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Subject: Draft Regulatory Guide DG - 1109 (proposed revision 1 of RG 1.138) - COMMENTS

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Add = A. Beranek (AFB)
J. Philip (JXP)

I have received the **Draft Regulatory Guide DG - 1109 'Laboratory Investigations of Soils and Rocks for Engineering Analysis and Design of Nuclear Power Plants'.** I thank NRC for sending me a copy this document. I have finished my study of this document and have following to say.

(i) The Guide is very robust and adequate for acquiring the data on soil and rocks from the viewpoint of stuctural design of the foundations and buildings that are located in it, upon it or made of it, under normal operation conditions and natural events. There is nothing that I can add in this domain to enrich the guide. The staff of NRC has done a great job.

(ii) I wish that NRC add new dimension to the Laboratory Investigations to determine the response of the soils and rocks to the unlikely event of severe accident in the nuclear power plant, where the 'corium' comes in contact with soils/rocks due to cracks in the foundation or melt through the foundation, in due course of time. This investigation may cover

- chemistry of the soils/rocks and their interaction with radioactive material/elements of consequence with a view to determine the extent and rate of their advance towards the environment, resulting from different mechanisms (including leaching), affecting public health and safety or degrading the environment beyond acceptable limit.
- the physical properties (including thermal) of the soils and rocks to determine to what extent these materials can be of help in acting a a natural 'core catcher'.

Naturally, the work will involve understanding of the processes, generation of database, computer modeling and validations studies. I wish that these studies be considered by NRC at par with the studies that should be completed to know the ultimate capacity of the containment building, as the objectives of the two studies are similar.

With regards

A.S. Hunjan