Article 10	Ref. in National Report section B,5,2 c) page 26/144

Question/ Comment: The issue of the long-term management of the radioactive substances contained in Umicore's licensed storage facilities, in other words the issue of their final destination, should be the subject of future policy decisions.
Could Belgium provide information on when the decision could be made?

Answer: The FANC, together with the Regional Authorities for Environmental Protection and with UMICORE are currently evaluating what fraction of the contaminants can be managed in the long term as non-radioactive waste under the Environmental Protection Regulatory framework of the Flanders Region, taking into account the applicable radiological protection criteria and the available site remediation techniques (separation in fractions, measurement techniques). The results of this evaluation should be available in the course of 2018; on the basis of this outcome

ONDRAF/NIRAS can prepare a proposal for a policy decision for all the substances that will have to be managed as radioactive waste. No timing for this has yet been defined.

Q.No *		Article Article 12	Ref. in National Report Section K.1.2.J

Question/ Comment 2018 will see 5 years since the approval of the action plans, and 8 years since the Fukushima accident: the delivery of these actions seems slow and worthy of asking for further information, particularly since the first two (the safety case consideration and the fundamental resilience to earthquakes and flooding) were very clear areas of learning from Fukushima.
The National Report states that the stress test action plans for non-nuclear power plant facilities were approved by the Federal Agency for Nuclear Control in 2013 and provides a table summarising the status of the actions against the sites at IRE, Belgoprocess and the Doel waste treatment installations.

Many actions are noted to be complete, with some actions due in 2017; however, the following three actions are described as “under review”:
1. Belgoprocess – evaluate resistance of several buildings against earthquakes;
2. WAB Doel – impact of extreme rainfall on the capacity of sewage and drainage system, with a return frequency of at all 1000 years;
3. IRE - Prepare a testing programme for activated coal traps in order to monitor their performance in case of accidental release.

Please provide further information on the safety significance of these actions, their current status and the timescales for their completion.

To note, this also relates to Challenge 10 from the 5th Review Meeting of the Joint Convention: Section K.1.2.j – Implementation of safety improvement measures from the stress tests

Answer All Stress Tests actions for nuclear power plants Doel and Tihange are currently closed by the licensee (with the exception of finalization of the the building of a new on-site emergency center at Tihange): see for the latest status : https://afcn.fgov.be/fr/system/files/best-2017-final.pdf
The action related to the extreme rainfall with a return period of 1000 years has been realized for the WAB by the licensee.

Details and status of the Stress Tests action plan at the end of 2017 for facilities other than Nuclear Power Plants has been published in March 2018 on the FANC web site (in French) : https://afcn.fgov.be/fr/system/files/besta-2018-fr-final.pdf :
a) All earthquake safety evaluations of Belgoprocess have been completed and approved by the regulatory body in 2017.
b) The testing programme for activated coal traps of the IRE has been finalized and submitted to the regulatory body in april 2017. This programme has been approved by the regulatory body in December 2017.

Q.No *		Article Article 13	Ref. in National Report Section A

Question/ Comment The Federal council of Ministers, in its decision of 23 June 2006 regarding the disposal of short-lived low and intermediate level radioactive waste (LILW-SL – Belgian “category A”) on the national territory, requested ONDRAF/NIRAS to

develop an integrated project of a surface disposal facility for LILW-SL in Dessel. In line with this policy decision, ONDRAF/NIRAS is developing an integrated disposal project that entails a disposal facility, a waste post-conditioning facility and the accompaniment requested by the local stakeholders.
The Belgian report indicates that the licencing process of a surface facility for LILW-SL has started on January 2013. From June 2013 to July 2014, FANC and Bel V requested additional information on the safety case. The additional information is being discussed between the regulatory body and ONDRAF/NIRAS. Those discussions should lead to an update of the safety case towards the end of 2017. The licence application file with the FANC and Bel V's safety review will presented to the Scientific Council. The preliminary advice from the Scientific Council is expected early 2018. The license for the surface disposal facility is planned on the period 2018-2021.
The Belgian report also indicates that in parallel with the licensing procedure for the surface disposal facility, ONDRAF/NIRAS and Belgoprocess will closely follow-up the remaining storage capacity for conditioned LILW-SL on the Belgoprocess site (buildings 127, 150 and 151), by taking account of the following key factors: the expected waste arising on the Belgoprocess site, as based on the most accurate forecasts by the waste generators; the evolution of the projects for creating additional storage capacity on the Belgoprocess site; the planned construction of the facility for the conditioning of the LILW-SL in monoliths for disposal (having buffer capacity); the foreseen timing of the construction and the operation of the surface disposal facility for LILW-SL. All actions needed to ensure a safe continued storage of all the conditioned radioactive waste will be taken when and where required.
Regarding the previous key factors to cope with a safe continued storage of all the conditioned radioactive waste, could Belgium explain how are the uncertainties, as date for the granting of the license for the facilities to process and to dispose of the LILW-SL, durations of the design, construction and commissioning tests of these facilities, amounts of LILW-SL that finally could require additional processing before conditioning in monoliths, taken into account?

Answer Uncertainties are taken into account at different levels.
• Continuous short term follow-up
The remaining storage capacity for LILW-SL is continuously followed on the basis of short term predictions of the volumes of LILW-SL produced on the Belgoprocess-site and on the sites of the NPPs. Interactions with FANC/Bel-V are sometimes needed (for instance in order to approve an increase of the number of layers of waste drums in a specific storage building). Reporting to the FANC/Bel-V and the major waste-producers on a half year basis of the remaining storage capacity is performed.
• Overview on future waste production
Every five years, ONDRAF/NIRAS asks for an update of the foreseen waste production during operation and dismantling by the most important waste producers. With this information, ONDRAF/NIRAS is capable to foresee the necessary investments for extra storage capacity for every type of waste to be managed awaiting final disposal.

Q.No *		Article	Ref. in National Report
		Article 13	Section A.1 pg. 1

Question/ The future decommissioning of the existing nuclear power plants may lead to

Comment significant amounts of radioactive waste that requires disposal. Please describe what efforts have been taken to ensure sufficient disposal capacity is available to accommodate the future decommissioning of these nuclear power plants.

Answer The foreseen capacity for the surface disposal facility in Dessel takes into account the LILW-SL from decommissioning of the 7 nuclear power units. The license application that was submitted in 2013 is based on this forseen capacity, both for the radiological activity, as for the waste volumes.

Q.No *		Article	Ref. in National Report
		Article 14	p.10 Section A.2

Question/ Comment The assessment of the new surface disposal facility sounds like quite a saga. The original licence application was made to the regulator in 2013, and there have been several different issues arising in the years since. The question is really trying to understand whether any useful learning has emerged.
In summarising the progress made in the licensing of the surface disposal facility at Dessel, the National Report mentions several areas in which the prospective licensee's application did not appear to meet the standards required by the regulator.

