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Expert Opinion

Shipment and Disposition of Spent Nuclear Fuel from the AVR Jülich nuclear reactor to the U.S. Department of Energy Savannah River Site and Non-Compliance Under German and European Law

Prepared on behalf of **Greenpeace e.V.**,
Hongkongstraße 10, 20457 Hamburg, Germany

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I.
Executive Summary

The proposed shipment of spent nuclear fuels from the permanently shut down experimental reactor AVR Juelich (hereafterAVR) does not comply with German and European law. The AVR is not a research reactor. The shipment of spent nuclear fuels contradicts sec. 9a (1) Sentence 2 of the German Atomic Energy Act (hereafter AtG) which stipulates that the transfer of spent nuclear fuels for reprocessing purposes is not allowed after 1. July 2005. The shipment also is in non-compliance with sec. 9a (2) Sentence 1 and 3 AtG and Sec 1 (1) of the law concerning the selection process for final storage (hereafter StandAG) which states that high active waste originating from German nuclear facilities has to be transferred to a national final storage or in case of sec. 9a (2) Sentence 3 AtG into an interim storage facility. Furthermore, the shipment of high active waste from Germany to the United States (U.S.) Department of Energy (DOE) Savannah River Site does not stand in line with Art. 4 (4) Council Directive 2011/70/EURATOM of 19 July 2011 (establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste). This also stipulates that radioactive waste shall be disposed of in the Member State in which it was generated. Last but not least a shipment does not comply with Sec. 9 (1) No. 4 of the German regulation concerning transboundary shipment of waste (hereafter AtAV) which provides that such a shipment is not admissible when it contradicts sec. 9a (1) Sentence 2 AtG or sec. 9a (2) Sentence 1 AtG[1].

II.
Facts

In 2012 plans emerged to transfer 152 casks with spent nuclear fuels from the AVR to the nuclear reservation in Savannah River Sites. In a *Statement of Intent* from April 2014 the U.S. DOE and the German Federal Ministry for Education and Science (BMBF) and the Ministry for Innovation, Science and Research of the State of North Rhine-Westphalia agreed to promote the project "immediately"[2].The *Statement of Intent* from April 2014 furthermore elaborates that DOE is considering the feasibility of utilizing the H-Canyon reprocessing

[1] The paper is a revised and updated version of a former Expert Opinion of the author; *Wollenteit*, Rechtsgutachten zur Zulässigkeit der Verbringung von abgebrannten Kernbrennstoffen aus dem stillgelegten Kernkraftwerk AVR Jülich in die Wiederaufbereitungsanlage Savannah River Site (USA), erstellt im Auftrag von Greenpeace e.V., 3rd of September 2014, https://www.greenpeace.de/sites/www.greenpeace.de/files/publications/rechtsgutachten-juelich-20140917.pdf.

[2] http://www.srswatch.org/uploads/2/7/5/8/27584045/statement_of_intent_march_april_2014.pdf; sub I. Nr. 4.

plant at the Savannah River Site to chemically remove the graphite from the fuel kernels by using molten salt technique being developed by the Savannah River National Laboratory and that the remaining fuel kernels could then be processed through the H-Canyon system for disposition[3]. It is not perfectly clear whether the *Statement of Intent* additionally is aiming at 303 casks from the Thorium High-Temperature Reactor (THTR) at Hamm Üntrop stored in an interim storage facility at Ahaus (Germany). The documents presented by U.S. DOE on June 2014 in connection with the public scoping meeting (Potential Acceptance and Disposition of German Pebble Bed Research Reactor Highly Enriched Uranium (HEU) Fuel - Environmental Assessment)[4] suggest this.

The 152 casks are presently stored in an interim storage facility located on the compound of the Research Center Juelich (FZJ). The waste originates from the AVR, an experimental reactor (Versuchskernkraftwerk) that was run by a consortium of 15 electricity companies. The AVR was the first German graphite based high temperature reactor that was relying on a pebble bed technology. The AVR had a net output of 13 MW per year and did operate from 1966 until 1988.

In the *Statement of Intent* is argued that the graphite-based spent nuclear fuel was irradiated for "research and development purposes". The assumption that the AVR can be considered to be a "research reactor" serves as the main justification for the proponents of the shipment[5] and for some politicians[6] to deem the shipment to be in compliance with national and European law.

