GROUND-MED COORDINATION MEETING NO 10

Time: Thursday 24 June 2010, 15:00 - 18:00 hours

Place: Besel offices, C/ Margarita Salas nº 10, Parque Tecnológico Legatec – 28918 Leganés, Madrid, Spain.

Agenda

- DAQ / DMS final specifications
- Integration of NI controller to the heat pump controller
- Coimbra demo site
- Planning CETIAT seminar on 9 November
- Planning GroundMed assembly meeting in Coimbra, February 2011

Participants

Miguel Sierra	BESEL
Angel Lopez	BESEL
Dimitrios Mendrinos	CRES
Henk Witte	GROENHOLLAND
José Acuna	KTH
Eric Auzenet	CIAT
Miguel Zamora Garcia	CIAT
Davide del Col	University of Padova
Donal Finn	National University of Ireland, Dublin
Paul Mc Kenna	National University of Ireland, Dublin
Jose M. Corberan	Universidad Politecnica de Valencia
Anibal de Almeida	University of Coimbra
Luis Coelho	ESTSetubal
Ahmed Bensafi	CETIAT

Minutes: WP4, WP6, WP9

DAQ / DMS final specification

DMS will be ready by the end of February based on already agreed Excel files and headings definitions for heating-cooling-sanitary water. Data from UPV will be used in order to testing the DMS.

Additional measurements such as external humidity can be taken at demo site partner's option and added manually to the Excel files downloaded from the DMS.

Assessment and analysis of calibration and calculation errors:

- A calibration report on sensors will be prepared by each demo site partner at commissioning and the error at the results (COP, SPF) will be calculated manually immediately after recording the first results.

Measuring points should be as close as possible to the heat pump. Sensors should be placed in the water against the flow direction – never at the pipe walls. Sensors from different BRUNATA meters should not be mixed.

Before or during commissioning, Universities or CETIAT should assist demo site partners on their DAQ system to check that the measurements are correct. ISR will prepare an installation guide. The SEPEMO guide will also be taken into consideration.

Sampling frequency

- Sample every minute and send data to DMS? - NO
- Sample every 15 seconds and send average data every minute to DMS? – YES (less time cannot be handled by DAQ for 30 parameters).
- DMS will receive a file every 10 minutes with data input every minute.

A UPS should be added in every DAQ system. For back-up purposes, two files will be sent by DAQ every 10 minutes: one to BESEL and one to the company network.

Energy balance done every cycle gives best results for the heat pump performance and COP calculations and provides useful information on whether the systems functions well or not. Energy balance on a 24 hours period introduces many uncertainties in the calculation. Every month, measurements should be checked by an energy balance.

Integration of NI controller to the heat pump controller

- CIAT will supply a heat pump controller with RS 485 capabilities to UCD and ISR, to be integrated with the NI controller.
- UCD will examine integration issues between the CIAT controller and the proposed NI Data Acquisition/Microprocessor control system.
- UCD will examine the feasibility of using the simulation code associated with Deliverable 4.1 (Simulation Code) as virtual heat pump system in conjunction with the NI DAQ / Microprocessor system. If this should prove to be possible UCD will consider using this system as a pre-demonstration control test bench.

Coimbra demo site

The 1st BHE is planned to be constructed during July. A formal authorization has already been given. A cooperation protocol will be signed soon with Regional Authority.

CETIAT seminar on 9 November 2010.

The rooms for 40-50 persons including 10 speakers have been reserved. The seminar program has already decided during the last Ground-Med meeting of Athens. Local drillers will be invited with the assistance of BRGM.

Date: 9 November. 9:00-17:30.
Venue: CETIAT in INSA engineering school campus, Lyon – see CETIAT web site.

Invitations will be sent in September.

Ground-Med assembly meeting in Coimbra,

The event will take place on Thu-Fri 24-25 February 2011.