

SUBSIDIARY AGREEMENT #1

BETWEEN ATOMIC ENERGY OF CANADA LIMITED/L'ENERGIE ATOMIQUE DU CANADA LIMITEE

AND THE DEPARTMENT OF ENERGY OF THE UNITED STATES OF AMERICA

FOR A RADIOACTIVE WASTE MANAGEMENT TECHNICAL COOPERATION PROGRAM,

1985-1989

Bill
~~MARCH~~
~~JANUARY~~, 1986 *[Signature]*

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THIS AGREEMENT is made in duplicate this 18TH day of MARCH 198~~8~~⁶. *SW* 

BETWEEN:

ATOMIC ENERGY OF CANADA LIMITED/
L'ENERGIE ATOMIQUE DU CANADA LIMITEE
(hereinafter called "AECL")

and

THE DEPARTMENT OF ENERGY OF THE UNITED
STATES OF AMERICA
(hereinafter called "US/DOE")

WHEREAS AECL is involved in the comprehensive Canadian Nuclear Fuel Waste Management Program to study the management of nuclear fuel wastes;

AND WHEREAS, as part of the Canadian Nuclear Fuel Waste Management Program, AECL is constructing an Underground Research Laboratory, (hereinafter called "URL") in the Lac du Bonnet batholith in the Province of Manitoba;

AND WHEREAS US/DOE wishes to cooperate with and obtain information from AECL, with respect to AECL's involvement in the Canadian Nuclear Fuel Waste Management Program, in four distinct areas, namely: active participation in planned URL experiments, performance assessment studies, field testing investigations, and an extension of the shaft of the URL to a depth of four hundred and fifty-five (455) meters;

AND WHEREAS AECL wishes to cooperate with and obtain information from US/DOE, with respect to US/DOE's involvement in the four areas previously mentioned herein, and in particular, is willing to have the shaft of the URL extended, subject to such extension having a limited effect upon the balance of AECL's URL experimental program;

AND WHEREAS by agreement dated the 25th day of August, 1982 (hereinafter called the "Master Agreement") AECL and US/DOE (hereinafter called the "Parties") agreed to cooperate in the study of topics relating to the management of radioactive wastes, including the characterization of geologic formations;

AND WHEREAS the Master Agreement provides that the Parties may carry out their cooperation by means of a Joint Project for which an appropriate Subsidiary Agreement shall be entered into by the Parties;

AND WHEREAS the Parties now wish to enter into a Subsidiary Agreement providing for a Joint Project on the characterization of geologic formations;

NOW THEREFORE in consideration of the mutual covenants contained herein, the Parties agree that they shall carry out a Joint Project on the characterization of geologic formations in accordance with the terms and conditions contained in this Subsidiary Agreement #1 to the Master Agreement.

1.0 OBJECTIVE OF COOPERATION

- 1.1 The objective of the Parties' cooperation under this Agreement is to carry out a joint experimental and analytical research project (hereinafter called the "Project") on the characterization of geologic formations. The Project is to be conducted at AECL's URL located near Lac du Bonnet, Manitoba, at other AECL research areas that may be mutually agreed by the Parties, such as Whiteshell Nuclear Research Establishment (hereinafter called "WNRE") and Atikokan, and at US/DOE or US/DOE contractor facilities to be specified by US/DOE.
- 1.2 It is understood and agreed that the Project referred to in clause 1.1 constitutes a "Joint Project" within the meaning of clauses 3.5 and 5.0 of the Master Agreement.

2.0 SCOPE OF WORK

2.1 The work to be performed by the Parties in carrying out the Project is described in detail in Annexes 1 to 3 inclusive, all of which are attached hereto and form an integral part of this Agreement. The technical portion of the work, consisting of four (4) major Tasks, and the activities to be carried out by each Party with respect thereto, are summarized as follows:

(a) Cooperative Experimental Program at the URL

This Task is comprised of the following two Sub-Tasks:

(i) Characterization of the 400-Level for Locating Operating Phase Experiments

US/DOE shall provide the funds required for drilling, testing and the provision of support services in connection with this Sub-Task.

AECL shall provide the expertise for planning, coordination, and direction of the characterization of the 400-level for locating operating phase experiments. AECL shall also provide existing permanent research staff and the experimental instrumentation and equipment necessary to complete this characterization.

