Natural Occurring Asbestos (NOA) in Italy: Workers' potential exposure risks and prevention and protection measures

Sergio Malinconico¹, Beatrice Conestabile della Staffa¹, Annalisa Guercio², Federica Paglietti¹, and Bianca Rimoldi²
¹Inail, Dit, Department of new technologies for occupational safety of industrial plants, products and human settlements, Italy (s.malinconico@inail.it)
²Inail, Contarp, Advisory Department For Risks Assessment And Prevention

Italy was one of the largest producers of asbestos-containing minerals and materials (ACM), with large areas affected by natural asbestos (NOA). In 1992 Italy began the first reclamation activities at the largest European asbestos mine in Balangero (Piedmont) and in 2001 in minor mines in Valle d’Aosta (Emarese), also adopting specific reclamation procedures and protective measures for the workers. Also in 2001, reclamation work was started in Biancavilla etnea (Sicily), a city with a great contamination from two quarries containing fluorine-edenite, an amphibole of volcanic origin recognized as a category 1A carcinogen by the IARC. Although the asbestos extraction and asbestos containing materials trading has been banned since 1992 (Law n.257/92), to now, the extraction of green stones as inert or ornamental stone and other anthropic activities (eg the digging, tunneling or farming activities in areas with potentially contaminated soils) are still going on in many quarry districts and wide areas, with no regulations if not at local level.

The only legislative act concerning NOA has been enacted in 1996 (the 14/5/96 decree) and it's mainly referred to "green-stones" identification in mines and quarries. From that date no further act has been approved on NOA.

In this context, to fill the gap, Inail (Dit and Contarp) issued the NOA Project to take the most correct workers’ protection actions in the management of a territory, as NOA.

The project lists the different activities carried on in areas with green stones occurrence with a workers' potential asbestos exposure risk, together with an analysis of the specific prevention and protection measures.

The activities are:

- Extraction and processing of ornamental stones and inert gravel
- Remediation of NOA contaminated sites, slopes rearrangement and restoration works of hydrogeological instability
- Excavations for road and railway tunnels
• Excavations and urbanization at different scales
• Farming.
• Railway ballast removal and disposal / remediation.

In the final document, in the drafting phase, we also propose an updated definition of NOA sites as:

“Asbestos minerals contained in ophiolitic rocks, outcropped or buried, in variable amount and localization, not definable in advance, whose fibers can be released into the environment due to anthropic activities or exogenous agents”.