

MS. BRIEF.

clerk
by

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G.O. No. 2079 Edn.

DATED. 19. 7. 1950.

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Sub

COLLEGES. Govt Colleges of —
Technology Coimbatore. Conduct
of a Scheme of Research —
Sanctioned by the Council of
Scientific and Industrial —
Research. Approved.

EDUCATION DEPARTMENT.

Office of the Director of
Public Instruction, MADRAS.
Dated: 26th May 1950.

R.O. No.695-G.1/50

From

The Director of Public Instruction,
MADRAS.

To

The Secretary to Government,
Education Department,
Fort St. George,
MADRAS.

Sir,

Sub: COLLEGES - Arthur Hope College of
Technology, Coimbatore - Conduct
of a scheme of Research sanctioned
by the Council of Scientific and
Industrial Research.



p3-7 in/ra
p9-11 in/ra
I have the honour to enclose herewith a copy of the letter R.O. No.54 -B/50 dated 20-4-1950 from the Principal Arthur Hope College of Technology, Coimbatore, together with a copy of the scheme of research entitled "Development of Heavy Duty Parts of Internal Combustion Engines;" and recommend that, in the circumstances stated by the Principal, the Government may be pleased to allow the College to participate in the Research Scheme and receive grants in-aid, and also permit the existing members of the staff of the College to participate in the Research Scheme and receive remuneration for their work.

Yours faithfully,

Thurinkar

for Director of Public Instruction.

k.v.s./27-5.

28/5

29/5

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COPY of the letter R.c. No.54-B/50 dated 20-4-1950 from the Principal, Arthur Hope College of Technology, Coimbatore to the Director of Public Instruction, Madras:

not used below
In continuation of my letter dated 19-1-1950, I herewith enclose an extract from letter No.136.Bd.XII(5)/49 dated 4-4-1950 from the Secretary, Council of Scientific and Industrial Research, New Delhi, indicating that they have sanctioned a Research grant for a scheme of Research entitled "Development of Heavy Duty Parts of Internal Combustion Engines."

not used
2. I have reckoned for this Research Scheme on the participation of the Mechanical Engineering and workshop staff of this college without detriment to their normal duties; in fact it will considerably facilitate the staff to better qualify themselves for teaching and research as indicated in Director's Proceedings Rc. No.4362-C.1/47-1 dated 4-10-1947. I request that this may be approved. In connection with the above, I request that none of the members of the staff ~~of~~ of the Mechanical Engineering Department should be transferred without reference to me.

pg-11a/c
3. I enclose herewith a copy of the rules relating to the Research Scheme.

(True Copy)

Copy of letter No.136.Bd.XII(5)/49 dated 4-4-1950 from the Secretary, Council of Scientific and Industrial Research, New Delhi (extract) to the Principal, Arthur Hope College, of Technology, Coimbatore.

I am directed to state that the Governing Body of the Council of Scientific and Industrial Research at their last meeting held on the 20th March 1950, considered your scheme mentioned above and sanctioned it with the following grant for one year i.e., upto 28th February 1951, in the first instance:

Equipment	...	Rs.10,000
Contingencies	...	2,000
Staff.	...	10,812
		22,812

/True Copy/

COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH:

Rules of procedure for the grant of financial assistance to Schemes of Scientific and Industrial Research by the Council of Scientific and Industrial Research and conditions to be observed by recipients of such grants.

1. All proposals for financial assistance (grants-in-aid, subsidiary research scholarships, etc) will be put to the Chairman by the Director with his comments. The Chairman will direct their consideration by the Board of Scientific and Industrial Research. The Board will recommend the amount of the grants, the period for which such grants should be made and other conditions that should be attached.

6

7. All equipment and apparatus purchased out of the grants-in-aid shall be property of the Council of Scientific and Industrial Research and all non-perishable articles shall be returnable to the Council of Scientific and Industrial Research on the termination of any scheme. For this purpose, there shall be maintained an Inventory of the equipment etc., purchased out of the grants, giving also particulars of the cost of each item.

8. Grants for equipment shall be utilised for the purchase of any special apparatus which is found to be absolutely necessary in addition to the facilities already available in the institutions receiving the grants.

