

DEEP GEOLOGICAL REPOSITORY

Investigating Our Expectations

Geoscientific Site Characterisation Plan – INTERA Engineering



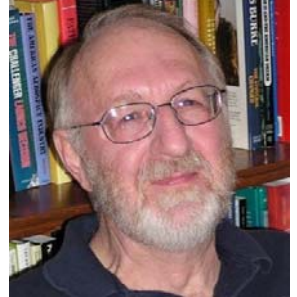

INTERA Engineering Ltd., Ottawa, Ontario was selected in 2005 to develop a Geoscientific Site Characterisation Plan (GSCP) for Ontario Power Generation's (OPG) proposed Deep Geologic Repository (DGR) for low and intermediate level radioactive waste. The long-term waste management facility will be constructed at about 660-m (2,150 ft.) within the sedimentary bedrock beneath the Bruce Nuclear site near Kincardine, Ontario. The preparation of a GSCP was the first phase in the planning of a five-year, step wise, site-specific geoscientific investigation necessary to confirm the suitability of the Bruce Nuclear site for implementation of the DGR concept.

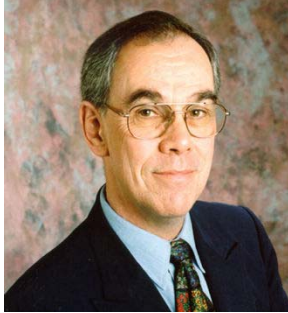
The INTERA Project Team is comprised of a multi-disciplinary core group of geoscientists and geotechnical engineers with decades of experience in national and international long-term radioactive waste management programs. The group has coordinated and scheduled complementary field and laboratory studies that will permit an explanation of the deep subsurface conditions as they exist today and are likely to evolve many thousands of years into the future. This information and understanding will support the preparation of an Environmental Assessment and Construction License Application for the DGR. Brief profiles for the INTERA Project Team core group members are attached.

GSCP in progress

The GSCP began with Phase I at the Bruce site with a 2D seismic study to provide two-dimensional images of the underground stratigraphy in the fall of 2006 followed by the drilling and coring of two deep boreholes, which began early in 2007. Core samples from the deep boreholes at various depths will provide firsthand information about the site that can be utilized in both the Environmental Assessment and the Safety Case for the DGR. Work on the deep boreholes is expected to be completed by the end of 2007. Details on the next phase are currently being finalized.

INTERA Project Team: Core Group Members

	<p>Ken Raven, M.Sc., P.Eng. is the project manager for the Bruce SCP project. He is responsible for the direction and overall content of the SCP. He will also ensure that budget and schedule targets are met. Ken is a Principal and Senior Hydrogeologist at INTERA Engineering Ltd. in Ottawa and has 30 years experience in the development and application of methods to investigate the geoscientific properties of deep formations in Ontario. His experience includes various Canadian low-level and fuel-waste related projects plus several international projects. He previously worked as a research hydrogeologist in the Canadian nuclear fuel waste management program.</p>
	<p>Dr. John Pickens, P.Eng is a Principal and Senior Scientist with INTERA Inc. in Austin, Texas. He is responsible for overall plan review and integration. In this role, he will ensure that all SCP program elements are compatible and optimized to ensure that all necessary data are collected in a timely and efficient manner. John has 30 years experience in field characterization studies and site evaluation in support of Canadian, American, British, Swiss and French radioactive waste management programs.</p>
	<p>Dr. Dick Jackson is the task leader for the Geochemistry and Laboratory Testing component of the SCP. Dick is a Principal and Senior Scientist at INTERA Inc. in Niwot, Colorado. He will be responsible for compiling and assessing task expert plans to quantify the various important geochemical parameters of the deep formations at Bruce. Dr. Jackson has 30 years of experience in geochemical analyses of radionuclide migration and in expert reviews of radioactive waste management concepts and plans. Dick established and chaired a senior geoscience review team that advised the federal government on the environmental impact statement of the Canadian concept for geologic disposal of radioactive waste in the Canadian Shield.</p>
	<p>Rick Beauheim, M.S. is a Principal Member of Technical Staff with Sandia National Laboratories, where he has been responsible for site characterization activities at the Waste Isolation Pilot Plant (WIPP) site near Carlsbad, New Mexico. WIPP is an operational low-level DGR located in a deep sedimentary formation at similar depth to the proposed Bruce DGR. For the SCP project, Rick is task leader for the borehole hydraulic testing components of the SCP. He has over 25 years experience in the design and application of deep borehole hydraulic testing procedures for low-permeability formations.</p>



Dr. Dougal McCreath, P.Eng. is the task leader for the Geomechanics and Seismicity component of the SCP. He is a Professor in the School of Engineering at Laurentian University and is a Fellow of the Engineering Institute of Canada. Dr. McCreath has over 35 years of worldwide experience in the practical solution of geotechnical engineering problems in civil and mining projects. His role in the SCP is to ensure that sufficient data are acquired to support detailed facility design activities. Dr. McCreath previously served on the Canadian Environmental Assessment Agency Panel (Seaborn Panel), reviewing the Canadian concept for geologic disposal of nuclear fuel waste in the Canadian Shield.



