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Report
Description of Deliverable D.5 – WP1

Less-Water Bev.Tech
Contract ECO/13/630314

Reporting Date
10.12.2015

Project coordinator: **A DUE DI SQUERI DONATO & C. S.p.A.**

Project website: **www.lesswaterbevtech.com**

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Description of the Deliverable n. 5 of Work Package 1.

The Deliverable D.5 of Work Package 1 (WP1) included in the Annex I of the Grant Agreement for the Project Less-Water Bev. Tech (ECO/13/630314) regards the "Project coordination meeting #4".

Such a meeting has taken place on December 10th 2015, at A DUE S.p.A. premises in Riccò di Fornovo Taro (PR) – Italy, as scheduled during the previous meeting.

Meeting Participants

- Ing. Simone Squeri, A DUE S.p.A., CEO;
- Ing. Alberto Dilda, A DUE S.p.A., COO and R&D director;
- Dr.ssa Micaela Guerzoni, A DUE S.p.A., subcontractor;
- Ing. Guido Marossa, A DUE S.p.A., project engineer;
- Marco Iasoni, A DUE S.p.A., project engineer;
- Ing. Maurizio Violi, subcontractor;
- Paolo Caselli, A DUE S.p.A., project designer automation;
- Ing. David Delmonte, A DUE S.p.A., Automation engineering Dept. Director connected in teleconference;
- Ing. Gian Paolo Pescini, A DUE S.p.A., Mechanical engineering Dept. Director connected in teleconference;
- Dott. Federico Cappa, A DUE S.p.A., in-house consultant;
- Mr. Craig Clayton, CVAR Ltd, Owner, connected in teleconference;
- Prof. Mauro Gamberi, Università di Bologna, associate professor;
- Ing. Marco Bortolini, Università di Bologna, senior researcher.

Meeting Agenda

The points in the agenda were the following:

1. General overview on project implementation (ADUE);
2. Presentation in details and deep discussion on all the final technical features and specifications of the pilot plant to be installed at the selected client's premises (ADUE, UNIBO, Dr.ssa Guerzoni Micaela and Ing. Violi Maurizio as subcontractors);

3. Definition of the engineering activities and executive design to perform in the next three months. Discussion of the client's needs in the pilot plant lay-out (ADUE, UNIBO, Dr.ssa Guerzoni Micaela and Ing. Violi Maurizio as subcontractors);
4. Schedule of the next activities to be implemented and sharing the responsibilities among the partner (ALL);
5. Status of reporting and identification of the next deadlines (ADUE);
6. Schedule of the next meeting (ALL).

1. General overview on project implementation

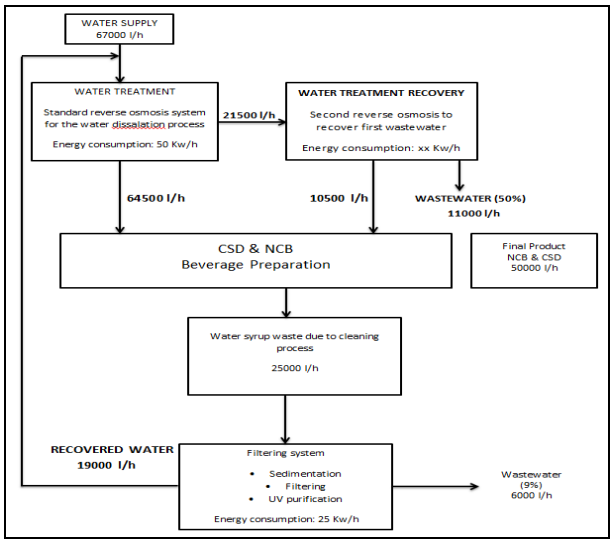
The project is in line with the initial timeplan as in the approved project application, with improvement decided on the prototypal water treatment system to be implemented.

The partners are fully committed in the project activities, which foresee to move from the design to the engineering, integration and assembly of the new water treatment and waste recovery system.

