



# NEWSLETTER 13

JULY 2013

---

## Within this issue

1. EDITORIAL .....	2
2. COMMISSIONING OF 2 VLH DN 5000 IN THE ISOLA DOVARESE PLANT.....	3
3. NEW 2012 PROJECTS.....	4
4. NEW DOWNSTREAM MIGRATION TESTS WITH VARIABLE OPENING.....	5
5. A SECOND VLH IN MILLAU.....	6



Dear Friends and Partners,

On December 20, 2012 **MJ2**'s historical shareholders sold the majority of their shares to the Italian group **Sorgent.e** with which **MJ2** has been developing close business relationships since 2007.

Actually, it is **Sorgent.e**'s subsidiary company, **STE Energy** that represents **MJ2** in Italy and which installs the equipment supplied by **MJ2** under turnkey contracts in Italy and abroad.

The **Sorgent.e** Group is a specialist within the field of renewable energies whatever the kind. However, the hydroelectric field is its core business. **Sorgent.e**, in fact, develops hydroelectric plants worldwide with a number of operating systems in Italy and in Chile.

The group produces more than 150 MW, 40 MW of which are produced by hydroelectric sources.

Synergies among the different companies of the group are clear and everybody will benefit. **STE Energy** is highly experienced all over the world as an erection company and it displays advanced skills within the hydroelectric field.

For instance, **MJ2** and **STE Energy** have been working together for the past 2 years to develop the islanded operation mode for the **VLH** turbine.

The solid financial structure of the group, with a 44 M€ capitalization, guarantees **MJ2** the support it needs to cope with its development both in France and internationally.

Moreover, after our latest newsletter, we exceeded 30 machineries delivered, two of which are 500 kW DN 5000 equipped with bottom draw sluice gates installed in Italy at Isola Dovarese (see page 3).

As for our fish friendlines, a new downstream migration live passage test has been performed in May with positive results (see page 5). The following is our 13th newsletter, published in 2013, which we believe will bring us good luck.

Enjoy reading  
Marc Leclerc  
Director



## COMMISSIONING OF 2 VLH DN 5000 IN THE ISOLA DOVARESE PLANT

**MJ2** delivered two VLH DN 5000 in North Eastern Italy in order to equip the small hydroelectric power plant in Isola Dovarese on the Oglio River.

The site configuration has a bypass with a double channel built in the right bank adjacent an existing control structure, secured by a wall executed with poles.

The **VLH**'s have a unit power of 464 kW and were delivered in November.

They were assembled on site in the first two weeks of November and subsequently installed on December 18th with first synchronization to the grid on December 27 and 28.

The supply schedule was a challenge, with less than 11 months between the signing of the contract and the connection to the grid.

Moreover, it is interesting to consider the innovative bottom draw sluice gates incorporated into these two machines. Their bottom draw sluice gates are placed in the lower section of the **VLH** distributor/extracting structure and consequently the gates are entirely accessible when the turbines are in maintenance position.

A similar device has been tested on the Montodine plant and has functioned very well.



One of the 2 VLH DN 5000 in Isola Dovarese



Lifting of a VLH on its final position





## NEW 2012 PROJECTS

2 DN 4000 VLH for 2 projects in the South West of France

First project placed on the Adour River, the Barcelone de Gers plant was commissioned before the festive season. This plant belongs to ONDULIA, which develops small hydroelectric power plants as well as wind farms. This plant was equipped with 6 Kaplan turbines with inclined axis of "GOBO" type. These turbines have been replaced with a single 400kW **VLH** DN 4000. The old powerhouse was torn down, while the gates and upstream trashrack have been preserved.

Mayenne Project, 6 VLH delivered in 2012

All auxiliary and Medium Voltage equipment have been installed in a prefab building covered with pine siding from the local area and Landes oriented in a backward position on the bank.

In 2012, we also installed a 415 kW **VLH** DN 4000 on the Vézère River in Aubas. It is the third **VLH** DN 4000 installed on this reach after the two at the Terrasson plant located immediately upstream.

The **VLH** system is in addition to the three existing bulb turbines.

Moreover, SHEMA's Mayenne River cascade program continues with 6 more **VLH** DN 3550 delivered, 2 of which have been commissioned this year.

These are in addition to the 2 **VLH** previously delivered. The program will continue until 2015, when all 16 **VLH**'s will have been delivered.



One of the 4 VLH delivered in Mayenne this year



Barcelone de Gers plant before the starting of erection



## NEW DOWNSTREAM MIGRATION TESTS WITH VARIABLE OPENING

New passage tests with alive fishes and partial opening of the blades

Tests simulating big migrating fishes in adulthood or in their youth

On November 2012, we started new live fish passage tests through an operating **VLH**.

The new tests were done to a scientific protocol that has been agreed to by the ONEMA Eco Hydraulic Center, head to allow simulate the downstream migration of large migrating fish such as Atlantic salmon and sea trout, both in adult and in youth life stages.

Trout, unlike eels which have been tested in the past by **MJ2** and ,essentially migrate during flooding periods, these large fish can migrate in more intermediate flood flows..

ONEMA's goal was to obtain in situ knowledge the **VLH** operating features as they relate to such migratory fish, considering the **VLH** in an intermediate operating position, with partially open blades.

The test will allow the study of the impact of the **VLH** on two different species of fish, Trout and Carp, with the Trout considered in two sizes to simulate both the adult stage migrating downstream after spawning and young stagefalling salmon.

Samples selected for the tests are Arc en Ciel farmed adult trout between 50 to 70cm length, with weights between 1,5 and 3 kg. In order to simulate young trout a length of between 18 to 23 cm and a weight between 100 and 200 g was selected.

The tests, organized within the Yenne sur le Rhône small hydroelectric plant kindly loaned by CNR, started at the beginning of November. Unfortunately, due to bad water conditions caused by significant rainfall and lack of one of the Belley plant group, it was necessary to abandon these tests due to safety concerns.

Tests have been performed in May 2013 in Millau on the new La Glacière plant recently commissioned.



Injection device on the VLH DN 5000 in Yennes



Big size trout used in Yennes





## A SECOND VLH IN MILLAU

By the end of March 2013, a 345 kW VLH DN 5000 has been delivered to the La Glacière site in Millau, has been ready for the commissioning before the end of April.

This project is placed on the Tam River, located downstream of the famous Pont Lerouge, which is considered a historical monument. The project foresees the use of an old farm's main building and dam. The water passages go under the building, with the VLH is installed immediately downstream and the power equipment on the first floor.

This new plant will allow MJ2 to have a new innovative in Millau, where it will be possible to execute the next live fish passage tests as well as other technical tests, for instance the islanded operation mode.



Delivery of La Glacière HPP in Millau (France)

# HydroVision<sup>®</sup>

INTERNATIONAL

July 23-26, 2013

Colorado Convention Center | Denver, Colorado, USA

**VISIT US AT BOOTH 877**



Conception et Fabrication de Turbines Hydroélectriques

**MJ2 TECHNOLOGIES S.A.S.**

Tel +33 565599946      Fax +33 565628442  
[www.vlh-turbine.com](http://www.vlh-turbine.com)      [www.sorgent-e.com](http://www.sorgent-e.com)