(ii) Participation by US/DOE in URL Experiments

The specific URL experiments identified for participation by US/DOE are:

- (A) Mine-By (Excavation Response) Experiment,
- (B) Heated Block Experiment,
- (C) Pressure Chamber Experiment,
- (D) Single Fracture Migration/Sorption Experiment,

- (E) Buffer/Container Experiments,
- (F) Borehole Sealing Experiments;
- (G) Shaft Sealing Experiments

US/DOE shall provide appropriate personnel required to plan jointly the experiments and to predict the results thereof. Such personnel will, in general, work in the United States, taking periodic trips to the URL for meetings with AECL. For the Heated Block Experiment, it is anticipated that a US/DOE representative will be assigned to an AECL research area in Canada for a four (4) year period. AECL shall provide the data base and appropriate personnel required to plan jointly the experiments and to predict the results thereof.

(b) Performance Assessment Studies

The specific topics and/or activities to be covered under this Task include, but shall not be limited to:

- (i) geosphere modeling;
- (ii) coupled processes; and
- (iii) transfer and evaluation of appropriate computer codes.

US/DOE shall provide personnel and computer facilities to perform geosphere modeling based on data obtained from an AECL research area. The geosphere modeling will be performed in the United States. US/DOE shall also provide personnel to participate in a workshop on the statistical treatment of modeling data, and where such workshop is to be conducted in the United States, provide the necessary facilities therefor. In addition, US/DOE shall contribute both funds and personnel for the joint development of constitutive models and a data base for coupled processes affecting radionuclide release and migration in crystalline rock. Finally, US/DOE shall provide computer codes to AECL as set out in Section 3.3 of Annex 1, and shall fund a training workshop to be conducted by AECL on the use of AECL's SYVAC2 Code.

AECL shall provide the data base for the geosphere modeling and personnel to assist with the evaluation of the results of the modeling. AECL shall also provide personnel to participate in a workshop on the statistical treatment of modeling data, and where such workshop is to be held in Canada, provide the necessary facilities therefor. In addition, AECL shall provide facilities and personnel for the joint development of constitutive models and a data base for coupled processes affecting radionuclide release and migration in crystalline rock. Finally, AECL shall provide its SYVAC2 Code, as set out in Section 3.3 of Annex 1, and personnel to conduct a training workshop on the use of the SYVAC2 Code.

(c) Field Testing Investigations

AECL is conducting an extensive field research program in crystalline rock. US/DOE wishes to participate in this field research program to enable it to develop and evaluate the procedures to be used in the Crystalline Repository Project Area Phase Characterization prior to obtaining access to field areas in the U.S., thereby saving valuable time and effort.

US/DOE shall provide personnel and equipment necessary to evaluate the existing data base, to participate in planning the drilling, the logging, the downhole testing and the instrumenting of the boreholes, to participate in the logging, the downhole testing and the instrumenting of the boreholes, and to analyze and report on the results thereof. US/DOE shall also provide the funding for the purposes described in Section 2.3.1 of Annex 2 and for the ongoing research in borehole geophysics to be carried out by the United States Geological Survey.

AECL shall provide a sequential flow of Background Information from previous explorations in a selected research area. AECL shall also drill the boreholes for which US/DOE is providing funds according to the specifications agreed to by the appropriate Task Managers.

(d) Shaft Extension and Characterization

The current depth of the testing level of the URL, sufficient to meet the needs of the Canadian Nuclear Waste Management Program, is two hundred and forty (240) meters. In order to meet the experimental requirements of the US/DOE Civilian Radioactive Waste Management Program, the depth of the URL shaft will be extended to four hundred and fifty-five (455) meters, and access for a new testing level will be developed at a depth of four hundred and forty (440) meters.

US/DOE shall provide funds as identified in clause 9.0 to cover the costs of the design, construction and characterization of the shaft extension in excess of those funds already designated by AECL for these activities in connection with its own URL experimental program. In addition, US/DOE shall assign and provide an on-site representative commencing in July, 1986.

AECL shall be responsible for the design, construction and characterization of the shaft extension. AECL shall also provide Background Information on the shaft sinking and characterization to the two hundred and fifty-five (255) meter level. Finally, AECL shall provide personnel from its Applied Geoscience Branch, Fuel Waste Technology Branch and URL Operations Branch in support of the shaft extension and characterization to the extent such personnel have already been designated by AECL for these activities in connection with its own URL experimental program.

