

Progressive Finland Sees Progress With Nuclear Projects

David Dalton | Page 90

The Finnish Hanhikivi-1 reactor project is firmly on track and a licence has been granted for construction of a final disposal facility for spent nuclear fuel – the first final repository in the world to enter the construction phase. Significant progress has been made with plans for Finland to build its sixth nuclear reactor unit at Hanhikivi. Fennovoima's licensing manager Janne Liuko said the company expects to receive the construction licence for the Generation III+ Hanhikivi-1 plant in late 2017. The application was submitted to the Finnish Ministry of Employment and the Economy in June 2015.

The Revision of the German Regulations in the Light of Developments in the EU and Worldwide

Kay Nünighoff | Page 93

The German Safety Requirements for Nuclear Power Plants were published in 2012 after more than ten years of development. During this process international developments in the field of nuclear safety were taken into account. Continuous improvement is an important principle in nuclear safety. Thus, nuclear regulations have to be updated to the most recent insights in nuclear safety. This article will describe the process how the international state of the art in science and technology will be monitored and

Every Year Again: Court of Justice on the European Union Judgement on the Environmental Appeals Act

Ulrike Feldmann | Page 98

The judgement of the European Court of Justice (ECJ) on the Environmental Appeals Act (Umwelt-Rechtsbehelfsgesetz) had been eagerly awaited. The European Commission has taken legal action on the German regulation on preclusion and on procedural mistakes. Already in its judgements "Trianel" and "Altrip" the ECJ decided on legal aspects for the access for environmental association to courts. The ECJ judged on the Environmental Appeals Act with respect to EU law and the Aarhus Convention. The judgement opens new possibilities for actions by environmental associations at German administrative courts.

RETRAN Safety Analysis to Increase the Over-Pressure Safety Margin for OPR1000 Nuclear Power Plant

Jong Woon Park | Page 99

A need to enlarge the pressurizer set point tolerances is desirable to prevent unnecessary tests. The increase of test tolerances needs verification by safety analyses. Existing safety analysis method are too conservative to accommodate the expanded tolerance. To overcome this insufficient margin, two approaches are taken: First one is to increase valve discharge flow rate, reactor coolant pump coast down delay time and trip delay time retaining the analysis code, CESEC. The second one is changing a computer code to a realistic code such as RETRAN.

Investigation of Loss of Coolant Accidents in Pressurized Water Reactors Using the "Dynamic Best-Estimate Safety Analysis" (DYBESA) Method for Consideration of Uncertainties in TRACE

Michael Sporn and Antonio Hurtado | Page 102

Loss of coolant accident must take uncertainties with potentially strong effects on the accident sequence prediction into account. For example, uncertainties in computational model input parameters resulting from varying geometry and material data due to manufacturing tolerances or unavailable measurements should be considered. The uncertainties of physical models used by the software program are also significant. In this paper, use of the "Dynamic Best-Estimate Safety Analysis" (DYBESA) method to quantify the uncertainties in the TRACE thermal-hydraulic program is demonstrated. For demonstration purposes loss of coolant accidents with breaks of various types and sizes in a DN 700 reactor coolant pipe are used as an example Application.

An Effect of Containment Filtered Venting System on Scale of Contamination under Severe Accident

Ju young Jeon and Jai-ki Lee | Page 110

Some countries are expected to expand the scope of the Emergency Planning Zone (EPZ) by the influence of Fukushima accident. However, if the equipment, which is able to mitigate the severe accident consequences, is installed, unnecessary costs for an expansion of emergency planning zone will be reduced. The International Nuclear Safety Advisory Group (INSAG) has suggested to mitigate severe accidents by installing The Filtered Containment Venting System (FCVS). The probabilistic assessment code MACCS2 was used to calculate the effective radiation dose with and without FCVS to determine the effective reduction by the installation of a FCVS.

International Demands for Retrofitting, Trends in the Nuclear Industry, Safety Margins, Concepts and Options for Retrofit

Rolf Janke, Uwe Stoll and Claudius Grasnack | Page 116

The serious accidents at Fukushima in 2011 pointed out the missing implementation of existing international safety standards for nuclear power plants as also new aspects for nuclear safety. The main safety aspects in the aftermath of Fukushima are: robustness against internal and external impacts; sufficient safety margins; prolonged periods for safety measures; inherent and passive systems and mechanisms; enhanced independent operation of the plant in case of external failures; independent long-term supply with AC; accident management procedures; enhanced retention of radionuclides. Technologies for retrofit are available and are under implementation with respect to the demands and options in the countries using nuclear power.

Nuclear power plants: Safe and efficient decommissioning

Helmut Huger and Richard Woodcock | Page 124

The process of dismantling a nuclear power plant consists of several phases that involve significant challenges along the way for authorities, operators, and suppliers. It is necessary to ensure safety at all times and to achieve certainty in respect of key project parameters, especially time and cost. Therefore, careful planning as well as detailed knowledge of local standards and regulations, best available techniques and practical implementation strategies

are crucial. Independent expertise and knowledge service can be utilised for demanding projects worldwide. This guarantees safety for people and the environment in every phase of decommissioning. The article gives an overview on different decommissioning options and their challenges.

AMNT 2015 Key Topic: Enhanced Safety & Operation Excellence

Anke Traichel | Page 129

Summary report on the Technical Session "Operation and Safety of Nuclear Installations, Fuel | Special Issues" of the 46th Annual Conference on Nuclear Technology (AMNT 2015) held in Berlin, 5 to 7 May 2015. Other Sessions of AMNT 2015 have been covered in atw 7 to 12 (2015), 1 (2016) and will be covered in further issues of atw.

Vertiefungskurs 2015: Cost Optimization in the Context of a Good Safety Culture

Matthias Rey | Page 131

The presentations of the "Vertiefungskurs 2015" of the Nuklearforum Schweiz highlighted the possibilities for cost optimisation in nuclear power plants on the assumption of the Swiss safety culture. The main topics political and economic framework, business and technical optimisation, the role of staff and organization have been discussed in four sessions. Fifteen authors presented lectures with a wide range of topics, also beyond the use of nuclear power. The "Vertiefungskurs 2015" took place for the fifteenth time and was moderated by Urs Weidmann.