

in Bowles copy

Rutherford Laboratory Electrical Power Distribution
Network

Note by Mr. P. Bowles

1. In papers NI/GP/61/5, NI/GP/62/16, NI/GP/62/22 and NI/GP/62/37 the development of the Rutherford Laboratory Electrical Power System has been described. In the latter paper it was mentioned that further expenditure would be necessary to meet the demands of the new laboratories and equipment being built, but at that time requirements were not specific and the expenditure could not be estimated.
2. It is now clear that the build up of load in the Heavy Duty Laboratory, R.25, requires medium voltage supplies in excess of the 1000 amp feeder at present in use. This load is greater than that previously forecast due to the additional load of the Variable Energy Cyclotron Ion source. To meet the demand it is proposed to extend the medium voltage distribution board in Substation 13. This modification will also provide for the additional capacity required as the load in R.7 (Bubble Chamber Plant Room) and R.2 Laboratories develops.
3. The cost of this scheme which is detailed in Appendix I will be £14,500 plus £2,200 fees to the U.K.A.E.A. who are to carry out this work on our behalf. Financial provision has been made in the estimates and it is anticipated the whole of the expenditure will fall in the 1963/64 financial year.
4. The Committee is requested:-
 - (i) To authorise the alterations to Substation 13 with attendant extensions and modifications to switchgear, cabling, and equipment, at a cost not exceeding £16,700.
 - (ii) To take note that a further extension of the electricity network is envisaged and a separate case will be put forward when requirements can be fully assessed.

P. Bowles

9th May, 1963

Appendix I

	£
1,250 KVA transformer 11/.415 kV	1,600
Install and earth	60
Increase costs of cabling due to installation of 1,250 kVA instead of 1,000 kVA transformer at Exp. Area extension	150
Install JSS switch, Sub. 13	200
Change CT's and Ammeter scale on 11 kV O.C.B. No. 01 Substation 10	200
Extension to MV switchboard, Substation 13	4,000
Modifications to CO2 equipment	340
Builders work - construction of transformer chamber in MV switchroom	1,000
New MV English Electric switchboard in H.D. Laboratory	750
Cabling MV (Sub. 13 internal and to H.D. Lab. 260 yds. 0.4-4 core)	1,500
Replacement of H.H. isolators by O.C.B.'s, Sub 13	3,500
Allowances	1,200
	£14,500
Fees 15%	2,200
Total	£16,700