There have been several years' of engagement that, according to the report, have led to design changes, revision to the optimisation process, changes in safety concept, a need to provide an operational risk analysis and a need to include the effects of uncertainties on the long term safety assessment. The report also notes the need for a "fundamental change" to the calculation of radiological acceptance limits.

What learning has there been for the licensees or FANC as a result of the licensing process? Have there, for example, been any changes in regulatory guidance or any lessons learned in terms of engaging with licence applicants?

To note, this also relates to Article 15.

Answer The licencing process of the facility took longer than initially expected due to significant change in the design and safety case required by the regulatory body following the safety review of the licence application.

Regulatory guidances were drafted during the pre licencing; although relatively shortly before license application. This appeared challenging for the licence applicant as some uncertainties on the final requirements remained late in the process.

Another lesson learned was that discussion on more detailed topics while fundamental issues (such as defence in depth, safety strategy, optimisation of the protection) remained unresolved might have slowed the process down and complicated the exchange between the regulatory body and the licence applicant.

Introducing the licence application while fundemental issues remained unresolved should be avoided as it had as a consequence the need for a major update of the safety case during the licencing process with all the delays it implied.

Q.No *		Article	Ref. in National Report
		Article 15.2	H.5.2, P107

Question/ Comment: The radiological standard for human intrusion scenarios in surface waste facilities is maximum 3 mSv/y. What is the basis for setting the radiological standard, maximum 3 mSv/y, for human intrusion scenarios? What kinds of human intrusion scenarios are considered?

Answer: Human intrusion scenarios are stylised scenarios that are designed to estimate an envelope of the potential impact of any reasonable intrusion within the repository.

In order to do so, scenarios of human intrusion include direct and deferred effect of an intrusion impacting the different scales of heterogeneity the disposal has. Those scales are an individual package (drilling and inspection of the core), a disposal module (road construction and residence next to the road) a group of 4 modules, a tumulus and the entire disposal facility (road construction and residence next to the road).

The rationale behind the reference value of 3mSv/y is that, while intrusion within the facility is neither possible to be ruled out nor to be considered likely, the reference values can be less strigent than the one for expected evolution scenario but still avoid unacceptable consequences.

Another concern that was taken into account is that, in case of intrusion, future generations would not have to be forced afterwards into an intervention using current intervention criteria.

Q.No *		Article	Ref. in National Report
		Article 17.3	H.7.3, P110

Question/ Comment: ONDRAF/NIRAS committed itself to ensure operational reversibility of disposal facilities for category B&C waste and examine the measures that may facilitate the potential retrieval of the waste packages after partial or complete closure of the repository. Is there any expectation for the time frame of waste retrieval at present? What kinds of technical measures are taken to ensure waste retrieval?

Answer: Currently ONDRAF/NIRAS is still in a conceptual RD&D phase concerning the design of a geological repository, as a policy decision on the management of B&C waste has not been taken yet. Given this context, there is no concrete idea on the time frame to consider for waste retrieval. This will need to be discussed with the different stakeholders involved, once a policy decision has been taken. In the meanwhile the RD&D continues and for the time being most research is still focused on poorly indurated clays on which 40 years of research has been performed and in which we have an underground research facility. For this type of host rock, ONDRAF/NIRAS currently foresees postconditioning of the waste packages on surface in monoliths and supercontainers before transport to the underground disposal facility. This design has been evaluated with respect to retrievability and seems to be compatible. Moreover, the lining of the disposal tunnels is designed to withstand rock stresses for very long time periods, allowing retrieval during these times. Finally, the backfill material is designed to be easily removable in order not to limit retrievability. None of the taken actions with respect to retrievability can jeopardize long term safety.

Q.No *		Article	Ref. in National Report
		Article 19	Section E.2/ p. 38

Question/ Comment: On page 38 it is stated: “The Royal Decree of 20 July 2001 will have to be brought in line with the new European radiation protection directive (Basic Safety

Standards - Directive 2013/59/Euratom) by February 2018." Were there any challenges in transposition of this directive into national legislation?

Answer The regulation project for the transposition of the new European Directive represents a challenge for the FANC in the sense that:
- This regulatory project is one of the major regulation project since the creation of the FANC; that relates to many different matters with several different stakeholders groups involved . Stakeholder consultation processes and official advises processes are very large and extended
- Most of the transposition of this directive will by done by a single modification of the Royal Decree of 20 July 2001.
- In addition, other regulation development projects modifies concurrently the Royal Decree of 20 July 2001 (in particular as a result of the 2013 IRRS)
- Finally, the time frame for transposing this directive is relatively short taking into account the Belgian legal and regulatory system and taking also into account the workload for transposing other EU directives : 2011/70/Euratom, 2014/87/Euratom, 2014/52/EU, …

Q.No *		Article	Ref. in National Report
		Article 19.2.1	E.2.1, P38

Question/ Comment Royal Decree of 20 July 2001 lists some NORM work activities. What are the main criteria to select these work activities? What are the requirements for the management of radioactive waste from these activities?

Answer The work activities which could lead to an exposure higher than 1 mSv/a in some circumstances have been selected: exposure either for the workers or for the public, either due to work operations (routine, maintenance or decommissioning) or due to residues management or discharges.

In practice, the list is updated on basis of data from the literature (national and international reports, conference proceedings, etc.), combined with national surveys, data from portal monitor detections, observations made during field inspections, etc.

The bulk of the residues from these activities is not treated as radioactive waste. Exemption/clearance levels have been defined (0.5 Bq/g for U-238sec or Th-232sec). Under these levels, the radiation protection aspects of the residues are not regulated. Above these levels, the residues are not considered as radioactive waste but as NORM residue. Disposal, reuse and recycling of NORM residues is also considered as a work activity in the regulatory sense and submitted to a notification to FANC. NORM residues may thus be accepted by non-radioactive waste treatment facilities under a set of generic conditions. On the basis of the information provided in the notification process by the operator, FANC imposes to the waste treatment facility acceptance criteria which have been derived from generic dose-assessments. These acceptance criteria consist of limits on the maximum activity concentration per batch of NORM residues as well as a limit on the total quantities of NORM waste which may be annually disposed of in the landfill (or a limit on the activity concentration of the end-product and/or on the residues of the processing operations). These generic acceptance criteria are imposed on the waste operator in the form of a registration.

Q.No *		Article	Ref. in National Report
		Article 21	p.53 Section F.1

Question/ Comment: The National Report states that a licensee is legally responsible for complying with the conditions of its licence. It also states that for nuclear class I facilities, the licensee must conform to the Safety Analysis Report.

