

HEALTH PROTECTION IN THE DECOMMISSIONING PHASE IN ITALY AND ITS ACCEPTABILITY TO THE PUBLIC

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Introduction: setting the problems.

From previous talks you have heard that all the nuclear plants in Italy have ended their commercial activity more than 15 years ago (Garigliano since 1978) and practically since then they are in the decommissioning phase together with other facilities of the nuclear fuel cycle. From the radioprotection point of view, the decommissioning phase has a minor impact than that related to the production phase. For the aspects regarding the general public, liquid discharges and gaseous effluents are at lower levels and accident analyses foresee events at lower scale; for what regards workers, operations with high level-wastes are, in principle, not more demanding in term of radiation doses than several inspection or replacement operations needed in maintenance periods during the commercial life of the nuclear plant. Then, as such, the decommissioning phase does not raise particular radioprotection problems and certainly it is of less radiological risk than the previous phase. There are however other considerations that make this phase of relevant potential risk if actions are not coordinate in a global scheme aiming to solve all the problems that this phase sets.

The situation in Italy of temporary depositories of radioactive wastes has already been shown. On the contrary than in almost all European countries Italy has not a licensed centralized repository for low-medium activity wastes, not to speak of HLW. The localisation, on more than 25 places scattered all over the territory, of wastes stemming from medical activity and previous nuclear power activity as well as of spent fuel elements is from the radiological protection point of view far from being an optimised solution. Solidified high activity wastes in glass matrix, resulting from the Italian spent fuel elements reprocessed by BNFL that should be returned to our country, make the problem even worst.

The need for the establishment of a national repository for nuclear wastes, raised by technical-scientific institutions long time ago, has become in Italy a shared objective among all institutional bodies in 1997. In that year ENEL (at that time the owner of the four Italian commercial nuclear plants) application for decommissioning license of its plants with a SAFSTOR approach, deferring the dismantling within 50 years, was rejected by the Ministry of Industry, responsible of the authorization procedure, following similar comments and opinions expressed, in the foreseen licensing procedure by the Ministry of Health (prepared by its technical body ISS), APAT (at that time ANPA) and other administrations.

The Ministry of Industry published at the end of 1999 a document addressing “Strategic Directions for the management of the outcome of the nuclear commercial phase”. Three general objectives with relative time lines were defined. The first two regarded the conditioning of all radioactive wastes present in the national territory and the siting, construction and commissioning of the national repository. These objectives should have been reached within 10 years. The third

objective concerns the unrestricted release of the sites where the four nuclear power plants are localized. This last objective should be pursued through an accelerated dismantling (DECON) strategy within 20 years.

In the framework of the agreement Stato-Regioni concerning the definition of some initiatives to promote the safe management of radioactive wastes and to select a site for the national repository, an Expert Group composed by 7 members, designed by the Ministries of Industry, Environment and Health as well as by Piedmont, Venetia, Emily-Romagna and Tuscany Regions, prepared a report on “Conditions for a safe management of radioactive wastes”.

Conclusions

Technical problems connected with the setting of clearance levels for all radionuclides of interest must be solved through a specific legislative document taking into account the debate that is developing at European Community and other International institutions and regulatory bodies.

The major point to be solved for the decommissioning activities in which Italy is deeply committed is the siting of a national repository for radioactive wastes that should be at the same time an ultimate repository for wastes of categories I and II and a temporary repository for spent fuel elements and wastes of category III. Having solved this problem, the repository must be built and commissioned approximately by 2010, to maintain the objective sets in the “Strategic Directions” document of the Ministry of Productive Activities (formerly Ministry of Industry) to have the unrestricted release of the sites where the four Italian nuclear power plants are located approximately by 2020. Also in Italy one main issue in all these problems is how to build a public consensus. As it is now done in all countries with democratic representative systems, such decision processes cannot be done without an involvement of stakeholders, starting from local communities.

There are not realistic and rational shortcuts to this procedure as already been seen in many countries and also in our own country. Italy has not yet a general legislation seeking stakeholders and more specifically public participation in the decision aiding process, then an administrative solution must be found. One possibility is to try to follow the recommendations of the Expert Group set up by the Conferenza Stato-Regioni. Probably this means that the time scale foreseen in the Decree of last December is unrealistic but not any more time must be wasted. In the meantime all the activities concerning the treatment and conditioning of radioactive wastes and dry storage of spent fuel must be considered as primary activities and carried out in a time as short as possible. It is a privilege and worthwhile here in Rome, at the end, to report the old logo of our Institute (Istituto Superiore di Sanità) that is also well adapted to the discussion: *Rerum Cognoscere Causas*. It derives from Publius Vergilius Maro **Felix qui potuit rerum cognoscere causas**. Wise is the man who understood the reasons why things (facts) happen.