

Date: 13 June 2002

Subject: TRIP REPORT: DoE-OIT Sensors and Controls Meeting, Las Vegas, NV, 10-12 June 2002

To: NeSSI Team

From: Ulrich Bonne, Honeywell

Summary

Purpose of attending this meeting was to 1) better understand DoE-OIT procurement procedures, 2) present a White Paper⁽¹⁾ on the subject of NeSSI Development and Demonstration (to which DoE's Gideon Varga had invited us to), and 3) possibly sign up additional participants in the Consortium of Users and Suppliers. The meeting was attended by the 10 Members of the DoE Program Steering Committee, in addition to about 30-40 speakers tied to ongoing and proposed future projects.

The above objectives were met as follows:

1. DoE's program managers are encouraged to seek and support Sensor and Control projects that cut across a number of users or preferably diverse industries. In that sense our NeSSI project would well serve as a poster project. Wireless sensors are also heavily emphasized, in view of a Presidential Commission having determined that wireless sensors would bring about "an improvement in (industrial) efficiency of 10% and a reduction in emissions of 25%". Reporting is being revised to exclude proprietary information from Quarterly Technical Reports (with small financial statement included) and Annual Technical and Financial Reports. DoE is being reorganized according to Energy Efficiency and Renewable Energy (EERE) concepts.
2. Our 20-min NeSSI white paper presentation was well received. Within that period I made sure that there was time for questions and comments:
 - Q.: Are there applications of NeSSI envisioned outside of the chemical industry? A.: Yes.: We are aware of and welcome additional participants from the power, pulp and paper, food, beverage industries,... and we envision that NeSSI will eventually be able to sample either gas or liquid streams,
 - Q.: Might Sandia's "μChemLab" analyzers fit onto and be networked to the NeSSI "footprint"? A.: Sure, provided they can "plug and play", and "connect" with the TBD NESSI protocols;
 - Complimentary comments by PNNL's Barry Wilson and Elwin Rooy (serving on the DoE S&C Steering Committee) about our comprehensive and inclusive (across industries) approach.
3. PNNL's pulp and paper customer might be a candidate of joining the user's team of NeSSI. Sandia's Alex Robinson (recent PhD from CPAC) inquired whether their μChemLab analyzer might be a candidate to plug into a NeSSI substrate (see above), and John Coates (also serving on the DoE S&C Steering Committee) also asked about such a possibility for a sensor he is developing.

There may be increasing pressure to include wireless features to the NeSSI project, with both ORNL and PNNL offering wireless technology. Wayne Manges, ORNL, delivered a lively presentation on wireless technology, their patented approaches (mix of frequency hopping and "direct sequencing" spread-spectrum) and successful demonstrations of communications in high-metal content environments such as between 3 levels on a Navy ship (USS The Sullivan) and in a ball bearing factory (Timken). I asked him about the possibility of IS certification of any wireless, to which he responded that only Motorola claims to have such a feature at this point. Battery power and their safety are two limiting factors at this point.

ACTION

Barry Wilson, PNNL, will send info on pulp and paper application of NeSSI. Ulrich to inquire about their participation in the NeSSI field test

Sandia's will send info and Agenda on the upcoming DoE Meeting in July in Albuquerque

REFERENCES

1. The full text and figures of the presented White Paper can be seen on the (external) Web via:
<http://mn65-www-cbt.htc.honeywell.com/bonne/WP-NeSSI-DoE.doc>
<http://mn65-www-cbt.htc.honeywell.com/bonne/FG-02-NeSSI-WP.ppt> (~8 MB), respectively