Please explain why conformity with the Safety Analysis Report is not a legal requirement for class II or class III facilities.

Answer: Class II and III facilities are lower risk facilities such as hospitals, radiography (medical or industrial), dentists, .. which are not legally required to have a Safety Analysis Report. Nevertheless, the license of some high risk Class II facilities – named "Class IIA"- such as particle accelerators may require the compliance with a Safety Analysis Report, in a similar way of Class I (nuclear) facilities.

Q.No *		Article	Ref. in National Report
		Article 22	Section A

Question/ Comment: Belgium has since the 70s developed a nuclear energy program that includes at present 7 operational PWR reactors on 2 sites, Doel and Tihange, having jointly a net electric capacity of approximatly 6000 MWe. The Doel and Tihange NPPs are operated by ENGIE-Electrabel, a member of the ENGIE group. At Doel, 4 PWR units and a centralized dry storage facility for the NPP's nuclear spent fuel (SNF) are operated. At Tihange, 3 PWR units and a centralized pool to store the NPP's SNF are operated.

The Belgian report indicates that by means of the Law of 31 January 2003 amended in December 2013 and in June 2015, the political authorities have finally chosen to abandon the use of nuclear fission energy for industrial electricity production; this was done by prohibiting the construction of new NPPs and by limiting the operational period of the existing NPPs to 40 years, with the exception of Tihange 1 unit and Doel 1&2 units which will shut down after 50 years of operation. The legal shutdown dates of the Belgian reactors are now 2022 for Doel 3 unit, 2023 for Tihange 2 unit and 2025 for the 5 other PWR reactors. In parallel, extension of the capacity of the 2 centralized storage facilities are planned in the next years.

According to the Belgian legislative and regulatory framework, when starting up a facility, the operator prepares an initial decommissioning plan in which the decommissioning costs and the provisions necessary to ensure its financing are assessed. These assessments provide the basis for the decommissioning funds to be set up by the operator. During operation, the operator revises the decommissioning plan every 5 years to allow for the evolution of the facility itself and of the decommissioning and waste processing techniques, methods and costs. When the facility is definitively shut down, this plan becomes a final decommissioning plan. It contains a definitive decommissioning strategy, after it has been established that the available financial means are sufficient to execute the whole program.

The Belgian report indicates that for the Doel and Tihange NPPs, the current technical scenario to evaluate the dismantling cost is a conservative approach based on the immediate dismantling of all units of the same site (Doel or Tihange) in sequence, and the decommissioning of the common facilities after the decommissioning of the last unit on each site. The technical scenario and his boundary conditions included in the preliminary decommissioning plan of ELECTRABEL NPP's and the related cost evaluation are updated every 3 years to take the present economic conditions into account, the last one in 2016.

Could Belgium provide additional information on the technical scenario defined to

evaluate the dismantling cost for the Doel and Tihange NPPs? Notably, is the removal of the SNF (last core and that stored in the cooling pond) from each reactor planned during the transition period? What is the final state considered for the site? What are the durations taken into account for the main stages of decommissioning (transition, dismantling, facilities clean-up and site remediation)?

Answer The removal off all SNF (Spent Nuclear Fuel) is included and foreseen in the Post Operational Phase (POP) of each unit that will take in average about 4 years after the final shutdown.

The final state considered for the site is " Green field"

The durations taken into account for the main stages of decommissioning (transition, dismantling, facilities clean-up and site remediation) are depending on the NPP specifities :
• POP about 4 years
• Dismantling about 16 years
• Site release about 9 years

Q.No *		Article	Ref. in National Report
		Article 22	p. 58, Section F.2.2.

Question/ Comment Regarding the funding system for the management of spent fuel it is reported that "the amount of funds is currently determined by a conservative scenario […] with a part of deferred reprocessing of spent nuclear fuels and a part of direct disposal" (so-called "mix scenario").
Taking into account already existing waste from reprocessing and the abandonment of further reprocessing in Belgium, one would expect that direct disposal of all existing and future spent fuel together with a fixed amount of existing reprocessing waste, should be the most conservative approach determining the amount, and thus costs, of high level waste disposal.
Compared to this: could Belgium please describe the difference of conservativism in the mentioned mix scenario?

Answer The mixed scenario is conservative form the cost calculation point of view. This scenario does not define a future management strategy of the spent fuel itself.

Q.No *		Article	Ref. in National Report
		Article 22.3	F.2.2, P60

Question/ Comment As stated in page 60, "The long-term fund, created in accordance with the ONDRAF/NIRAS Law and operational since early 1999, is ONDRAF/NIRAS' responsibility." What is the charging standard of the long-term fund? As stated in page 60, "The medium-term fund must be fully established no later than three months after the confirmation licence, which allows its commissioning and operation, is issued." "The amount of the medium-term fund for surface disposal is set by the ONDRAF/NIRAS Law at 130 million EUR2010 to be indexed." Please specify the calculation process of 130 million EUR2010 of medium-term fund in detail. How to collect, utilize and management of the medium-term fund?

Answer The Long-Term Fund (LTF) is provisioned by the waste producers of radioactive waste and by the Belgian State as financial responsible for nuclear liabilities of SCK•CEN, Belgoprocess and IRE. The LTF covers the costs of storage and disposal, and is provisioned on the basis of the tariffs that ONDRAF/NIRAS applies when radioactive waste is accepted by and transferred to

ONDRAF/NIRAS.

The Mid-Term Fund (MTF) is provisioned by an additional fee for the waste producers. This fee is calculated on the basis of the total capacity of the disposal facility and the total amount of radioactive waste of a given waste producers that will be disposed of in the disposal facility.

As legally defined, the obligation for waste producers to contribute to the provisioning of the MTF takes a start when the disposal facility has been licensed for the construction phase.

A Royal Decree defining the implementation of the legal obligations of the MTF is in preparation, e.g. with respect to the timing and conditions of payments of the fees by the waste producers, and the composition and functioning of the surveillance committee

Q.No *		Article Article 23	Ref. in National Report F, p. 66

Question/ Comment ENGIE Electrabel's global approach
Inspections and Audits:
A comprehensive system of planned and periodic inspections and audits is carried out to verify compliance with all aspects of the management system and to determine the effectiveness of the management system to provide adequate confidence that a structure, system, or component will perform satisfactorily in service.
Who performs inspections and audits to verify compliance with all aspects of the management system?

Answer In the first place, the compliance with all aspects of the management systems is the responsibility of the operational/hierarchical line, headed by the CNO. The operational line performs a yearly self-assessment per functional area, which includes the verification of all the aspects for the management system. Additionally, inspections and audits are executed by the 'independent line', which is independent from the operational line. This independent line includes the auditing service (essentially compliance-based audits and inspections, covering all functional areas of the management system), and the Independent Nuclear Safety Oversight (INSO, essentially performance based inspections and reviews).

