

Implementation of IoT-based Control System for Maintenance Operation of Long-distance Air Pollution Prevention Device RTO

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Abstract— In this paper, a long-distance monitoring service technology is developed for maintenance of the Regenerative Thermal Oxidizer (RTO) and scrubber, an air pollution reduction device installed at a long distance. It is necessary to consider the operating conditions and maintenance working conditions of the system placed at a long distance, detect whether the device is abnormal and inform the manager. At this time, the RTO is operated according to the trip condition and is connected to the data management server based on the Edge-IoT interworking. Even in situations where it is not connected, the pre-alert function can be supported with an independent self-analysis function. In order to monitor the RTO equipment in real time, it intelligently supports low-delay analysis, judgment, prediction and visibility. It is also possible to provide an interactive remote service that can support not only field managers but also non-experts, initial users.

Keyword— RTO, VOCs, THC, Long-distance maintenance, sensor-IoT



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