

The improvement of the Pico Plant

The Pico Plant, managed by the WavEC, is based on the Oscillating Water Column (OWC) technology, one of the three or four conversion principles that have showed to be more promising on a global scale. This is the reason why over the last years - and even without public funding or significant support of our associates - we decided to dedicate an enormous effort to make the plant work in a stable way.

The electrical components and its installation were designed and supplied by our associate Efacec and the maintenance of the plant was of the responsibility of Kymaner, another of our associated companies.

In 2009, the WavEC invested, through its own means, approximately 100.000 Euros with the aim to achieve the planned operation improvements of the Pico Plant. First of all, we can confirm the good mechanical operation of the plant, after the implementation of a new support to reduce the vibrations of the turbo-generator group. This was developed and provided by Kymaner, as referred in our last newsletter, and enabled the generator to reach a higher rotation speed and consequently a greater electrical production.

Secondly, and with the onsite presence of Kymaner, the automatic programming of the operation of the plant was improved and tested. On the 7th of December 2009 the Pico Plant operated autonomously during 6 hours. After the exhaustive inspection of the control computer programme of the plant, and the verification and repair of all the related electric equipment, the OWC sent electricity to the Azores grid continuously and without errors. The programming of the automatic mode on the initial project did not seem sufficiently robust, so an intervention at this level was necessary. For example, some tolerances were not well calibrated, activating the alarm in situations where it was not justified. The older version of the programme could never be sufficiently tested (due to other problems of the plant) and the security mechanisms of the plant were not adapted to its operation. This operation with support of Efacec makes us believe that the plant can be operated in an automatic and reliable mode. This is one of the major objectives of the plant for 2010. Other aims this year include: the reparation of the submerged structure; an increase in total production and operation hours; the follow-up of characterization of plant operation and the validation of simulation methods and projects used on the plant.