Berlin

Waßmannsdorf Sewage Treatment Plant
Combined Heat & Power Plant

Regierungsbaumeister
SCHLEGEL

Client

Berliner Wasserbetriebe
[Berlin Water Plants]

Period

since 2009

Project Cost

3.000.000 €

Abstract

The digester gas, generated in Berlin-Waßmannsdorf sewage treatment plant, is used for energy production with a combined heat and power plant, which has been in operation since 1995, and four gas engines, each with an electric power of 1.0 MW. The gas engines shall completely be replaced in near future. Further, the combined heat and power plant has reached its capacity limit, due to the increasing gas production.
Subsequent to a feasibility study for determination of energy and economic efficiency, an additional new gas engine will be set up. Besides, both existing engines will be replaced by new plant modules, each with 1.2 MW electric power. In line with the restructuring measures, the available heating circuits and gas inlet pipes will be adjusted and modernised. The extension measures are considered as the precondition for considerable increase of energy production.

Scope of Service

design, approval design, execution design,
site supervision

basic evaluation
preparation of contract awarding
participation in awarding
monitoring and documentation
study of energy and efficiency

Technical Data

Digester gas volume	max. 45,000 m³/d
3 new plant modues	
Gas engine	Gas-Otto-Motor, V12
Fuel	digester gas/natural gas
Producible electric power	1,200 kW
Electrical efficiency	41.2%
Producible thermal power	1,255 kW
Thermal efficiency	43.7%
Waste gas treatment	oxidation catalyser
Toxic emission	based on TI Air Quality Control