



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: EVT1805250

Dial directly to extension: (+43 1) 2600-22783

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 Achieving the Site End State: Characterization Strategies and Instrumentation for Land Contamination** (hereinafter referred to as "event") to be held in **Dounreay, United Kingdom**, from **7 to 11 October 2019**.

The purpose of the event is to enable information sharing and capacity building regarding characterization strategies and instrumentation for land contamination to achieve the site end state. This will include a focus on the application of new and emerging technologies.

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 participant participant(s) 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 **16 August 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, Ms Kim Baines, Division of Nuclear Fuel Cycle and Waste Technology, Department of Nuclear Energy, (Email: K.Baines@iaea.org), and to the Administrative Secretary, Ms Grace Yoka (Email: G.Yoka@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.



2019-07-30

Enclosures: Information Sheet

Participation Form (Form A)

Form for Submission of a Paper (Form B)

Grant Application Form (Form C)



Technical Meeting on Achieving the Site End State: Characterization Strategies and Instrumentation for Land Contamination

Hosted by the
Government of the United Kingdom
through
Dounreay Site Restoration Ltd
Dounreay, United Kingdom

7–11 October 2019

Ref. No.: EVT1805250

Information Sheet

Introduction

Contaminated sites and sites requiring environmental improvement exist across the world. Critical to ensuring their improvement and release for reuse is the ability to characterize the site before, during and after physical works. This requires the use of appropriate characterization strategies which are underpinned by data collected from both in situ and laboratory-based instrumentation.

For effective and efficient characterization, the information collected and made available to technical experts, project managers and regulators must be appropriate to the decision being taken. For example;

- screening instrumentation allows initial characterization and decisions for worker protection;
- in-situ analysis may guide invasive and non-invasive works, both in planning and whilst physical works are in progress;

- sample analysis supported by mobile and fixed accredited laboratory processing provides detailed understanding and confidence in compliance with regulations; and
- understanding the natural background or baseline concentration of analytes can be used to assess the impact of human activities.

Many of the tools available can be deployed more than once in this chain depending on the measurement protocols being used, thus leveraging the usefulness of expensive equipment.

There is an ongoing need across experienced and less experienced Member States to share knowledge and build capacity in characterization methodologies, in the application of ‘tried-and-tested’ instrumentation but also in the application of new and emerging technologies. The International Atomic Energy Agency (IAEA) benefits from expertise and resources in several disciplines which are applicable to the development and application of characterization strategies and instrumentation to support remediation and end state activities. Key to the success of any instrumentation activities is the continued collaboration of experts from a mix of disciplines.

Objectives

This event will focus on characterization methods and instrumentation for the management and remediation of contaminated land to achieve the site end state. The objective of this event is to create a forum to:

- Share and exchange knowledge and information;
- Enable opportunities for peer support, advice and technical guidance;
- Promote international cooperation and strengthen Member States professional network; and
- Create a consensus of recommendations on the guidance and tools needed to ensure ongoing good practices.

Target Audience

The meeting is aimed at practitioners in Member States who are responsible for, and actively involved in, the characterizations of land contamination and/or remediation activities. Designations for participants active in the field of site characterization and remediation, especially in an operational capacity, will be preferred.

Working Language

The working language of the meeting will be English with no interpretation provided. All communications and presentations must be submitted in this language.

Expected Outputs

The expected outputs of this meeting are:

- Enhanced knowledge in Member States;
- An increase in Member States' professional contacts;
- A record of resources to support Member States' ongoing activities; and
- A record of the lessons learned presented by Member States during the meeting.

Structure and Topics

The meeting will comprise presentations, structured discussions and site visits including observation of fieldwork.

