Prior Information Notice for pre-market engagement to support Phase 2 of the Concretene research and development project.

Please respond to this PIN by 31st January 2024 by 12.00 noon close. Atamis reference number C17538.

Introduction

Recently Sellafield Ltd have engaged Veolia Nuclear Solutions and Nationwide Engineering to understand the potential benefits (economic and environmental) of using a graphene-based additive to cement mixes (both new mixes and mixes made from recycled materials arising from demolition works).

To date this has been of a preliminary/exploratory nature but Sellafield Ltd now wish to move to the next phase of work, which will involve identification of potential areas for deployment, modelling the benefits accruing from this deployment and providing sample pieces and laboratory testing to verify the claimed benefits for graphene additives as applied to both fresh and mixes and those made from recycled demolition materials.

It is anticipated that any response to this PIN would indicate a sound knowledge of the Sellafield site and an understanding of Sellafield's future plans for concrete use on site to be able to provide the information requested.

Information on Sellafield wastes is publicly available, and the National Nuclear Waste Inventory should be available via the Nuclear Decommissioning Authority (NDA) web site.

Scope

Potential technology providers are invited to engage with Sellafield Ltd through this PIN and to provide the following information against the line of enquiry below as validation of the potential offered by graphene enhanced cement mixes:-

Line of Enquiry

Suppliers are requested to indicate that they would be able to meet the requirements of the following scope of work in support of the following :

1) Would the supplier be able to meet the requirement of Identification of potential areas of deployment on the Sellafield site noting that the scope here is not limited to structural uses but to all areas on site where concrete is used. Output would be a technical report identifying areas of potential deployment.

2) Would the supplier be able to meet the requirement of a full economic assessment of identified areas for deployment specifying the total benefit achievable. Output would be included in the technical report for

item 1.

3) Would the supplier be able to meet the requirement of a full environmental assessment detailing the carbon reduction potential of deployment identified in item 1. Output would be included in the report for item 1.

4) Would the supplier be able to meet the requirement of a Road mapping and outline cost to deployment recognising the requirement to close the gap which exists between our current future programme and an alternative future programme using graphene-enhanced concrete.

The above would be supported by a technical programme of work to test the validity of claims made in relation to the enhanced properties offered by graphene additives for both fresh mixes and mixes made from recycled materials. A combination of sample preparation and laboratory testing will be required to provide this validation and responders will be required to offer their interpretation of what needs to be done to achieve this requirement.

The output for this element would be a detailed technical report summarizing the results obtained and comparing those findings to claims made for enhanced properties.

If you organisation has the technical capability to meet the requirement of the above detailed scope could you please confirm through the message facility on Atamis against reference **C17538 by 31st January 2024 by 12.00 noon close.**