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Dear Colleagues,

IGD-TP position letter regarding the call EC NFRP-10: Developing pre-disposal activities identified in the scope of the European Joint Programme in Radioactive Waste Management

As part of the work programme 2019-2020, the EC called for proposals regarding the following topic on 14 December 2018:

NFRP-10: Developing pre-disposal activities identified in the scope of the European Joint Programme in Radioactive Waste Management.

It states that:

*Actions should primarily aim at developing methods, processes, technologies and demonstrators for the treatment and conditioning of wastes for which no or inadequate solutions are currently available and/or **when improvement and innovation to existing ones would bring measurable benefits to several Member States (MSs)**. Priority should be given to activities aiming at starting common related developments at pan-European level leading to potential future use across a number of MSs. In addition to **RD&D**, work may include **analyses of criteria and parameters and specifications for packages guiding decision-making on the added-value of developing treatment and conditioning technologies and their impact on the design, safety and economics of waste management and disposal.***

With this position letter, after consolidation between the IGD-TP Executive Group members and as an outcome of our meeting dated 25 February 2019, we would like to contribute to the proposal development in the first instance and to the project in a later stage.

1. Lead of the project. While for a number of Waste Management Organisations (WMOs), pre-disposal activities are within their mandate, for others these are clearly outside of their responsibility. For the IGD-TP, taking a coordinating role in this proposal is therefore not seen as an option, also because of the large effort already engaged in with the coordination of the EURAD proposal, and the involvement this will require from the

WMOs in the months to come. The IGD-TP therefore welcomes the initiative of the developing core group of research institutes within the EURADScience/NUGENIA constellation. We are aware that a meeting is planned together with the next Annual Forum on 15 March 2019 to further develop this. Andra intends to attend the meeting and participate on behalf of the IGD-TP.

2. Needs of the IGD-TP. The IGD-TP has a strong interest in the project to be developed as the IGD-TP acts as the ultimate end-user of the pre-disposal activities to be developed in the project. A major aspect is the development of the waste acceptance criteria (WAC). This includes methodologies for classifying the waste, and property optimisation of the waste streams for disposal. Other major aspects are optimising the nuclear inventory, reduction of non-radioactive hazardous substances subject to environmental legislation including reduction of fire hazard, and factors potentially affecting geological disposal facility lay-out such as thermal load of the packages as well as gas generation potential. The IGD-TP is of the opinion that a significant share of the techniques and methods included in the proposal should aim to optimise geological disposal and reduce remaining uncertainties in the respective safety cases.
3. Priorities on pre-disposal aspects. Based on a survey by the IGD-TP members of national waste producers, policy, treatment routes, and potential pre-disposal treatment techniques to be developed, the WMOs identified the following priorities to be considered for the proposal:

First priority for the majority of the IGD-TP members

- treatment and conditioning of organic wastes:
 - liquid wastes;
 - solid wastes (bitumen, exchange resins, polymers).

First or second priority depending on IGD-TP members

- treatment of graphite;
- treatment (fusion) of metals - conditioning of reactive metals.

Second priority for the majority of IGD-TP members

- conditioning of problematic cemented wastes (alpha-containing with organics);
- conditioning/treatment of tritium radioactive waste;
- automation, robotics and alternative encapsulation (non-thermal wastes).

4. Practical way forward. From a practical viewpoint, the IGD-TP seeks to contribute to the following aspects:
 - *For the development and finalisation of the proposal (Sept 2019):* contribute to selection of the pre-disposal techniques that will be taken up in the proposal from an end-user point of view (relevance in terms of waste volumes, impact on WAC, optimisation for mainly geological disposal).
 - *From the project start:* contribute to the project on optimisation for geological disposal based on the aspects listed above. One could consider a dedicated task or work package in the project to position this properly. Next to safety-related aspects, the final disposal costs need to be integrated into entire waste stream costs to assess the potential of the developed pre-disposal technique. At a

minimum, most WMOs are interested in acting as an end user; financial commitment will depend on the proposed research scope (to be developed).

5. Integration in EURAD. The proposal should be developed such that a merger with EURAD as early as possible can be realised. It should be fully in line with the policy of the EC on radioactive waste management from pre-disposal to disposal. This requires that all actors (waste producers, WMOs, technical services organisations and research entities) develop a joint view and a consistent strategy regarding R&D and horizontal activities, in line with disposal requirements and overall management practice of radioactive waste.

We hope that the discussions at the NUGENIA forum on the 15th of March in Paris will be successful and that the IGD-TP position described above contributes to that.

Yours sincerely,



Irina Gaus
IGD-TP Chair
On behalf of the IGD-TP Executive Group

Sent by email

Letter copied to:

Members of the IGD-TP Executive Group