



IAEA

International Atomic Energy Agency

Atoms for Peace

International Conference on the Management of Spent Fuel from Nuclear Power Reactors: Learning from the Past, Enabling the Future

**IAEA Headquarters
Vienna, Austria**

24–28 June 2019

Ref. No: CN-272; EVT1803899

Announcement and Call for Papers

A. Introduction and Scope

The safe, secure, reliable and economic management of spent fuel from nuclear power reactors is key to the sustainable utilization of nuclear energy and covers many technological aspects related to the storage, transportation, recycling and disposal of spent fuel and high level waste (HLW) generated from spent fuel reprocessing.

The sustainability of nuclear energy involves the preservation of natural resources and the minimization of generated wastes. Currently, in some countries, the uranium and plutonium remaining in spent fuel are industrially recovered and recycled as mixed oxide (MOX) fuel in thermal reactors, saving natural uranium resources and generating vitrified HLW and irradiated spent MOX fuel. Future advanced fuel cycles based on the implementation of Generation IV reactors will allow nuclear energy to be almost independent of uranium natural resources and will dramatically reduce the challenges posed by generated wastes in terms of heat loading, radiotoxicity and proliferation risks.

The last IAEA International Conference on the Management of Spent Fuel from Nuclear Power Reactors, held in June 2015, highlighted that there was inadequate integration in the fuel cycle in the sense of analysing how decisions made in one part of the fuel cycle may affect another part. Introducing efficiencies into individual steps in isolation can create additional challenges in subsequent steps. In most cases a technical solution can be found, but this is likely to come at a price (cost, resource utilization, etc.). In a worst-case scenario, a decision taken today would foreclose a transition to another step tomorrow. Therefore, one of the main challenges is to maintain enough flexibility to accommodate the range of potential future options for the management of spent fuel as well as to define and address the relevant issues in storage and transportation, given the current uncertainties regarding storage duration, the availability of future technologies and future financial, regulatory and political conditions.

In this context, the IAEA is organizing a new International Conference on the Management of Spent Fuel from Nuclear Power Reactors in Vienna from 24 to 28 June 2019, with the theme “Learning from the Past, Enabling the Future”.

The scope of the conference covers the management of spent fuel from nuclear power reactors from past, present and future nuclear energy systems, and how the management of spent fuel can be affected by the decisions taken in the rest of the nuclear fuel cycle.

B. Purpose

The purpose of the conference is to provide a forum for the exchange of information on national spent fuel management strategies, and on the ways in which a changing energy mix could influence these strategies and, in particular, on how they support the achievement of national energy goals.

Following the theme of the 2015 conference, this new conference aims to illustrate the positive impacts that an integrated approach to the back end of the nuclear fuel cycle has on the management of spent fuel from power reactors. It will consider the latest technological developments, as well as regulatory requirements and safety aspects.

The conference will also allow for the evaluation of advances in the management of spent fuel from power reactors to overcome current issues, and will identify expected future challenges and possible strategies for dealing with these.

C. Topics

The IAEA welcomes high quality contributions that fall under the umbrella of the seven topics listed here. Each individual topic may cover the following cross-cutting aspects: technology (operational and research and development), safety, security, economics, public involvement (acceptability), regulatory framework, knowledge management, safeguards and non-proliferation, as well as collaborative options.

1. National strategies for spent fuel management with an emphasis on:

- Managing spent fuel (SF) as an asset (recycling or direct disposal); and
- Achieving future national energy goals.

2. Spent fuel and high level waste storage (short-term, long-term and extended) and subsequent transportability:

- Management of damaged and degraded fuel;

- Behaviour of SF during storage (wet and dry);
- Ageing management for storage systems (wet and dry);
- Ageing management for HLW and related storage systems;
- Demonstrating transportability: specific requirements, including multipurpose canisters, waste packages; and
- Changing security requirements with time.

3. Transportation in the back end:

- Operating experiences, achievements and lessons learned from long-term operations (including overseas shipments, transportation plans, security, safety, public engagement);
- Evolution of international regulations for transportation; and
- Special considerations for high burnup (HBU) fuel, damaged fuel, SF, recycling materials.

4. Recycling as a spent fuel management option:

- Operating experiences and lessons learned;
- Recycling evolution:
 - Fuel and recycling products;
 - Uranium (U)/Plutonium(Pu) co-management (non-proliferation aspects);
 - Reduction of radioactive waste volume; and
 - Economics; and
- Improvements in waste management from recycling activities.

5. Impacts of advanced nuclear energy systems on the back end of the fuel cycle:

- Accident tolerant fuels;
- Advanced fuel cycles:
 - U/Pu multi-recycling in light water reactors and fast reactors;
 - Minor actinides partitioning and transmutation (different systems: fast reactors, accelerator driven system, molten salt reactors etc.); and
 - HLW partitioning and reuse of valuable material; and
- Other advanced designs from Gen-IV (small modular reactors, high temperature gas-cooled reactors, etc.).

