



IAEA

Atoms for Peace and Development

الوكالة الدولية للطاقة الذرية

国际原子能机构

International Atomic Energy Agency

Agence internationale de l'énergie atomique

Международное агентство по атомной энергии

Organismo Internacional de Energía Atómica

Vienna International Centre, PO Box 100, 1400 Vienna, Austria

Phone: (+43 1) 2600 • Fax: (+43 1) 26007

Email: Official.Mail@iaea.org • Internet: <https://www.iaea.org>

In reply please refer to: EVT1703163

Dial directly to extension: (+43 1) 2600-22607

The Secretariat of the International Atomic Energy Agency (IAEA) presents its compliments to the IAEA's Member States and has the honour to draw their attention to the **Technical Meeting on the Practices and Challenges Associated with the Management of Bituminized Radioactive Waste (International Predisposal Network)** (hereinafter referred to as "event") to be held at the IAEA's Headquarters in Vienna, Austria, from **19 to 22 March 2019**.

The purpose of the event is to provide a forum for experienced Member State representatives involved in the industrial-scale utilization of bituminization technologies to review and discuss the practical aspects and challenges associated with the management of bituminized radioactive waste.

The attached Information Sheet provides further details of the event.

The event will be held in English.

Member States are invited to designate one or more participants for this event. Member States are strongly encouraged to identify suitable women participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet 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 event. The application for financial support should be made at the time of designating the participants using the attached Grant Application Form (Form C).

It should be noted that compensation is not payable by the IAEA for any damage to or loss of personal property. The IAEA also does not provide health insurance coverage for participants in IAEA events. Arrangements for private insurance coverage on an individual basis should therefore be made. The IAEA will, however, provide insurance coverage for accidents and illnesses that clearly result from any work performed for the IAEA.

Designations should be submitted to the IAEA through the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) not later than **19 February 2019** using the attached Participation Form (Form A). Completed and authorized Participation Forms should be sent either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Copies should be sent by email to the Scientific Secretary of the event, Mr Willie Meyer, Division of Nuclear Fuel Cycle and Waste Technology, Department of Nuclear Energy (Email: W.Meyer@iaea.org), and to the Administrative Secretary, Ms Marina Tolstenkova (Email: M.Tolstenkova@iaea.org). The Scientific Secretary of the event will liaise with the participants directly concerning further arrangements, including travel details, as appropriate, once the official designations have been received.

Should Governments wish, in addition, to appoint one or more observers to assist and advise the designated participants, they are kindly requested to inform the IAEA of the names and contact details of any such observers by the above date. In accordance with the established rules, Governments are expected to bear the cost of attendance of any observers they may send to IAEA events. Compensation is not payable by the IAEA for any damage to or loss of observers' personal property or for illness, injury or death occurring while travelling to or in connection with their attendance at IAEA events.

The Secretariat of the International Atomic Energy Agency avails itself of this opportunity to assure the IAEA's Member States of its highest consideration.



2019-01-29

Enclosures: Information Sheet

Participation Form (Form A)

Grant Application Form (Form C)



Technical Meeting on the Practices and Challenges Associated with the Management of Bituminized Radioactive Waste (International Predisposal Network)

**IAEA Headquarters
Vienna, Austria**

19–22 March 2019

Ref. No.: EVT1703163

Information Sheet

Introduction

The conditioning of radioactive waste in bitumen has been used since the 1960s. In the bituminization process, radioactive wastes are embedded in molten bitumen and encapsulated. The resulting radionuclide retention properties of the bituminized waste form usually exceed those of cements at higher waste loadings. Immobilization of radioactive waste in bitumen is particularly suitable for water-soluble radioactive wastes such as evaporator concentrates and spent organic ion exchange resins. Current challenges in the management of bituminized radioactive waste are associated with the long-term performance of bituminized waste packages in storage and disposal environments.

To support Member States in managing this type of waste, the International Atomic Energy Agency (IAEA) is organizing a dedicated Technical Meeting on challenges in the management of bituminized radioactive waste within the framework of the International Predisposal Network.

Objectives

The objective of this Technical Meeting is to provide a forum for experienced Member State representatives involved in the industrial-scale utilization of bituminization technologies to review and discuss the practical aspects and challenges associated with the management of bituminized radioactive waste.

The meeting will consider topical issues surrounding bituminized radioactive waste management, including experiences of and lessons learned from radioactive waste bituminization processing, waste form properties, waste package durability and safety aspects during long-term storage and/or envisaged disposal, non-conformity issues and re-conditioning options.

Topics

The meeting will allow Member State representatives to share their experiences on topics related to the management of bituminized radioactive waste including lessons learned. These will include the following specific topical areas:

1. Methods used for chemical and radiochemical control of the bituminization process to improve safety:
 - Bitumen quality control;
 - Raw radioactive waste characterization; and
 - Final product (waste form) quality and performance.
2. Pre-operational determination of thermal stability:
 - Thermal stability of supplied bitumen, including flash points;
 - Thermal stability of radioactive concentrates; and
 - Thermal stability of the bituminous product.
3. Operational experience with bituminization technology:
 - Bituminization of liquid concentrates and ion exchange resins (thin film evaporation/extrusion);
 - Optimization of the bituminization process (operational temperature, waste type and bitumen composition, heating and cooling systems, capacity, duration of bituminization operation, type of bituminization equipment, non-conformity issues, problems detected during operation, fulfilment of waste acceptability criteria for disposal, and waste package used); and
 - Monitoring of bituminous product cooling.
4. Operational safety during bituminization processes:
 - Safety aspects for handling a thermally unstable product (early identification, effective cooling, and extinguishing);
 - Available information on accidents with bituminized products;
 - Differential thermal analysis of final products and its interpretation with regard to fire safety;
 - Concentration of significant oxidation agents in treated waste and its impact on fire safety; and