In an official list of the Federal Agency for Radiation Protection (Bundesamt fuer Strahlenschutz - BfS) the AVR until today has been considered to be a commercial nuclear power plant[7]. In a separate list by the BfS that covers research reactors, the AVR is not listed.[8] The International Atomic Energy Agency (IAEA) lists the AVR as a commercial nuclear power reactor with the further specification: "permanent shut down"[9].

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[3] http://www.srswatch.org/uploads/2/7/5/8/27584045/statement_of_intent_march_april_2014.pdf; sub I. Nr. 4.

[4] http://www.srswatch.org/uploads/2/7/5/8/27584045/doe_public_meeting_presentation_june_2014-1.pdf

[5] E.g Kölner Stadtanzeiger vom 04.04.2011, http://www.ksta.de/politik/hintergrund-der-forschungsreaktor-juelich,15187246,11965764.html; Aachener Zeitung vom 3. April 2014, http://www.aachener-zeitung.de/lokales/region/avr-reaktor-vor-umzug-ins-zwischenlager-1.798583.

[6] See e.g. MOP Krischer, Kotting-Uhl and Behm in their „Small Inquiry" (Kleine Anfrage), BT-Drs. 17/843.

[7] http://www.bfs.de/de/kerntechnik/ereignisse/standorte/karte_kw.html .

[8] http://www.bfs.de/de/kerntechnik/ereignisse/standorte/karte_fr.html .

[9] http://www.iaea.org/PRIS/CountryStatistics/ReactorDetails.aspx?current=114 ; see also *Kollar/Mathews*, Evolution of Safeguards Over Time, Past, Present, an Projected Facilities, Material and Budget, Prepared for the U.S. Department of Energy, July 2009, p 19.

III.
Legal Assessment

1. Violation of the Ban on Delivery of Spent Nuclear Fuels to a Reprocessing plant in Sec. 9a (1) Sentence 2 AtG

a) The Content of Sec. 9a (1) Sentence 2 AtG

Sec. 9a (1) Sentence 2 AtG bans the disposal of spent nuclear fuels to a reprocessing plant from any installation that is or has been commercially generating electricity by nuclear fission after 01. July 2005.

The provision has been implemented in the course of the first German phase out legislation in 2002. The ban intended to put an end to the irresponsible practice of reprocessing nuclear fuels which caused severe ecological and additional waste-management problems[10]. The compliance of the ban with European law was questioned but did not cause any serious concern[11].

b) Disposal of Spent Nuclear Fuel Resulting from Commercial Generation of Electricity

Sec. 9a (1) Sentence 2 AtG prohibits the disposal of spent nuclear fuels for the purpose of (harmless) reprocessing only if the spent nuclear fuel is deriving from a commercial generation of electricity. The disposal of spent nuclear fuel from a research reactor to a reprocessing plant for the purpose of "harmless"[12] reprocessing is not covered by the prohibition[13]. Predominant arguments already suggest that a "harmless" reprocessing of spent nuclear fuel at the U.S.DOE Savannah River Site is not feasible[14]. The second and more decisive question to be answered is whether the AVR qualifies for being a "research reactor". The *Statement of Intent* tries to suggest this by using the wording "research and development purposes".

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[10] BT-Drs. 14/6890, p. 14; see also *Wollenteit/Gebauer*, Risiken der Wiederaufbereitung und die Vereinbarkeit des Verbots der Wiederaufbereitung mit Gemeinschaftsrecht, ZUR 1999, 250 ff, m.w.N..

[11] *Wollenteit/Gebauer,* ebenda; *Scheuing*, in: Koch/Roßnagel, 10. ATRS, 2000, S. 121 ff.

[12] As far as Sec. 9a (1) Sentence 2 AtG does not preclude disposing spent nuclear fuel to a reprocessing plant the provision only allows it if the reprocessing takes place in a "harmless" way.

[13] See *Posser/Schmans/Müller-Dehn*, Atomgesetz, Kommentar zur Novelle 2002, § 9 a, Rn. 188.

