National Interest Analysis [2017] ATNIA 13

with attachment on consultation

Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems, as extended by the Agreement Extending the Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems

(Washington, 28 February 2005)

[2017] ATNIF 12

NATIONAL INTEREST ANALYSIS: CATEGORY 1 TREATY

SUMMARY PAGE

Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems, as extended by the Agreement Extending the Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems

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Nature and timing of proposed treaty action

1. It is proposed that Australia accede to the *Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems, 2005*, as extended by the *Agreement Extending the Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems 2015* ("the Agreement") in accordance with paragraph 1 of Article XIV. The Agreement entered into force generally on 28 February 2005 for a period of 10 years. It was extended on 26 February 2015, when the extension agreement entered into force, and will now expire on 28 February 2025.

2. Australia's instrument of accession and written notification designating ANSTO as Australia's Implementing Agent (in accordance with paragraph 2 of Article III) will be deposited with the Secretary-General of the Organisation for Economic Co-operation and Development ("OECD") (paragraph 1 of Article XIV) in their capacity as the depositary of the Agreement as soon as practicable following consideration by the Joint Standing Committee on Treaties and subject to Executive Council approval.

3. Following receipt of Australia's instrument of accession and notification, the Depositary will amend the Agreement's annex to include Australia as a Party to the Agreement and ANSTO as the Implementing Agent (paragraph 2 of Article XIV). Unless another Party objects to the proposed amendment, the amendment will enter into force 90 days after the date of receipt by the Depositary of the notification.

4. The Agreement, as amended, will enter into force for Australia, in accordance with paragraph 3 of Article XIV, 90 days after the date of the Depositary's receipt of the instrument of accession.

Overview and national interest summary

5. Accession to the Agreement will allow Australia to participate fully in the work of the Generation IV International Forum ("GIF"). Australia's participation in GIF will enable Australia to benefit from the activities of this major international research program, which aims to develop the next generation of nuclear reactor technologies, thereby furthering Australia's non-proliferation and nuclear safety objectives.

6. Accession to the Agreement will have important benefits for Australia from a security, economic and political perspective. It will improve the Australian Government's awareness and understanding of nuclear energy developments throughout the region and around the world, and contribute to the ability of the Australian Nuclear Science and Technology Organisation (ANSTO) to continue to provide timely and comprehensive advice on nuclear issues.

7. Accession to the Agreement will also benefit Australia in other important international nuclear fora, most notably the IAEA. Australia holds a permanent position on the preeminent policy making body of the IAEA, its 35-member Board of Governors. This position is held on the basis that Australia is the most advanced in nuclear technology in our Regional Group – South-East Asia and Pacific (SEAP). This assessment is periodically reviewed by the Group. No other member of SEAP is currently a member of GIF or is likely to join in the near future, so accession to the Agreement would further strengthen our claim as the most advanced nuclear country in SEAP, and accordingly as its permanent member of the Board of Governors.

8. Membership of GIF requires all Parties to cooperate in efforts to develop next generation nuclear energy systems that can help meet the world's future energy needs. Generation IV designs will use fuel more efficiently, reduce waste production, be economically competitive, and meet stringent standards of safety and proliferation resistance.

9. The Agreement provides a framework for initiating international cooperation that is considered essential for timely progress in the development of Generation IV reactor systems. This cooperation makes it possible to pursue multiple systems and technical options concurrently and to avoid any premature elimination of potential reactor designs due to the lack of adequate resources at the national level.

10. Accession to the Agreement will facilitate Australian technical cooperation with the 10 existing Parties: Canada, Euratom (European Atomic Energy Community), France, Japan, People's Republic of China, Republic of Korea, Republic of South Africa, Russian Federation, Switzerland and the United States. It is also contribute to maintaining and improving international relationships in research, energy and the peaceful uses of nuclear technology.

11. Membership of GIF requires unanimous approval of the existing Parties, which was granted to Australia at a meeting of the GIF Policy Group in Paris in April 2016. Approval followed a lengthy nomination process that required Australia to demonstrate that it could contribute to the research and development goals of the GIF in a unique and substantive way. Approval is recognition, in particular, of Australia's world-leading capabilities in materials engineering for extreme industrial environments and the development of nuclear safety cases.

12. Australia's bid for membership was led by ANSTO and sponsored by the United States Department of Energy.

13. By signing the *Charter of the Generation IV International Forum* on 22 June 2016, ANSTO became Australia's Implementing Agent to the GIF. As the Implementing Agent and Australia's centre of nuclear expertise, ANSTO will lead Australia's engagement with the GIF.

14. The objectives of the Agreement are to collaborate to foster and facilitate achievement of the purpose and vision of the GIF: the development of concepts for one or more Generation IV Systems. Forms of collaboration may include, but are not limited to (as per Article II of the Agreement):

a. joint research and technology development;
b. exchange of technical information and data on scientific and technical activities and methods and results of research and development;
c. support for the organization of technological demonstrations;
d. conduct of joint trials/experiments;
e. participation of staff (including scientists, engineers, and other specialists) in experiments, analysis, design and other research and development activities conducted at research centres, academic institutions, laboratories and other facilities;
f. exchange or loan of samples, materials and equipment for experiments, testing and evaluation;
g. organization of, and participation in, seminars, scientific conferences and other meetings;
h. monetary contributions to the deployment of necessary experimental facilities; and
i. training and enhancing the skills of scientists and technical experts.