3.0 US/DOE RESPONSIBILITIES

- 3.1 In order to carry out the Project, US/DOE shall, at its own expense,
- (a) make available to AECL all Background Information in the field of characterization of geologic formations which is necessary

to carry out the Project and which US/DOE has the right to disclose;

- (b) participate in the preparation of technical reports covering the progress and results of work carried out under the four (4) major Tasks and the conclusions derived therefrom;
- (c) provide necessary technical assistance to AECL or AECL contractors, as described in Section 2 of Annex 2, through the review and analysis of plans, designs, and technical results;
- (d) provide necessary technical support to AECL or AECL contractors, as described in Section 2 of Annex 2, through the assignment of US/DOE or US/DOE contractor personnel to AECL or AECL contractor facilities;
- (e) provide special testing equipment, instruments, and associated facilities required for carrying out the four (4) major Tasks as described in Section 2 of Annex 2.

3.2 US/DOE shall provide funds to AECL in accordance with clause 9.0 and Section 3 of Annex 2 of this Agreement for the purposes of carrying out the Project.

4.0 AECL RESPONSIBILITIES

4.1 In order to carry out the Project, AECL shall, either at its own expense or with funds to be provided by US/DOE under this Agreement,

- (a) make available to US/DOE all Background Information in the field of characterization of geologic formations which is necessary to carry out the Project and which AECL has the right to disclose;

- (b) prepare and submit the reports described in Section 1.2 of Annex 3;
- (c) provide necessary technical assistance to US/DOE or US/DOE contractors as described in Section 5 of Annex 2, for carrying out the four major Tasks;
- (d) provide necessary technical support to US/DOE or US/DOE contractors, as described in Section 5 of Annex 2, through the assignment of AECL or AECL-contractor personnel to US/DOE or US/DOE contractor facilities;
- (e) provide special testing equipment, instruments and associated facilities required for carrying out the four (4) major Tasks as described in Section 5 of Annex 2; and
- (f) carry out the design, construction and characterization of the URL shaft extension as described in Section 5 of Annex 2.

4.2 AECL shall have the authority to enter into contracts for the procurement of goods and services the cost of which is to be paid for with funds provided by US/DOE to AECL under this Agreement, provided that such procurement is authorized in a budget approved by the Project Directors. AECL shall carry out such procurements in accordance with its standard procurement policies and procedures, and where consistent with proper economy and the expeditious carrying out of the work, AECL shall, to the greatest extent practicable, utilize competitive procurement and fixed price contracting methods.

5.0 PROJECT MANAGEMENT

5.1 Each of the Parties shall appoint a Project Director who shall have the following responsibilities:

Technical Coordinators designated by the Parties under the Master Agreement for resolution.

- 5.3 (a) Each of the Project Directors shall appoint, from within his/her organization, four (4) Task Managers. Each Task Manager shall be responsible for the work to be performed under one of the four (4) Tasks described in clause 2.1. All decisions made and actions taken in carrying out this responsibility including those regarding the scope of work, cost and scheduling, shall be by the mutual agreement of the two Task Managers concerned. Each Task Manager shall report directly to the Project Director by whom he/she was appointed.
- (b) The Parties agree that all decisions made and actions taken with respect to carrying out the Sub-Task entitled "Characterization of the 400-Level for Locating Operating Phase Experiments" shall be by the mutual agreement of
- (i) the Task Managers assigned to the Task "Cooperative Experimental Program at the URL", and
 - (ii) the Task Managers assigned to the Task "Shaft Extension and Characterization."
- 5.4 One of the two Task Managers appointed for a particular Task shall be considered as the "lead" Task Manager. Unless otherwise agreed by the Project Directors,
- (a) AECL's Task Managers shall be the lead Task Managers for the Sub-Task "Characterization of the 400-Level for Locating Operating Phase Experiments" and for the Tasks "Field Testing Investigations" and "Shaft Extension and Characterization";
 - (b) US/DOE's Task Manager shall be the lead Task Manager for the Task "Performance Assessment Studies"; and

- (c) The lead Task Manager for the Sub-Task "Participation by US/DOE in URL Experiments" will vary between AECL's Task Manager and US/DOE's Task Manager depending upon which of the two Task Managers is in the best position to monitor the work carried out for a particular experiment.