Dr. Gail Atkinson is a Professor in the Department of Earth Sciences at Carleton University. She is an engineering seismologist with particular emphasis on seismic hazard analysis and the seismology of eastern North America. She is the SCP project task expert on seismicity. Dr. Atkinson has over 15 years experience in this area and is an active member of Canadian code committees responsible for developing seismic design regulations.



John Avis, B.A.Sc., P.Eng is the task leader for two areas of the SCP: 1) Quality Assurance and 2) Data Management and Modeling and Data Visualization. John is a Principal and Senior Project Engineer at INTERA Engineering in Ottawa. He has over 25 years experience in data visualization, numeric modelling and data management for various Canadian and international low-level and high-level radioactive waste disposal projects.

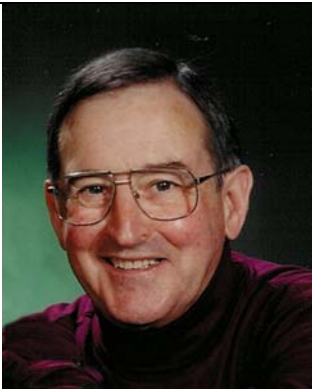


Sean Sterling, M.Sc., P.Eng. is a Senior Hydrogeologist at INTERA Engineering in Ottawa. He is the task leader for borehole drilling, sealing and monitoring systems activities. Sean has over 10 years specialized experience and expertise in characterization and investigation of shallow and deep hydrogeologic systems, focusing on the development of rock porewater characterization techniques, discrete level sampling and multi-level monitoring systems.

GEOSCIENCE REVIEW GROUP



Dr. Derek Martin, P. Geol., P. Eng. is a Professor in Geotechnical Engineering at the University of Alberta in Edmonton, Alberta, and has 30 years experience in site characterization for the design and construction of underground facilities. Dr. Martin is internationally recognized for his expertise in rock engineering. As a former senior advisor to the Director of the Canadian Nuclear Fuel Waste Management Program and the Head of the Geotechnical Research Section of AECL's Underground Research Laboratory (URL) at Pinawa, Manitoba, he was responsible for the geomechanical research at the URL between 1987 and mid 90s. He has also been involved with the nuclear waste programs in Hungary, Finland, France, Japan, Korea, Sweden, Switzerland, United States and the United Kingdom.



Dr. F. Joseph Pearson, P.Geol., is a consultant in ground-water geochemistry living in New Bern, North Carolina. He has over 30 years of professional experience in ground-water dating, geochemistry and hydrogeology, including the development and application of techniques for nuclear waste repository site characterization and safety assessment. He has been active in nuclear waste programs of Canada, Switzerland, France, Japan and the USA, and in international organisations. His recent experience with clay host rock has included preparation of a FEP catalogue for argillaceous rock (OECD Nuclear Energy Agency "Clay Club"), drilling fluid design and interpretation of ground-water chemistry (Nagra Benken site) and synthesis of experiments and results characterizing the pore water chemistry of the Opalinus Clay at the International Mont Terri Rock Laboratory in Switzerland.



Dr. Andreas Gautschi is the Section Head for Geosciences at Nagra, the Swiss National Cooperative for the Disposal of Radioactive Waste. He has over 20 years experience related to the management of geoscientific work programs relevant to long-term radioactive waste management. A key aspect of his work has involved the compilation and synthesis of geoscientific information for the purpose of assessing and communicating the safety of Swiss DGR concepts in both crystalline and sedimentary geologic settings. In 2002, he coordinated the preparation of the Geosynthesis document for the Opalinus Clay Project, which examined the feasibility of radioactive waste disposal in argillaceous media. He has been a member of international geoscience review groups on radioactive waste disposal in France, Finland, Japan and the United Kingdom and is a regular lecturer at Tuebingen University on Geoscientific Aspects of Radioactive Waste Disposal.



Jacques Delay has been involved in the French Nuclear Waste Management Geoscience Research program for 15 years, since 1999 serving as Deputy Director for Andra's Meuse/Haute-Marne Underground Research Laboratory (URL). The URL is the principle French research facility for investigating the suitability of clay bedrock formations for long-term radioactive waste disposal purposes. Jacques is responsible for the laboratory's Scientific Department and in this role manages the development and implementation of multi-disciplinary international scientific experimental work programs at the underground research facility. His particular emphasis has been hydrogeological and hydro-geochemical characterization of deep sedimentary aquifers and aquitards.