EXPLOSION POWER
Experience you can rely on

WtE – Milan, Italy

Significant reduction of explosive cleanings

The waste-to-energy plant "Silla 2" is located in the northwest of Milan and is operated by the company A2A Ambiente. The plant's three lines treat 550,000 tons of waste annually, generating electricity and district heating.

By installing one SPGr16 per line in the superheater section, manual explosive cleanings were reduced to a minimum. The run time was extended to up to 1.5 years, and operations were stabilised.

Milan "Silla 2" / A2A S.p.A.
Milan
Italy

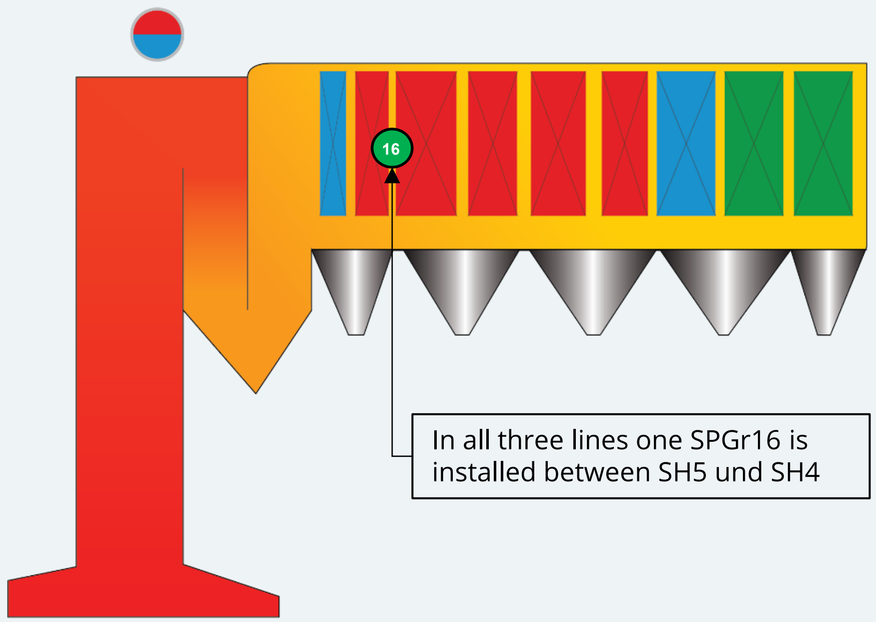
Type of power plant	Boiler width	Steam capacity [t/h]	Cleaning areas
Waste-to-Energy	**6,2 m**	**3x 85**	– **Superheater 4/5**

Added Value in Practice

- Very good cleaning result by combined operation of Rapping System and SPGr16
- Frequency of rapping system was decreased, to reduce mechanical stress at the collectors
- Significantly reduced number of intermediate manual explosive cleanings
- 1.5 years boiler operation period can be achieved, without necessity to reduce the load prior to the shutdown
- More stable boiler operation conditions

Boiler Data and Information about Shock Pulse Generators

- Boiler design: 3 identical lines, each with three radiation passes and one horizontal convective pass
- Live steam production per line: 86 t/h
- Boiler width: radiation passes 8.6 m, horizontal pass 6.2 m
- three SPGr16 in operation: line 1 since 07/2021, line 2&3 since 12/2021
- Shock Pulses: approx. 36 per day, in Mixed Mode Operation



16 Shock Pulse Generator SPGr16 at side wall

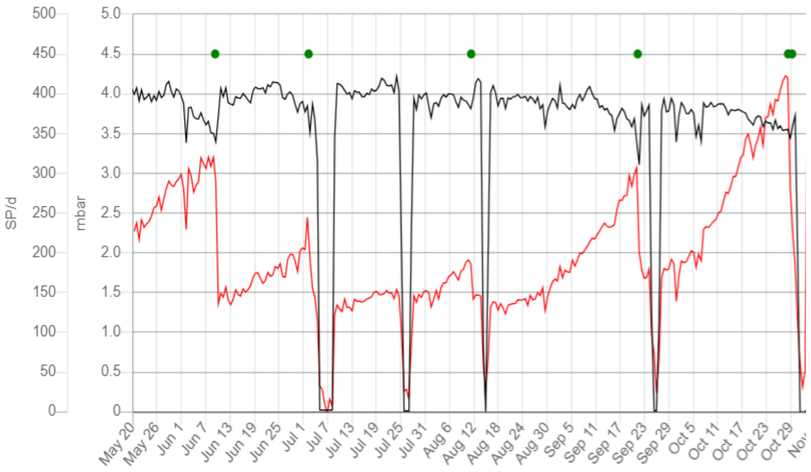
Plant Supplier	SPG Supplier	SPG Initial Delivery
ABB	Explosion Power	2021

SPGr enables stable operation during complete operating period

Line 3, comparison of six months periods prior to shutdown, without and with SPGr16 operation

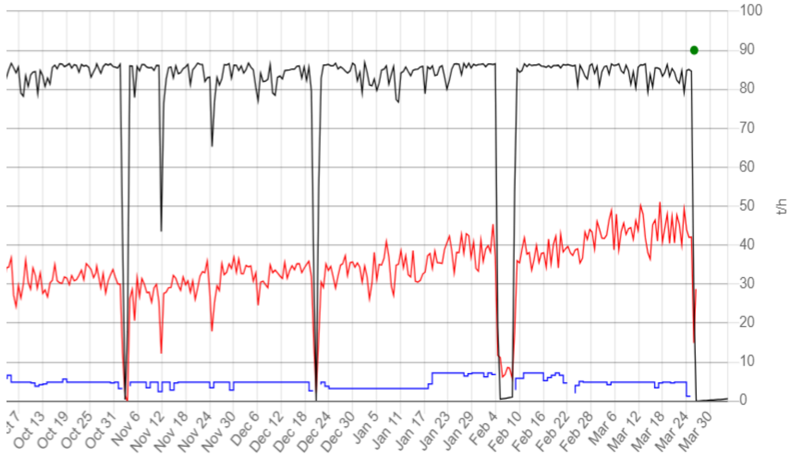
05/2021 – 10/2021 (Shutdown 11/2021)

without SPGr: load reduction necessary



10/2022 – 03/2023 (Shutdown 03/2023)

SPGr16 in operation: constant load till shutdown



Live steam [t/h] Flue gas pressure drop horizontal pass [mbar] Shock Pulses per day [SP/d] L3 Manual Explosive Cleaning

	05/2021–10/2021	10/2022–03/2023
Ø Live steam [t/h]	77.9	84.6
Ø Flue gas pressure drop [mbar]	2.0 (max. 3.9)	1.8 (max. 3.2)

Improvements with SPGr16 operation (at all 3 lines):

- higher, more stable live steam production
- lower flue gas pressure drop over full operation period
- no additional manual explosive cleanings required for superheaters

SPGr enables 13.5 months operating period without load reduction (Example Line 2)

	02.07.2023–19.08.2024
Ø Live steam [t/h]	82.3
Ø Flue gas pressure drop [mbar]	1.2 (max. 2.5)

Improvements with SPGr16 operation (at all 3 lines):

- higher, more stable live steam production
- lower flue gas pressure drop over full operation period
- no additional manual explosive cleanings required for superheaters (02/2024: manual explosive cleaning at radiation pass; could be optimized by an additional SPGr)

Waste-to-Energy Plant Silla 2 in Milan (IT)