

Government of Madras.

EDUCATIONAL DEPARTMENT

Recd.

Regd.

} 1913.

Enclosures

Spare copies

G.O. No. 607, 30th June 1913.

College of Engineering, Madras.

Approving generally the proposals submitted by the Director of Public Instruction for the provision of facilities for the teaching of higher electrical engineering at the — and addressing the Government of India on the subject.

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GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

Read—the following papers :—

I

G.O. Nos. 858, 859, Educational, dated 5th December 1911.

ABSTRACT.—Submitting to the Government of India the remarks of this Government in connection with the suggestion of the Educational Conference at Allahabad that higher electrical engineering should be developed at the College of Engineering, Madras.

II

Letter—from the Hon'ble Mr. H. SHARP, C.I.E., Joint Secretary to the Government of India (Department of Education).

To—the Secretary to the Government of Madras, Educational Department.

Dated—Calcutta, the 15th March 1912.

No.—646 (Education).

With reference to your letter No. 859, dated the 5th December 1911, regarding the provision of instruction in higher electrical engineering in the College of Engineering, Madras, I am directed to state that the Government of India will await a definite proposal on the subject.

III

Memorandum No. 877-3, Educational, dated 5th June 1912.

With a view to the ultimate provision of complete facilities for the teaching of higher electrical engineering in the College of Engineering, the Director of Public Instruction is requested to submit proposals in regard to the additional apparatus and staff which could be advantageously utilized at once in advance of the transfer of the college to the new premises at Guindy.

L. DAVIDSON,

Ag. Secretary to Government.

To the Director of Public Instruction.

IV

Letter—from the Hon'ble Mr. A. G. BOURNE, D.Sc., F.R.S., C.I.E., Director of Public Instruction.

To—the Secretary to Government, Educational Department.

Dated—Madras, the 17th June 1912.

No.—R.C. 5199 of 1911.

With reference to Memorandum No. 877-3, dated 5th June 1912, I have the honour to submit the following extract from a letter, dated 1st May 1912, from Mr. James, Principal of the College of Engineering, making proposals for additions to the electrical laboratory equipment in the college :—

“(a) The cement testing room adjoining the existing electrical laboratory on the ground floor can be made available as an extension for the accommodation of additional machinery.

“(b) In regard to power it will be convenient to bring in a three-wire direct current supply by underground connection with the Madras Electric Supply Corporation's main near the Revenue Board Office, thus providing current at 220 and 440 volts pressure.

“(c) This power can be utilized for running a motor alternator set, about 30 horse-power of special design for experimental and testing purposes. Alternating current from this combination can be supplied to other subsidiary machines, which

“will be required for demonstrating the tests to which machines are ordinarily subjected to in practice. In addition, we should want a number of standard instruments and subsidiary apparatus for calibration and other purposes.

“(d) A rough estimate of the cost is submitted herewith, but accurate figures can only be given after correspondence and consultation with manufacturers at home. The total amounts to approximately Rs. 30,000, and this in my opinion is about the largest amount we can profitably spend on machines, etc., to be installed in our present building, but, if Government desire something further should be done, proposal can be submitted for the erection of a new laboratory on the land adjacent to the college.”

I enclose a copy of the estimate referred to above.

2. In regard to the teaching staff, the chief additions required will be a European professor with good practical and laboratory experience and at least one assistant on pay, say, from Rs. 200—400 per mensem qualified to assist in the laboratories.

The Professorship may be included in the cadre of the Indian Educational Service.

ENCLOSURE.

Estimate of Cost.

	RS.
(1) Main from Madras Electric Supply Corporation main to college.	2,000
(2) One 25 K.W. motor alternator set of special design	7,500
(3) Two 10 K.W. alternators of special design and arrangement	3,750
(4) Two 10 K.W. direct current of special design and arrangement.	1,800
(5) One 15 H.P. direct current motor for mechanical tests, etc.	1,000
(6) Two 7 K.W. series wound direct current machines	1,300
(7) Three induction motors, each of special design	1,500
(8) One 10 K.W. rotary converter	1,200
(9) Three transformers, with special windings	1,000
(10) Subsidiary apparatus for above	2,250
(11) Instruments such as Insulation testing sets, potentiometers, bridges, meters, balances, rectifiers, resistance frames, lamps, etc.	6,700
Total	30,000

W. H. JAMES,

Principal, College of Engineering, Madras.

V

Memorandum No. 1708-2, Educational, dated 18th July 1912.

With reference to his letter R.C. No. 5199, dated 17th June 1912, the Director of Public Instruction is requested to obtain and submit at an early date detailed estimates for the apparatus and machinery required for the immediate provision of instruction in higher electrical engineering in the College of Engineering on the lines indicated in his letter.

L. DAVIDSON,

Ag. Secretary to Government.

To the Director of Public Instruction.

VI

Letter—from the Hon'ble Mr. A. G. BOURNE, D.Sc., F.R.S., C.I.E., Director of Public Instruction.

To—the Secretary to Government, Educational Department.

