



## FAQs

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## **Suspension of the transport to Biblis due to the Corona crisis**

### **Why was the transport announced for spring 2020 not carried out? Surely goods traffic with the United Kingdom has always been possible?**

The police authorities responsible for escorting and executing the transport had informed us that, in view of the current "corona spread", the accompanying police operation cannot be justified at present and therefore the transport could not be carried out in spring as planned.

### **Why can the transport be carried out this year after all, the Corona pandemic is not over yet? Do the Corona measures have an influence on the overall safety of the transport?**

After consultation between the Ministries of the Interior and the police authorities responsible for escorting the transport, the transport can be carried out this year.

During transport and interim storage of radioactive materials, the protection of man and the environment is always the top priority, therefore the highest safety regulations apply. In order to realise the planned repatriation transport also under the conditions of the COVID 19 pandemic, the participating companies and institutions have developed comprehensive precautionary concepts and hygiene rules for all phases of the transport. These are comparable with the many measures that are now effectively applied in several other areas of industry and logistics on a daily basis. At the same time, the safety of the transport of the radioactive waste is not affected in any way. The health of all those involved and of the population along the transport route will continue to have top priority.

### **Is the transport licence valid for an unlimited period?**

The revision of the transport licence issued by the Federal Office for the Safety of Nuclear Waste Management (BASE) in September allows a repatriation transport until 31 December 2020. If the transport cannot take place during this period, a new permit would have to be applied for.

### **The original transport permit was also valid until the end of 2020. Why was a revision of the transport permit necessary?**

Since, for example, the INF3 certificate of the ship was renewed in the meantime, this had to be taken into account in the transport permit. In this context, some further technical considerations were also adapted in such a way that even in the event of a potential new postponement of the transport beyond the end of the year, an application based on the data already submitted will be possible at short notice.

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## **Reprocessing**

### **Why does radioactive waste have to be returned to Germany from abroad?**

The radioactive waste originates from the reprocessing of fuel elements used in Germany to generate electricity and must therefore ultimately be disposed of in Germany in accordance with the German Atomic Energy Act (AtG). Under the terms of the contracts with the reprocessing plants in France and England, the waste producers have undertaken to take back all radioactive waste produced during reprocessing. In addition, this has been bindingly agreed under international law between Germany and France and England. At the same time, the completion of the repatriation and thus the transports are part of the socially intended phase-out of nuclear energy in Germany.

### **Are German fuel elements still being reprocessed abroad?**

No, the shipment of spent fuel elements to reprocessing has been legally prohibited since mid-2005. The reprocessing of all fuel elements delivered from Germany to the reprocessing plants in France and England up to then has already been completed. The transports that are now still pending will be used to take back the waste produced in the process. This waste is not related to the remaining operation of the nuclear power plants still in operation in Germany.

### **Who is responsible for the costs of the current storage of the waste canisters in France or Sellafield and the repatriation transports?**

The obligation of the German utilities to repatriate the radioactive waste is legally stipulated in the Atomic Energy Act (Section 9a (2a)) and is also based on private-law contracts between the operators and the reprocessing companies. This approach has been confirmed by binding international agreements between Germany and France as well as the United Kingdom.

The utilities are responsible for the associated costs of the reprocessing companies and the repatriation transports.

Further information: "Overall concept for the return of vitrified radioactive waste from reprocessing" (Hendricks Concept, BMU June 2015 - *German only*)

[https://www.bmude/medien/Daten/BMU/Download/PDF/Nukleare\\_Sicherheit/castoren\\_rueckfuehrung\\_gesamtkonzept\\_bf.pdf](https://www.bmude/medien/Daten/BMU/Download/PDF/Nukleare_Sicherheit/castoren_rueckfuehrung_gesamtkonzept_bf.pdf)

### **Do the CASTOR® casks now to be shipped to Biblis only contain "waste" from the Biblis NPP or also from other power plants operated by other operators?**

Reprocessing and repatriation is a joint project of all German NPP operators. During reprocessing, all fuel elements delivered from Germany were processed together. Therefore, the casks to be returned from France and England also contain waste from all German NPP operators. An allocation to individual sites is not possible.