Q.No *		Article Article 23	Ref. in National Report F, p. 68

Question/ Comment Bel V MS is aligned with the requirements of GSR-3. Furthermore, Bel V has been certified ISO 9001:2008 in 2009. Bel V is preparing the transition to ISO 9001:2015 for 2018.
Does Bel V intend to upgrade its management system with additional requirements of the new IAEA standard GSR Part 2?

Answer Bel V has not yet performed the formal comparison between GS-R-3 and GSR Part 2 requirements in the framework of ISO 9001:2015. However, through the new requirements of ISO 9001: 2015, GSR Part 2 requirements have already been partially fulfilled.

Q.No *		Article Article 24	Ref. in National Report F.4.2.a), 70

Question/ Comment: With references to the waste buildings, it is mentioned that "The design of these buildings is such that the impact for the public (including sky shine effects) is only a small fraction of 1 mSv/year".
Could Belgium provide some more details on the estimated impact to the public?

Answer: For the Belgoprocess waste buildings the radiological impacts for the public are assessed during the design phase in the safety cases submitted for license application. During the operational phase of the facilities there is a continuous follow-up of radiological impacts for the public due to radioactive releases (liquid and gaseous) and as a result of the presence of waste in the storage facilities. At regular times, impact assessments for the existing situations are made (releases e.g.) and reported to the safety authority FANC. These assessments show that all radiological impacts for the public remain very low (i.e. well below 1 microSievert/year).

For the DE (spent fuel storage) Building at Tihange : as stated in the Safety Report (CNT3-B12.3.1), " the dose target used during the design of the DE building is to be below or equal to 0.1 mSv/year, taking also in consideration the sky shine effect (indirect radiation)".

The principle used to guarantee the radiation protection is the same as the ones used to design the unit of Tihange 3 and is described with details in the final safety report (CNT3-§12.3.1). Therefore, the impact on the public is compliant with all laws and regulations. To help reaching this goal, the racks used to store the fuel wastes are surrounded by radiological shielding of high thickness (concrete walls and large water quantities). The ventilation of the building follows all regulations and is strictly controlled. The water chemistry is monitored and any abnormal dose release would be detected in a very short time. Consequently, the impact on the public is not different from the one accepted for the Tihange 3 unit.

For the other waste buildings a similar approach is applied and followed.

Q.No *		Article	Ref. in National Report
		Article 24	F.4.2.c), 71

Question/ Comment: It is mentioned that discharges are defined as authorised and controlled releases into the environment, within limits set by the regulation (GRR-2001) or by the license.
Could Belgium specify which are the basis for which the total maximum authorized release is different for different facilities ?

Answer: The radiological impacts of the maximum authorized releases of all class I installations have been re-elevaluated in 2001, in the light of the 1996/29 European Directive which imposed 1 mSv/y as thedose limit for the members of the public (with new dose conversion factors). The impact of the authorized release limits of IRE and of the 2 NPPs have been found acceptable (0,2 to 0,4 mSv/y). Belgonucleaire, Belgoprocess, FBFC, SCK•CEN and IRRM are located in the same geographic area (called the "Mol-Dessel" site"). To take into account the possibility of exposure pathways from differents facilities for the inhabitants within this area, dose constraints have been introduced for Belgoprocess and SCK•CEN - note that the releases from Belgnucleaire, FBFC and IRMM were already very low.

Q.No		Article	Ref. in National Report

*		Article 24	F, p. 71 and 72

Question/ Comment: Is there an independent control of the on-site operational monitoring; i.e. is there a 'third' company which carries out the measurements to be then compared with the measurement results of the licensees?

Answer: As mentioned under article 24, §F4.2.d) each licensee is responsible for on-site radiological monitoring. The results are evaluated by the Heath Physics Department, Bel V and FANC but no systematic measurements by a 'third' company are carried out to be compared with the measurements of the licensees.
FANC occasionally organises the sampling of liquid effluents awaiting for release to the environment. The samples are analysed by a third laboratory in order to check the accordance of the radiological content of the future release with the licensee's authorisation.
However, during the inspections by the regulatory body, on a regular base, it is verified that the dose limits on site are respected.

Q.No		Article	Ref. in National Report
*		Article 24	p.52 Section E.4.4

Question/ Comment: This is a replication of a similar question for France.
The National Report notes that national automatic radiological monitoring network (TELERAD) measurements are available online to the public.

What has been the public response to the availability of these data?

Answer: For more than 10 years, TELERAD data is available to the public. This is currently a 1-hour dose rate measurement from the measuring stations at the vicinty of the Belgian nuclear (Class I) facilities and from other stations located throughout the Belgian territory (see page 74 of the report).
Before the Fukushima accident, the data were published with a delay of 24 hours in order to provide an explanation for a possible significant increase in radioactivity before publication of the data, as for example X-ray shooting, on site spent fuel transportation, radon flush phenomenon…

Since the Fukushima-Daichi accident, for increased transparency, it has been decided to publish the data without delay As a consequence, possible explanations are given after publication of the data.

The public is rather satisfied with the transparency offered by the TELERAD website. It should be noted that "digital robots" that make big data by collecting public information in different areas are behind the main requests on the website.

Most of the remarks or questions of citizens are dealth with by email.

Q.No		Article	Ref. in National Report
*		Article 25	F.5, 76

Question/ Comment: Do the mentioned agreements with Netherland, France and Luxembourg address the issues of the coordination of emergency response to transboundary event (e.g. Herca Wenra approach)? Are regular meetings organised under these agreements? Are these countries involved in Belgian national exercises?

Answer: The new Nuclear and Radiological Emergency Plan (01-March 2018) integrates the recommendations of the HERCA-WENRA approach.
In the framework of bilateral agreements, Belgian competent authorities meet

regularly with their homologues in neighbouring countries to exchange information in preparedness and organised the exchange of information in emergency (this includes the process for harmonizing protective actions and public information with neighbours in case of transborder impact).

Q.No *		Article	Ref. in National Report
		Article 25	Chapter F.5.2.b)/ p. 75

Question/ Comment: The Royal Decree of 17 October 2003 defines the emergency planning zones relative to the direct actions to protect the population (evacuation, sheltering, and iodine prophylaxis). These evacuation and sheltering zones have a 10 km radius around the NPPs; the stable iodine tablets pre-distribution zones extend to 20 km around the NPPs.

What is the strategy for securing iodine prophylaxis for the population in the area over 20 km from NPPs?