5.5 The specific responsibilities of the Task Managers shall include, but not be limited to:

- (a) defining the work to be carried out under the Task;
- (b) preparing work schedules for the Task, and coordinating such schedules with those relating to other Tasks being carried out under the Project;
- (c) defining personnel requirements for the Task, scheduling the assignment of personnel to AECL or AECL contractor facilities, or to US/DOE or US/DOE contractor facilities, as the case may be, and allocating specific work to all such personnel;
- (d) appointing working groups, panels, and Experiment Coordinators (Lead Technical Experts), as necessary, to assist in the performance of the Task;
- (e) ensuring that all data produced in the course of carrying out the Task is promptly and efficiently processed and/or collated into forms suitable for assessment by both Parties;
- (f) preparing reports on the status of the Task in accordance with Section 1.2 of Annex 3 and ensuring such reports are promptly forwarded to the Project Directors and to such other persons as the Project Directors may direct;
- (g) handling such other administrative and technical matters as may be, from time to time, assigned by the Project Directors.

6.0 RESOURCES FOR ATTACHED STAFF

6.1 Where one Party proposes to attach its personnel or its contractor's personnel to a facility of the other Party or of the other Party's contractor in connection with the Project, the Party proposing such attachment shall be required to pay the other Party for all resources used by its personnel at such facility, on the basis of fully overheaded rates without profit; provided however that no payment will be required for use of the resources described as "Free Issue" in Section 4 of Annex 2.

6.2 Except as otherwise provided in clause 6.1, all provisions regarding attached staff that are contained in clause 8.0 of the Master Agreement shall apply to this Agreement.

7.0 QUALITY ASSURANCE

7.1 Prior to carrying out any work under any of the four (4) Tasks described in clause 2.1, the Project Directors shall review the Quality Assurance to be applied to that work.

7.2 Subject to clause 7.4, it is agreed that where any activity is to be performed solely by AECL or AECL's contractors, or jointly by AECL or one of AECL's contractors with US/DOE or one of US/DOE's contractors, the Quality Assurance to be applied shall be that normally used by AECL.

7.3 It is further agreed that where any activity is to be performed solely by US/DOE or one of US/DOE's contractors, the Quality Assurance to be applied shall be that normally used by US/DOE or US/DOE's contractor.

7.4 Where, with respect to an activity described in clause 7.2, US/DOE determines that additional Quality Assurance is required, US/DOE shall propose such additional requirements by means of a Quality

Assurance Plan to be submitted to the AECL Project Director for review and approval. The Project Directors shall, by agreement, determine which Party shall be responsible for implementing such additional requirements, provided however that all costs associated with such implementation shall be borne by US/DOE.

7.5 Where necessary, the Task Managers responsible for the carrying out of any particular activity shall determine whether that activity is to be performed jointly by the Parties or solely by one Party or its contractors.

8.0 TERM OF AGREEMENT

8.1 This clause 8.0 shall supersede clause 17.0 of the Master Agreement.

8.2 This Agreement shall enter into force on the later of the two signature dates of the Parties. Subject to clause 13.0 TERMINATION, it shall remain in force until September 30, 1989.

8.3 At least six (6) months prior to the expiry date of this Agreement, the Project Directors shall decide whether to extend the term of this Agreement in order to complete the Project, and if so, the period of time of the extension.

8.4 Where an extension referred to in clause 8.3 has been agreed, it shall be reflected in a written document executed by both Project Directors on behalf of the Parties, and thereafter clause 8.2 of this Agreement shall be deemed to be amended in accordance with the terms of such written document.

8.5(a) The Parties hereto currently intend that this Agreement shall be extended to cover the carrying out of the experiments described in clause 2.1(a)(ii). Accordingly, the Project Directors shall begin negotiations for an appropriate extension of this Agreement, including but not limited to scope, costs, reporting, and term, one year prior to the expiry date of this Agreement.

8.5(b) If this Subsidiary Agreement expires without an extension agreement being in force, and if after such expiration AECL performs any of the experiments jointly planned under this Agreement as described in clause 2.1(a)(ii), AECL shall, upon request by US/DOE provide to US/DOE the data, results and analyses derived or made from such experiments (hereinafter collectively referred to as "results"), to the extent that such results are not publicly available, subject to the following conditions:

- (i) The disclosure by AECL of such results will not place AECL in breach of any agreement with any other party pursuant to which agreement such experiments were actually performed;
- (ii) With respect to each experiment for which results are requested by US/DOE, US/DOE shall pay to AECL 20% of the cumulative total of AECL's commercial cost of performing the experiment and of transferring the results relative thereto;
- (iii) the results shall be provided to US/DOE in the format utilized by AECL for its own purposes; should US/DOE require that the results be provided to it in a format different from that utilized by AECL, US/DOE shall be required to pay the full commercial cost to AECL of the additional work required for such different format;
- (iv) AECL shall provide such results either upon completion of the experiment, or at the conclusion of a major milestone in the carrying out of the experiment provided that the results have been accumulated and prepared up to that specific milestone;
- (v) prior to acquiring such results, US/DOE shall have the right to send a maximum of two (2) US/DOE personnel at any one time to AECL's facilities for the purpose of reviewing only those results necessary to enable US/DOE to evaluate its proposed acquisition; provided however, that prior to any such review,

an appropriate nondisclosure agreement shall be executed with AECL covering such results, which nondisclosure agreement shall, amongst other things, include specific prohibitions against the duplication, reproduction, disclosure or use of such results without the prior written consent of AECL.

9.0 FINANCIAL CONSIDERATION

9.1 This clause 9.0 shall supersede clause 6.0 of the Master Agreement.

9.2 The estimated US/DOE contribution to the Project is set forth in Table 2-1 of Annex 2. The estimated AECL contribution to the Project is set forth in Table 2-2 of Annex 2. In furtherance of the Project, and as part of the estimated US/DOE contribution, US/DOE shall reimburse AECL an amount not to exceed 22,368,000.00 (Twenty-two million, three hundred and sixty-eight thousand) Canadian dollars (hereinafter called the "US Project Price") as shown in the following table:

Task	US FISCAL YEAR			
	86	87	88	89
1. Cooperative Experimental Program at the URL:				
(a) Characterization of the 400-Level	-	-	\$ 750,000	\$ 788,000
(b) Participation by US/DOE in URL Experiments	-	-	-	-
2. Performance Assessment Studies	-	\$ 219,000	-	-
3. Field Testing Investigations	\$ 1,330,000	1,786,000	-	-
4. Shaft Extension and Characterization	1,400,000	6,629,000	6,457,000	3,009,000

All figures are shown in Canadian Dollars. All figures include an estimated 5% annual escalation of the costs given in the price level of United States fiscal year 1986.

US/DOE Project Director shall be authorized, subject to prior approval of the Office of Civilian Radioactive Waste Management, to increase the US Project Price. US/DOE shall not be obliged to reimburse AECL for costs incurred in excess of the US Project Price until the U.S. Project Price has been increased by the US/DOE Project Director.

- 9.3 AECL shall use its best efforts to perform the work for US/DOE under this Agreement for the US Project Price. However, AECL shall be under no obligation to perform any work for US/DOE or incur any obligation with respect thereto, the cost of which would result in either the U.S. Project Price being exceeded or the amount of funds currently obligated by US/DOE as set out in Section 1.1.2 of Annex 3 being exceeded.
- 9.4 AECL's Project Director shall promptly notify US/DOE's Project Director, in writing, when
- (a) AECL has reason to believe that costs which it expects to incur, when added to all costs previously incurred, will exceed the amount of funds currently obligated by US/DOE as set out in Section 1.1.2 of Annex 3,
 - (b) AECL has incurred costs the total of which equals seventy-five percent (75%) of the amount of funds currently obligated by US/DOE as set out in Section 1.1.2 of Annex 3, or
 - (c) AECL has incurred costs the total of which equals one hundred per cent (100%) of the amount of funds currently obligated by US/DOE as set out in Section 1.1.2 of Annex 3.

9.5 It is agreed that all costs incurred by AECL in performing work under this Agreement shall be computed in Canadian dollars as set out in Clause 9.7 and Section 1.1.1 of Annex 3.

Such costs shall be invoiced to US/DOE in United States dollars based on the exchange rate established by the Bank of Montreal on the date of invoicing. Details regarding the preparation and submission of invoices by AECL and the method and scheduling of payments thereof by US/DOE are set out in Section 1.1 of Annex 3.

9.6 All funds provided by US/DOE to AECL under this Agreement shall be utilized by AECL in accordance with its standard policies and procedures to ensure sound financial management of the Project. AECL shall maintain a system of records and accounts that are in accordance with generally accepted accounting principles in Canada. Such records shall clearly account for all funds provided to AECL by US/DOE under this Agreement including all tangible property purchased by AECL with US/DOE funds. Such records shall be preserved for a period of three (3) years following the expiration of this Agreement. US/DOE shall have the right, at its sole cost, to request AECL to furnish copies of all such records.

9.7 It is recognized by US/DOE that, in consideration of the cooperative nature of the Project the rates and charges imposed by AECL for performing work for US/DOE under this Agreement are not AECL's standard commercial rates, but rather are fully overheaded rates without provision for profit.

