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Case Study

Portable Real-Time Monitoring Systems Help Show Compliance, Meet WHO Guidelines

Compliance with IFC and WHO guidelines for Environmental Impact Assessment study for geothermal site

Project
Tanzania Industrial Research and Development Organization

Location
Tanzania, Africa

Date
2017

Services
Series 500 monitor, H_2S sensor

Measurements
H_2S

Sector
Research

The customer

Tanzania Industrial Research and Development Organization (TIRDO) is a multi-disciplinary research and development organization established by an Act of Parliament in 1979. Its mandate is to assist the industrial sector of Tanzania by providing services including: technical expertise and support services to companies to upgrade their technology base; applied research for the development of sustainable technologies; adding value to local resources through industrial processing.

The Environmental Technologies and Occupational Safety division is one of the three divisions under the Department of Industrial Research at TIRDO. The division engages itself in matters pertaining to industrial research and development, management of the environment, as well as ensuring sound occupational health and safety of the industrial work floor for improved production and well-being of industrial staff.

The problem

TIRDO was requested to undertake an Environmental and Social Impact Assessment (ESIA) for a geothermal site to ensure it meets the Tanzanian Government's legal requirements. The site also needs to meet the African Development Bank (AfDB) Operational Safeguard System (OSS), the International Finance Corporation's Performance Standards (IFC PS) and the World Bank Group Environmental Health and Safety Guidelines for geothermal sector.

ESIA's focus was to monitor different parameters during the exploration drilling phase at the site. This included monitoring of H_2S, among others, at the drilling wells. To comply with IFC guidelines, measurements had to be taken for 24 hrs continuously. Therefore, TIRDO needed an instrument with data logging. To comply with World Health Organisation (WHO) ambient air quality guidelines, TIRDO needed an H_2S gas analyzer with a measurement range of 0 – 10_{ppm}, and a resolution of 0.01_{ppm}.

Time was also very crucial. TIRDO was looking for a company that could supply the instruments within a short period of time (less than two weeks) as the project was to start a week after the order was placed.

The solution

The Aeroqual Series 500 portable monitor with data logging and with an H_2S sensor head with 0-10_{ppm} measurement range met TIRDO requirements.

> **"We chose Aeroqual because they were the only manufacturer/ supplier that could provide a data logger with the measurement range we wanted. Most of the suppliers we contacted did not have ambient gas data loggers and those who had data loggers did not have sensors with the desired resolution of 0.01_{ppm}."**
>
> **Kunda Sikazwe**
> TIRDO

Evaluation

The Series 500 monitor with the H_2S sensor head was used for the collection of baseline H_2S data during an Environment Impact Assessment study and the data gathered was able to be used to show compliance with the required IFC and WHO guidelines.