Presentations are expected in the following topical sessions given by Member States and/or IAEA experts:

- **Characterization pitfalls:** There are many common mistakes encountered when developing sampling methodologies and during the collection and preparation of samples. This session will identify common pitfalls and discuss how to avoid them. This session will also include an interactive exercise to teach concepts related to soil sampling theory and statistical variability.
- **Information management:** A huge amount of data is generated throughout the characterization process. This information must be appropriately managed to ensure the success of any subsequent remediation activities. This information underpins safety and environmental assessments to support achieving the site end state. This session will focus on lessons learned and good practices for the capturing and curation of data.
- **Defining contaminant baselines:** A defined baseline or reference value is often needed to demonstrate regulatory compliance during site works and achieving the site end state. However, many sites or areas where historical practices occurred do not have natural background or baseline data. This session looks at the issues associated with constructing retrospective baselines and reference values and approaches for addressing these problems.
- **Conceptual site model: (CSM):** The CSM is the practitioner's understanding of the contaminant source, the pathways by which the contaminant could move and the receptors that may be exposed to the contaminant both now and in the future. It is the basis of any characterization and remediation strategy and is continually updated with new information. This session will focus on practical examples of how the CSM has underpinned characterization strategies. The session will also include an interactive exercise on developing a CSM.
- **Managing interfaces:** Characterization is needed for a range of waste management, decommissioning, remediation and site end state activities. Contaminated land sites are rarely impacted by only radiological contaminants and often the non-radiological hazards can drive the need for remediation. Hence characterization needs to assess both radiological

and non-radiological contaminants. This session looks at how to integrate the characterization needs to support the range of requirements to ensure effectiveness and efficiency of resources.

- Innovation and technology: Consumer electronics, materials science and cooling systems developments in the past decade have enabled instrumentation to be deployed beyond the confines of a sample laboratory. Innovations in data analysis and modelling have also been applied to enhance the visualization of data. This session presents recent innovations and new technologies in the field of characterization for land contamination.
- Characterization of existing exposure scenarios¹ sites: In recent years, experience has been gained by Member States, especially in the Central Asia region, in the characterization of sites where there is an existing exposure scenario. This session focuses on presentations describing the challenges and successes of designing and implementing characterization at these and other relevant sites.

The workshop will be held in cooperation with Dounreay Site Restoration Ltd. This will enable a site tour and the opportunity to participate in one of the four working groups. A day of the meeting will be given over to working groups which will enable participants to observe and discuss with experts and peers the practicalities associated with characterization in the following settings at the Dounreay Site:

- A. Dounreay Environmental Monitoring Programme including monitoring of the local beaches.
- B. Characterization and monitoring throughout the lifetime of the Dounreay Low-Level Waste Facility.
- C. In situ and lab instrumentation including approach to characterization of Dounreay Zone B/H.
- D. Characterization and monitoring throughout the lifetime of the Dounreay Shaft and Silo Facilities.

Access will be subject to ongoing operational requirements at the Dounreay Site.

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 **16 August 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.

¹ Existing exposure situations are exposure situations that already exist when a decision on control has to be taken, including prolonged exposure situations after emergencies (*The 2007 Recommendations of the International Commission on Radiological Protection*, ICRP Publication 103)

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.

Papers and Presentations

Presentations will be made by participants from Member States and IAEA invited experts.

All Member States should prepare and present a pico-presentation (three slides) on their current experience of characterization of land contamination. The slides should cover:

- Context, e.g. name and location of site, former use, contaminants of concern, aims of current activities or defined site end state;
- Characterization approach and instrumentation used; and
- Challenges and successes.

Participants are also expected to propose a presentation that could be given at one of the topical sessions (see 'Structure and Topics' section above). The title and outline of the presentation should be submitted using the attached **Form for Submission of a Paper (Form B)** as part of the application procedure. The IAEA will review and select the most relevant presentations for inclusion at the meeting as part of the process to assess designations.

Participants are also requested to indicate on the **Form for Submission of a Paper (Form B)** their first and second choice for the working groups.

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 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 using the **Grant Application Form (Form C)**, which has to be stamped, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **16 August 2019**.