Answer: The new Nuclear and Radiological Emergency Plan (01-March 2018) has adapted the planning zone for sheltering to 20 km around NPP to be coherent with the planning zone for ITB (pre-distribution of stable iodine).

The new Nuclear and Radiological Emergency Plan also integrates the HERCA-WENRA approach and considers ‘extension’ zones (20 km for evacuation and 100 km for ITB and sheltering).

The stable iodine predistribution strategy, both in the planning zone and the extension zone (the whole country), is basically the same:
• all inhabitants are requested and strongly encouraged to go and pick-up their tablets in local pharmacies.
• populations most at risk (children, pregnant and breastfeeding women) are requested and strongly encouraged to go and pick-up their tablets in local pharmacies. However anyone, belonging or not to a group at risk, will receive iodine tablets if he/she ask for.
Predistribution in pharmacies is the responsibility of the authorities; obtaining their iodine tablets remains the responsibility of each citizen.
There is however no guarantee that everyone will be in possession of its tablets at the time of an emergency; therefore the possibility of a rapid distribution in emergency is envisaged. A study, under the auspices of the Ministry of Public Health, has provided a just-on-time distribution strategy.

Q.No *		Article	Ref. in National Report
		Article 25	General

Question/ Comment: IAEA Safety Standards GSR Part 3 and GSR Part 7 expects that government authorities develop a protection strategy to protect people and environment in case of nuclear and radiological emergencies. Is this protection strategy implemented in your legislation and practice? If yes, could Belgium shortly describe how this is applied for RAW related installations (e. g. graded approach, etc.)?

Answer: The Belgian Nuclear and Radiological Emergency Plan includes Belgoprocess, the radwaste processing and treatment plant. Long-term radwaste repositories are foreseen but not yet in activity.
The general crisis management structure and mechanism in place will also cope with such installation (treatment or repositories); they will be adapted to the accident situations and source terms.

Being located in the vicinity of the SCK-CEN research centre (two research reactors), the radii of the planning zones for the radwaste installation are determined by those of the SCK (one single planning zone for all the nuclear installation located in Mol-Dessel).

Q.No *		Article Article 25	Ref. in National Report F, p. 72

Question/ Comment: Are scenarios of sabotage and terrorist acts on nuclear power plants included in predetermined so-called fast kinetics scenarios? How do you determine the size of this reflex zone? Which is the worst case predefined scenario for 'reflex' notification level activation criteria?

Answer: Sabotage and terrorist acts on a nuclear installation threatening the integrity of nuclear buildings (potential loss of containment integrity) are covered by so-called fast kinetics scenarios and will initiate a general emergency in reflex mode. The reflex radius is identical for all fast kinetics scenarios (3.5 km).
Event involving short-term radioactive releases (rapid kinetics) are those likely to lead to exposure that exceeds guideline intervention levels within a period of less than 4 hours. The radius was calculated accordingly. The period of 4 hours will allow the authorities to evaluate the situation and decide whether the initial reflex protective actions (limited to warning, sheltering and listening the media for further recommendation) should be adapted (withdrawn, maintained or extended).

Q.No *		Article Article 26	Ref. in National Report p.9 Section A.2

Question/ Comment: In summarising the progress made in the decommissioning of the THETIS research reactor, the National Report notes that the proposed method of disposing of the 3.3 ton graphite blocks from the reactor has been changed from cementation to combustion.

Please summarise the safety and environmental assessments findings and explain the ALARA basis for this decision.

Answer: The basis for this decision has been the Wigner energy contained in the graphite blocs. Acording to the IAEA TECDOC-1521 (2006), " it is not acceptable to store or dispose of graphite containing significant releasable stored energy. "
The graphite blocs have been incinerated in the CILVA facility of Belgoprocess. The radiological impact has been evaluated by Belgoprocess and amounts to less than 10nSv as additional dose to the member of the public, mainly from C-14 athmospheric release.
The main advantages of the incineration method are :
- A significant volume reduction
- A stable and homogeneous product after treatment
- No more Wigner energy in the final waste product for disposal.

Q.No *		Article Article 26.4	Ref. in National Report A.3. (1) & Figure 6

Question/ Comment: In section A.3. (1) reference is made to 'the activities of the Clay Club and RK&M (Preservation of Records, Knowledge and Memory).', but no further detail is presented. Further information on records and knowledge management arrangements should be provided in section F.6. Article 26: decommissioning to demonstrate that 'records of information important to decommissioning are kept'.

Please describe your plans for generating records (for waste, etc.) through the decommissioning process and how involvement in RK&M has influenced them.

Answer During the decommissioning operations, there is a registration of transfers of all the radioactive waste by the operator to the national waste management agency (ONDRAF/NIRAS). First by forms for demand of acceptation and all these files (paperwork) are collected in a decommissioning file.
All other information that is collected during decommissioning activities is also kept in this decommissioning file (final decommissioning plans and the related modifications/deviations determined during decommissioning, etc...) by the operator and a copy is also managed by ONDRAF/NIRAS.
The content of this decommissioning file is drawn up in mutual agreement with ONDRAF/NIRAS.

Q.No *		Article Article 27	Ref. in National Report I.1., 112

Question/ Comment Import of radioactive waste from Germany to Belgium (Belgoprocess Dessel) for incineration.
Article I1 states that RAW for incineration from Germany was brought to Belgium. How is the incineration of RAW originating from foreign countries accepted by the population living in the vicinity of the plant that provides this service?

Answer The local population and the municipalities are informed about the processing of foreign waste in the Belgoprocess facilities very early in the process. After the incineration of the foreign waste, the resulting ashes are sent back to the foreign owner. The decision to allow foreign waste to be incinerated or processed in Belgium by Belgoprocess requires favorable decisions to be taken by ONDRAF/NIRAS and by the responsible ministers. The FANC is also involved in the decisional process.

Q.No *		Article Article 27	Ref. in National Report section I.1 page 112/144

Question/ Comment There are a few transboundary shipments of spent fuel and radioactive waste. Belgian has consented the transit or the import and granted licenses for export of radioactive waste from westinghouse Electric Belgium (Nivelles) to Sweden for incineration. The import of wastes resulting from incineration is not mentioned. Could Belgium provide information on the materials resulting from waste incineration in Sweden?

Answer Ashes resulting from waste incineration in Sweden come back in Belgium, where they are characterized and taken over by ONDRAF/NIRAS.

Q.No *		Article Article 27	Ref. in National Report I, 112

Question/ Comment Are the security aspects in transport of radioactive material (radioactive waste) taken into account in the new Belgian legislation system for transport of radioactive material?

