

Preface

Following the successful NUCPERF 2006 and 2009 workshops on “Long-Term Performance of Reinforced Concrete in Nuclear Power Plants and Waste Disposal Facilities” (Cadarache, France, April 2006 and April 2009) and the NEA/CSNI Workshop on “Ageing Management of Thick Walled Concrete Structures” (Prague, October 2008), the organizers and the sponsor organizations focused on “Ageing Management” of concrete structures of “Nuclear Power Plants and Waste Disposal Facilities” through the AMP International Workshop that was held from 7 to 10 November 2010 in Toronto, Ontario, Canada.

To have sufficient confidence in the engineered service life (several hundreds of years and potentially more) predictions for waste management facilities, long-term in-situ monitoring of the facilities is required. For instance, corrosion of steel reinforcement bars, the impact of environmental constraints and other degradation mechanisms during the long-service life raise challenging questions as well from a technical as from a scientific viewpoint. Field measurements should be correlated to key parameters used in the safety assessment for validating that the disposal system is ageing as expected.

The sessions of the Workshop AMP 2010 covered the following areas, from fundamental aspects to technically relevant industrial applications:

- Development ageing management programs.
- Long Term performance evaluation (including Service Life Predictions).
- Feedback on operational experience from the utilities.
- Development of instrumentation and NDE techniques for detecting, measuring and monitoring parameters impacting ageing, to meet the operating license requirements of nuclear installations.
- Characterization of Materials Properties.

The organization and the success of this Workshop have been made possible thanks to AECL (Atomic Energy Canada Limited) and CEA (Commissariat à l'Énergie Atomique et aux Énergies Alternatives) which co-organised this event. The Workshop is part of the activities of the RILEM Technical Committee (TC 226-CNM) on “Concrete in the context of the nuclear management”, the editors want to warmly thank members of the committee for their active scientific and practical contributions. The editors would also like to thank the authors who presented papers of outstanding scientific content and who responded enthusiastically to the discussions and questions raised during the Workshop, and finally the reviewers of the papers presented in this special issue.

This Workshop was a forum to exchange state-of-the-art knowledge on Ageing Management of Nuclear Power Plants and Waste Disposal Structures. The editors hope that the scientific results gathered in these proceedings will be useful to utility operators, designers, researchers, and regulators involved in these fields.

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Editors of this Special Issue

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