

8th March, 1962

NI/GP/62/16

NATIONAL INSTITUTE FOR RESEARCH IN NUCLEAR SCIENCE

GENERAL PURPOSES COMMITTEE

Rutherford Laboratory Electrical Power Distribution Network

Note by Mr. P. Bowles

1. In a previous paper to the General Purposes Committee NI/GP/61/5 details were given of the estimated maximum demands on the electricity supply network. The Committee gave approval to the Electricity Board installing plant to increase the main grid sub-station capacity and in a paper yet to be submitted details will be given of a new A.E.R.E./N.I.R.N.S. substation which was also mentioned in the above paper. Approval is now sought for funds to increase the capacity on the power distribution network by a further 8.25 MVA.
2. The 415 V 3 phase A.C. loads which will be placed on the above network are growing meanwhile as the laboratories, experimental equipment, NIMROD and Beam Handling equipment is installed. A re-assessment of the capacity of the three distribution substations has shown that some additional plant is required to cover known loads and logical extension to cover future needs. When the modifications now proposed are completed 6250 KVA capacity will be available on sub-station 12 to feed NIMROD and certain experimental facilities. In addition 1000 KVA will be available for the Experimental Area Extension and a similar capacity available for the extension of the Parasitic Area.
3. The precise details of the extensions have been worked out jointly between engineers of the Rutherford Laboratory and the Southern Works Organisation in order to use existing plant and buildings to the best advantage. The Building Committee is satisfied that the proposals represent the most economic method of meeting future demands. The estimated cost of providing the above capacity is as follows:-

M & E work	30,500
Fees	4,500
	£35,000

It is estimated the expenditure will occur as follows:-

Financial year	1962/63	£ 23,000
"	" 1963/64	£ 12,000

Provision has been made in the approved estimate for 1962/63 and the forecast estimate 1963/64 for this expenditure.

4. In making a reappraisal of the Power Distribution Network it is apparent that further extensions will be necessary in future, and a separate case will be put forward when the requirements can be properly assessed. None of the present scheme will be affected by future proposals but will go part way to prepare for them.

5. The Committee is requested:-

- (1) To authorise a sum of £35,000 inclusive of fees for additional capacity in the Electrical Distribution Network.
- (2) To take note that a further case will be submitted for still increased capacity when requirements are more precisely defined.