

JOINT LASER PROJECT EXECUTIVE ~~JE~~ COMMITTEE

The first meeting will be held on Monday 10 February 1975 at 10 am in the Director's Conference Room, Rutherford Laboratory building R1.

AGENDA

- | | |
|--|-----------------------------|
| 1. Introductory Statement | Dr Hobbis - oral |
| 2. Technical specification for the glass lasers and subsequent contractual actions | JLP-EC1
ESC-1 |
| 3. Mechanisms for project control | oral |
| 4. Agenda for meeting on 18/2/75 | oral |
| 5. Any other business | |

7 February 1975

D J Baugh

Notes

1. Apology for absences received for Dr Lomer, Dr B Rose will deputise for him, and Dr Hobbis will take the chair.

HARWELL

Dr Baugh

Oxon
AERE Harwell, Didcot, Berkshire
OX11 0RA
Telephone: Abingdon 4141, Ext 2635
Telegrams: Aten, Abingdon
Telex 83135

Date 5 February 1975

Dr LCW Hobbs ✓
Rutherford Laboratory

JOINT LASER PROJECT EXECUTIVE COMMITTEE

I am very sorry indeed that I cannot after all come to the first ad hoc meeting of the Joint Laser Project Executive Committee. Will you please take the chair? Basil Rose will deputise for me.

As well as examining and approving the technical specification tender document, the Committee should take a first look at the mechanisms for project control. We should accept as an objective the use of existing mechanisms, and the simplest would be to use the normal Nuclear Physics Divisional channels of approval for all expenditure. S.R.C. project members would be entitled to sign as 'authorising officer'. This would ensure that information on all spend was available at all times to the project officer. We should ask the Finance Branches to get together to explore the ways of getting over anomalies, such as occasional direct purchases by Rutherford Laboratory, and getting the corresponding information integrated into the project accounts, and also to examine together the way in which the administrative service provided is costed and charged to the joint project.

I am very pleased we retained the second meeting on 18 February.

Yours sincerely

W M Lomer ✓

cc Mr J Jenkins ✓
Dr DJ Baugh ✓
Mr P Williams ✓
Mr JT Wright ✓

Mr DJ Crabb ✓
Dr B Rose ✓
Dr C Whitehead ✓
Mr M Smith ✓

stand

JOINT LASER PROJECT EXECUTIVE COMMITTEE

Minutes of a meeting held on 10 February 1975.

Present: Dr L.C.W. Hobbis - Chairman
Mr D.J. Crabb
Mr J. Jenkins
Dr B. Rose - for Dr W.M. Lomer
Mr M. Smith
Dr C. Whitehead
Dr P.R. Williams
Mr J.T. Wright
Dr D.J. Baugh - Secretary

An apology for absence was received from Dr Lomer. Dr Hobbis took the chair in his absence.

1. Dr Hobbis opened the meeting by outlining the proposed management committee structure of the Joint Laser Centre. The activity as a whole would be the responsibility of the Directors of AERE and RL. It was proposed that they would be advised on the scientific objectives, the experimental programme, development, financial planning etc. by a senior advisory committee chaired by a university scientist. This committee would not be concerned with financial control. All executive matters with the exception of financial control of major capital schemes would be dealt with by a Joint Laser Centre Executive Committee. A Project Management committee would exercise control of the initial major capital provisions assisted by an executive sub-committee responsible for supervising their detailed execution. This structure was still under discussion, and could not be formally instituted until the project had been given government approval. However, there were matters that needed attention in anticipation of approval, and as a consequence, executive committee meetings had been initiated. Dr Hobbis stated that the agenda for the present meeting had been incorrectly headed the project executive sub-committee. This was a meeting of the putative executive committee.
2. PURCHASE OF GLASS LASERS FOR PART 1 OF THE JLC CAPITAL PROGRAMME (JLP-EC1)
- 2.1 Dr Williams and Dr Whitehead presented the paper. The objective was to initiate preparatory action on the tenders for the glass laser systems in anticipation of government approval. The paper outlined the requirement for a medium and a high power laser, and proposed that tenders should be invited against three specifications:
Specification 1 (Annex 1 of JLP-EC1) for two medium power lasers, one to be a stand alone facility, one to be the driver, the front end, for the high power facility.
Specification 2 (Annex 2 of JLP-EC1) for a high power laser system.