Answer Yes. Since 2011, a specific legal framework is in place for the transport of nuclear material. For the radioactive material, the article 11 of the royal decree of 22 October 2017 on the transport of class 7 dangerous goods foresees:
“With regard to the security of the transport of class 7 dangerous goods other than those regarded as nuclear material, compliance with the provisions of the applicable international agreements and regulations governing the transport of dangerous goods is required. The FANC can establish guidelines on how to fulfil

the obligations in these agreements and regulations. The FANC shall also determine how and in what form the envisaged security plan must be drawn up and, where applicable, submitted to the FANC."

Q.No *		Article Article 27	Ref. in National Report p.112 Section I

Question/ Comment: The Belgian report states "With regard to the transboundary shipments of radioactive waste and spent fuel, the provisions of the article 27 of the Joint Convention are fully reflected in the European Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of the shipments of radioactive waste between Member States." There is also reference to "Import of disused sealed sources from Luxemburg within the framework of the existing convention between Luxemburg and Belgium."
Reference is made to the European Council Directive on the supervision and control of shipments of radioactive waste and spent fuel (Council Directive 2006/117/Euratom). Are any shipments also subject to an intergovernmental agreement under Article 4(4) of the European Council Directive on the safe management of spent fuel and radioactive waste (Council Directive 2011/70/Euratom)? If so, please provide details,

Answer: No

Q.No *		Article Article 28	Ref. in National Report J, 113

Question/ Comment: It is mentioned that no specific regulation with regard to disused sealed sources is present in Belgium.
Could Belgium elaborate on how is the handling of DSS (recycling, transportation, delivery) implemented by the Belgian legislation framework, in compliance with art. 28?

Answer: A sealed source that is not used for the authorized purposes will be called a 'disused source' per definition.
According to article 75ter of the Royal decree of 20 July 2001, Every unused High Activity Sealed Source (HASS) must be reused or must be tranfered within 5 years. This obligation will be extended for all sealed sources in the near future.
Recycling, delivery of disused sources do not differ from usual radioactive materials or radioactive waste. A disused source has to :
- be returned back to the manufacturer for HASS. The licensee of HASS has to take corresponding arrangements (art. 75 ter).
- be transferred to ONDRAF/NIRAS for further processing and/or disposal if declared as waste.
According to the international agreements and regulations governing the transport of dangerous goods and the Belgian royal decree of 22 October 2017 on the transport of class 7 dangerous goods, for the safety and security aspects, there is no difference between the transport of disused seales sources and the transport of radioactive material.

Q.No *		Article Article 28	Ref. in National Report J, p. 113

Question/ Comment: The issue of campaigns for recovering the orphan sources is briefly mentioned in your report. Could you provide some practical insights in this issue (e.g. magnitude, experience)?

Answer: FANC, ONDRAF/NIRAS and the AIOs have worked out a procedure for

managing orphan sources. After detection of an orphan source, usually at a company that has been registered with FANC as a company where orphan sources are likely to be encountered (e.g. scrap metal recycling installations and waste incinerators), the source is stored in a safe storage area on the site of detection. An inventory of radioactive sources is kept by each site and reported to FANC, who informs ONDRAF/NIRAS and the AIO. Once a year, the latter visits every site where orphan sources have been found for characterizing and packaging the detected sources, and drafts the necessary documents for ONDRAF/NIRAS, who verifies the conformity of the waste with the current acceptance criteria for waste treatment, before organizing the transport to Belgoprocess (the waste processing facility). In the event that a source with a dose rate exceeding the limits for safe local storage is encountered, the source can be transported immediately at the request of the FANC.
Organizing the transport of orphan sources on a yearly basis has several advantages with respect to the optimization of packaging and the cost for the transport and waste treatment. In addition, an accumulation of radioactive sources at non-nuclear facilities is avoided.
The table below provides an overview of the yearly number of orphan sources transported:
2007 : 7
2008 : 16
2009 : 33
2010 : 22
2011 : 65
2012 : 32
2013 : 39
2014 : 68
2015 : 100
2016 : 135
2017 : 116

The significant rise of transported sources over the years is explained by the specific legislation that obliges companies where orphan sources can potentially be encountered, like scrap metal recycling installations, to install detectors, and by the above mentioned procedure which was written in 2013.

Q.No *		Article	Ref. in National Report
		Article 28	J, p. 114

Question/ Comment: The issue of disused sealed sources being removed through some ONDRAF/NIRAS' campaigns was briefly touched upon in your report (Belgian schools and pharmacies).
Could you please provide the main driver for schools to give off their sources as well as on your approaches to address (holistically) the educational sector (and historical sources, as appropriate)?

Answer: Many schools and pharmacies in Belgium still had historical radioactive sources in their possession that are no longer in use today. The presence of disused sources at these locations however constitutes an unnecessary safety risk, which is the main driver for having the radioactive sources removed.
Because the financial aspect of the removal of radioactive sources can constitue an obstacle for these institutions, ONDRAF/NIRAS and FANC decided to organise a

specific removal campaign in the interest of sharing transport and waste treatment costs. The ministries of education and the APB (an organisation representing pharmacies in Belgium) informed all Belgian schools and pharmacies of the upcoming campaign, requesting them to check their inventory for the presence of any radioactive sources, and to fill in a questionnaire to provide more details on the sources in their possession. With this information, transports were organised for the removal of said sources in 2007/2008 and again in 2015.

Q.No *		Article Article 28	Ref. in National Report Section J.1 pg. 113

Question/ Comment: The report does not mention a National Sealed Source Registry. Please clarify if there such is a registry, and if so, please describe its features, update frequency, and public access, and if not, whether there are plans to create one?

Answer: The High Activity Sealed Sources (HASS) are nowadays registered at the FANC in a central database named CIS. As a result, there is only one centralized file per licensee in terms of authorized inventory, physical inventory and HASS inventory. A new design of the technical regulation called "physical inventory" will be in force by 2018. Based on this new regulation, FANC will oversee the inventory of all X-ray devices, accelerators and sealed sources, and in particular those of category 1 and 2. The global inventory on site will be submitted periodically by the Health Physics Department directly to the FANC. When changes of the inventory-data are made, these updates need to be sent the first week of the upcomming month.
The transmitted data will be registered in the CIS database capable of tracking the status of the source during the whole life cycle. Once registered, sources will never be deleted, which allows a cradle-to-grave follow-up of each individual sealed source.

Q.No *		Article Article 28.1	Ref. in National Report J.1, P114

Question/ Comment: As stated in page 114, “A fund financed by guarantees shall be established to cover the costs for recovering the orphan sources when the liabilities cannot be identified or when the liable person is insolvent.” Does the "fund" mentioned here mean the "Insolvency Fund" addressed in F.2.2.c in P60? How the fund is managed. If not, please give more information. Please give more information about the strategy and practice on the orphan sources transferred to ONDRAF/NIRAS.

