

Toscana Energia reduces noise contamination and increases throughput using Emerson FL/SRS axial flow regulator

RESULTS

- Reduced station noise level to meet legal requirements and environmental affect
- Saved 10k€ by eliminating the need to purchase additional sound absorption materials
- Increased yearly gas delivery by 82k€
- Reduced unplanned downtimes by 50%

APPLICATION

Natural gas city gate pressure reduction station.

CUSTOMER

Toscana Energia is the main natural gas distribution company in the region of Toscana, Italy, delivering natural gas to consumers.

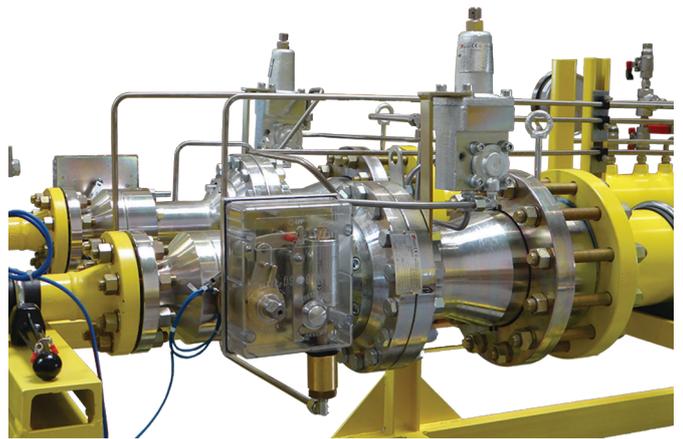
CHALLENGE

Toscana Energia had a city gate station equipped with 6" top entry regulators. Natural gas consumption increased with the development of the local neighbourhood, the noise generated by the top entry regulators due to the capacity demand was exceeding legal requirements.

The high level of noise was not in accordance with the Directive 2002/49/EC regarding the assessment and management of environmental noise, nor was it in compliance with the Directive 2003/10/CE outlaying the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents, in this case noise.

At the same time, during winter months consumption peak periods, the natural gas station was now becoming saturated.

This new situation drove the customer to search for a better noise reduction solution but also the ability to cope with the periods of peak demands.



"Emerson FL Axial Flow Regulators with Integrated SRS Silencer meet legal noise requirements while increasing city gate gas delivery"

Eng. Marcello Rubino
Natural Gas Distribution Manager
Toscana Energia S.p.A.



*Toscana Energia City Gate before upgrade
6" Top Entry Regulators without Integrated Silencers
With wall panels & pipe insulation*



*Toscana Energia City Gate after upgrade
6" FL Axial Flow Regulators with Integrated SRS Silencers
Without wall panels and pipe insulation*

SOLUTION

Toscana Energia replaced their old regulators using Emerson's FL regulators with integrated SRS silencer.

Compared to top entry regulators, the FL axial flow technology offers the highest capacity in the market, and in this case, the same size regulator as the original installation.

Toscana Energia are now able to increase their city gate capacity and meet higher natural gas demands during the winter months. No need to install larger size regulators, no impact on the city gate layout.

By replacing the outdated top entry regulators with FL technology unplanned downtime was reduced by 50% increasing the city gate station's reliability.

The integrated SRS is a two path noise abatement system reducing noise directly in the exact place

where it is generated:

- on the regulator seat
- on the regulator outlet flange.

This noise attenuation solution permitted the customer to remove all existing sound absorption material while complying to the maximum noise emission legal requirements and local worker safety legislation.

By removing wall panels and pipe insulation Toscana Energia was able to reduce their operation costs due to easier maintenance and periodical check procedures/execution. The station is an open-air installation without noise protection.

All these benefits determined Toscana Energia to use the FL solution on another city gate station where they faced the same type of challenges.



6" FL Wide-Open Monitors and 6" FL/SRS Regulators installed in Toscana Energia City Gate, Ugnano Florence, Italy

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