[14] See *Ekardt/Weyland*, Rechtmäßigkeit des Exports radioaktiver Abfälle des AVR Jülich in die USA, Forschungsstelle Nachhaltigkeit und Klimapolitik, Rechtsgutachten im Auftrag des Bund für Umwelt und Naturschutz Deutschland, Landesverband Nordrhein-Westfalen e.V. BUND NRW, Endfassung vom 21.09.2014,

The designation of the reactor to be an experimental reactor (Versuchsreaktor) might prima facie create the impression that the reactor has something to do with research purposes. But this impression is deceptive[15]. Research reactors are not designed to generate electricity. They have an exploratory focus. Usually they deal with the investigation of physical and material properties and the production of radionuclides in the field of medical science and other fields of technique. Research reactors do not use the thermal energy but the neutron radiation. They also serve educational purposes[16].

The German phase-out legislator followed the same logic when only prohibiting the licensing of reactors commercially generating electricity by Sec. 7 (1) Sentence 2 AtG. The official reasoning for the legislation follows the same specifications when exempting research reactors on constitutional grounds (with respect to academic freedom; Art 5 (3) of the Basic Law) from the prohibition of erecting new reactors:

> "Unaffected remain reserach reactors the significance of which e.g. in the field of basic research, materials research, isotopic research, biological measures (inter alia cancer therapy) and the production of tracer is widely acknowledged. Because of their function and because of their integration in European and bilateral, international binding scientific cooperations these reactors represent an exception with respect to power reactors. They do not serve the generation of electricity and represent a lesser risk potential because of their lower degree of power." [17]

Experimental reactors pursue completely different goals. The AVR and the Thorium High- Temperature Reactor (THTR) at Hamm Üntrop[18] were both

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[15] See *Wollenteit*, l.c. (fn. 1).

[16] *IAEA*, Research Reactors: Purposes and Future, November 2010, p.2: "Research reactors comprise a wide range of different types of reactors that are generally not used for power generation. The primary use of research reactors is to provide neutron source for research and various applications, including education and training"; see also http://de.wikipedia.org/wiki/Forschungsreaktor.

[17] BT-Drs. 14/6890, S. 19: "Unberührt bleiben die Forschungsreaktoren, deren Bedeutung zum Beispiel für die Grundlagenforschung, die Materialforschung, die Isotopenforschung für medizinische Zwecke (u. a. Krebstherapien), für biologische Maßnahmen (u. a. Umweltanalytiken) sowie zur Erzeugung von Tracern weiterhin anerkannt wird. Diese Reaktoren stellen sowohl auf Grund ihrer Funktionen als auch auf Grund ihrer Einbindung in europäische und bilaterale, völkerrechtlich verbindliche Forschungskooperationen einen Sonderfall gegenüber Leistungsreaktoren dar. Sie dienen nicht der Erzeugung von Elektrizität und stellen auf Grund ihrer deutlich niedrigeren Leistung ein geringeres Risikopotential dar."

[18] The THTR even more was not a research reactor; see *Wollenteit*, l.c. (fn. 1), p. 6 f, and *Hermes*, Rechtliche Zulässigkeit der Verbringung der bestrahlten THTR-Brennelementekugeln in die USA zum Zweck der Wiederaufbereitung und des Verbleibs unter Berücksichtigung des europäischen Rechts und diesbezügliche Rechtschutzmöglichkeiten, Rechtsgutachten erstellt im Auftrag des Ministeriums für Klimaschutz, Umwelt, Landwirtschaft, Natur- und Verbraucherschutz des Landes Nordrhein-Westfalen, 4th of February 2014.

operating on the basis of a new High-Temperature Gas Reactor technology (HTGR). Both reactors are considered to be "prototype reactors" for new HTGR fuels[19]. The AVR served as kind of blue-print for future HTGR-technologies. In early publications this purpose of the AVR has precisely been described as follows:

- "Brown Boveri/Krupp Reaktorbau Ltd. is developing a line of high-temperature helium-cooled pebble-bed reactors, with completely integrated primary system. The feasibility of the concept has been demonstrated by the AVR experimental reactor, which has been supplying electricity to the grid since December 1967. The next stage in the development is the 300 MWe THTR, which has the same design characteristics as the AVR."[20]

- "The AVR is a 15-MWe HTR steam cycle demonstration plant in Jülich, West Germany. The AVR began generating electricity in December 1967. Its purpose is to demonstrate the feasibility of an HTR with pebble fuel elements and high operating temperatures. The operating utility group is Arbeitgemeinschaft Versuchs-Reaktor (AVR) GmbH of Düsseldorf. The constructor was Brown-Boveri-Krupp Reaktorbau GmbH."[21]

These quotations clearly show that the purpose of the AVR was to demonstrate the feasibility of a future HTR-reactorline with pebble fuel elements and high operating temperatures. The operating utility (Arbeitsgemeinschaft Versuchs-Reaktor GmbH), consisting of 15 electricity companies, and the constructor (Brown-Boveri-Krupp Reaktorbau GmbH) were not acting out of scientific curiosity but were governed by commercial interests. Experimental reactors always seek to show the feasibility of a new technology and to develop prototypes for new reactor lines. This clearly indicates that spent fuels from such a reactor is not deriving from a scientific background but out of a commercial context in the sense of Sec. 9a (1) Sentence 2 AtG.