Specification 3 (Annex 3 of JLP-EC1) for a high power laser amplifier, the back end of the high power facility. The committee discussed these performance specifications.

- 2.2 Specification 1. It was agreed that suppliers should be asked to identify the price for one and for two lasers separately. It was agreed that the specification should be for a system "... to deliver about 10 joules...". Dr Hobbis pointed out that this specification did not explicitly meet the input requirements (30 joules in 300 psec) of the high power laser amplifier (specification 3). Dr Williams explained that these devices were power limited and that assuming linearity the 10 joule, 100 psec specification together with the specified oscillator performance (pulses in range fwhm, 30 - 500 psec) implied unambiguously the ability to meet the input requirements of the laser amplifier. It was agreed that from the point of view of tender action there was no need to specify the firing reliability. The phrase 'a single pulse' in the paragraph specifying the stability of the oscillator was corrected to read 'any single pulse'. The committee noted that the specification included all necessary benches, supports, cooling and control systems. It was agreed that the tender documents should make it clear that delivery was critical and that completion dates of the order 0 - 12 months were required. The committee discussed various other points including the paragraph on beam quality, however, no further changes were made. Dr Williams and Dr Whitehead noted the changes and agreements ensuing from the discussions.
- 2.3 Specification 2. The committee noted that this specification was very similar in form to specification 1. It was agreed that the specification should be for a system '... to deliver an energy of about 500 joules...' (first paragraph). The committee noted that the specification of beam quality was somewhat relaxed compared to specification 1. After discussion of the best way of specifying this relaxed requirement it was agreed that the specification should remain as stated (70% in 0.5 milli-radian) Dr Whitehead and Dr Williams agreed to consider whether it would be appropriate for electrical test purposes to specify a repetition rate for the charging circuitry different to the operational repetition rate. The committee noted that the specification did not include the necessary benches and supports. After discussion in which it was explained that the benches etc had been excluded because of the possibility of in house manufacture or of buying in the UK , it was agreed that the specification should be for a complete system but that tenderers should be asked to quote separately for the benches and supports. Dr Williams and Dr Whitehead noted the changes and agreements ensuing out of the discussions.
- 2.4 Specification 3. The committee noted that this specification was for a system with an output as specified in 2, the input capable of being delivered by the system specified in 1. The committee made no changes except that as in the case of 2, it was agreed that tenderers should be asked to quote separately for the benches and supports. The committee accepted the possibility that the medium power stand alone facility might be different from the front end of the high power facility.
- 2.5 The paper (JLP-EC1) presented a list of possible suppliers drawn up as a result of an exhaustive survey. These were the only (Western) companies likely to be able to supply the major equipment. Of these only one, The General Electric Corporation (USA) had demonstrated a capability to supply field proven equipment to meet the specification of the high power

laser. Investigation of two other companies CILAS (France) and QUANTEL (France) confirmed that although they could provide the medium power (front end) system, they were unable at present to meet the high power specification. However CILAS had recently asked for an opportunity to present proposals and would be visiting on 12 and 13 February. The committee agreed in principle to single tender action for the supply of the high power laser systems (specifications 2 and 3) subject to the out-come of the CILAS visit and the enquiries with DTI noted in paragraph 2.6 below. Three of the companies (JK Lasers (UK), Ferranti (UK) and Apollo (USA) had indicated informally that they did not wish to tender even for the medium power laser. Hadron (USA) was in effect an agent for CILAS and Raytheon (USA) inexperienced in high power laser design. Thus the two French companies (CILAS and QUANTEL) and General Electric Corp. (USA) remained to tender for the medium power laser.

