A new COST initiative 'NORM4BUILDING'

Wouter Schroeyers[1], Sonja Scheurs[1]

[1]*Nucleair Technologisch Centrum (NuTeC), UHasselt, Wetenschapspark 27, 3590 Diepenbeek (Belgium),*

Tel: +32(0)11370794, fax: +32(0)360795, email: wouter.schroeyers@uhasselt.be

Abstract

Background: The depletion of energy resources and raw materials demands introduction of sustainability in construction sector and construction material production. In the development of new synthetic building materials the reuse of various (waste) residue streams becomes a necessity. A specific class of residues, for which the use in building materials offers interesting reuse options, originate from NORM (naturally occurring radioactive materials) processing industries. NORM residues, such as fly ash produced in large quantities from coal burning, slags from steelworks and metal recycling industries, phosphogypsum of the phosphate industry and red mud of the aluminium processing industry, were already investigated for application in building materials. Current innovations in the building industry, such as the emerging field of Alkali-Activated Materials (Geopolymers/inorganic polymers), can open up promising new reuse pathways for NORM residues in building materials.

Objectives NORM4BUILDING: The main objective of the new COST Action 'NORM4BUILDING' is the exchange of multidisciplinary knowledge and experiences (radiological, technical, economical, legislative, ecological) to stimulate the reuse of NORM residues in new tailor-made sustainable building materials in the construction sector while considering the impact on both external gamma exposure of building occupants and indoor air quality. By improving radiological impact assessment models for the reuse of NORM residues in building materials the new COST Action aims to further stimulate justified uses of NORM residues in different types of newly developed building materials. Based on these models, the COST Action aims at investigating realistic legislative scenarios so that the authorities concerned can allow reuse pathways for NORM that can be accepted from a radioprotection point of view in concordance with the Lead Marked Initiative (LMI) and sustainable construction.

Practical aspects: In the presentation the new approach and new initiatives of the NORM4BUILDING network will be presented. The NORM4Building materials network will be an open network of researchers. An Advisory Board consisting mainly from

NORM processing and construction industries and relevant associations and regulators are invited to work in collaboration with the scientists that will populate the various working groups and the management committee of the new COST action. The new COST action will start on the 1st of January 2014 and run for four years. COST is supported by the EU RTD Framework Program.