The decisive division line between power reactors and research reactors runs along functional criteria. As already was pointed out research reactors do not use the thermal energy but the neutron radiation. These reactors are linked to basic research, materials research and medical research while power reactors

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[19] *Shropshire/Herring*, Fuel-Cycle and Nuclear Material Disposition Issues Associated with High-Temperature Gas Reactors, Paper presented at the Conference: Americas Nuclear Energy Symposium (ANES 2004), Miami, FL (US), 10/03/2004-10/06/2004, p. 7.

[20] *Oehme/Schöning*, Design, Features, and Engineering Status of the THTR 300 MWe Prototype Power Station, Paper presented at the Conference: Gas cooled reactor meeting, April 27-30, 1970, Oak Ridge, p. 1.

[21] *Cleveland*, ORNL Analyses of AVR Performance and Safety, Paper to be presented at the IAEA Specialists' Meeting on Safety and Accident Analyses for Gas-Cooled Reactors, Oak Ridge, Tennessee May 13 – 15, 1985, p. 3.

by using thermal heat are meant to generate electricity to be fed to the grid [22]. AVR has produced a considerable amount of electricity over 20 years and has fed this electricity to the grid. The AVR was a prototype for a new reactor line and clearly was built and operated in a commercial context. The fact that the technological concept of the AVR and the intention to develop a new line of power reactors retrospectively did not turn out to become a commercial success does not make the AVR a research reactor. Since the AVR (and the THTR even more) no doubt does not feature the characteristics of a research reactor it has to be deemed to be a power reactor[23]. This qualification complies with the approach of the BfS and the IAEA which both did not put the AVR and the THTR on their list of research reactors but on their list of power reactors.

c) Intermediate Result

The analysis above clearly shows that the disposal of spent fuel from the AVR to the U.S.DOE Savannah River Site for the purpose of reprocessing does not comply with binding German law[24]. The disposal contradicts Sec. 9a (1) Sentence 2 AtG which prohibits the disposal of spent nuclear fuel deriving from a power reactor to a reprocessing plant after 01. July 2005. This assessment without any doubt even more applies to the 303 casks deriving from the THTR at Hamm Üntrop[25] which possibly might also be covered by the *Statement of Intent*.

2. Violation of Sec. 9a (2) Sentence 1 and 3 AtG and of Sec. 1 (1) StandAG

The *Statement of Intent* from April 2014 clearly assumes a final disposition of the shipped spent nuclear fuel at Savannah River Site after a possible reprocessing procedure. The final disposition of nuclear waste deriving from a German nuclear installation in a foreign country brings up additional legal questions.

a) Violation of Sec. 9a (2) Sentence 1 and 3 AtG

The option to dispose of nuclear reactor spent fuel from a nuclear power plant by shipment to a foreign reprocessing plant has been closed by the phase out legislation in 2002 with no further transports after the 1st of July 2005. The only remaining legal way to dispose of spent nuclear reactor fuel is provided by Sec. 9a (2) Sentence 1 and 3 AtG[26]. The provision contains a compulsory

[22] *IAEA*, Research Reactors: Purposes and Future, November 2010, p.2.
[23] See *Wollenteit*, l.c. (fn. 1), p. 5 f; *Ekardt/Weyland,* l.c. (fn. 14), p. 7 ff.
[24] See also *Ekardt/Weyland,* l.c. (fn. 14), p. 7 ff.
[25] See *Wollenteit*, l.c. (fn. 1), p. 6; even more specific *Hermes*, l.c. (fn. 18).
[26] *Fehling/Schneider/Theobald,* Recht der Energiewirtschaft, § 8. Zulassung von Erzeugungsanlagen, 4. Auflage 2013, Rn. 2013.

