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SCIENCE RESEARCH COUNCIL

Mr. D. Clark,
Chief Planning Engineer,
C.E.G.B.,
Courtenay House,
18 Warwick Lane,
London, E.C.4.

15 November, 1967.

Dear Mr. Clark,

Static Power Systems for the Proposed European
300 GeV Accelerator

You will know that member states of CERN, the European Organization for Nuclear Research, may soon decide to build a 300 GeV proton synchrotron and that the UK has offered a site at Mundford in Norfolk which is under consideration along with those offered elsewhere in Europe. We believe that considerable practical and economic advantages would be gained if a static power supply system, directly connected to the electricity supply network, could replace the motor-alternator set normally used to provide the large pulses of magnet energy required by such installations. Mr. J.A. Fox, of the Rutherford Laboratory, has for some time been in contact with the CEBG about this possibility and you have undertaken, at the request of the Rutherford Laboratory, an extensive computer study of its implications for the supply network.

It would be very valuable if you could complete your studies soon and give us an official interim verdict as to the acceptability of the 300 GeV magnet pulse load connected through the static system to the national supply network, assuming the accelerator is built at Mundford and the connection is made in 1976. It is understood that if this interim verdict is favourable, you might have to perform some confirmatory tests before giving a final official undertaking.

Your studies are, of course, relevant to the feasibility of adopting a static supply wherever the machine may be built, but they assume special importance in relation to our own site, for if the UK network is suitable we will certainly wish to use this information as a factor in favour of establishing the new laboratory at Mundford. It is generally agreed that

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the host nation will reap considerable ~~and widely ranging benefits~~ from having the new accelerator on its territory.

Evaluation of sites is well under way so it is important to know the supply network capability very soon, preferably before the next round of discussions at CERN in mid-December, 1967. Would it be possible for you to make a definitive interim statement by the end of November, please.

Yours sincerely,

T. G. Pickavance
Director, Nuclear Physics Division