Dated—Madras, the 17th December 1912.

No.—Ref. on Cur. 5199 of 1911.

With reference to Government Memorandum No. 1708-2, Educational, dated 18th July 1912, I have the honour to submit herewith copy of letter No. 2137-C, dated 13th December 1912, from the Principal, College of Engineering, furnishing, with his remarks, detailed estimates for the apparatus and machinery required for the immediate provision of instruction in higher electrical engineering in the college.

ENCLOSURE.

Letter—from W. H. JAMES, Esq., B.Sc., Principal, College of Engineering, Madras.

To—the Director of Public Instruction.

Dated—the 13th December 1912.

No.—2137-C.

I have the honour to submit herewith the estimate called for in your Proceedings Ref. on Cur. No. 5199/11, dated 23rd July 1912.

The amount of the estimate exceeds the Rs. 30,000 suggested in my letter, but the figures now given are only approximate and it is probable the India Office will obtain more favourable terms. The machines required for an electrical laboratory must of necessity be of a special design to allow of tests for instructional and experimental work being conveniently carried out, but from correspondence with firms at home we find, as might be expected, that they are reluctant to quote for machines we consider ideal to our requirements but requiring developmental work by the makers, except at what would be to us prohibitive prices. We are thus compelled to adjust our requirements to some extent to what can be obtained without much difficulty, which means that we practically have to specify machines somewhat similar to those supplied in recent years to other institutions but stipulating for such improvements and additions as are considered necessary and practicable.

The accompanying estimates are therefore based on information received direct from the makers and I would urge the indispensability of our being kept informed in regard to the placing of these orders and the designs of the several machines. It would be waste of time giving long specifications of machines dissimilar to anything on the market, but a great deal can be done in the way of adapting machines to our special requirements if we are consulted in regard to possible modifications in design or allowed to correspond directly with the makers.

I would invite special attention to the footnote regarding provision of drawings as these are most essential for instructional purposes.

Estimate of equipment for Electrical Laboratory.

Items.	Rs.	£
1 Special motor alternator set capable of giving a maximum output of 62.5 K.V.A. The motor and alternator to be direct coupled and mounted on one bedplate. The alternator to be arranged so as to give either 1, 2 or 3 phase current of varying frequency, and shaft to be fitted with revolving contact maker for plotting A.C. wave form. The 3 phase winding to be arranged so that either Star or mesh connections can be made. This set to be similar to one of larger size supplied by Messrs. Siemens Brothers (Limited), to the Glasgow and West of Scotland Technical College in 1911. Price complete with Field Rheostats and Starting Rheostats for motor	11,703	...
2 Special six-machine demonstration set consisting of the following:— 6—5 K.W. machines. 2—5 K.W. 3 phase 50 period alternators. 2—5 K.W. 3 phase 50 period rotary convertors. 2—5 K.W. direct current machines arranged so that they can operate either as Shunt or Compound motors or generators. One switchboard for controlling the above six machines. This set of machines to be similar to that supplied by the British Westinghouse Electric and Manufacturing Company to the Brisbane University with the exception of the following details:— The Stator of one of the alternators to be provided with machined cradle and rocking gear to give circumferential movement equivalent of about 180 electrical degrees, the movement to be effected by means of a wheel and worm gear while the machines are revolving.		

Items.

Rs.

£

The commutator of one of the direct current machines to be fitted with two exploring brushes fixed at a distance apart equal to the distance between two successive commutator segments, these brushes being supported by a carrier which can be revolved so that the voltage between successive commutator and bars can be determined, a pointer and a scale being also provided.			
The commutator of the other machine to be provided with one exploring brush only which may be brought into any position on the commutator so that the voltage between it and one of the main brushes can be determined. Approximate price		12,000	800
3 One 7½ K.W. 60 cycle 220 volt 6 pole 1,200 revolutions per minute belt-driven type polyphase generator provided with three separate rotors so that the machine can be operated in any of the following ways:— (1) Polyphase generator. (2) Synchronous motor. (3) Induction motor with squirrel cage short-circuited rotor. (4) Induction motor with wire wound armature having an internal starting resistance. (5) Induction motor with wire wound armature and slip rings started by means of external resistance and controller.	This machine to be the same as that quoted for by the British Thomson Houston Company, Rugby, and to be provided with suitable switch board. Price complete ...		
4 One 5½ brake horse power 220 volts 1,520 revolutions per minute series wound direct current motor complete with pulley, slide rails and belt tightener, as supplied by Messrs. J. Holmes & Co., Newcastle-on-Tyne	4,350 290		
5 (1) 1 K.W. single phase transformer 50 periods 220/110 volts primary 50/25 volts secondary to be an exact duplicate of that supplied to this institution by the British Electric Transformer Company in 1910	540 36		
6 (1) 4 K.W. single phase transformer 50 periods 1,500/750 volts primary 300/150 volts secondary, as made by the Brush Electrical Engineering Company, Belvedere Road, London, S.E.	90 6		
7 (1) 2 K.W. auto-transformer 1,500 volts primary 500/100 secondary as made by the British Westinghouse Electric and Manufacturing Company (Limited)	270 18		
8 Two portable pattern (electro-dynamometer) voltmeters for alternating current. List No. 1294 in Kelvin and James White Catalogue. The instruments to be provided with three ranges 0.120 } volts. 0.240 } 0.600 }	180 12		
Price £7—10 each.		225	15
9 One portable dynamometer pattern ammeter 0.100 amperes for alternating and direct current type. P.P. Catalogue No. 8662 in Elliot Brothers Price list	165 11		
10 Two portable moving iron pattern ammeters 0.80 amperes for alternating and direct current type. O Catalogue No. 6862 in Elliot Brothers Catalogue. Price £ 3-10 each	105 7		