9. Patent rights in respect of discoveries or inventions resulting from research work organised or assisted out of the funds of the Board shall vest in the Council of Scientific and Industrial Research who will have the discretion to consider under what circumstances such rights should be released to the general public or any set of industrialists. For this purpose, research workers, other than Central Government servants, will, before any financial assistance is extended to them for research, be required to give an undertaking to the management of the institutions where they conduct the research, to the effect (i) that any patent rights resulting from their researches shall be vested in the Council of Scientific and Industrial Research and (ii) that they shall not publish any discovery or invention arising from their researches without first applying for a patent, in respect of such discovery or invention.

10. The Research Committee will, as far as possible, perform their duties by correspondence, but the Chairman of each Committee may, whenever it is considered essential for the expeditious and efficient performance of work, convene meetings of the Committee. On such occasions the Chairman and members will receive travelling allowances on the following scale:-

- 1) Travelling Allowances from the place of residence to the place of meeting and back ~~in~~ at the rate admissible to an officer of the first grade under the Government of India Supplementary Rules.
- 2) Daily Allowance at Rs.10/- a day for days of halt at the place of meeting. The allowance will be admissible for the day of arrival, if the Chairman or the member arrives in the forenoon, and for the day of the departure if he departs in the afternoon.

3) Road mileage under the Government of India Supplementary Rules.

11. The Director of Scientific and Industrial Research will be responsible for watching the progress of expenditure under each of the headings giving in rule 4 in each scheme against the total amount sanctioned for such schemes.

/True Copy/

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4

2. All recommendations of the Board of Scientific and Industrial Research regarding grants-in-aid, subsidies, research scholarships etc., will be made to the council of Scientific and Industrial Research who will issue orders after giving due consideration to the Board's recommendations.

3. Research Committees may be appointed by Council of Scientific and Industrial Research, one for each subject or group of subject or ~~group~~ group of subjects, for the effective organisation and co-ordination of research work on different schemes. The individual members of such Committees need not take up the execution of any research schemes themselves, but the Committee as a whole will have to watch the progress of each scheme, formulate co-ordinated proposals for further schemes and, in general, assist Council of Scientific and Industrial Research in ensuring that the grants are carefully utilised to secure the best results possible.

4. Each investigator for whom an allotment is recommended by the Board and accepted by the Council of Scientific and Industrial Research, will be required to submit his technical programmes and proposals for expenditure, for scrutiny and suggestions either to the Director of Scientific and Industrial Research or to the Committee appointed by the Council of Scientific and Industrial Research for co-ordinating research work in that particular subject. The proposals should show the estimated expenditure to be incurred, separately for such financial year, under the following headings:

- (a) Equipment
- (b) Contingencies
- (c) Staff (including Research scholars, if any)

The monthly remuneration proposed for research scholars should, as far as possible, be not in excess of that allowed to other scholars doing similar work in the same institution. Particulars of equipment should be furnished in support of the estimates.

On receipt of the foregoing details and their approval by the Council of Scientific and Industrial Research, arrangements will be made for making the necessary funds ~~excess~~ available to the investigator. The amount sanctioned will generally be placed at the disposal of the head of the Institute or Laboratory in which the investigator proposes to conduct the research.

5. Periodical reports about the progress of the Schemes financed out of the grant-in-aid shall be submitted by each investigator to the Research Committee on the subject, or in the absence of such a Research Committee, to the Director of Scientific and Industrial Research at such intervals as may be prescribed by the supervising authority in each case.

6. Institutions receiving the grants will submit to the Director of Scientific and Industrial Research (through the concerned Research Committee, if any) audited statements of the actual expenditure incurred out of the grants, duly certified by their auditors. In exceptional cases where there are no regular arrangements for audit, a statement of expenditure certified by the Head of the Institution may be accepted at the discretion of Council of Scientific and Industrial Research. Such statements shall be submitted annually or at the termination of a scheme, if it is of less than one year's duration. Any unspent balance will be refunded to Council of Scientific and Industrial Research on the termination of the Scheme. Necessary action for the recovery of an unspent balance for an institution will be taken by the Director of Scientific and Industrial Research.