10.0 OWNERSHIP OF FIXED ASSETS AND EQUIPMENT

10.1 This clause 10.0 supersedes clause 12 of the Master Agreement except as specifically provided in clause 10.5 hereof.

10.2(a) It is understood and agreed that, as between AECL and US/DOE, title to

(i) all lands, excavations, buildings, structures, constructed facilities and other similar works that are built or used in carrying out the Project, (hereinafter collectively called "lands"), and

(ii) all equipment, instruments and associated facilities that are either affixed to the lands or that become expendible in the course of or after carrying out the Project,

shall vest or remain vested, as the case may be, in AECL, notwithstanding that such lands, equipment, instruments or facilities have been paid for, in whole or in part with funds provided to AECL by US/DOE under this Agreement.

10.2(b) Where necessary, the Task Managers responsible for the carrying out of any particular activity shall determine whether equipment, instruments or associated facilities are either affixed to lands or have become expendible in the course of or after carrying out that activity, as set forth in clause 10.2(a)(ii).

10.3 It is further agreed that where either Party requires equipment, instruments or associated facilities other than those described in clause 10.2(a)(ii), for use in carrying out the Project, that Party shall procure and pay for such equipment, instruments and facilities and shall retain title thereto.

10.4 It is further agreed that AECL shall not charge US/DOE for the future use of any equipment, instruments or associated facilities described in clause 10.2(a)(ii) or for the future use of the URL facilities constructed under this Agreement in connection with any arrangement between the Parties involving the URL; provided that such equipment, instruments, and associated facilities or URL constructed facilities have been paid for with funds provided to AECL by US/DOE under this Agreement.

10.5 Where equipment, instruments or associated facilities, other than those described in clause 10.2(a)(ii), are owned by one Party but are provided to the other Party for use in carrying out the Project, the provisions of clause 12 of the Master Agreement shall apply with respect to the ownership, safekeeping and transportation thereof.

11.0 INFORMATION

11.1 In this Agreement,

(a) "Project Information" means all scientific and technical information regardless of its form, that is developed, produced or acquired by either of the Parties in the course of carrying out the Project, and includes but is not limited to

(i) methods and results of, research, developmental, demonstration or engineering work, and

(ii) information that can be or is used to

(A) define, develop or produce a design or process, or

(B) procure, produce, operate or maintain material, equipment, instruments or facilities.

(b) "Background Information" means scientific or technical information in the field of characterization of geologic formations that is developed, produced or acquired by either of the Parties, whether prior to or during the term of the Project but not in the course of carrying out the Project.

(c) "Proprietary Information" shall have the meaning assigned to that term under clause 9(2)(ii) of the Master Agreement.

11.2 Subject to clause 11.4, each Party shall promptly and fully disclose to the other Party all Project Information which it has developed, produced or acquired in the course of carrying out its participation

in the Project. Such disclosure shall take place by means of the exchange of reports and by any other means that are mutually agreed by the Project Directors.

- 11.3 Subject to clause 11.4, both Parties shall have full and unrestricted rights to use, disclose, and reproduce, in any manner and for any purpose, Project Information which they or either of them have developed, produced or acquired in the course of carrying out the Project.
- 11.4 If either Party desires to acquire in the course of the Project Proprietary Information of a third party, said Proprietary Information shall be used in the Project only after the Parties mutually agree in writing as to the terms and conditions for use in the Project and for use in practicing the results of the Project.
- 11.5 Prior to the publication of any particular Project Information by either Party, the Task Managers for the Task to which that particular Project Information relates shall review and approve the proposed publication to ensure its accuracy and completeness. In any event, either party may publish such Project Information 60 days after the Task Managers receive it for review.
- 11.6 It is understood and agreed that each Party (hereinafter called the "Sending Party") shall provide to the other Party (hereinafter called the "Receiving Party") Background Information that is necessary for carrying out the Project or that is necessary to an understanding or utilization of Project Information. Where such Background Information is Proprietary Information of the Sending Party, the following procedures shall apply:
- (a) the Sending Party shall clearly mark any document containing such Proprietary Information with the following or substantially similar legend:

"This document contains Proprietary Information provided in confidence under Subsidiary Agreement #1 dated ~~December, 1985~~ ^{MARCH 18, 1986} between the United States Department of Energy (US/DOE) and Atomic Energy of Canada Limited/L'Energie Atomique du Canada Limitee (AECL). It shall not be disseminated outside of US/DOE (AECL), US/DOE (AECL) contractors and concerned departments and agencies of the Government of the United States (Canada) or be used by them or any of them for any commercial purpose without the prior written approval of AECL (US/DOE). This notice shall be marked on any reproduction hereof, in whole or in part. These limitations shall automatically terminate where this Proprietary Information is disclosed by AECL (US/DOE) without restriction;"

- (b) the Receiving Party may disseminate such Proprietary Information to
- (i) persons employed by the Receiving Party and other concerned Government departments or agencies in the country of the Receiving Party, and
 - (ii) prime or subcontractors of the Receiving Party located within the geographical limits of the Receiving Party's country, for use only within the framework of their contracts with the Receiving Party in work relating to the subject matter of the Proprietary Information,
 - (iii) an "affected Indian tribe" as that term is defined in Sub-section 2(2) of United States Public Law 97-425, and
 - (iv) a "State", as that term is defined in Sub-section 2(24) of United States Public Law 97-425, that is at the effective date of this Agreement or within the term of this Agreement a potential host State for a geologic repository

provided, that any such Proprietary Information shall be disseminated on a need-to-know basis pursuant to an agreement of confidentiality, shall be marked with the restrictive legend substantially identical to that appearing in subparagraph 11.6(a) above, and shall not be used for commercial purposes without the consent of the Sending Party.

12.0 INVENTIONS AND PATENTS

12.1 With respect to any invention or discovery made, conceived, or first actually reduced to practice in the course of or under the Project (hereinafter called "arising inventions"), such arising inventions shall be owned:

- (a) by AECL in Canada, subject to a nonexclusive, royalty-free, irrevocable license to US/DOE, its Government, and its nationals designated by it;
- (b) by US/DOE in the United States, subject to a nonexclusive, royalty-free, irrevocable license to AECL, its Government, and its nationals designated by it; and
- (c) in third countries by the Party making the invention, subject to a nonexclusive, royalty free, irrevocable license to the other Party, its Government, and its nationals designated by it.

12.2 Arising inventions shall be identified and reported promptly by the Party making the invention to the other Party. Information regarding inventions on which patent protection is to be obtained shall not be published or publicly disclosed by the Parties until a patent application has been filed in either country of the Parties; provided, however, that this restriction on publication or disclosure shall not extend beyond six months from the date of reporting of the invention. It shall be the responsibility of the

Party making the invention to appropriately mark reports which disclose inventions that have not as yet been protected by the filing of a patent application.

12.3 Each Party shall take all steps necessary to provide the cooperation of inventors for the purposes of carrying out the provisions of this Agreement and each Party shall be responsible for the payment of awards or other compensation due citizens of its own country with respect to such inventions under its relevant legislation.

13.0 TERMINATION

13.1 Either Party may, for any reason and at any time, terminate this Agreement as regards all or any part of the Project by giving notice to the other Party in the manner set out in clause 13.2.

13.2 A Party wishing to terminate this Agreement shall deliver, by hand, to the other Party a written notice stating its intention to terminate and whether such termination applies to all or only specified parts of the Project. Termination shall become effective immediately upon delivery of such written notice.

13.3 Immediately after delivery of a notice of termination, the Project Directors shall,

(a) direct that all parts of the Project which are to be terminated but which have already been completed prior to the effective date of termination, be delivered to the extent required under this Agreement as if such notice of termination had not been given;

(b) direct that work on all parts of the Project which are to be terminated and which have not been completed prior to the effective date of termination, cease immediately except for such work as is required to put such parts in a safe condition; and

- (c) direct that no new work under this Project be initiated or commenced with respect to those parts of the Project which are to be terminated.

13.4 It is agreed that where a Party terminates all or part of the Sub-Task "Characterization of the 400-Level for Locating Operating Phase Experiments" or all or part of the Task "Shaft Extension and Characterization", that Party shall be responsible for the following:

- (a) where such termination is effective prior to the successful excavation of the fracture zone
 - (i) all costs incurred for work required to put the shaft extension in a safe condition,
 - (ii) the repayment to the other Party of all contributions made by that other Party for work carried out in connection with the Sub-Task or Task up to the date of termination, and
 - (iii) all costs of and incidental to the cancellation of obligations, which costs are actually incurred and properly attributable to the termination of the Sub-Task or Task;
- (b) where such termination is effective after the successful excavation of the fracture zone,
 - (i) all costs incurred for work required to put the shaft extension in a safe condition;
 - (ii) the repayment to the other Party of all contributions made by that other Party for work carried out in connection with the Sub-Task or Task from and after the successful excavation of the fracture zone to the date of termination; and

(iii) all costs of and incidental to the cancellation of obligations, which costs are actually incurred and properly attributable to the termination of the Sub-Task or Task.

