



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

(Virtual event)

**International Conference on the Management of
Naturally Occurring Radioactive Material
(NORM) in Industry**

19–30 October 2020

Ref. No: IAEA-CN-287; EVT1902890

Announcement and Call for Papers

A. Introduction and Scope

Over the past decades, many studies have found higher natural radionuclide activity concentrations in wastes and residues from a wide range of industrial activities that are not part of the nuclear fuel cycle. Since then, despite some successful cases, most Member States have been struggling to find realistic, feasible and implementable approaches for proper management of NORM wastes/residues.

Several international and national conferences and meetings have been organized to discuss technical aspects of NORM management including detection of natural radionuclides in the workplace, radiological characterization, impacts of relevant industrial operations on the environment and workers, regulatory approaches, and the use of residues as building materials.

Not so common is the discussion of overarching issues like national inventories, applicable policy, strategies and approaches to managing NORM wastes/residues (including storage, disposal, involved costs, long term liabilities, long term stewardship and associated costs); as well as the ‘graded approach’ to regulation; transportation and trade of scrap metals containing NORM.

Industries are gradually becoming aware of potential radiological issues in their operations and guidance on how to address these issues to conform with international good practices and existing national regulatory and safety requirements. Despite these efforts, there is still plenty of room for improvement — the full participation of different industrial actors in the discussion and elaboration of sound and feasible management approaches is crucial.

The conference scope will cover all the industrial operations (outside the nuclear fuel cycle) that can be associated with the increased natural radionuclide activity concentrations in wastes and residues and can give rise to increased exposures of members of the public and workers to ionizing radiation

B. Purpose

The purpose of the conference is to foster the sharing of experiences in the management of NORM in industrial operations with the aim of contributing to the harmonization of approaches and adoption of good practices that are simultaneously cost effective and safe taking into consideration members of the public and workers.

This is the first conference on NORM organized by the IAEA and will build upon inputs provided by different events already organized by the international community with a focus on the industry. This new conference aims to explore the good practices that have been put in place worldwide and bring together different players to identify current issues and expected future challenges and possible strategies for dealing with them.

Although the conference will focus on industrial operations it will consider the latest technological developments and research work, taking into account regulatory requirements and safety aspects.

C. Topics

The IAEA welcomes high quality contributions that fall under the umbrella of the five cross-cutting topics listed below.

1. NORM Inventories

- a. Identification of NORM-related industries operating within the country.
- b. Amounts of residues/wastes being generated.
- c. Radioactivity concentrations or exposure rates.
- d. Other hazardous materials of concern.

2. National Policies and Strategies

- a. Setup of waste management organization.
- b. Centralized vs multiple dispersed facilities.
- c. NORM-dedicated facilities vs facilities accepting multiple types of wastes.
- d. Stakeholder involvement.
- e. Environmental impact assessment.

3. NORM Characterization in Industrial Operations

- a. Appropriate sampling and monitoring methodologies.
- b. Analytical methodologies:
 - i. Laboratory measurements.
 - ii. On site measurements (e.g. in situ measurements, mobile lab).
- c. Infrastructure and equipment requirements.
- d. Quality assurance and quality control.
- e. Recordkeeping.

4. Residue and Waste Management

- a. Life cycle management to help prevent environmental contamination.
- b. Cost assessment across all aspects of residue/waste management.
- c. Management options for residues/wastes — application of the waste management hierarchy:
 - i. Prevention.
 - ii. Minimization.
 - iii. Reuse (i.e. using the NORM in its current form).
 - iv. Recycle (i.e. reprocessing of the NORM into a new form), including NORM contaminated scrap metal.
 - v. Disposal.
- d. Selection of management options, including reuse, recycle, storage, and disposal:
 - i. Justification and optimization:
 - a. Cost/benefit analysis.
 - b. Multi-criteria decision analysis.
- e. Financial guarantees.
- f. Other considerations (e.g. economic impacts).
- g. Transportation requirements and controls.

5. Decommissioning of NORM Facilities and Remediation of Contaminated Sites

- a. Decommissioning and waste management plan.
- b. Decontamination technologies.
- c. Dismantling technologies.
- d. Remediation.
- e. Identification of contaminated sites.
- f. Conceptual site model.
- g. Site characterization.
- h. Remedial action evaluation and selection.
- i. Costing and funding.
- j. Long term stewardship of closed or decommissioned NORM management facilities/sites.
- k. Institutional controls.

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 L). The abstract **must** be submitted through this system by **13 April 2020**. 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 **13 April 2020**:

- 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 **25 May 2020** 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 **26 June 2020**. The IAEA will not accept papers submitted after the deadline.

The IAEA will dispatch notifications of its review of the full papers by **31 July 2020**. The deadline for revised papers to be submitted through the IAEA-INDICO files submission system is **19 September 2020**.

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 **13 April 2020**), 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 **13 April 2020**.

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. Distribution of Documents

A preliminary programme of the conference will be made available on the conference web page before the start of the conference, with the final programme and full papers **in a compiled electronic format (unedited) provided free of charge to all participants** and being **distributed on the first day of the conference via the IAEA conference App**. It is intended that questions relating to the contributed papers can be raised at the appropriate technical session or panel discussion also **via the IAEA conference App**.

H. Working Language

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

I. Venue

The conference will be held virtually.

J. Key Deadlines and Dates

Submission of abstracts, including Forms A and B, through official channels to the IAEA	13 April 2020
Notification of acceptance of abstract	25 May 2020
Electronic submission of full paper	26 June 2020
Notification of review of full paper, if applicable	31 July 2020
Deadline for revised papers	19 September 2020

K. Conference Secretariat

General postal address and contact details of the IAEA:

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

L. Conference Web Page

Please visit the IAEA conference web page regularly for new information regarding this conference:
<https://www.iaea.org/events/norm-2020>