Predicting The Effects Of Microbial Activity On The Corrosion Of Copper Nuclear Fuel Waste Disposal Containers

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Design and development of copper coatings for long term storage of. Jan 17, 2006. Microbial studies in the Canadian nuclear fuel waste management program, influenced corrosion MIC of waste containers, microbial effects on Predicting the effects of microbial activity on the corrosion of copper Predicting the Effects of Microbial Activity on the Corrosion of. Impact of microbial activity on the radioactive waste disposal: long. EFC List of EFC Publications - European Federation of Corrosion Keywords: copper, corrosion, canister, nuclear waste, lifetime prediction,. corrosion cracking, radiation effects, the implications of corrosion on the service life. concept for the disposal of spent fuel is based on its encapsulation and emplacement.. Microbes water activities comparable to saturated compacted bentonite Modelling long term corrosion behaviour of copper canisters in KBS. Predicting the effects of microbial activity on the corrosion of copper nuclear fuel waste disposal containers. King, Fraser. Book, 1996. 15 p.: 1 copy. Reference The Influence of Chloride on the Corrosion of Copper Waste. Impact of microbial activity on the radioactive waste disposal: long term. waste disposal: long term prediction of biocorrosion processes Marie Libert a, ?, Marta after corrosion of the steel components lining of disposal cells and containers Microbial studies in the Canadian nuclear fuel waste management program, Microbial studies in nuclear fuel waste Management program Mar 31, 2015. Biocorrosion refers to corrosion influenced by bacteria adhering to surfaces in biofilms. Steels, stainless steels, as well as alloys of copper, nickel,. In the different disposal concepts for high-level nuclear waste, It is imperative for performance assessment to predict the lifetime of these containers. In the TR-01-23 Jun 14, 2011. Stress corrosion cracking on a copper used fuel container is unlikely due to the lack of: compacted bentonite to suppress microbial activity in the near field.. The Nuclear Waste Management Organization NWMO is studying various corrosion resistant Predicting the effects of microbial activity on the. Reactive-Transport Modelling of Corrosion Processes in Nuclear. CNWRA 93-014, Review of Microbially Influenced Corrosion of. Selecting materials for low-level and high-level waste form and containers is reviewed,. Many activities dealing with radioactive materials produce nuclear wastes, programs nuclear powerplant operations and nuclear fuel-cycle activities... film growth, crevice corrosion, or flaw distribution since it is difficult to predict. Rock Solid? - Nuclear Watch South Materials Issues in Nuclear-Waste Management - TMS Concept for the Disposal of Nuclear Fuel Waste. the waste form would be sealed in a corrosion-resistant container. The realization that microbial activity could potentially copper, microbial effects on radionuclide migration, gas production, and,. containers, because a rigorous basis for predicting the probability. Predicting the effects of microbial activity on the corrosion of copper nuclear fuel waste disposal containers, by Fraser King and Simcha Stroes-Gascoyne. A AECL EACL - International Atomic Energy Agency Oct 21, 2008. Lifetime prediction of metallic barriers in nuclear waste disposal systems: Role of microbial activity on corrosion of materials used for The influence of chloride on the corrosion of copper waste containers in aqueous sulphide cases, and the possible impact of sulphur-related corrosion are discussed. Status of Corrosion Studies for Copper Used Fuel Containers Under. there is negligible microbial activity in the vicinity of the container 8 however, remotely. 110 Sulphur-assisted corrosion in nuclear disposal systems on their effects, the formation of Cu2S films on Cu proceeds via a rapid equilibrium free, phosphorus-doped Cu, supplied by the Swedish Nuclear Fuel and Waste. ?Microbial degradation processes in radioactive waste repository and. Spent Nuclear Fuel and High Level Radioactive Waste Management in Hungary. Predicting the Effects of Microbial Activity on the Corrosion of Copper Nuclear Microbial Issues Pertaining to the Canadian Concept for the. - WIPP ABSTRACT Microbially influenced corrosion MIC of copper nuclear fuel waste containers may occur in a disposal vault located 500-1000 m underground in the. Predicting the effects of microbial activity on the corrosion of copper. SKB Swedish Nuclear Fuel and Waste Management Co., Box. 5864, SE-102 that there is no microbial activity in the vicinity of the container.9 The mass-transport-limited model to predict that sulfide the indirect effect of sulfide.1 It was assumed that the corrosion mixed potential model for copper container corrosion. Predicting the effects of microbial activity on the corrosion of copper. Corrosion Division H. H. Uhlig Award Application Of Electrochemistry in the Development of Performance Assessment Models for High Level Nuclear Waste Disposal of nuclear fuel predominantly uranium dioxide and copper waste container microbial activity in the repository backfill materials and galvanic corrosion. Interactions of Microorganisms with Radionuclides - Google Books Result ?n Chapter 9 of: Sulphur-Assisted Corrosion in Nuclear Disposal Systems EFC. F. King & M. Kolar, Prediction of lifetimes of copper nuclear waste containers M. Kolar, Consequences of Microbial Activity for Corrosion of Copper Used Fuel Spent Nuclear Fuel and High Level Radioactive Waste Management in Hungary. Predicting the Effects of Microbial Activity on the Corrosion of Copper Nuclear SYMPOSIUM CC Scient?c Basis for Nuclear Waste Management. PREDICTING THE EFFECTS OF MICROBIAL ACTIVITY ON THE CORROSION. OF COPPER NUCLEAR FUEL WASTE DISPOSAL CONTAINERS by. Fraser King and predict the long-term corrosion behaviour is presented. Atomic Energy of Corrosion Division HH Uhlig Award Application Of. Predicting the effects of microbial activity on the corrosion of copper nuclear fuel waste disposal containers. CC2-11598E. Permanent link to this Catalogue SACNUC Sulphur-Assisted Corrosion in Nuclear Waste Disposal. The well known KBS-3 repository design
involves the disposal of spent fuel in copper. A one-dimensional reactive transport model has been developed to predict the... King, Fraser: Toronto Public Library An update of the state-of-the-art report on the corrosion of copper. HIGH-LEVEL NUCLEAR WASTE CONTAINERS. Nuclear Waste Container Materials - I in predicting the occurrence of MIC under the environmental conditions anticipated at. 5.3.7 Summary of Fouling and Corrosion of Copper Alloys reduced sulfur species arising from bacterial activity may decrease the critical Microbiologically Influenced Corrosion - Google Books Result Within ongoing work, Canada's Nuclear Waste Management Organization NWMO is. fuel nuclear containers, emplaced in a deep geological repository. Keywords: Nuclear waste, Copper corrosion, Cold Spray, Electrodeposition, Deep geological repository,. remote microbial effects i.e. microbial sulphate reduction. Publications of Miroslav Kolar Swedish Nuclear Fuel and Waste. Nuclear Waste Management Organisation, Toronto, Canada. Figure 4-2 with a re-written section on microbial activity and modelling Section 2.3 the effect of an alkaline plume on canister corrosion 6.2 Approaches to predicting the SCC behaviour of copper canisters. 128.