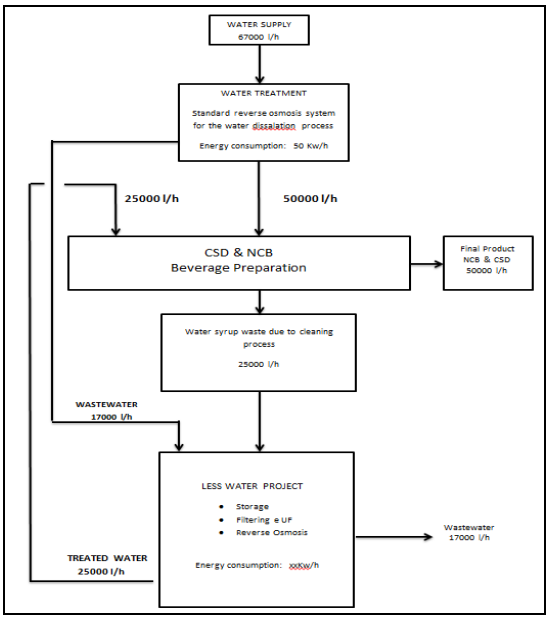
The design of the pilot plant can be considered concluded and no deviations, problems or corrective actions have emerged. The following step is to acquire all the needed materials with the aims to assembly the pilot plant by March 2016, according to the needs expressed by the client (*Consorzio Casalasco del Pomodoro* - *http://www.ccdp.it/*) in terms of layout and interference with other installed water treatment systems.

2. Presentation in details and deep discussion on all the final technical features and specifications of the pilot plant to be installed at the selected client's premises

The new treatment plant takes the waste water from the "Beverage Preparation Plant", treats this waste and feeds this recovered and purified water directly to "Beverage Preparation Plant". As consequence, the original project formulation was modified according to the following bloc diagram.



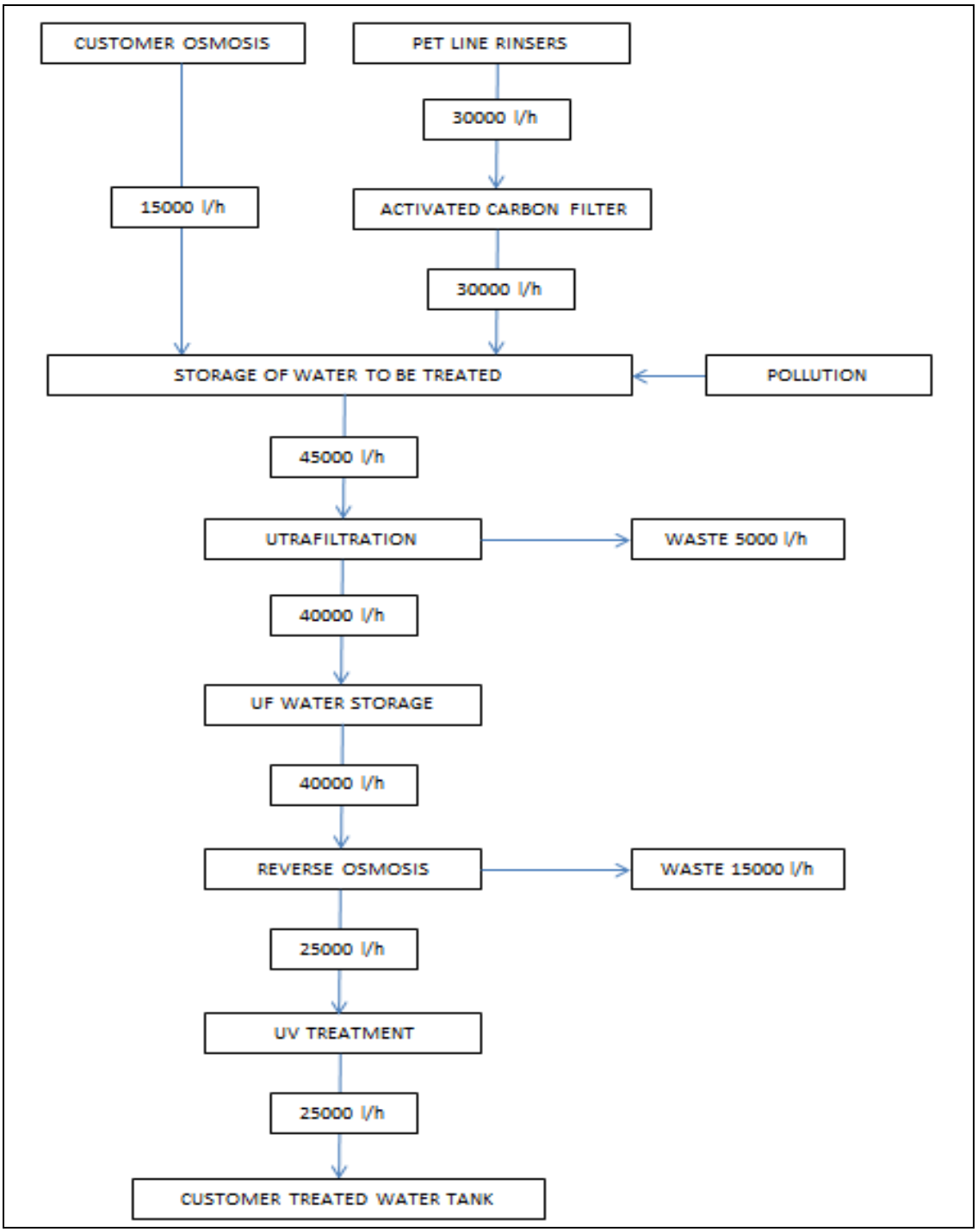
Original project technical structure



Updated project technical structure

Below the P&ID of the plant that was described point by point (it is not worthwhile to recall here the contents of Deliverables D2.1 - D2.2 - D2.3 which are strictly confidential).