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## **Return of residues/Transports**

### **Who does the waste belong to?**

The waste to be returned from reprocessing belongs to the waste producers, i.e. the operators of the German nuclear power plants, in accordance with the fuel elements delivered by them for reprocessing. Today these are: EnBW, PreussenElektra, RWE and Vattenfall. With storage in a German interim storage facility operated by the federal BGZ Gesellschaft für Zwischenlagerung mbH, the waste becomes the property of the Federal Republic of Germany.

### **Who bears the costs for the actual repatriation and the police operation that is likely to be necessary?**

The costs for the repatriation of reprocessing waste are borne by the waste producers, i.e. the operators of the nuclear power plants. This also applies to measures to secure transports, provided that they are the responsibility of the waste producers. As in many comparable cases, safety measures that become necessary due to possible interference by third parties with the transport and that ensure that the licensed transport is carried out are to be borne by the general public.

### **Are the transports safe?**

Within the scope of the application for the transport licence according to § 4 AtG, the applicant has to prove that the transport does not pose a risk to man and environment. This requires compliance with all applicable national and international regulations. This includes both regular and accident transport conditions. Only when all necessary proof have been provided will the Federal Office for the Safety of Nuclear Waste Management (BASE), as the competent authority, issue the license for the transport.

More information on the protection concept and the licensing procedure can be found under "Safety and radiation protection".

### **Does the BREXIT have any impact on the repatriation of the waste?**

As the UK remains in the internal market and customs union until the end of 2020, the BREXIT on 31 January 2020 has no impact on the repatriation transport in 2020. For the remaining two transports from Sellafield, the effects cannot yet be foreseen in detail, but the basic implementation is not in question.

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## **Interim Storage**

### **Can the remaining casks from the reprocessing plant not also be brought to Gorleben?**

In fact, the interim storage facility in Gorleben, which has sufficient free storage space, was planned for the storage of the 25 casks with vitrified reprocessing waste from France and England that were still to be returned. However, in 2015, the Federal Environment Ministry presented a revised concept for the return of these reprocessing wastes within the context of the restart of the search for a final repository. This concept provides for a nationwide balanced distribution. A broad political consensus was reached on four sites for the interim

storage of the waste to be returned: Biblis in Hesse, Brokdorf in Schleswig-Holstein, Isar in Bavaria and Philippsburg in Baden-Württemberg. There is agreement on this between the federal government, all state governments involved and the nuclear power plant operators as waste producers.

Further information from the Federal Office for the Safety of Nuclear Waste Management (BASE)

### **Why is an environmental impact assessment not required for changes to the storage licences of interim storage facilities?**

As the amount of radioactive waste to be taken back is limited and fully known, it is clear that, within the framework of the required modification permits for the storage of vitrified waste, the essential parameters that characterise the existing storage permit in each case and that are relevant for environmental impacts will not be changed. These are in particular the number of storage positions for casks, the total thermal capacity of the interim storage facility, the total heavy metal mass and the total dose rate from the operation of the on-site interim storage facility. In this respect, the modification of the existing licensing situation that has already been subjected to an environmental impact assessment (EIA) does not have any environmental impacts that have not already been assessed. Neither the impact factors nor the environmental impacts caused by the project change. An EIA is therefore in the opinion of the Federal Office for the Safety of Nuclear Waste Management (BASE) not required.

### **Is the storage of the CASTOR® casks to be returned from reprocessing covered by the existing storage licenses of the four interim storage facilities?**

The licences of the on-site interim storage facilities, which so far only covered irradiated fuel elements, have to be extended by the waste type of vitrified reprocessing waste. However, the total licensed number of cask emplacements in the storage hall, the licensed heavy metal mass as well as the permissible total activity and heat output remain unchanged.