- Methods of effective fire prevention during bituminization processes.
- 5. Alternative technologies:
 - Identification of alternative technologies in case of a bituminization technology failure; and
 - Plasma and other rework technologies as a solution for bituminized waste that does not comply with current waste acceptance criteria.
- 6. Long-term behaviour of bituminized waste packages during storage and/or disposal:
 - Compliance with waste acceptance criteria;
 - Characterization of waste packages with bituminized waste;
 - Radiation stability of bituminized products and leaching tests;
 - Long-term behaviour of bituminized waste form in waste packages;
 - Reducing conditions for a potential unexpected fire hazard.
- 7. Technical, legislative and financial aspects.

Participants are expected to present overview reports focusing on issues concerning the management of bituminized waste at an industrial scale.

Expected Outputs

The expected outputs of the meeting will be a documented summary of the status and challenges in bituminized radioactive waste management and future mechanisms for sharing knowledge on the identified subject matter. Information will be collected and compiled on the following:

- Principle challenges in the management of bituminized radioactive waste for industrial implementation;
- Topical areas that need focused attention; and
- Mechanisms for sharing knowledge related to bituminized waste management.

Participation and Registration

All persons wishing to participate in the event have to 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 Participation Form (Form A) to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **19 February 2019**. Participants who are members of an organization invited to attend are requested to send the Participation Form (Form A) through their organization to the IAEA by the above deadline.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial matters.

Please note that the IAEA is in a transition phase to manage the entire registration process for all regular programme events electronically through the new InTouch+ (<https://intouchplus.iaea.org>) facility, which is the improved and expanded successor to the InTouch platform that has been used in recent years for the IAEA's technical cooperation events. Through InTouch+, prospective participants will be able to apply for events and submit all required documents online. National authorities will be able to use InTouch+ to review and approve these applications. Interested parties that would like to use this new facility should write to: InTouchPlus.Contact-Point@iaea.org.

Venue

The event will be held at the Vienna International Centre (VIC) where the IAEA's Headquarters are located and will commence on 19 March 2019 at 9.30 a.m. in Room C5, Building C. Participants must make their own travel and accommodation arrangements.

General information on the VIC and other practical details, such as a list of hotels offering a reduced rate for IAEA participants, are listed on the following IAEA web page: <http://www-pub.iaea.org/iaeaevents/GeneralInfo/Guide/VIC>.

Participants are advised to arrive at Checkpoint 1/Gate 1 of the VIC one hour before the start of the event on the first day to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least four weeks before they travel to Austria. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. 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.

Working Language(s)

The working language of the meeting will be English. No interpretation will be provided. All communications, abstracts and papers must be submitted in English.

IAEA Contacts

Scientific Secretaries:

Ms Rebecca Robbins

Division of Nuclear Fuel Cycle and Waste Technology
Department of Nuclear Energy
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA

Tel.: +43 1 2600 22659

Fax: +43 1 26007

Email: R.A.Robbins@iaea.org

Mr Willie Meyer

Division of Nuclear Fuel Cycle and Waste Technology
Department of Nuclear Energy
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA

Tel.: +43 1 2600 22607

Fax: +43 1 26007

Email: W.Meyer@iaea.org

Administrative Secretary:

Ms Marina Tolstenkova

Division of Nuclear Power
Department of Nuclear Energy
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA

Tel.: +43 1 2600 21968

Fax: +43 1 26007

Email: M.Tolstenkova@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries and correspondence on other matters related to the event to the Administrative Secretary.

Relevant Publications

1. INTERNATIONAL ATOMIC ENERGY AGENCY, Bituminization processes to condition radioactive wastes, Technical Reports Series No. 352, IAEA, Vienna (1993).
2. INTERNATIONAL ATOMIC ENERGY AGENCY, Bituminization of radioactive waste, Technical Reports Series No. 116, IAEA, Vienna (1970).
3. VANBRABANT, R., SELUCKY, P., Proceedings of the international workshop on the safety and performance evaluation of bituminization processes for radioactive waste, Belgoprocess n.v. Dessel and Nuclear Research Institute (NRI), Rež, Czech Republic (1999).

Participation Form

Technical Meeting on the Practices and Challenges Associated with the Management of Bituminized Radioactive Waste (International Predisposal Network)

IAEA Headquarters, Vienna, Austria

19–22 March 2019

To be completed by the participant and sent to the competent national 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) either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary (W.Meyer@iaea.org) and to the Administrative Secretary (M.Tolstenkova@iaea.org).

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

Deadline for receipt by IAEA through official channels: 19 February 2019

Family name(s): (same as in passport)		First name(s): (same as in passport)		Mr/Ms
Institution:				
Full address:				
Tel. (Fax):				
Email:				
Nationality:		Representing following Member State/non-Member State/entity or invited organization:		
If/as applicable: 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:				

Grant Application Form

Technical Meeting on the Practices and Challenges Associated with the Management of Bituminized Radioactive Waste (International Predisposal Network)

IAEA Headquarters, Vienna, Austria

19–22 March 2019

To be completed by the applicant and sent to the competent national 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) either by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary (W.Meyer@iaea.org) and to the Administrative Secretary (M.Tolstenkova@iaea.org).

Deadline for receipt by IAEA through official channels: 19 February 2019

Family name(s): (same as in passport)	First name(s): (same as in passport)	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 event:

Date: **Signature of applicant:** _____

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