Management and legislation on contaminated soils: the Italian situation

Laura D'Aprile

ISPRA, Via Vitaliano Brancati, 48 – 00144 Rome, Italy
Laura.daprile@isprambiente.it,

Keywords: Five keywords separated by; semi-colons

Management of contaminated sites represents one of the most important environmental issues in Europe. Soil contamination is one of the major threats for soil addressed by the EU Soil thematic strategy and the Soil Framework Directive (SFD) proposal (still pending approval, being contamination the most controversial issue).

Since a common EU framework to deal with contaminated soil management is still lacking, each MS has its own procedures. Italy has a regulation on contaminated sites since 1986 (Law n. 349 addressing high environmental risk areas) even if specific financial, administrative and technical tools for contaminated site management were introduced only later. The first framework regulation on contaminated sites was issued in 1999 (Decree of The Ministry of the Environment n. 471, referring to article 22 of the Legislative Decree n.22 of 1997). The DM 471/99 introduced the application of the "limit value criterion" approach: a site can be defined contaminated if fixed values for soil (according to land use: industrial/commercial or green/residential) and groundwater are exceeded. Remediation activities have to be carried on by the polluter (application of the polluter-pays-principle), the application of in-situ remediation technologies is encouraged in order to reduce waste production. In 2006 the approach defined by DM 471/99 was deeply modified through the introduction of a "risk-based approach". The definition of contaminated site was modified, by taking into account the effective risk (in terms of human health risk) posed by a contaminated site (soil, subsoil and groundwater). A contaminated site is an area in which the site specific target levels, developed through the application of risk assessment according to the ASTM-RBCA standard procedure, are exceeded. The limit values established by DM 471/99 are still in use as "screening values" at a site (see Figure 1).

In Italy the administrative tasks for the remediation of sites are in charge of municipalities, regions and Ministry of the Environment. The Ministry of the Environment (MoE) is the promoter of the "National Remediation Program" (established in 2001), now including 57 areas of "national interest" for remediation activities (National Priority List sites, NPL sites). For the management of remediation activities at NPL sites the Ministry of the Environment is supported by the National Institute for Environmental Protection (ISPRA) and by other relevant institutes/agencies (National Health Institute, Regional Environment Agencies, etc.).

According to its institutional tasks, ISPRA collects from regional focal points the information on potentially contaminated sites, contaminated sites and sites in which remediation/risk reduction measures are completed. The updated data are then SENT to the EIONET (European Environment Information and Observation Network). According to the available information (three regions did not send the required data), in Italy there are more than 15.000 potentially contaminated sites. Among these, more than 5.800 were investigated, more than 4000 can be defined as contaminated and in about 3000 sites the remediation/risk reduction measures were completed. It is worth mentioning that, up to date, no one of the 57 NPL sites was completely remediated but only a limited number of areas included in these sites were fully recovered.

Regarding the information on applied remediation technologies, the data available for the 57 National Priority List sites, clearly show that excavation of soil and off site disposal and groundwater containment are still widely applied while in-situ technologies have a limited application, thus leading to great volumes of solid and liquid waste produced.

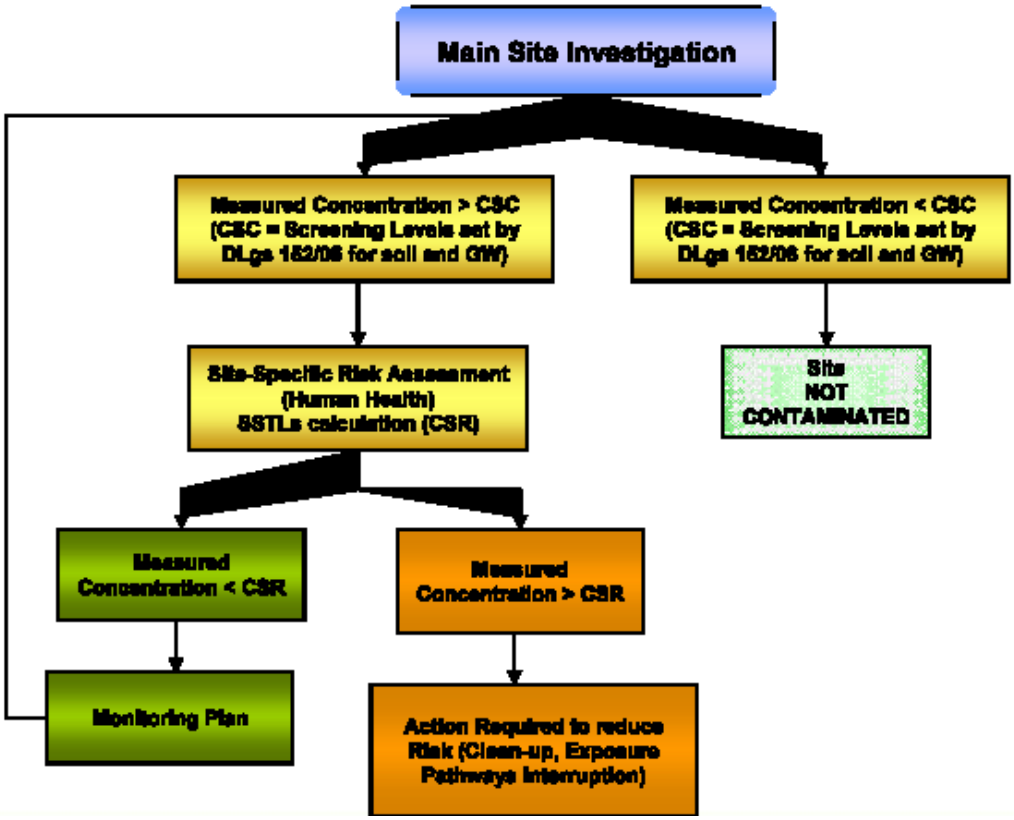

Figure 1:Contaminated Site Management procedure according to Legislative Decree n. 152 of 2006

The following conmclusive remearks should be considered:

- it can be observed that the number of sites that have completed remediation is increasing if compared with the previously available data (2008), expecially in the regions of the Northern Italy, Lombardia being the “leader” of the positive trend;
- in the 57 NPL sites the investigation emediation activities are still ongoing: this slowness is due to the complexity of many causes: complexity of the contamination, presence of hundreds of properties, lack of funds. The Ministry of the Environment is now developing a new strategy, based on the “voluntary agreement” tool, in order to “speed-up” the procedures;
- the application of full-scale n-situ technologies, even if the case-studies are increasing at a lab/pilot scale, is still too limited. The increasing production of waste from contaminated sites remediation activities is a major concern for the environmental legislators and pose additional constraints to safe management of waste.