### **Are special protective measures required at the interim storage facility?**

No, the previous ones also cover the storage and handling of CASTOR® HAW28M casks.

### **What happens if the CASTOR® cask becomes defective during the storage period, e.g. leaks?**

The leak tightness of the CASTOR® cask is ensured by a double-lid system and monitored by a pressure monitoring system. If the pressure monitoring system should indicate a leak, the casks can be checked in the designated maintenance and repair station in the loading area of the interim storage facility and, if necessary, the permanent tightness of the casks can be ensured by suitable measures, which are part of the storage license

### **Is it ensured that the casks can be removed from the interim storage facility again, or is there a risk that the interim storage facility becomes a repository?**

Until today, there have been no changes in the lid system of the more than 1,300 CASTOR® casks stored in Germany. In the unlikely event that a change of pressure in the lid system of a CASTOR® cask should occur, there is an approved monitoring and repair concept. Within the scope of the licensing procedures for the four interim storage sites, GNS as a cask manufacturer has presented to the licensing authority in a concept how such a cask is removed

from an interim storage facility. A so-called "hot cell" is not required for this. This ensures that all CASTOR® casks can be safely stored temporarily at any time and then transported from the interim storage facility to the final storage facility.

Detailed information on the monitoring and repair concept at [BGZ Gesellschaft für Zwischenlagerung mbH](#)

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## Dual purpose casks

### Who is the owner of the CASTOR® casks?

The CASTOR® casks used are owned by GNS. Together with the waste they also become the property of the Federal Republic of Germany when they are accepted at the interim storage facility.

### Are there design differences between CASTOR® casks for irradiated fuel elements and those for vitrified waste from reprocessing?

The design and functional principle of the two types of casks is the same. The HLW casks are also externally very similar to those for fuel elements. They are both made of the same cast iron material and are each tightly sealed in the storage facility with two lids. The HLW casks are slightly longer than the casks for pressurised water fuel assemblies (6.12 m to 5.94 m) and have a slightly larger diameter (2.48 m to 2.44 m). The handling mass in the storage configuration, on the other hand, is slightly less 111.7 t (HAW28M) to 126.5 t (V/19). The internal baskets differ fundamentally, as they were specially designed to hold canisters with vitrified residues.

In addition to the two shock absorbers in the bottom and lid areas, the HLW casks are equipped with aluminium lateral impact limiters whose mounting positions are visible in the storage configuration through three circumferential rings without cooling fins. Due to the design of the impact limiters according to the package approval, the cask is transported without a secondary lid. This lid is not necessary for the transport and is only mounted in the interim storage facility.

### Why do the casks have different colours?

Originally, different colours were intended for the La Hague and Sellafield casks. However, due to changes in project planning, the allocation of the casks has changed and the different colours are no longer relevant. The colours and shades that can be used are specified in the cask approval, but have no influence on safety during transport and storage.

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## Safety and Radiation Protection

### What is the activity content of the castors in relation to the CASTOR® casks loaded with fuel elements?

The activity inventories permitted for the two cask types are of the same order of magnitude. CASTOR® casks with irradiated fuel elements are licensed for a maximum activity of  $1.9 \cdot 10^{18}$  Bq (CASTOR® V/19) or  $1.73 \cdot 10^{18}$  Bq (CASTOR® V/52). The CASTOR® HAW28M for glass canisters from reprocessing has a maximum permissible inventory of  $1,27 \cdot 10^{18}$  Bq.

The actual dose rate of the casks loaded as part of the returns will be lower than the maximum permissible values mentioned.

**Does this lead to an increase in the dose rate at the fence of the interim storage facility?**

The radioactive inventory and the actual dose rate of the used casks is lower than the values approved for the fuel assembly casks. Therefore, the storage of casks does not lead to an exceeding of the licensed dose rate at the fence.

**Are special shieldings required for transport and in the interim storage facility?**

No, one of the basic protective functions of the cask is the adequate shielding of radiation during transport and storage. Therefore, no further shielding is required during transport and interim storage.

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