

## **Video presentation of the new cogeneration plant in Imola**

**Speaker:** Roberto Barilli, General Manager of Operations Hera S.p.A.

Hello and welcome. It is for me a great pleasure to take you on this visit to our Imola's new combined cycle cogeneration power plant.

The present cogeneration plant is the result of efforts made by HERA and its external suppliers: they succeeded on combining high technology and innovative architecture.

Flue gas emissions level are one of the key points to be considered when power plant is designed. Thanks to technologies which have been incorporated very low emission levels have been achieved.

Emissions to ambient are a record for Italy: less than 8 mg of NO<sub>x</sub> per Nm<sup>3</sup>, less than 2 mg of CO per Nm<sup>3</sup>, and almost non-detectable PM<sub>10</sub> particulate.

Therefore it is with great satisfaction that we are sharing this project with you.

I've been involved in the construction of many power plants in my life, but this is the best of all.

We are in the heart of the power plant and I'll explain to you how does it works when we're in less noisy surroundings.

The core of the plant consists of two 30 Megawatt Rolls Royce aeroderivative gas turbines, packaged by Turbomach. The exhaust flue gas is still at high temperature and suitable to produce superheated steam, by two HRSG (Heat Recovery Steam Generator), which feeds a 20 Megawatt steam turbine. As per above, the rated power generated is 80 Megawatts.

The thermal power necessary to feed the district heating system is obtained by steam extraction from turbine body.

Presently the heat production is about 65 MW and it is possible to

increase it up to 80MW.

By this plant, Imola will be self sufficient in both electricity and thermal power in the coming 10 years period.

The plant is equipped by electric devices suitable to isolate the Imola's electrical grid in case of national grid Black Out.

This feature represents an innovative idea in conceiving the cogeneration plants, able to assure electricity availability in the district during black out and the subsequent grid repowering period.

The power plant is located in Imola suburbs.

The electric substation, whose size would be as per a football field, has been built up in accordance with the best available technology: air switchgears have been replaced by SF6 gas insulated switchgear.

This solution allowed reduced abruptly substation extension, and our designers placed it inside building.

Particular care has been spent on control room design in both architectural and technological aspects where the most up-to-date control systems of power plant are placed.

The plant is equipped with an emission detection system which is able to record all parameters every 2 seconds: this represents a very short interval, by a forefront sampling equipment.

I would like to say a few words about the architectural features of the power plant.

"A power plant that does not look like a power plant" is the slogan we have launched for it.

We succeeded on transforming an industrial plant into a symbol, a genuine "monument" equipped with the most advanced technology.

Special attention has been paid to the impact on the landscape. The external aspect of the plant looks like a space ship just landed which is lighted up during the night.

It is our gift to the town of Imola which has supported this project from

the beginning. We do well to remember that authorisation by authorities took about 4 years, but only 17 months to build and parallel it to the grid and feed district heating net.

The latter is the main inspiration idea supporting this project.

By this plant, HERA is going to provide best benefits to local residents, above all for those who want to connect rapidly up the district heating net or convert their own systems.

We therefore invite local people to get connected to the Heating net in such a way the plant can achieve its full potential production, which is not only achieving autonomous production of electricity for the city but also noteworthy environmental improvements.