Answer: The fund referred to on page 114 is the ‘Insolvency Fund’ addressed in section F.2.2.c on page 60. The insolvency fund is financed by invoicing producers a reserve of 5% calculated on the cost of the transport, treatment, conditioning and storage services provided by ONDRAF/NIRAS, and has a lower and upper limit. Upon reaching the upper limit, which is based on the maximum cost in case of bankruptcy or insolvability of the class II and III facilities, the collection of the reserve of 5% is temporarily put on hold. When the yearly evaluation of the funds indicates that the lower limit might be reached in the following year, the collection is resumed.

Concerning the strategy and practice on the collection of orphan sources, see the answer to the question of Slovenia on Article 28

Q.No *		Article Article 32	Ref. in National Report Section A

Question/ Comment

In the Belgian report, it is indicated that during a routine inspection performed by ONDRAF/NIRAS in 2012 of conditioned low-level waste packages in storage at Belgoprocess, a yellow gel-like material was found on the outer surface of the lid and on the whole of the surface of the concrete matrix of a waste package. This waste package was a 400-liter drum with borated evaporator concentrate immobilized in concrete in 1995 by the Doel1 NPP.

After similar observations on waste packages containing the same type of waste, ONDRAF/NIRAS broadened the scope of its inspections to waste packages from a wide range of production periods and loaded not only with concentrates, but also with ion exchange resins and filters discharged from the primary circuit of the PWR units. These inspections also comprised packages from the Tihange NPP. During these inspections, 175 packages were opened, 144 of them showing the presence, to some degree, of the gel-like substance. An alkali-silica reaction has been identified as the root cause for this phenomenon.

In this context, ONDRAF/NIRAS revoked the qualification of some processes used at the Doel and Tihange NPPs. From an operational point of view, ENGIE-Electrabel halted the conditioning of evaporator concentrates, ion exchange resins (only at Doel) and filters from primary circuit (only at Tihange). In parallel, the newly developed for Tihange NPP resin conditioning process using thermo-compaction was finally rejected by NIRAS/ONDRAF due to risk of swelling of the thermo-compacted waste if a water infiltration occurred.

The Belgian report also indicates that in order to solve these issues, new conditioning processes have to be developed and new qualification files have to be submitted by ENGIE-Electrabel for approval to ONDRAF/NIRAS. Pending the decision of ONDRAF/NIRAS, ENGIE-Electrabel is not permitted to treat and condition the concerned types of waste on site. Consequently, unconditioned waste is currently stored at the NPP sites.

In the context of the permanent shutdown of all the Belgian PWR reactors in a few years as required by the legislation, could Belgium indicate the current progress to develop new conditioning processes for evaporator concentrates, ions exchanges resins and filters from primary circuit? According to that, will the corresponding capacities of the storage facilities located at the Doel and Tihange NPPs be sufficient until the commissioning and qualification of the processes effectively developed? In the same way, may all the operating waste be conditioned before the beginning of the dismantling of the PWR reactors?

Answer

Related to the packages with gel-formation:

No packages from Tihange NPP were found, showing an alkali-silica reaction. So this issue (gel-formation) was limited to the packages of the NPP Doel.

Related to the development of the new conditioning processes for evaporator concentrates, ions exchanges resins and filters from primary circuit:

NPP Doel :

• Filters: The process is already qualified, and the conditioning of this type of waste is relaunched.

• Concentrates and ion exchanges resins: new production processes are being developed, and the planning is that these new processes will be qualified in the beginning of 2021.

NPP Tihange :

• Filters: The actual production process is being adapted and the planning is that is will qualified for the end of 2018.

• Concentrates: The new process is already qualified, and the conditioning of this type of waste is relaunched.
• Resins: An alternative production process is being looked for at the moment. If no alternative can be found, the process developed for Doel will also be implemented at Tihange.

Related to the question whether the capacities of the storage facilities located at the Doel and Tihange NPPs will be sufficient until the commissioning and qualification of the processes are effectively developed: ENGIE Electrabel controls the situation by increasing the storage capacity on site until the new processes will be operational.

Related to the question whether all the operating waste be conditioned before the beginning of the dismantling of the PWR reactors: This is the current goal for ENGIE Electrabel. All efforts to develop and qualify the new processes are put in place to reach this goal.

Q.No *		Article Article 32	Ref. in National Report Section B.5.2.b; Pg 25

Question/ Comment: It is noted that through the appropriate FANC licences, hospitals and medical research laboratories manage their own very short-lived radioactive waste and store it in dedicated premises where it remains from a few weeks to several years, until its activity has decreased enough to be cleared into the conventional, non-radioactive waste management system.

Could Belgium clarify the waste management policy for short lived liquid waste from medical and educational research facilities and if disposal or clearance into the main water disposal system occurs?

Answer: First and formost, the release of radioactive liquid waste into surface water or into the suwage system is forbidden when the concentration of radionuclides exceeds the regulatory discharge limit.

Each facility that wants to use radioactives substances in total quantities exceeding the regulatory exemption values needs to apply for a licence. At the time of the licencing procedure, the facility needs to declare if there is a risk of exceeding one or more discharge limits. When this risk exists there are multiple scenario. Either the liquid waste is stored in retention tanks or the liquid waste is collected and frozen in so they can be treated as solid waste. There is also a possibility of applying for a licence for the disposal, recycling or re-use of solid and liquid waste.

In Belgium, it is allowed to store short lived liquid waste (T1/2< 6 months) on site with the intent for it to decay. The liquid waste is stored in retention tanks, above or below ground, which are directly coupled to the installation producing the waste.
The retention tanks can be installed in a serial fashion in which they overflow in a cascade or in a parallel fashion in which the coupling needs to be changed by human intervention.
The Health Physics Department has to regularly inspect (min. 4 times/year) these tanks and their functionality and integrity needs to be checked regularly by the

facility itself. The facilities are required to have clear work procedures concerning these inspections which need to be approved by the Health Physics Department.

The concept of an installation with tanks for liquid radioactive waste (the use, the placement, the safety procedures, the type of tanks,…) is evaluated in the licencing process for each facility and is reviewed at that time by the FANC
The tanks with a volume above 1000 litres are included in the inventory of the license of the facility.
There are a few key elements that are considerd during the licencing process:
- Is the volume of the retentation tanks adequate taking into account the amount of radioactive liquid waste to be produced?
- Does this volume take into consideration the possibility of an 'overproduction' of liquid waste or a technical malfunction of one or more of the tanks?
- In case of loss of integrity of the tank, will the liquid overspill be contained by a second barrier, in order to avoid dispersion into the environment?
- Is there a clear procedure for the follow-up of the retention tanks?
- Is there a system of alarms in case of malfunction of the system?
- Is the system separate and only used for radioactive liquid waste?

