Indian Polar Stations, Environmental Protocol and Challenge in Introduction of Treatment System and Advance Monitoring Instruments

India established its first research station Dakshin Gangotri in year 1983 and second permanent station “Maitri” in year 1988-89 at Schirmacher Oasis Soon after establishing Dakshin Gangotri station, India acceded to Antarctica Treaty and obtained consultative status in Antarctic Treaty Consultative Meeting. India is now one out of 29 countries who have got the consultative status out of 53 member countries of the Antarctica Treaty. India also acceded and ratified the Antarctic Environmental Protocol in the year 1998 and approved all five annexes to this Protocol. India established its third permanent station “Bharati“, in 2012 and now proposes refurbishment of Maitri station as it is more than 30 years old.

Environmental Monitoring is an integral and essential part of Madrid Protocol to observe the changes in the environment due to anthropogenic activities in Antarctica. Stringent standards are to be followed while commissioning and operating machineries and life supporting system in Antarctic stations. These standards may be adopted from national, United States Environmental protect Agency (USEPA) or European Union (EU) standards.

Since Antarctica is being used as datum for environmental monitoring and observation of pollutants which may be attributed to local or global long –range transportation, it has become d mandatory to use sophisticated monitoring instrument with low detection level. .. Renovation of Maitri station would pose challenges in processing of waste generation and treatment as well as disposal system in view of it being an inland station on ice free terrain.