obligation to dispose of high active waste in a final waste disposal site or an interim storage facility before final disposal. A cross border shipment of spent nuclear fuel that has been generated in Germany would violate the obligation stipulated in Sec. 9a (2) Sentence 1 and 3 AtG and therefore would be illegal[27]. This national concept of nuclear waste management is supported by Sec. 9a (3) AtG which contains a basic decision that the federal authorities are obliged to erect and to operate a final waste disposal site.[28]

b) Violation of Sec. 1 (1) StandAG

In July 2013 a law concerning the selection process for final storage (StandAG)[29] went into force. The objectives of the selective process established by the StandAG are outlined in Sec 1 (1) Sentence 1 StandAG as follows:

> "Goal of the selection process is to find in the **Federal Republic of Germany** a site for a final storage for nuclear waste subject to Sec. 9a (3) Sentence 1 AtG caused by activities in inland, especially of high active waste, in a scientific based and transparent procedure which guarantees best possible safety for a period of one million years."[30]

With this provision the German legislator has affirmed its basic decision that waste generated in a German nuclear installation shall ultimately be disposed in a final storage facility on within the boundaries of Germany. But the StandAG did not only affirm this basic decision but also closed a potential loophole that might arise from European law under Art 4 No 4 Council Directive 2011/70/EURATOM of 19 July 2011 (establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste)[31]. Art 4 No 4 Council Directive 2011/70/EURATOM allows the cross border shipment of nuclear waste if this shipment is justified by an international agreement. This possibility to circumvent the provisions of Sec. 9a (2) Sentence 1 AtG and of Sec 1 (1) Sentence 1 StandAG has been explicitly excluded

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[27] That the disposition of spent nuclear fuel to a third party country under German law is not admissable clearly shows *Borck*, Die Endlagerung radioaktiver Abfälle aus Deutschland im Ausland, Kassel 2014, p. 53; see also *Wollenteit*, l.c. (fn. 1), p. 8; *Ekardt/Weyland,* l.c. (fn. 14), p. 9 ff; with respect to the THTR, *Hermes*, l.c. (fn. 18), p. 21.

[28] *Roßnagel/Hentschel*, Kurzgutachten, Verbringung in Deutschland erzeugter radioaktiver Abfälle und abgebrannter Brennelemente ins Ausland, im Auftrag der Fraktion Bündnis 90/Die Grünen im Bundestag, Kassel 2013, S. 10.

[29] Gesetz zur Suche und Auswahl eines Standortes für ein Endlager für Wärme entwickelnde radioaktive Abfälle; Standortauswahlgesetz, 23rd July 2013, BGBl I 2013, 2553.

[30] „Ziel des Standortauswahlverfahrens ist, in einem wissenschaftsbasierten und transparenten Verfahren für die im Inland verursachten, insbesondere hoch radioaktiven Abfälle den Standort für eine Anlage zur Endlagerung nach § 9a Absatz 3 Satz 1 des Atomgesetzes in der Bundesrepublik Deutschland zu finden, der die bestmögliche Sicherheit für einen Zeitraum von einer Million Jahren gewährleistet."

[31] OJ L 199 of 19 July 2011, p. 48.

by Sec 1 (1) Sentence 2 StandAG. Under Sec 1 (1) Sentence 2 StandAG the Federal Republic of Germany may not,

> "according to Council Directive 2011/70/EURATOM of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (OJ L 199 of 19 July 2011, p 48) negotiate a treaty which would make possible the disposal of nuclear waste including spent nuclear fuel for the purpose of final disposal outside of Germany."

Sec 1 (1) Sentence 2 StandAG is meant to effectively discourage any future attempts to undermine the basic (national) concept of nuclear waste management by seeking an international solution.

a) Intermediate Result

The final disposition of spent nuclear fuel from the AVR at the U.S.DOE Savannah River Site does not comply with Sec. 9a (2) Sentence 1 and 3 AtG and with Sec. 1 (1) StandAG which both allow a disposition of radioactive waste and spent nuclear fuel only in a federal final disposal site or an intermediate storage facility in Germany. The targeted project to dispose of spent nuclear fuel from the AVR at the U.S.DOE Savannah River Site therefore would be illegal under German law.