6. Disposal:

- Taking into account the characteristics of heat-generating waste in the design of disposal facilities:
 - Types of spent fuel (UOX, HBU, MOX), HLW;

- Spacing, host geology, ventilation, backfilled, operational safety, decay heat, timeline; and
- Retrievability and reversibility;
- Predisposal constraints for spent fuel (cooling, containments, characterization, data);
- Safeguards of disposed spent fuel (pre- and post-closure);
- Stakeholder engagement, including for site selection;
- Multinational collaborations; and
- Post-closure information management.

7. Challenges in an integrated approach to the back-end system (including storage, transport, recycling and disposal):

- Consistency of technical requirements across the back end of the fuel cycle (e.g. waste acceptance criteria, safety requirements, information, knowledge management, etc.);
- Conflicts among the drivers and impediments for a back-end strategy (e.g. economics, politics, technology, time, public support, resources);
- Risk management and decision-making with uncertainties; and
- Optimization, flexibility and resilience (e.g. how options can be retained for future strategic change and contingency in the event of disruption).

D. Structure

The conference programme will consist of an opening plenary session, plenary technical sessions, a poster session, panel sessions and a closing plenary session.

E. Contributed Papers and Posters

Papers on issues falling within the topics outlined in Section C above may be submitted as contributions to the conference. All papers, apart from invited papers, must present original work and should not have been published elsewhere.

E.1. Submission of Abstracts

Anyone wishing to present a paper at the conference — either orally or in the form of a poster — must submit an abstract **in electronic format** through the conference's web-based file submission system (IAEA-INDICO). Paper copies cannot be accepted.

Instructions on how to upload the abstract to IAEA-INDICO will be available on the conference web page (see Section N). The abstract **must** be submitted through this system by **22 October 2018**. No other form of submission will be accepted.

The abstract should not exceed **400 words**. The abstract must be in English and give sufficient information on the contents of the proposed paper to enable the Paper Selection Committee to evaluate it. Introductory and general matters should not be included. Please see the sample abstract on the conference web page.

In addition, authors must electronically submit the following two forms to their appropriate governmental authority (see Section F) for transmission to the IAEA. These forms must be received by the IAEA no later than **22 October 2018**:

- Participation Form (Form A)
- Form for Submission of a Paper (Form B)

IMPORTANT: The electronically received abstract will be considered by the Programme Committee only if these two forms have been received by the IAEA through the established official channels.

E.2. Acceptance of Papers for Oral and Poster Presentation

This conference has plenary technical sessions, so no parallel technical sessions will be organized. For this reason, the number of contributions that can be accepted for oral presentation is limited. Authors who prefer to present their papers as posters are requested to indicate this preference on Form A and in INDICO, at the time of submitting their abstracts.

Authors will be notified by **18 December 2018** as to whether their papers have been accepted for presentation at the conference, either orally or as a poster.

E.3. Submission of Full Papers

Authors of accepted abstracts will be requested to submit a full paper in Word format, about **five to ten pages maximum in length**. A compilation of full papers (in electronic form) will be made available to participants at registration.

Full papers must also be submitted through the IAEA-INDICO file submission system in Word format. Submitting the paper in the indicated electronic format is mandatory. Specifications for the layout and electronic format of the contributed papers and for the preparation of posters will be made available on the conference web page.

The IAEA reserves the right to exclude papers that do not comply with its quality standards and/or that do not apply to one of the topics outlined in Section C above and/or that do not meet the expectations based on the information in the abstract.

The deadline for electronic submission of the full papers as Word files is **25 February 2019**. The IAEA will not accept papers submitted after the deadline.

The IAEA will dispatch notifications of its review of the full papers by **29 April 2019**. The deadline for revised papers to be submitted through the IAEA-INDICO files submission system is **31 May 2019**.

IMPORTANT: The system for electronic submission of papers, IAEA-INDICO, is the sole mechanism for submission of contributed papers. Authors are encouraged to submit papers as early as possible. The IAEA will not accept papers submitted through email.

E.4. Conference Proceedings

The proceedings containing summaries of the plenary and technical sessions as well as full papers presented at the conference will be published by the IAEA as soon as possible after the conference. Copies of the proceedings can be ordered, at a special discounted price, during or after the conference.

F. Participation and Registration

All persons wishing to participate in the conference must be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State, participants are requested to send the following form(s), as applicable, to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority):

- Participation Form (Form A): participation only; no deadline if only Form A is submitted.
- Form for Submission of a Paper (Form B): participants submitting a paper through INDICO (deadline **22 October 2018**), must send the completed and signed Form B together with Form A to their competent national authority for onward transmission to the IAEA (Official.Mail@iaea.org) by **22 October 2018**.
- Grant Application Form (Form C): participants requesting financial support from the IAEA, must complete Form C and send it together with Form A (and Form B, if applicable) to the competent national authority for onward transmission to the IAEA (Official.Mail@iaea.org) by **22 October 2018**. Form C must be stamped and signed by the competent national authority.

