STATEMENT OF INTENT

by

The United States Department of Energy

and

Atomic Energy of Canada Limited

in

THE FIELD OF USED FUEL AND RADIOACTIVE WASTE MANAGEMENT, DECOMMISSIONING AND ENVIRONMENTAL RESTORATION

AECL LEGAL Approved

This page is intentionally left blank

AECL LEGAL Approved

STATEMENT OF INTENT

THIS STATEMENT OF INTENT is made by

The United States Department of Energy ("DOE")

and

Atomic Energy of Canada Limited (AECL), having an office in Chalk River, Ontario, Canada K0J 1J0,

WHEREAS

The DOE and AECL (collectively herein, the Participants) have a mutual interest in used fuel and radioactive waste management, decommissioning and environmental restoration;

AND WHEREAS the Participants believe that a co-operative program of equitable sharing of their respective technology and experience in the management of radioactive waste, decommissioning and environmental restoration would be of mutual benefit;

AND WHEREAS the Participants recognise the contribution that such technology and experience in radioactive waste management, decommissioning and environmental restoration can make to protect the environment,

STATE THEIR INTENTION AS FOLLOWS:

Section 1 – OBJECTIVE

DOE, through its Office of Environmental Management, and AECL, through its Decommissioning and Waste Management Business Unit, intend to co-operate under this Statement of Intent (Statement) on mutually agreed topics associated with the management of radioactive waste, decommissioning and environmental restoration. Co-operation between the Participants should be on the basis of mutual benefit, equality and reciprocity.

Section 2 – AREAS OF COOPERATION

1. The areas of co-operation in the field of used fuel and radioactive waste management, decommissioning and environmental restoration covered by this Statement may include those items as listed below:

Used Fuel and Radioactive Waste Management

1. Integrated waste management strategies and planning

AECL LEGAL Approved

2. Modelling and cost estimating for waste inventory generation and waste management systems

3. Waste characterization strategies and techniques

4. Waste volume reduction (e.g., thermal processing technologies such as cold crucible and joule melter), stabilization (e.g., steam reforming) and packaging techniques

5. Recovering and treating radioactive liquids stored in tanks, including "at-tank" technologies

6. Fuel drying, stabilization and packaging

7. Handling and long-term storage of used nuclear fuel

8. Managing aluminium-clad fuel and degraded fuel

9. Managing challenging materials (e.g., ion exchange resins)

10. Long-term management of low, intermediate and high level wastes (i.e., *in-situ* management, near surface repositories, geologic repositories)

11. Performance and safety assessments for long-term waste management facilities

12. Waste acceptance criteria for waste management facilities

Decommissioning

13. Program controls across all aspects of site and facility decommissioning, including information management, performance management and reporting, cost estimating, planning and scope definition

14. Managing decommissioning safety cases and safety assessment processes for existing and proposed new facilities in support of decommissioning

15. Decommissioning safety arrangements including worksite control

16. Management of change during decommissioning

17. Decommissioning prioritization techniques

18. Techniques for waste recovery, equipment removal and dismantlement (e.g., robotics and remote methods), radiological and hazardous materials characterization, decontamination agents and methods, and demolition of structures

19. Strategy, principles and practices for decommissioning site infrastructure

20. Decommissioning end states (including technologies for *in situ* decommissioning) and institutional control

21. Reactor decommissioning

22. Laying-up reactors for long-term institutional care and maintenance

AECL TECH Approved

23. Aging management, including design and development of replacement systems and structures to allow decommissioning of aged equipment, systems and structures

24. Procurement strategies to support all aspects of decommissioning, including framework agreements and supply chain development

25. Training for decommissioning

26. Transportation of low level liquid waste, and low and Intermediate level waste (package movement safety cases and flasks)

27. Revenue optimisation

Environmental Restoration

28. Recovery of buried wastes

29. *In situ* management of wastes (e.g., liner efficiency, covers, leachate management, contaminant stabilization, use of sorbing barriers)

