

SAWTP EP03 AD Gas Monitoring Procedure

Change History

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1 PURPOSE

This procedure sets the standard for the monitoring of biogas generation by the Anaerobic Digestion (AD) Plant within the Sant' Antrnin Waste Treatment Plant (SAWTP), including any possible biogas emission.

2 SCOPE

This procedure applies to the monitoring of the below at the SAWTP Facility:

- Biogas Constituents:
 - Methane (CH₄)
 - Carbon Dioxide (CO₂)
 - Dioxygen (O₂)
 - Hydrogen Sulfide (H₂S)
- Biogas emission (leaks)

3 REFERENCE DOCUMENTS

- SAWTP014 AD Gas Readings and Biogas Emissions
- SAWTP042 CHP Supervision Checklist
- SAWTP061 Flare Supervision Checklist
- SAWTP062 RTO Supervision Checklist

4 RESPONSIBILITIES

The **MTP Clerk** is responsible for:

- Taking gas readings and filling the AD Gas Readings and Biogas Emission form for CH₄, CO₂, O₂, H₂S from Hydrolyser, Digesters 1-3 and Gas Booster Station on a daily basis with a Gas Detector.
- Carrying a portable gas detector during the daily monitoring of the Hydrolyser, digesters and gas booster station and informing Head of Shift / Health & Safety Leader in case of gas detection.

The **SCADA Operator** is responsible for:

- Comparing the (manual) readings of the Gas Booster Station taken by the MTP Clerk with the readings of the continuous gas monitoring device from the SCADA.
 - In case these are not within the acceptable range, alerting the Head of Maintenance/ Head of Shift.
- Documenting rectification measures in form SAWTP014.
- Continuously checking the Gas Bubble level through the Gas Storage tab on the SCADA and alerting the Head of Maintenance in case the level is not between working range.

The **Plant Engineer** is responsible for:

- Monitoring the operation of the Combined Heat and Power Plant (CHP) as per SAWTP042.
- Monitoring the operation of the Flare as per SAWTP061.
- Monitoring the operation of the Regenerative Thermal Oxidizer Plant (RTO) as per SAWTP062.
- If required, investigating any abnormalities in the CHP, Flare and RTO and driving rectification as necessary.

The **Head of Shift** is responsible for:

- Comparing the (manual) readings of the Gas Booster Station with the readings of the continuous gas monitoring device from the SCADA.
- In case of gas monitoring readings not within the acceptable range or a leak is detected:
 - Investigating the situation and driving rectification as necessary. If required informing superiors.
 - Documenting rectification measures in form SAWTP014.
- In case the gas bubble is not within the working range:
 - Investigating the situation and driving rectification as necessary. If required informing superiors.

5 METHOD

The attached flow chart depicts the activities involved in the process.

6 ENVIRONMENTAL RECORDS

Environmental records considered critical for this procedure are treated as follows:

Reference Document	Person responsible for maintaining the Document	Document Storage Location	Duration of time Records are kept
SAWTP014 AD Gas Reading and Biogas Emissions	SCADA Operator / HOS	MTP Control Room	All Documents are kept indefinitely
SAWTP042 CHP Supervision Checklist	Plant Engineer		
SAWTP061 Flare Supervision Checklist			
SAWTP062 RTO Supervision Checklist			

