

Interdivisional Group on EXPERIMENTAL PHYSICS CONTROL SYSTEMS

The Interdivisional Group EPCS held its 7th Board meeting at KFA, Jülich, FRG, on 8 March 1989. As is now current practice, the Official Contact Persons (OCP) or Representatives of the different institutes, members of EPCS, and the working group Chairmen, are invited to these meetings. The number of attendees gives a measure of the interest raised. This one was attended by M. Al Bakir (IRAQI-AEC), G. Baribaud (CERN), W. Busse (HMI), T. Blumer (PSI), A. Daneels (CERN), U. Hacker (KFA), I. Jirousek (PSI), J.R. Lutz (IN2P3, CNRS), M. Mignacco (SINCRONE, Trieste), K. Müller (KFA), E.G. Owen (Daresbury), L. Trasatti (LNF, Frascati).

General News

Two new Institutes were welcomed: IHEP-Beijing, represented by Dr. Shiyao Liu and LNF-Frascati represented by Dr. Luciano Trasatti. This brings the total number of member institutes to 25.

Peter Clout, OCP for Los Alamos National Laboratory (LANL) and member of the EPCS Board, is leaving his laboratory to start a company developing software for experimental physics controls.

Industrial Sponsorship

Digital Equipment Corporation (Europe) and Hewlett-Packard have delivered the workstations (respectively a VAX station II/GPX and a HP 9000/360 CH) which they are donating to EPS for use by EPCS. DEC (Europe) has now also become an Associate Member of EPS. The membership fee of the IHEP-Beijing Official Contact Person will be covered by Hewlett-Packard. EPCS fellowships are still being negotiated.

International Conference in Vancouver, 30 Oct.-3 Nov. 1989

Don Dohan (TRIUMF) and Dave Gurd (OCP for TRIUMF, currently on sabbatical leave at SLAC), are organizing the "International Conference on Accelerator and Large Experimental Physics Controls Systems" under the auspices of the Nuclear and Plasma Sciences Society (NPSS) of IEEE and the EPS Interdivisional Group EPCS. The Conference will be followed by a workshop on workstations. This biennial conference is a follow-up to the one in Villars-sur-Ollon, Switzerland (1987). It is intended to hold the third in Japan (1991), where it will be organized by Shin-Ichi Kurokawa (KEK).

ESRF (Grenoble) Meeting on Application Software Kit

Application software plays a crucial role in the controls of modern experimental physics machines. It requires resources which nowadays go beyond the capacity of even large laboratories, let alone the smaller ones. This creates a software malaise and some specialists in various laboratories are currently exploring the possibility of designing

a package of generic application software modules which can be tailored to the needs of every machine.

At the Los Alamos "Accelerator Automation Toolkit Workshop" (31 Oct.-4 Nov. 1988) it was suggested that a working group be set up on this matter on both sides of the Atlantic. The European group met for the first time in Grenoble (9 Jan. 1989). Displaying strong motivation towards such a kit, it concluded that in view of the economics that are at stake, a preliminary analysis should be made, but it recognized that even this would draw resources that are difficult to obtain, even from larger laboratories.

The EPCS Board and Representatives felt that CERN was probably best placed to initiate such a kit. Ideally, its development should focus on a new accelerator project. To get the project going, it would be more effective to start with a small team whose first task would be to define the environment in which such a kit should be implemented (if implemented at all).

Some industries are looking into such software packages also: it should thus be worthwhile to confront our ideas with theirs at a workshop.

Towards a Common Methodology for Software Projects?

In Grenoble it was recommended that laboratories agree on a common methodology for software development. In common with some others (e.g. FNAL, KFA,...) CERN has chosen SASD (Structured Analysis and Structured Design) as is already applied for SPS/LEP controls and those LEP experiments which involve large collaborations (e.g. ALEPH). At the Board meeting it was asked that a 1 to 2 days informal seminar be organised to give some insight into that methodology and to discuss schemes for EPCS wide licenses. This seminar was held on 8-9 June in combination with the one held at CERN on CAE/CAD.

Another Collaboration in Controls

Marco Mignacco reports on a collaboration that was initiated in January 1989 between three laboratories of the EPCS-family: CERN, ESRF and Sincrotrone-Trieste. In this collaboration, ESRF, Sincrotrone-Trieste will port some software components of the LEP controls system to the OS-9 operating environment.

Workshop on R-T Systems for μ -Processors: Chamonix, 24-25 Jan. 1989

A real "tour de force" (as it was organized in less than three months) the workshop attracted 65 specialists from 14 laboratories and as many industries. The workshop originated at the previous Board meeting (PSI, 10 Oct. 1988), after Tam Luong (GANIL) and Jean-François Gournay (CEN-Saclay) had inventoried a large number of R-T systems

currently in use in μ -processors. The workshop showed a tendency to settle on a somewhat reduced number of systems with OS-9 as one of the more popular ones, closely followed by PSOS and VRTX. Both organizers, Gournay and Luong, are currently preparing the proceedings.

Progress with Power Converter and Instrumentation Controls

Guy Baribaud, Chairman of the working group on power converter controls protocols reports steady progress. To date, seven laboratories participate to the study: CEN Saclay, CERN, ESRF, GANIL, GSI, KFA, PSI, and four meetings have been held resulting in a document proposing a general model for the behaviour of the power converters. Next step is to define the protocol proper and to start prototyping. The study of the error handling is being undertaken by Luong and Jirousek.

Similar to the strategy followed for power converters, an "embryonic" group was first set up at CERN to initiate investigations towards a standard operational controls protocols for beam instrumentation. This study seems now mature enough to go EPCS wide and, following the interest stated at the Board meeting, Baribaud will set up a working group on that topic.

Next EPCS Board meeting and General Assembly

The next EPCS Board meeting will be held during the Vancouver conference, tentatively on Wednesday 1st November 1989 afternoon. It is intended to hold at the same time the first general assembly as it is expected that most EPCS members will be present at the conference anyway. Ted Owen has volunteered to organize this assembly.

Axel Daneels
Chairman EPCS

SSC Go-Ahead

The US Senate authorised on 27 July the first construction funding of 225 M\$ for the Superconducting Super Collider designed for 20 + 20 TeV proton-proton collisions. Project Director is Roy Schwitters and the Head of the Accelerator Division Helen Edwards. The site is at Waxahachie near Dallas in Texas. The ring of superconducting magnets operating at a field of 6.6 T with 6.5 kA in the coils will be 84 km round. Overall cost: about 3 G\$ of which one third will be contributed by the state of Texas.