

- *EE Info bulletins are trying to offer their readers specific information on municipal EE programs: possible financing sources, new technologies presentations, equipment solutions and performance, specific news, international agreements and legislative aspects. This issue will be focused on: **METERING**.*
- *In order to offer real experience exchanges between specialists and to get to know the local needs, we believe that your involvement in EE Info elaboration would be very useful. Please consider this an invitation and contact us!*
- *The Romanian Energy Efficiency Network (REEN), set up under the MUNEE program, consists at present of 53 energy specialists from 40 municipalities.*
- *MUNEE seminars for the identification – analysis – promotion of bankable EE projects will be organized in the close future. Details will be sent by e-mail / REEN members.*
- *A new MUNEE initiative: pilot project on municipal bonds. We have just opened the list!*
- *Specialists interested in participating in MUNEE activities can still join REEN. Just phone APER and you will meet all needed information.*

Metering program for Bucharest

Eng. Carmen Pavel
RADET Bucharest

Bucharest municipality obtained a 22.35 mil EUR loan from the European Investment Bank (EBRD) in a view to install heat meters in all the buildings connected to the district heating system in Bucharest. As the amount needed for this project is 55 mil EUR, the difference will be covered from the Local Budget. Bucharest district heating company (RADET) will manage the funds and will also coordinate meters purchase and installation. According to the project's time schedule, in the next 3 years, every staircase in the blocks of flats will be provided with heat meters. The total number of meters to be installed is 27,836 pcs.: 13,918 for the heat supply system ($Q_n=0.6...60 \text{ m}^3/\text{h}$; $D_n 20..100 \text{ mm}$) and 13,918 for the tap water system ($Q_n = 0.6...15 \text{ m}^3/\text{h}$; $D_n 20 ..50 \text{ mm}$).

The works will be performed in several steps, for simultaneous metering of the blocks of flats connected to the same heat substation or supplied by the same thermal plant. Priority will be given to the completion of works in those buildings or areas where, with the contribution of Owners Associations, heat meters have already been disparately installed. Meters installation can be postponed for the Associations that register debts towards RADET or those having problems with unclean and flooded basements. For the commercial companies that develop their activities at the ground floor / 1st floor of the blocks of flats, the metering solution will be different from that applied to the Owners Associations.

Metering in Botosani

Eng. Marian Paicu
SC Termica SA Botosani

In Botosani municipality, the District Autonomous Regie "APA" completed the installation of water meters in all blocks of flats (in every basement, at the ownership separation point). The works have been performed under a project financed by the European Bank for Reconstruction and Development (EBRD). It is known that, since 1995, TERMICA SA has installed heat meters at the entrance of every substation supplying blocks of flats. As for the blocks of flats, in April 2001, the Local Council has approved a program for the installation of heat meters at every staircase. Meters will be installed on both the heating and tap water circuits. In addition, ANRE has conditioned granting the license to TERMICA SA by the completion of metering works in 5 years time. It was agreed that, out of the total 1877 blocks of flats' staircases in Botosani, 218 will be provided with meters this very year.

The lodgers proceeded to the installation of meters in their apartments in order to measure the physical quantity (m^3) of tap water. Currently, out of the total 32,000 apartments (95,000 inhabitants), meters have been installed in 27,000 apartments (85%). If, before metering, the consumption was of approx. 9,500 Gcal / month (0.1 Gcal / pers), the current consumption is of 6,500 Gcal / month (0.07 Gcal / pers), which means a reduction of 31%. In terms of heat consumption, as the cold season has just begun, it will only be possible to perform an accurate evaluation at the end of this year; nevertheless, the first estimations show a 20% decrease

Open communication for data acquisition

Eng. Adrian Cucereanu - Honeywell Romania SRL

The importance of remote meters reading increased because of the need for a better management of data acquisition systems. The benefits are:

- ✓ Centralized accounting and invoicing;
- ✓ Centralized and continuous control (real time);
- ✓ Lower effort and personnel needed for data reading
- ✓ Technical and environmental statistics.

The M-Bus protocol was appointed as European standard (EN 1434) for communication between meters and dispatcher. Honeywell is offering 2 versions for this communication.