The process plant will therefore have the following block diagram:



The energetic consumption is also assessed during all the process phases (e.g. kWh, steaming, etc.).

At the end of the process, it is necessary to carry out several tests and analyses on the water in order to assess if it is drinkable or not by considering different chemical parameters.

Not all the required analyses can be performed with the installed-in-line equipment, but must be carried out in laboratory on samples taken on purpose (e.g. microbiological analysis). ADUE and UNIBO, in cooperation with the client, will do such analyses.

Furthermore, the partners will artificially create different types of wastewater by continuously dosing production waste (concentrates) collected in plastic containers (IBC) in order to validate the research project not only in the specific case of this customer, but also in the case of many other plants, making sure that the system is flexible and can operate in multiple situations and for different final products.

3. Definition of the engineering activities and executive design to perform in the next three months. Discussion of the client's needs in the pilot plant lay-out

The new water treatment and recovery system can move from the design to the assembly phase. The most of the needed components are commercial items that can be purchased at any time after the preparation of the bill of materials in MRP so that the orders can start. Some pieces, on the contrary, must be produced ad hoc for the purpose.

In any case, the partners are committed to finalise the engineering, integration and assembly phase by March 2016, as scheduled. Therefore, no delays occurred so far.

This phase will be reported in 4 strictly confidential deliverables:

- D3.1 Double reverse osmosis water treatment plant engineering and realization
- D3.2 Functional unit integration and engineering actions
- D3.3 Engineering and realization of water recovery system
- D3.4 Engineering and realization of control and supervising system

The main points to be taken into consideration are the following:

a) the logistics complexity at Consorzio Casalasco premises must be managed by partners
b) the Consorzio Casalasco must provide with the production waste (concentrates) to add to the water in order to enlarge the tests
c) the Consorzio Casalasco must provide with the chemicals (e.g. sodium, sodium hypochlorite, etc.) necessary for the sanitisation stages of the new water treatment plant

d) the final evaluation on how reusing the treated waters (as an ingredient in the production line or for any other services and for utilities in the plant) must be done by all the partners and the client in order to give the right value to the entire process

The assembly of the pilot plant must meet the client requirements in terms of layout. The client indicated the exact place (also in terms of sqm) in which placing the prototype. In addition, the machine must not interference with the daily production processes in the client's premises.

4. Schedule of the next activities to be implemented and sharing the responsibilities among the partner

The technical activities to perform in the next months are those related to WP3 (D3.1 - D3.2 - D3.3 - D3.4) which foresee the main efforts by ADUE and UNIBO, supported by CVAR.

Since the production waste (concentrates) must be collected and then inserted artificially and not automatically during the water treatment process, it was agreed that ADUE and UNIBO, in cooperation with the client, will perform altogether the analyses with dedicated personnel at the plant premises with the aim to verify each single condition. The partners also agreed to prepare a working plan (resp. ADUE) for carrying out these tests in order to schedule the right timing and the needed internal resources.

UNIBO also agreed to attend at all the plant integration and assembly phases at Consorzio Casalasco.

As for WP5 Business plan & exploitation, the D5.1 Final Business Plan formal definition (EU market) will be prepared by March 2016, as scheduled. This will be done in parallel to the activities performed in WP3. A complete index of the deliverable will be ready in the next weeks.

5. Status of reporting and identification of the next deadlines

The First Progress Report (PR1 - D1.12) has been prepared and submitted to EASME via the participant portal, waiting for the approval or for the required integrations.

The Interim Report (IR - D1.13) is to be prepared within 30 calendar days of the end of the reporting period, namely by 31/05/2016. In addition to the technical information as in the

PR1, the interim report shall include the interim financial statements (since the project start) and sufficient information to allow for a preliminary assessment of the eligibility of costs incurred so far, in order to get the second pre-financing.
Partners must be ready to prepare those financial figures on time, according to the proofs of expenditure that must be collected in detail for each cost category.

6. Schedule of the next meeting

Next meeting is scheduled on **March 2016**. The reference is D1.6 Project coordination meeting/sub-meetings #5.

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