3. Violation of Art 4 No 4 Council Directive 2011/70/EURATOM

Art 4 No 4 Council Directive 2011/70/EURATOM stipulates, that

> "(r)adioactive waste shall be disposed of in the Member State in which it was generated, unless at the time of shipment an agreement, taking into account the criteria established by the Commission in accordance with Article 16(2) of Directive 2006/117/Euratom, has entered into force between the Member State concerned and another Member State or a third country to use a disposal facility in one of them."

As already was pointed out Sec. 1 (1) Sentence 2 StandAG cuts off the possibility to legalize cross border shipment of nuclear waste through an international agreement. Since no treaty with the U.S. allows German authorities to use a foreign disposal facility in the U.S. the targeted shipment does not comply with Art 4 No 4 Council Directive 2011/70/EURATOM.

Art 2 (3) b) of the Directive Art 4 No 4 Council Directive 2011/70/EURATOM is not applicable for research reactors. However, this exception may not be invoked with respect to the AVR because the AVR is not a research reactor as already has been shown.

Therefore the targeted disposition of spent nuclear fuel from the AVR at U.S.DOE Savannah River Site would also violate European Law especially Art 4 No 4 Council Directive 2011/70/EURATOM. The violation therefore could trigger treaty violation proceedings under Art 258 f of the Treaty on the Functioning of the European Union (TFEU). Citizens of the EU could place an informal complaint with the Commission of the European Union[32].

4. Violation of Sec. 9 (1) No. 4 AtAV

The German Regulations concerning shipment of radioactive waste and spent nuclear fuel[33] (AtAV) contain provisions implementing the requirements of Council Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel[34]. They also supplement the provisions of Sec. 3 AtG which deal with licensing procedures concerning the import and export of nuclear fuel. Its scope is limited by Sec. 1 (1) AtAV to the "cross border shipment of nuclear waste and spent nuclear fuel".

Sec 5 (2) No 1 b) requires a license if radioactive waste or spent nuclear fuel shall be shipped from Germany to a third party country like the U.S. Sec. 9 AtAV contains licensing requirements for a cross border disposition of radioactive waste and spent nuclear fuel to a third party country. Sec. 9 (1) No 4 AtAV refers to Sec. 8 (1) No 4 AtAV which provides that a license may only be issued if

> "the shipment does not violate provisions within the area of application of this regulation especially Sec. 9a (1) Sentence 2 AtG and Sec. 9a (2) sentence 1 and 3 AtG".

As already has been pointed out the disposition of spent nuclear fuel for reprocessing purposes violates Sec. 9a (1) Sentence 2 AtG. The shipment of spent nuclear fuel with the intention of waste disposition contradicts Sec. 9a (2) sentence 1 and 3 AtG. Under Sec. 9 AtAV therefore a license for the disposition of spent nuclear fuel may not be issued[35]. The issuing of a license allowing the shipment of spent nuclear from the AVR the U.S.DOE Savannah River Site would clearly violate German law and therefore would be illegal.

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[32] See also *Hermes*, l.c. (fn. 18), p. 21, with respect to the THTR.

[33] Verordnung über die Verbringung radioaktiver Abfälle oder abgebrannter Brennelemente (Atomrechtliche Abfallverbringungsverordnung – AtAV) vom 30. April 2009 (BGBl. I S. 1000).

[34] Council Directive 2006/117/EURATOM of 20 November 2006, OJ L 337/21.

[35] See also *Borck*, Die Endlagerung radioaktiver Abfälle aus Deutschland im Ausland, Kassel 2014, S. 53.

5. Transport License to U.S.DOE Savannah River Site Illegal

The shipment of spent nuclear fuel from the AVR to the U.S.DOE Savannah River Site would finally need a transport license under Sec. 4 AtG.

Since the disposition of the spent nuclear fuel from the AVR to U.S.DOE Savannah River Site would be illegal, preponderant considerations suggest that this would also apply to the issuing of a transport license under German law[36].

IV.
Final Conclusion

The licensing of a disposition of spent nuclear fuel from the AVR stored in an interim storage facility in Jülich (Germany) to the U.S.DOE Savannah River Site would severely violate several German and European laws and therefore would clearly be illegal. This assessment without any doubt also applies to the 303 casks deriving from the Thorium High-Temperature Reactor (THTR) at Hamm Üntrop.

Hamburg, 3rd of December 2014

Rechtsanwalt
Dr. Ulrich Wollenteit

[36] See *Wollenteit*, l.c. (fn. 1), p. 10 ff..