30. Monitoring, modelling and evaluating the potential impact of plumes of contaminated groundwater, land and vegetation, including performance assessment, conceptual site models for estimating the impact of contamination in the environment, and uncertainty analysis

31. Understanding biogeochemical and microbiological processes that control contaminant behaviour, uptake and release

32. Techniques for cleansing lands, water bodies, vegetation and other biota of radiological and hazardous (e.g., mercury) contaminants

33. Particle mapping and recovery from water bodies (rivers and lakes)

34. Public consultation processes and stakeholder engagement

2. Other areas of co-operation may be added by the Participants' mutual written determination.

Section 3 – FORMS OF CO-OPERATION

1. Co-operation under this Statement may include, but is not limited to, the following forms:

   a. Exchange of scientific and technical information and results of research and development, as well as exchange of information relevant to legal, societal and ethical aspects (see Section 6);

   b. Organisation of, and participation in, seminars and other meetings on specific agreed topics in the areas listed in Section 2;

   c. Short visits by a Participant's specialist teams or individuals to the facilities of the other Participant;

AECL Approved

d. Observation of, and participation in, studies dealing with the areas of co-operation listed in Section 2, subject in each case to a separate written agreement;

2. Other forms of co-operation may be added by mutual written determination.

3. If the Participants determine to conduct collaborative research and development, they should conclude an appropriate written agreement therefor.

Section 4 – MANAGEMENT

To supervise the execution of this Statement, each Participant should name a Manager. The Managers should normally meet annually to review the past year's activities, to evaluate the status of co-operation, including the balance of exchanges, and to approve plans for the following year's activities. The Managers should also consider any new major proposals for co-operation. Day-to-day management of the co-operation should be carried out by Co-ordinators designated by each Manager.

Section 5 – ATTACHMENT OF STAFF

1. Whenever an exchange of staff is contemplated under this Statement, each Participant should ensure that qualified staff are selected for attachment to the other Participant.
2. Each such attachment is to be the subject of a separate written agreement between the sending and receiving establishments.
3. Each Participant is to be responsible for the salaries, travel and living expenses of its personnel while on attachment to the host Participant, unless otherwise determined in the relevant written agreement therefor.
4. The host establishment should arrange for accommodation for the attached staff and families of the other Participant or its contractors on a mutually determined, reciprocal basis.
5. Each Participant should provide all reasonably necessary assistance to the attached staff and their families regarding administrative formalities, such as travel arrangements and work permits.
6. The attached personnel are to conform to the general and special rules of work and safety regulations in force at the host establishment, or as determined in separate attachment of staff agreements.

Section 6 – COSTS

Except when otherwise determined, all costs resulting from co-operation under this Statement are to be borne by the Participant that incurs them. Co-operation under this Statement is subject to the availability of appropriated funds.

LEGAL 2021 Approved

Section 7 – GENERAL CONSIDERATIONS

1. This Statement does not create any legally binding obligations between the Participants.
2. Each Participant should implement the activities contemplated by this Statement in accordance with the applicable laws and regulations to which is it subject, and international agreements to which that Participant's Government is party.

Section 8 – COMMENCEMENT, MODIFICATION AND DISCONTINUATION

1. Activities under this Statement may begin upon the later date of signature and, subject to Paragraph 2 of this Section, continue for a five-year period.
2. This Statement may be modified or extended at any time by written determination of the Participants.
3. The Participants may discontinue this Statement at any time by mutual consent in writing. Alternatively, a Participant that wishes to discontinue its participation in this Statement should endeavour to provide six months advance notification in writing to the other Participant.

Signed at Phoenix, in duplicate, this 26th day of February 2013.

FOR THE UNITED STATES DEPARTMENT OF ENERGY:

Alice C. Williams
Assoc. Prin. Dep. Asst. Secretary
USDOE/EM

FOR ATOMIC ENERGY OF CANADA LIMITED:

Joan Miller
VP, Decommissioning & Waste Mgt.

Sheila M. Brooks
Director, NLLP Program Office
2013 Feb 22

AECL LEGAL Approved