



SHIJIAZHUANG IRON & STEEL COMPANY LIMITED

Oxygen Flow Meters, Leak Survey and Repair

SUMMARY OF THE OPTION

Shijiazhuang Iron & Steel Co., Ltd. (“Shigang”) is a state-owned integrated steel plant located in Shijiazhuang city, the capital of Hebei province in China and produces 2 million tons of carbon structural round steel per year.

The converter furnace uses oxygen for several purposes (see Figure 1), which is very expensive. During the assessment of the plant, the Team found that (1) the supplier of the flow meter, Liyuan company, only measured the total oxygen flow, and there was no oxygen balance conducted or breakdown of oxygen use determined by the Shigang Company; (2) Oxygen leaks existed.

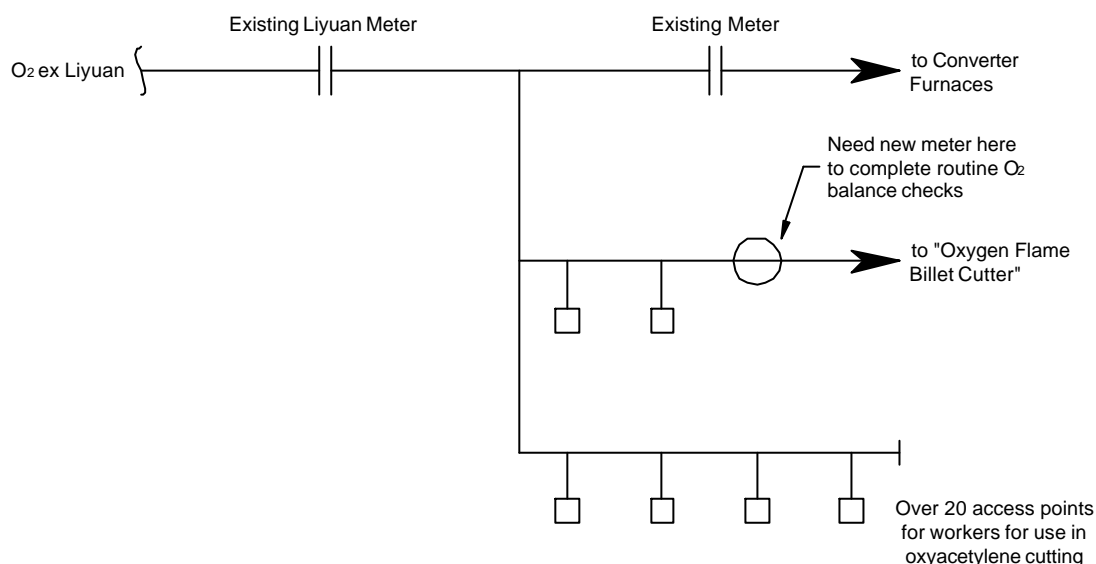


Figure 1: Converter Plant - Main Oxygen Headers

Based on these findings, the Team put forward some options, which are as follows:

- Establish a mass balance for oxygen use at the converter plant and other uses. Install a new meter in the line to “Oxygen Flame Billet Cutter”. Study the piping network and identify locations where additional flow meters will need to be installed. Check the calibration of existing flow meters.
- Conduct an oxygen pipe work leak survey and repair all leaks.

The Company adopted these very low cost options and implemented them in June 2004. Through the implementation of this project, annual savings were about US\$ 35 thousand, annual oxygen consumption reduction was 677 thousand m³, annual electricity saving 600 thousand kWh and CO₂ emission reduction 470 tons.



KEY WORDS

China, Iron and Steel, Furnaces and refractories, Electricity, Oxygen, Leaks

FOR MORE INFORMATION

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