Venue

The event will be held in Thurso, Caithness, United Kingdom and will start at **9.00 a.m. on Monday, 7 October 2019**. Site visits will be made to the Dounreay site during the event. Transport will be provided to and from the event venue and the Dounreay site.

It is the responsibility of all participants to make their own travel arrangements to Inverness Airport (Dalcross, Inverness IV2 7JB, UK) by **4.00 p.m. on Sunday, 6 October 2019**. A bus will be provided between Inverness Airport and the hotel in Thurso. The bus will leave Thurso at **1.30 p.m. on Friday, 11 October 2019** and should arrive at Inverness Airport by **4.00 p.m.** Information on accommodation and transport and other organizational details, will be sent to all participants in advance of the meeting.

Visas

Participants who require a visa to enter United Kingdom should submit the necessary application as soon as possible to the nearest diplomatic or consular representative of United Kingdom.

IAEA Contacts

Scientific Secretary:

Ms Kim Baines

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 22783

Fax: +43 1 26007 Email:

K.Baines@iaea.org

Co-Scientific Secretary:

Mr Roman Padilla Alvarez

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

Tel.: +43 1 2600 28244

Fax: +43 1 26007

Email: R.Padilla-Alvarez@iaea.org

Administrative Secretary:

Ms Grace Yoka

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 22678

Fax: +43 1 26007

Email: G.Yoka@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretary and correspondence on other matters related to the meeting to the Administrative Secretary

Participation Form

Technical Meeting on Achieving the Site End State: Characterisation Strategies and Instrumentation for Land Contamination

Dounreay, Scotland, United Kingdom
7 – 11 October 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 K.Baines@iaea.org and to the Administrative Secretary G.Yoka@iaea.org.

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.

Deadline for receipt by IAEA through official channels: 16 August 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	No <input type="checkbox"/> <input type="checkbox"/>
Would you prefer to present your paper as a poster?	Yes	No <input type="checkbox"/> <input type="checkbox"/>
Title:		

Form for Submission of a Paper

Technical Meeting on Achieving the Site End State: Characterization Strategies and Instrumentation for Land Contamination

Dounreay, United Kingdom

7–11 October 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 K.Baines@iaea.org and to the Administrative Secretary G.Yoka@iaea.org.

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

Deadline for receipt by IAEA through official channels: 16 August 2019

Title of the paper:		
If applicable: Abstract ID in IAEA-INDICO:		
Family name(s) and first name(s) of all author(s) (same as in passport(s):	Scientific establishment(s) in which the work has been carried out	City/Country
1.		
2.		
3.		
Family name(s) and first name(s) of author presenting the paper (same as in passport):	Mr/Ms:	
Mailing address:		
Tel. (Fax):		
Email:		

I hereby agree to assign to the International Atomic Energy Agency (IAEA):

- the copyright; or
- the non-exclusive, worldwide, free-of-charge licence (this option is only for those authors whose parent institution does not allow them to transfer the copyright for work carried out in that institution) granting the IAEA world rights for the use of the aforementioned material in this and any future editions of the publication, in all languages, and in all formats available now, or to be developed in the future (digital formats, hard copy etc.).

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

Furthermore, I herewith declare:

- that the material submitted to the IAEA is original, except for such excerpts from copyrighted works as may be included with the permission of the copyright holders thereof, has been written by the stated authors, has not been published before, and is not under consideration for publication by another entity;
- 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:

Please indicate your first and second choice of working group:

- | | |
|---------------------------------------|----------------------|
| A. Environmental monitoring programme | <input type="text"/> |
| B. Low level waste facility | <input type="text"/> |
| C. In situ and lab instrumentation | <input type="text"/> |
| D. Shaft and silo facilities | <input type="text"/> |

Grant Application Form

Technical Meeting on Achieving the Site End State: Characterisation Strategies and Instrumentation for Land Contamination

Dounreay, United Kingdom

7 – 11 October 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 K.Baines@iaea.org and to the Administrative Secretary and G.Yoka@iaea.org.

Deadline for receipt by IAEA through official channels: 16 August 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**