- ✓ Controller EXCEL 50 with integrated M-Bus interface;
- ✓ Controller EXCEL Open-Link M-Bus Master for data acquisition only.

**Controller
EXCEL 50**



Both controllers are compatible with a broad range of meters from most known manufacturers (ICM, ISTA, Kamstrup, Schlumberger, Siemens, Spanner Pollux, Techem). Other producers' meters will be integrated in the near future.

Through individual meters integration, a dispatcher can collect a wide range of information: consumption, flows, temperatures and alarms. In this way, reading personnel travel and reading errors will be avoided. Any problem or defect are promptly transmitted to the dispatcher, thus minimizing the intervention time. The collected data can be processed with standard software like Microsoft® Office, for making reports, invoices and analyses.

Meters integration with EXCEL 50

Heat and water meters are integrated by EXCEL 50 controller through optional M-Bus interface, which can equip this controller. Up to 5 meters can be combined (3 heat meters and 2 water meters) for each EXCEL 50, assuring a wide range of readings and measurements, according to the meter type. The Excel 50 controller assures the the control and monitoring of the heat exchange point. Thus, both the automation for the respective heat exchange point and monitoring of the meters are realized with the same equipment. EXCEL 50, equipped with M-Bus interface is an ideal solution for applications that need both data acquisition and a digital performant controller.

Data acquisition with EXCEL OPEN LINK

The development of the OPEN LINK interface allowed Honeywell specialists to offer a universal solution for data acquisition from the last generation of meters. Excel Open Link assures data acquisition from any measuring device EN 1434 standard compatible. The interface can read up to 128 meters on each bus,

assuring the dispatcher access to data both in direct connection and remote cases (through modem). Excel Open Link is the ideal interface for data acquisition from a big number of meters, such as for district heating applications.

**Open Link Controller
with MMI**



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➤ The Romanian Fund for Energy Efficiency (FREE) has been officially launched on November 19th within the Crowne Plaza Hotel event. By offering reimbursable credits, the Fund supports energy efficiency projects implementation. The selected projects can receive advantageous loans to finance up to 80% of the needed investment. The 10 mil USD of the Fund are provided, through the World Bank, by the Global Environment Facility (GEF). FREE Board of Administration consists of 7 members: 2 from the state sector and 5 from the private one. The president of the Board is Mr. Romulus Moucha - Secretary of State within the Ministry of Industry and Resources. The first loans are expected to be granted in June 2002. For additional information, visit: www.free.org.ro.

➤ Cluj - Napoca is the third municipality to issue municipal bonds for financing local projects. This action involves collaboration with Banca Transilvania and the resulted money will be used for infrastructure works.

➤ Within the Ecolinks program, the Institute for International Education and the ECE Regional Environmental Center (REC) are launching a new selection round for environmental protection projects. Ecolinks supports local administrations from ECE countries offering financing for project preparation. The non-reimbursable loans – max 50,000 USD / project – will be granted for projects in the area of water quality management, non – pollutive technologies and climate changes. Proposals will be received until January 14, 2002. Additional details: www.ecolinks.org; phone number + 40 1 315 3526 - contact person - George Catalin Guran.

➤ The Governmental Ordinance no. 78 / 2001 on the modification of the Energy Efficiency Law no. 99/2000 stipulates the obligation for the energy consumers (legal and natural persons) to install individual meters. In addition, art. 18 (1) stipulates that, for facilitating energy efficiency investments, the consumers can receive financial support (max. 50% of the investment) from the Special Fund for the Energy System Development.

➤ The USAID sponsored program Municipal Network for Energy Efficiency (MUNEE) held its second regional policy work group meeting in Bucharest on November 15, 2001. The purpose of this meeting was to bring together MUNEE's leading energy efficiency partners from around Eastern Europe to: report on their MUNEE program accomplishments; discuss findings and insights from these activities; prioritize topics for upcoming workshops. USAID official Mr. Ira Birnbaum presided over this event along with MUNEE Romanian partners and meeting hosts – Mr. Virgil Musatescu and Mr. Honoriu Pitaru (APER). Special guests included Members of the Romanian Parliament, the General Secretary of the Federation of Municipalities and legal and financial experts who presented ideas for financing energy-saving projects in the form of municipal bonds.