6

7. All equipment and apparatus purchased out of the grants-in-aid shall be property of the Council of Scientific and Industrial Research and all non-perishable articles shall be returnable to the Council of Scientific and Industrial Research on the termination of any scheme. For this purpose, there shall be maintained an Inventory of the equipment etc., purchased out of the grants, giving also particulars of the cost of each item.

8. Grants for equipment shall be utilised for the purchase of any special apparatus which is found to be absolutely necessary in addition to the facilities already available in the institutions receiving the grants.

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1) Travelling Allowances from the place of residence to the place of meeting and back ~~xx~~ at the rate admissible to an officer of the first grade under the Government of India Supplementary Rules.

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3) Road mileage under the Government of India Supplementary Rules.

11. The Director of Scientific and Industrial Research will be responsible for watching the progress of expenditure under each of the headings giving in rule 4 in each scheme against the total amount sanctioned for such schemes.

/True Copy/

QUESTIONNAIRE I .. (for New Schemes only).

(Please give short, but clear replies)

(1) A suitable title for the proposed scheme?

Development of Heavy duty parts of I.C. Engines.

(2) What is the aim and scope of your scheme?

To develop alloy C.I. Crankshafts, Heavy duty and high temperature components by precision casting and lost wax process and centrifugal process, valves, cylinder liners, gas turbine disc, blades, rotor shafts, etc.

(3) What work have you done already on the subject?

Since 1930 I am engaged on development and research work in I.C. engines. I have developed and patented an improved I.C. Engine (Pat. Sp.19814/April 1933 and 26005/December 1938). During the war I was engaged on application of producer gas, etc., to road vehicles. The engine mentioned above was constructed entirely out of the Indian materials except the fuel pump and valves.

(b) What has been done so far in India on the subject?

very little of development work with particular reference to I.C. engines, has been done.

(c) What has been done abroad?

Alloy cast iron crankshafts and cam shafts, etc., are now very rapidly replacing forged components abroad. Similarly the lost wax and precision casting processes are almost exclusively applied now to produce heavy duty heat resisting components for gas turbines, rotor shafts, discs, blades, etc. Cylinder liners, piston rings and various other precision castings are now done by the centrifugal casting process.

4. (a) Is your proposed work of fundamental and academic value or is it of an applied nature and of importance to industrial development in India?

It is mainly of an applied nature with a certain amount of fundamental research. These are of importance to I.C. Engine development and manufacturing industry in India.

(b) If it is of value to industry say how and give full details of the economics?

Cast crank shafts and components are more economical than forged components. Precision casting and centrifugal casting eliminate laborious machining and thereby lower production cost. Heavy duty high temperature parts like turbine blades, etc., are too hard to be machined and this precision casting process is the accepted satisfactory and economical method.

5. Where do you propose to the work, and what are the facilities available with regard to apparatus, equipment, personnel, etc?

Work will be done at the Arthur hope College of

Techonology, Coimbatore. This College has developed a separate department with workshop and a laboratory for training automobile engineers to a degree standard. Some specialised Engineering staff are also available with previous experience in I.C. Engine research. One member of the staff receiving post-graduate training in American Research Laboratory is returning shortly to the College.

6. How long do you think your investigation will take to be completed?

Three years approximately.

7. Full details of grant asked for.

Equipment.	Contingencies.	Staff.
Specialised foundry casting and test equipment.		
Precision machinery like grind r borer, etc.		
Measuring instruments, electronic, electrical and mechanical.		
Special jigs and fixtures.		
Miscellaneous tools and appliances.	20,000	2,000
		* 15,000

* Staff:

One Senior Technical Asst. on Rs.250/- p.m.		
Two " " "	160	" each
One Draughtsman	150	" "
Two Laboratory Assistants (Mechanics.)	80	" "
Remuneration for part-time work for specialised and clerical staff.	250	p.m. (lump sum)

(True Copy)

k.v.s./27-5.

for Director of Public Instruction.

250
320
150
160
880
105604
+ 210
10810

12
Education Deptt. (G)

Govt
Colleges - ~~Arthur Hope~~ College of Technology-
Coimbatore - Conduct of a scheme of Research
sanctioned by the Council of Scientific and
Industrial Research--Approved.

Ref: From the D.P.I. No.695-C1/50 dated 26-5-1950.