Reasons for Australia to take the proposed treaty action

15. Participation in the GIF will provide Australia with improved knowledge and understanding of the next generation of nuclear reactor technologies and their applications.

16. Cooperation through the GIF is an important means for Australia to share its leading expertise on civil nuclear research and technology. The success of Australia's bid for membership was largely based on the world-class capabilities and expertise held within ANSTO, in particular in the development of materials for applications in extreme industrial environments, and in the development of nuclear safety cases.

17. Participation in the GIF will help Australia to maintain and extend its national capacity in leading-edge nuclear technologies such as material science and fuel technologies. Becoming party to the Agreement will allow Australia to continue to engage in valuable international collaborative projects that apply nuclear techniques to resolving energy challenges.

18. An Australian decision not to accede to the Agreement would impede Australia's ability to remain constructively engaged in international nuclear activities and would limit our ability to forge links with international experts at a time when a significant expansion in nuclear power production is underway or under consideration by a number of countries, including several in the Asia Pacific region. It would diminish Australia's standing in international nuclear non-proliferation fora and our ability to influence international nuclear policy developments in accordance with our national economic and security interests.

Obligations

19. The Agreement places obligations on the Parties, which are to be implemented within the framework of their national laws (as per Article VIII of the Agreement). Parties are required to:

- facilitate entry into and exit from its territory of appropriate personnel, equipment and materials of the other Parties used in collaboration under the Agreement (Article VI);
- facilitate the exchange and use of scientific and technical data resulting from research and development conducted under the Agreement (Article VI);
- encourage and facilitate contact and cooperation between government, academic bodies, research centres, the private sector, and intergovernmental organisations (paragraph 1, Article III);
- designate an Implementing Agent, which will be ANSTO (paragraph 2, Article III); and
- make available to the world scientific community the scientific and technological information which results from collaboration under the Agreement, with the exception of that which should not be made public due to national security, commercial or industrial reasons (Article IX).

20. Collaboration under the Agreement is conducted for peaceful purposes only and in accordance with non-proliferation objectives and the Parties' international obligations, while addressing concerns around nuclear safety, waste and public perception (paragraph 2, Article I and Article VIII).

21. The activities of each Party under the Agreement are subject to the availability of appropriated funds, personnel and other resources (Article VII).

22. GIF members are expected to maintain an appropriate level of active participation in collaborative projects, such as the participation in at least one significant collaborative project. Projects are managed under six umbrella System Arrangements which cover key aspects of the identified technologies, and include a framework under which research and development is carried out. System Arrangements and Projects have specific reporting requirements. ANSTO anticipates that Australia will participate in two of the six System Arrangements; the Very High Temperature Reactor System (VHTR) and the Molten Salt Reactor System (MSR). In the case of the VHTR, work could be primarily directed toward an understanding of the behaviour of structural materials at high temperature and under irradiation. Work on the MSR could focus on materials corrosion and radiation damage assessment.

Implementation

23. No legislation is required to give effect to the Agreement. Activities undertaken by Australia under the Agreement fall within the existing functions of ANSTO under Section 5 of the *Australian Nuclear Science and Technology Organisation Act* 1987.

24. No changes to the existing roles of the Commonwealth or the States and Territories will arise as a consequence of implementing the Agreement.

Costs

25. Under Article IV of the Agreement, each System Arrangement shall include implementing provisions concerning, *inter alia*, financial arrangements. The costs of participation in the System Arrangements will be borne by ANSTO from existing funds.

Future treaty action

26. Article XII paragraph 4 of the Agreement provides a mechanism for amendment of the Agreement by agreement of all Parties.

27. Article XII paragraph 5 of the Agreement provides for termination of the Agreement by the agreement of all Parties which shall be effective 30 days following receipt of the last written notification of acceptance of the termination.

28. The extension agreement extended the Agreement for a period of ten years, to 28 February 2025. Should a further extension be agreed by the Parties, accession to the extension by Australia would be required in order for it to remain a Party.

Withdrawal or denunciation

29. In accordance with Article XIII of the Agreement, a Party may withdraw from the Agreement upon six months' written notice. Article XIII paragraph 2 provides that a Party's withdrawal from the Agreement shall also constitute withdrawal by ANSTO, as Australia's Implementing Agent, from any System Arrangement to which the Implementing Agent is a signatory.

30. Withdrawal from the Agreement by Australia would be subject to Australia's domestic treaty-making requirements, including tabling and consideration by the Joint Standing Committee on Treaties.

Contact details

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ATTACHMENT ON CONSULTATION

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CONSULTATION

31. Information on the Agreement has been provided to the States and Territories through the schedule of treaty actions under negotiation, consideration and review provided biannually to the Commonwealth-State-Territory Standing Committee on Treaties. It will have no effect on the States and Territories.