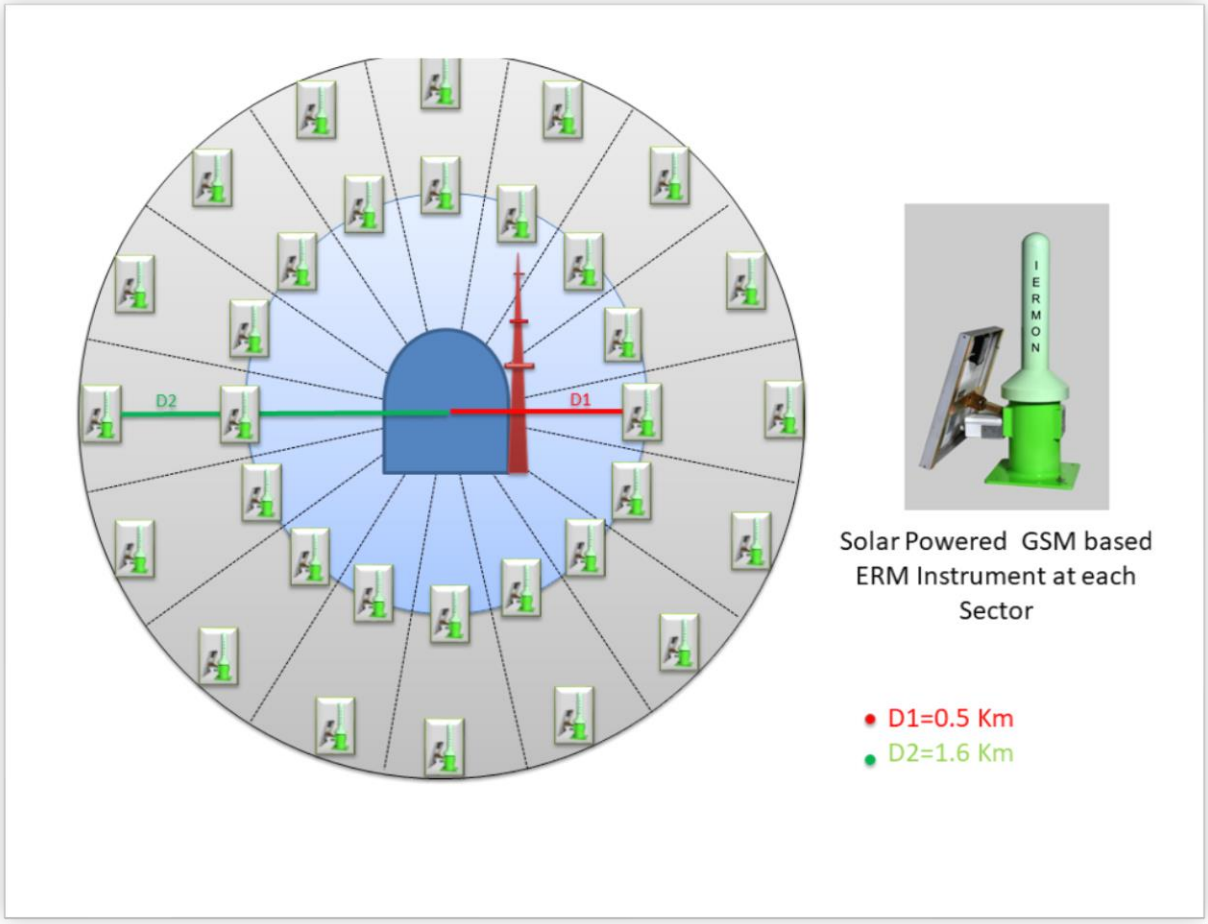

Development of Indian Real-time Online Decision Support System (IRODOS)

Indian Real-time Online Decision Support System (IRODOS)

The foremost part of a nuclear emergency planning is: An early prediction or assessment of the extent and significance of any accidental release of radioactivity into the environment, Rapid and continuous assessment of the accident; Spatial and temporal prediction of countermeasures to be taken to minimize the exposure to public.

A real time online system with 72 hours meteorological and radiological forecasts, along with optimum countermeasures, as a supporting tool to decision makers handling off-site nuclear emergency, has been designed and developed under the frame work of "Indian Real time Online Decision Support System "IRODOS", for Nuclear Power Plants (NPPs), which takes care of the predictive requirement for emergency planning.

It is an inter-divisional programme of the Health, Safety and Environment Group, BARC. The salient features of this system are:

- ***Advanced detection and communication network for sensing and assessment of accidental releases at NPP sites (release rate estimation)***
- ***State of the art weather prediction, dispersion modelling techniques and radiological dose calculations (spatial and temporal assessment)***
- ***72 hours meteorological forecast from National Centre for Medium Range Weather Forecasting (NCMRWF)***
- ***Radiological forecast with hourly resolution, for a region of 75 km radius around NPPs with spatial resolution of 1km x 1km***
- ***Spatial and temporal prediction of countermeasures to be taken to minimize the exposure to public on a user-friendly Geographical Information System (GIS)***
- ***Storage of various databases required for providing optimum counter measures (logistics for implementation)***