Participants who are members of an organization invited to attend are requested to send the above form(s) through their organization to the IAEA (Official.Mail@iaea.org).

In addition, participants are requested to pre-register online through the IAEA web page for the conference.

G. Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the conference. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the conference.

If governments wish to apply for a grant on behalf of one of their participants, they should address specific requests to the IAEA to this effect. Governments should ensure that applications for grants are:

1. Submitted by **22 October 2018**;
2. Accompanied by a duly completed Grant Application Form (Form C) signed and stamped by the Ministry of Foreign Affairs or the National Atomic Energy Authority; and
3. Accompanied by a completed Participation Form (Form A).

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually **covers only part of the cost of attendance**.

H. Distribution of Documents

A preliminary programme of the conference will be made available on the conference web page (see Section N) before the start of the conference and the final programme will be distributed at the conference during on-site registration. It is intended that full papers will be **distributed in a compiled electronic format (unedited) free of charge to all participants upon registration**. Questions relating to the contributed papers can be raised at the appropriate technical session or panel discussion.

I. Working Language

The working language of the conference will be English. All communications and papers must be sent to the IAEA in English.

J. Accommodation

Participants must make their own travel and accommodation arrangements. Detailed information on accommodation and other administrative matters will be sent directly to all designated participants approximately five months before the conference.

Please note that the IAEA is not in a position to assist participants with hotel bookings, nor can the IAEA assume responsibility for paying cancellation fees or for re-bookings and no-shows.

K. Visas

Designated participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria as soon as possible. Please note that Austria is a Schengen State and therefore persons who require a visa will have to apply for a Schengen visa at least 21 days before entry into Austria. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.

If you need more information, please check: <http://www.eurovisa.info/SchengenCountries.htm>.

L. Key Deadlines and Dates

Submission of abstracts, including Forms A and B, through official channels to the IAEA	22 October 2018
Submission of Grant Application Form (Form C) through official channels	22 October 2018
Notification of acceptance of abstract	18 December 2019
Electronic submission of full paper	25 February 2019
Notification of review of full paper, if applicable	29 April 2019
Deadline for revised papers	31 May 2019

M. Conference Secretariat

General postal address and contact details of the IAEA:

International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600
Fax: +43 1 2600 2007
Email: Official.Mail@iaea.org

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Administration and organization:

Ms Martina Neuhold

Conference Services Section
Division of Conference and Document Services
Department of Management
IAEA-CN-272; EVT1803899
Tel.: +43 1 2600 21314
Email: M.Neuhold@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries and correspondence on administrative matters to the Conference Services Section.

N. Conference Web Page

Please visit the IAEA conference web page regularly for new information regarding this conference:

<https://www.iaea.org/events/management-of-spent-fuel-conference-2019>

Participation Form

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24–28 June 2019

To be completed by the participant and sent to the competent official authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA), Vienna International Centre, PO Box 100, 1400 Vienna, Austria, either electronically by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed).

Please attach a passport copy or other document of identification (ID).

Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

Family name: (e.g. Smith)	First name(s): (e.g. John)	Mr/Ms
Institution:		
Full address:		
Tel:		
Email:		
Nationality:	Representing following Member State/non-Member State/entity or invited organization:	
Do you intend to submit a paper? Yes <input type="checkbox"/> No <input type="checkbox"/>		
Would you prefer to present your paper as a poster? Yes <input type="checkbox"/> No <input type="checkbox"/>		
Title:		

Form for Submission of a Paper

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Deadline for receipt by IAEA through official channels: 22 October 2018

Title of the paper:		
Abstract id (INDICO):		
Family name(s) and first name(s) of author(s): e.g. Smith, John (if more than 3, please indicate them in INDICO)	Scientific establishment(s) in which the work has been carried out	City/Country
1.		
2.		
3.		
Family name and first name(s) of author presenting the paper: e.g. Smith, John	Mr/Ms:	
Mailing address:		
Tel (Fax):		
Email:		

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Please note: If granting the licence mentioned above, please supply any copyright acknowledgement text required.

Furthermore, I herewith declare:

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- that any permissions and rights to publish required for third-party content, including but not limited to figures and tables, have been obtained, that all published material is correctly referenced; and
- that the material submitted to the IAEA does not contain any libellous or other unlawful statements and does not contain any materials that violate any personal or proprietary rights of any person or entity.

Date:

Signature of main author:

Grant Application Form

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Deadline for receipt by IAEA through official channels: 22 October 2018

Family name: (e.g. Smith)	First name(s): (e.g. John)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yy/mm/dd):	Nationality:	

1. Education (post-secondary):

Name and place of institution	Field of study	Diploma or Degree	Years attended	
			from	to

2. Recent employment record (starting with your present post):

Name and place of employer/ organization	Title of your position	Type of work	Years worked	
			from	to

3. Description of work performed over the last three years:

4. Institute's/Member State's programme in field of conference:

Date: **Signature of applicant:** _____

Date: **Name, signature and stamp of Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority** _____