13.5 It is agreed that where a Party terminates any part of the Project other than the Sub-Task or Task referred to in clause 13.4, that Party shall be responsible for all costs of and incidental to the cancellation of obligations, which costs are actually incurred and properly attributable to the termination of that part of the Project.

14.0 Force Majeure

14.1 Neither Party shall be deemed to be in breach of this Agreement where its failure to perform or its delay in performing any obligation is due wholly or in part to a cause beyond its reasonable control including but not limited to, an act of God including fires, flood, earthquake and storm, an act or omission of the other Party not required or permitted under this Agreement, an act of any national, civil or military authority, civil commotion, war, sabotage, strikes, lockouts and inability to obtain necessary and proper labour, supplies or transportation.

14.2 Each Party shall notify the other promptly of any failure to perform or delay in performing due to a cause set out in clause 14.1 and shall provide an estimate as soon as practicable of the time when the obligation will be performed. The time for performing the obligation shall be extended for a period of time at least equal to the period of delay resulting from such a cause and the cost of performing the obligation shall be adjusted, if necessary, to take into account any escalation of costs attributable to the delay period.

14.3 When the performance of an obligation is delayed by at least six months due to a force majeure event and the Parties have not agreed upon a revised basis for performing the obligation, including adjustment of payments, then either Party may, upon written notice to the other Party, terminate this Agreement. In case of such termination, each Party shall be responsible for its own termination costs and no compensation of any kind shall be required to be paid by one Party to the other as a result thereof.

15.0 FUTURE WORK

15.1 It is understood and agreed that in the event AECL wishes to enter into a cooperative program with another party similar to that contemplated under this Agreement, or wishes to carry out specific work under contract to another party, and such other cooperative program or work could affect, either adversely or beneficially the financial or technical interests of US/DOE in the Project, AECL shall, prior to entering into such program or contract inform US/DOE, and thereafter, if deemed necessary, the Parties shall negotiate an appropriate amendment to this Agreement to either avoid such adverse effects or accommodate such beneficial effects, as the case may be.

16.0 GENERAL PROVISIONS

16.1 It is understood and agreed that the ability of both Parties to carry out the Project, including the ability to contribute funds, is subject to the availability of funds appropriated annually by the Governments of both Parties for such purpose notwithstanding clause 13.

16.2 It is further understood and agreed that, except as otherwise expressly provided in this Agreement, the provisions of clauses 7, 8, 11, 12, 13, 15, and 16 of the Master Agreement shall be deemed to be incorporated into and form part of this Agreement in the same way as if such clauses were fully set out herein.

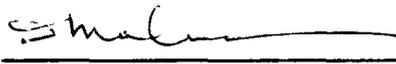
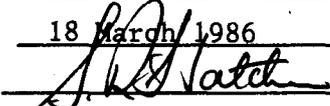
- 16.3 For greater certainty it is agreed that, where the Master Agreement ceases to be in effect prior to the expiration or early termination of this Agreement, this Agreement shall, notwithstanding, remain in full force and effect except as regards clause 5.2, and the provisions of clauses 7, 8, 11, 12, 13, 15, and 16 of the Master Agreement shall be deemed to be incorporated into and form part of this Agreement in the same way as if such clauses were fully set out herein.
- 16.4 The provisions of clauses 8.5, 10.4, 11.0, and 12.0 hereof shall survive expiration or early termination of this Agreement.
- 16.5 Except as otherwise expressly provided, this Agreement may be amended at any time by a further written agreement to that effect executed by both Parties.

IN WITNESS WHEREOF the Parties hereto have caused this Agreement to be executed by their duly authorized signing officers.

ATOMIC ENERGY OF CANADA LIMITED/

UNITED STATES DEPARTMENT OF ENERGY

L'ENERGIE ATOMIQUE DU CANADA LIMITEE

Per: 
 Name: D.D. Molnar
 Title: Vice-President, Finance
 Date: 18 March 1986
 Per: 
 Name: S.R. Hatcher
 Title: President
 Date: 18 March 1986

Per: 
 Name: Ben C. Rusche
 Title: Director, Ofc. of Civilian Radioactive
 Date: Waste Management - February 28, 1986

