



Disposal of Highly Radioactive Wastes

Federal Republic of Germany had in Operation 17 Nuclear Power Plants. In 2011 there was meltdown of the 4th nuclear reactor in Fukushima, Japan. Previously there was in Chernobyl an unprecedented nuclear disaster. Many countries of the world were thinking seriously about the generation of energy by some other alternative measures. That time Germany decided to close down all their nuclear power plants 17 in number by the year 2022. To achieve this goal Germany is phase wise closing down the reactor and hence they are in search for burying the disposal of nuclear wastes.

Nuclear Power:

Annual meeting of nuclear technique discusses that in the search for final dumping place intermediate dump place as well as highly radioactive retroconstruction permission for the castor depot must be extended. Latest in three and a half years, the last three atomic power plants of Germany will be finally out of the circulation network. Also because of that the retroconstruction of the reactors, the method of selection for a final dumping station and the intermediate depot of highly radioactive wastes were the central themes.

Since summer 2017 Bundesgesellschaft für Endlagerung (BGE) is searching systematically for the best possible location in Germany, for the final storage of highly radioactive wastes. For that it gathers data on "complete substrata which lie on the geological foundation in Germany" and has already got "more than 1 million data from all Federal States" remarked BGE – Business Executive Steffen Kanitz in Berlin. For autumn in the coming year 2020 it will announce the publication of the first interim report on the

locations with favourable geological condition for the purpose.

Latest by autumn 2024 the BGE wants to place the second report on the possible locations which finally from the earth's surface through boring and measurement should be ascertained. After evaluation of above ground spotting the underground spotting of then relatively best locations follow through the construction of shaft. The location selection law strives for fixation of locations for the year 2031". Already now it is evident that the location selection method will continue considerably longer.

The intermediate storage gains importance in view of this delay. The Federal Society has also taken more than eleven further depots at stations in nuclear power works in between the intermediate storage in Ahans and Gorleben at the beginning of the year and takes along with the retro-construction of the atomic power works gradually almost all highly radioactive wastes in possession.

The permission for the intermediate depot of high radioactive wastes is timed 40 years and run out according to each depot between the years 34 and 47. However the searched for final depot is not yet available. We must strive for extension of permission with 40 years storage time.

After the retro-construction of all atomic power works the highly radioactive wastes in Germany will fill up about 1900 intermediate depots almost without exception with different types of castor containers. According to business executive Michel Köble of castor container society for nuclear services, there are at the moment 1266 loaded castors in German intermediate depots.

The receptacles contain highly radioactive wastes out from refurbished plants or burnt down fuels of atomic power plants and research reactors. After loading and drying up the extensive cast iron finished castors filled up with a rarer inert gas. During the intermediate dump time, the double system of the container must remain tight and the castors must be further transportable. The tightness of the castors becomes in the intermediate depots through the control of the upper pressure between both the lids was continuously watched over. However, the condition in interior of the receptacle one cannot control. In a few years it will not at all be possible in Germany to open for inspection Castor receptacle with burnt out fuel elements as said by Michael Hoffmann, the area manager for intermediate depot management with BGZ at the meeting in Berlin. The atomic power works in which most fuel element container would be loaded or are to be loaded then exist no more.

In Germany, they might collect in past 20 years comprehensive experience in intermediate storage in castors as said by Heinz-Walter

Droffeff, member of the disposal commission of the Federal Environment Ministry and Project Manager of disposal with TÜV North. Tightness barrier of the castor receptacles has not been denied with that. "All messages cover up the disturbances of the inspection system" he opined. To that there has been no indication that a much longer intermediate storage is possible.

The approval method for the extension of intermediate dump the BGZ in the middle of 2020 must start, as reported by BGZ, the area manager Hoffmann. Till that time they must develop instrument to be able to execute safe evidence for longer duration dump period. Such information is to bring for the simpler receptacle body and lids system. The question is how the receptacle inventory is clearly more difficult to answer, he opined.

(A photograph is printed in back inside cover)

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Greek Alphabet

α alpha	η eta	ν nu	τ tau
β beta	θ theta	ξ xi	υ upsilon
γ gamma	ι iota	\omicron omicron	ϕ phi
δ delta	κ kappa	π pi	χ chi
ϵ epsilon	λ lambda	ρ rho	ψ psi
ζ zeta	μ mu	σ sigma	ω omega