- 2.6 The committee noted that none of these three companies was British and that as a result some concern might be expressed by the Department of Trade and Industry and the Treasury. After discussing these points and the possibility of obtaining written confirmation that the British firms did not wish to tender, it was felt that the case for going ahead with these three firms and with single tender action as indicated in 2.5 above still held. However it was agreed that the view of the Department of Trade and Industry should be sounded out.
- 2.7 The question of whether some items could be bought in the UK was considered. Separate quotations for benches and supports had been agreed to enable the possibility of local manufacture. It seemed unattractive on cost grounds to purchase the main energy storage capacitor bank in the UK, though it was difficult to assess how reliable the General Electric price was. In addition the committee accepted there might be considerable complications in the matching of specifications and in commissioning logistics. There was a danger of moving towards a situation of the Laser Centre embarking on a development programme rather than purchasing a complete system. It was agreed that, if anything, General Electric should be asked to quote for a system with and without the capacitors. The committee was reluctant to interfere with the principle that if possible a complete turnkey system should be bought.
- 2.8 It was agreed that the AERE should act as customer, though making it clear in appropriate documents that the purchases were for the joint SRC-AEA venture.
- 2.9 The committee agreed that Dr Williams should discuss the specifications with Professor Bradley, Imperial College, London, representing the University interest with the SRC.

3 MECHANISMS FOR PROJECT CONTROL

- 3.1 Dr Hobbs opened the discussion, the objective of which was, as a first look at control of capital projects, to gain an understanding of the systems operating at AERE and RL so that a system acceptable to both the AEA and the SRC could be devised.

- 3.2 Dr Hobbis tabled as an example of RL practice a copy of a paper on the management committee for the new injector of Nimrod. Discussion revealed that a major difference between AEA and SRC was the level of financial delegations, AERE levels being considerably higher than those in the RL. Other differences included the size, composition and type of representation of management committees.
- 3.3 It was agreed that a single integrated system must be adopted which would apply identically to the SRC and AERE staff of the project. Dr Hobbis agreed to discuss these matters with Dr Stafford and Dr Lomer in preparation for a further discussion at the next meeting.
4. AGENDA FOR 18 FEBRUARY MEETING.
- 4.1 The following agenda items were agreed:
- (a) Report on tender exercises - (i) glass laser systems
(ii) diagnostics and experimental equipment
 - (b) Project Control
 - (c) Staffing policy and procedures.

12 February 1975

David Baugh

JOINT LASER PROJECT EXECUTIVE COMMITTEE

Actions arising out of the meeting on 10 February 1975.

<u>Name</u>	<u>Reference</u>	<u>Action</u>
P.R. Williams and C. Whitehead	M1 item 2.2	Take the required actions arising from the discussion of specification 1, medium power laser system.
P.R. Williams and C. Whitehead	M1 item 2.3	Take the required actions arising out of the discussion of specification 2, high power laser system.
P.R. Williams and C. Whitehead	M1 item 2.4	Make the agreed changes to specification 3, high power laser amplifier.
P.R. Williams and C. Whitehead	M1 item 2.5	Assess the consequences of the 'CILAS visit' to the site on 12 and 13 February to the single tender proposal for specifications 2 and 3. Report to next meeting.
B. Rose and D.J. Crabb	M1 item 2.6	Sound out the DTI on the tender proposals for the glass laser systems.
M. Smith	M1 item 2.9	Note and act appropriately on the agreement that the AERE should act as the customer for the glass laser systems.
P.R. Williams	M1 item 2.9	Discuss the specifications for the glass laser systems with Professor Bradley.
L.C.W. Hobbis	M1 item 3.3	Discuss the outcome of the preliminary discussion on project control with Dr Stafford and Dr Lomer.

12 February 1975

David Baugh