GOOD PRACTICES AND TECHNOLOGIES
Reducing WATER FOOTPRINT
El Agua Nos Une – SuizAgua América Latina

Implementing Company
Orazul Energy Perú

Sector: 3510 Electric power generation, transmission and distribution
Location: Central Térmica Aguaytía, Padre Abad, Ucayali, Perú
Coord. UTM 9’001,910.63 N 445,885.94 E

Last update: 2015, November

Results
- Reduction of water use in 900 m3/year

Additional benefits
- Savings of 1,759.09 USD/year for reduction in industrial water consumption

Supplier references
Supplier: Internal Engineering

Description of good practice
The Aguaytía Thermoelectric Power Plant of Orazul Energy company has two gas turbines (model GT11NMC XL/LP) of 88,441 MW and 86,964 MW. After updating and improving the compressors of the turbo-gas, the power generation increased its capacity in 9 MW each one. Before the updating, it was observed that the temperature of the bearing metal No. 3 increased. This caused the use of a cooling system at 100% of its available capacity, with 3 fans associated with the system. However, during the heat season when environment temperatures exceeded 30°C, the system reached unacceptable levels of temperature in the bearing, reaching more frequently values higher than 100°C which forced to implement an auxiliary cooling system with water. Alternatives were analyzed to change the bearings affected by others with an improved design. Orazul Energy invested in the change of design of the bearing N°3, which allowed to maintain lower temperatures of the metal, turning into unnecessary the use of water for cooling.

Investment and operational costs
Costs: 21,060.60 USD/06 months for technical study, planning, change and installation

Recommendations and limitations
- No recommendations

Applications
- Do not apply

References / links