G.O.Ms.No. 2079

Edn. d/ 19/7/50

11-27
41/1917
The Government approve the proposal of the
D.P.I. that the ~~A.H.~~^{Govt} College of Technology may be allowed
to participate in the Research scheme entitled Develop-
ment of Heavy Duty Parts of Internal combustion Engines
sanctioned by the Council of Scientific and Industrial
Research, New Delhi, ~~and~~^{The Principal may} receive grants in aid ~~and that~~^{prior to the purpose}
and the existing members of the staff of the College may be
permitted to participate in the Research scheme and
receive remuneration for their work. ~~provided this does~~^{The work should}
~~does~~^{however be allowed to} not interfere with the normal working of the college
and the legitimate duties of the College staff.

To
The D.P.I.
The A.G. thro' Finance. R.
21.6.50.

Copy to 'A' section

18/7
21/6/50 S. 21.6.50

From the D.P.I. No.695 C1/50 dated 26-5-50. *a*

Colleges - Arthur Hone College of Technology -
Coimbatore - Conduct of a scheme of Research
sanctioned by the council of Scientific and
Industrial Research.

**

~~It is reported that~~ the Governing body of the Council of
Scientific and Industrial Research, New Delhi, has sanction-
ed a grant of Rs.22,812/- as detailed below for a period
of one year till 28-2-51 for a scheme of Research entitled
" Development of Heavy Duty Parts of Internal Combustion
Engines" *to be conducted in the A.H. College of Technology, Coimbatore*

Equipment Rs.10,000

Contingencies Rs. 2,000

Staff Rs.10,812

Rs.22,812

The rules of procedure for the grant of finan-
cial assistance to schemes of Scientific and Industrial Resea-
ch and conditions to be observed by recipients of such grants
are specified on pp 3-5 of.

The D.P.I. has made the following recommenda-
tions with reference to the proposals submitted by the Prin-
cipal, Arthur Hone College of Technology:-

(1) that the College may be allowed to participate
in the Research Scheme and receive grants-in-aid, and

(2) that the existing members of the staff of
the College may be allowed to participate in the Research
Scheme and receive remuneration for their work.

As this research work will considerably facili-
tate the staff to better qualify themselves for teaching
and research, the Director's ~~recommendation~~ *recommendation* may be accepted.

The draft order below is for approval. Dev.

P.W.D. Public and Finance may ~~thereon~~ see before circulation

55993



Edn. No. 13491/50 *g* *u. 6.50*
dated 22-6-50

21/6/50

Dev. / P.W. / Pub. / Fin.

Dev. Dept.

Dev. Dept.

The notes of the Education Dept on p1 above
and the draft order below may be perused
and the file passed on to P.W.D.

H.S.
26.6.50



Thro' P.W.D.

B.
26/6/50. 26/6/50

Dev. U.O. No 55493 D/Ko-1
26-6-50



P.W.D. (C)

Notes of Edu Dept
as p1 ante and the draft
order below may be

perused and the case passed on to Public.

28.6.50. Public Ser # C

H

27.6.50

Supd
CL

Pub. (Ser) Dept

The notes of Edu on p1 above
and the draft order below may be
perused and the file passed on to Finance

P.W.U.O.

3514 C/50.1

26.6.50

30.6.50 30.6.50

37.50

Li (2B)

Public. Series
no. 2426/50-1
31/7/50



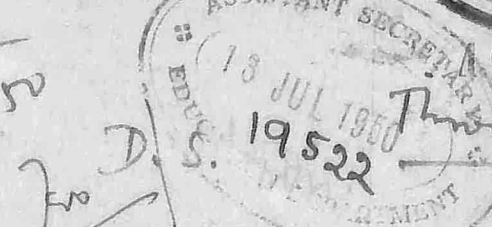
be perused.

The draft order below may be

accepted

6.7.50 8.7.50

10/7/50



For

11/7/50

Gen.

For L.O. 49989EB-1

11/7/50

The A.H. Camp of Technology has now been renamed

as A.H. Camp of Technology. ~~renamed~~ ^{P.W.}
the file may now be circulated to H.M. (P.W.) for
approval of his draft order below.

R.
13.7.50

14/7/50

may issue
H.M. (P.W.)
15.7.50

H.M. (P.W.)

18.7.50.