The liquid waste is stored in the tanks until it has decreased below the clearance level. At that time, the tank in question can either be linked to the sewer system directly or the liquid contents of that thank can be transferred to the main water disposal system indirectly (for example by tank truck).

Q.No *		Article Article 32	Ref. in National Report Section B.5.2.c; Pg 26

Question/ Comment: It is noted that the long-term management and issue with respect to the final destination of the radioactive substances contained in Umicore's licensed storage facilities should be the subject of future policy decisions. Could Belgium clarify where the ownership and accountability for ensuring the future policy decision on the issue of the destination of the radioactive radium-bearing substances at the three licensed storage facilities.

Answer: The law of June 3, 2014 stipulates that ONDRAF/NIRAS is responsible for making a proposal of national policy. The Federal Council of Ministers decides, on the basis of this proposal and the advice of the FANC, and the policy decision is issued as a Royal Decree.

Q.No *		Article Article 32	Ref. in National Report B.5.3.b), 27

Question/ Comment: ONDRAF/NIRAS was given responsibility for the management of radioactive waste by the legislature. For ILW and HLW and spent fuel long-term management it proposes the geological disposal in poorly-indurated clay on a single site and it plans the facility in line with international practice. But an official decision on this solution is still pending.
Could Belgium provide information about the time table foreseen to have a policy decision and to start the siting process of the geological disposal facility?

Answer: Based on the proposal provided by ONDRAF/NIRAS, the Federal Government is currently preparing a policy decision regarding the long-term management of ILW and HLW. An update will be given at the sixth review meeting.

Q.No		Article	Ref. in National Report

*		Article 32	B, p. 28

Question/ Comment: What is the planned period of institutional surveillance of the disposal facility? More than 100 years (page 28) or 250 years (page 110)?
What is the dose constraint for the planned disposal facility for the operational period?
What are the expected authorised limits of radioactive gaseous and liquid releases during operational period?

Answer: According to FANC's technical guidance on surface disposal, surveillance period should be as short as deemed necessary and no longer than 300 years after the end of operation.

For the moment, the activities foreseen during the surveillance phase are not yet completely set. ONDFAF/NIRAS currently foresees the maximum allowed length of the surveillance period due to need for active prevention of intrusion as long as the projected consequences of an intrusion are above 3mSv/y.

The dose constraint for a member of the public during the operational phase is 0.1mSv/y which is the same as the post closure dose constraint.

No measurable gaseous or liquid releases is foreseen nor permitted during the operational period.

Q.No		Article	Ref. in National Report
*		Article 32	Section B.2.1.a pg. 29

Question/ Comment: Since 1980, Belgium has conducted disposal research and development with respect to a clay formation for a geological repository. The new disposal strategy is host rock neutral. Please describe other potential host rocks in Belgium, their location, and what research and development has been conducted. How has this new policy affected the schedule for constructing a deep geologic disposal facility?

Answer: Based on current geological knowledge of Belgium, no suitable salt and granitic rocks are present. The only rocks are clay rocks, covering a whole spectrum going from poorly indurated clays to metamorphosed shales and slates. The poorly indurated clays are only present in the Northern part of Belgium, while the more indurated and metamorphosed clayey rocks are scattered all over the country. Poorly indurated clays are studied in detail since the 1980's (underground research laboratory HADES in Mol). The more indurated and metamorphosed clay rocks are mainly studied on outcrops for general geologic framework studies and tectonic studies. Currently research on poorly indurated clays continues to guarantee continuity. With respect to evaluation of the other host rocks, safety attributes to consider for their comparison are discussed with the safety authorities. A comparison based on literature data is currently performed. Once a policy decision is taken, the stepwise decional process will be worked out toghether with stakeholders, in order to clarify the next steps to be taken, potentially also the framework to drill boreholes to study the indurated to metamorphosed clayey rocks at depth. From a financial point of view, we consider that implementation will only start from 2050.

Q.No		Article	Ref. in National Report
*		Article 32.1.1	B.1.2, P17

Question/ Different spent fuel management policies are raised for different research reactors,

Comment such as reprocessing for the BR2 spent fuel, dry storage for the BR3 spent fuel and declaration as radioactive waste for the Thétis spent fuel. What are the main reasons for implementing different management policies of spent fuel from different research reactors?

Answer The owners of research reactors can propose the management strategy for the spent fuel from these reactors. The different management strategies are mainly the result of different situations of the research reactors (in operation - BR2 reactor - or in decommissioning - BR3 and Thetis reactor), and their plans for future use of recycled radioactive materials.

Q.No *		Article Article 32.1.4	Ref. in National Report B.5.2.a, P25

Question/ Comment In the decommissioning of BR2, radioactive waste in concrete is minimized through SCK•CEN's use of advanced decontamination and characterization techniques. What kinds of decontamination technique are applied? In the decommissioning and radioactive waste management practices, what other kinds of waste minimization technologies are considered or used?

Answer To decontaminate concrete infrastructure, SCK•CEN is using different characterization equipment's. Their results are interpreted using statistical methods. The first advantage is that the time for in-situ characterization is minimized. The second advantage is that we get a more accurate cartography allowing to minimize the concrete layer to be removed (=> waste minimization and costs saving). The technique used for decontamination of concrete is "shaving"

Q.No *		Article Article 32.1.4	Ref. in National Report B.5.3, P29

Question/ Comment As stated in page 29 "The associated components presenting socio-economic benefits for the region are as follows: …… a so-called "local" fund to support or finance projects and activities with an added value for the local population over the short, medium and long terms;" What environmental compensation are considered in the "local" fund? How is the "local" fund managed?

Answer The Local Fund (LF) must create sustainable opportunities for the local communities and improve the quality of life of the local population in the short, medium and long term. Projects and activities must therefore produce a long-term positive effect. The nature of projects and activities financed by the LF may vary: they may have a social, economic or cultural character or be aimed at the environment, health, welfare, etc. The projects and activities of the LF promote social life and stimulate creativity and originality without imposing an additional financial burden on the inhabitants. The LF thus provides opportunities for social, cultural, ecological and economic added values that surpass the added values created by the cAt project itself. The precise conditions to be met by projects and activities have yet to be defined.
The LF is a fund with its own legal structure in the form of a private foundation. The Foundation is managed by a Board of Directors consisting of at least six directors, all natural persons and appointed equally by STORA and MONA.

Q.No *		Article Article 32.2.2	Ref. in National Report D.2.3, P35

Question/ Comment Large quantities of contaminated soils (58500 t) are stored in UMTRAP storage facility of Umicore site. What subsequent arrangements are considered to these soils, including treatment and conditioning?

Answer This is not yet evaluated or decided.