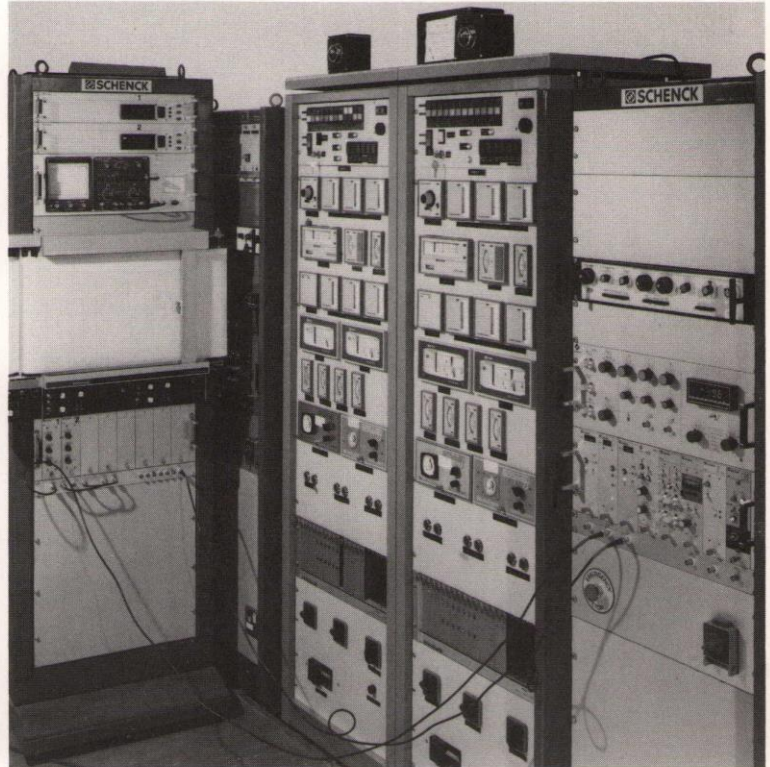


HARWELL

Research Reactors Division

# Systems and Instrumentation



Instrumentation plays an important role in nuclear-reactor and industrial-process experiments, and we have developed considerable experience in applying sound design principles to ensure that important parameters are recorded for use in the evaluation of results and that the experiment operates within precisely defined conditions.

To meet these requirements we design and build individual electrical and electronic systems for each experiment. Typically the work may involve stability studies for closed-loop control or the design of special instruments. In addition, instrumentation is provided for the routine monitoring of process parameters such as pressure, temperature, and flow and is arranged to actuate protection circuits if critical values are exceeded.

The application of computer programs through the Harwell central computer, and also analogue-computer and microprocessor development facilities which form part of the Division's resources, provide for an efficient and up-to-date design service.

Computer-based systems for data acquisition, processing, and retrieval on large installations are now commonplace, and our reactors are no exception. We have designed and installed computer systems and data loggers specially tailored to meet our reactor needs, where data from experiments are automatically stored on files and information is selectively displayed on remote terminals. Data files are periodically archived, and can be stored on the Harwell central computer.

*For further information about the Research Reactors Division of the Harwell Laboratory and the services it offers, please contact:—*

**Research Reactors Division,  
Building 521,  
AERE, Harwell,  
Oxfordshire, OX11 0RA,  
England.  
Telephone: Abingdon (0235)  
24141 Extension 5000**