Items.		RS.	
11	Two Weston Portable Type Wattmeters for direct and alternating current, current capacity 100 amperes with shunts for working to 600 volts pressure No. 5 Model 16. Price each £13	390	26
12	One Feussner Potentiometer. Catalogue No. 55 in Messrs. Otto Wolf's Catalogue Berlin W. 35 Karlsruh 15	450	30
13	One Switchboard panel for the control of motor alternator.	300	20
	Total	30,768	
	[Note.—In all cases when a special machine is required it is essential that complete set of drawings both of the mechanical and electrical details be furnished by the makers.]		
	Add—Cost of underground main from Madras Electric Supply Corporation to college.	2,000	
	Grand total	32,768	

VII

Official Memorandum No. 600-1, Educational, dated 26th February 1913.

The Accountant-General is requested to be good enough to verify the accompanying proposition statement and return it at an early date.

L. DAVIDSON,
Ag. Secretary to Government.

To the Accountant-General (with proposition statement).

ENCLOSURE.

STATEMENT of proposition for revision of establishment.

[illegible]

VIII

Letter—from J. F. GRAHAM, Esq., M.A., I.C.S., Officiating Accountant-General, Madras.

To—the Secretary to Government, Educational Department.

Dated—the 11th March 1913.

No.—G.A. 29-5/22130.

I have the honour to return herewith the proposition statement received with Government Memorandum No. 600-1, Educational, dated 26th February 1913, and to state that the entries in the column "Present scale" shown in the statement have been compared with the registers of this office and are correct.

2. The special personal allowance of Rs. 100 *per mensem* granted after 15 years' service to officers of the Indian Educational Service who are not already in receipt of one of the other four personal allowances should be shown as a note, with proposals for retaining or discontinuing it as the case may be.

3. The sanction of the Secretary of State is necessary under article 75 (1) of the Civil Service Regulations to the creation of an additional appointment in the Indian Educational Service on a salary of Rs. 500—50—1,000.

Order—No. 607, Educational, dated 30th June 1913.

The Government approve generally of the proposals submitted by the Director of Public Instruction for the provision of facilities for the teaching of higher electrical engineering at the College of Engineering. Application will be made for sanction to the addition of a professorship in that subject to the Indian Educational Service, and on receipt of such sanction a subsidiary appointment, namely, that of laboratory assistant, will be created on a salary of Rs. 200 rising by biennial increments of Rs. 40 each to Rs. 400. The latter post will be outside the Provincial Educational Service.

2. The Government accept the estimate amounting to Rs. 32,768 for electrical machinery and apparatus submitted with the Director's letter of the 17th December 1912 and authorize him to indent on the Director-General of Stores for the necessary supply.

3. The following letter will be addressed to the Government of India.

(True Extract.)

W. FRANCIS,
Ag. Secretary to Government.

To the Director of Public Instruction.
Financial Department.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

No. 608.

From

THE HON'BLE MR. W. FRANCIS, I.C.S.,

Acting Secretary to the Government of Madras,
Educational Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,

DEPARTMENT OF EDUCATION.

Dated Ootacamund, the 30th June 1913.

SIR,

In continuation of the correspondence ending with your letter No. 646, Education, dated the 15th March 1912, I am directed to submit the accompanying further report on the subject of the provision of facilities for the teaching of higher electrical engineering in the College of Engineering, Madras.

2. In view of the limited accommodation available in the college buildings and the impossibility in their present location of extending them in the manner necessary for the proper development of the institution, the Governor in Council has resolved to construct and equip a new set of buildings on a different site. The land required has been taken up and detailed plans and estimates have been prepared and submitted to the Government of India for sanction as the amount in issue slightly exceeds the financial powers of the Local Government. Those proposals include special provision for the subject of electrical engineering as desired in your letter No. 977, dated 7th July 1911; a sum of approximately two lakhs has been entered for the construction of an electrical laboratory thoroughly equipped on modern lines, and as stated in paragraph 1 of the Hon'ble Mr. Davidson's letter No. 859, dated 5th December 1911, this Government will be prepared to meet one-half the initial outlay which this laboratory will involve. It is however, in the opinion of His Excellency in Council, most undesirable that provision, long overdue, to meet the pressing demand for up-to-date instruction in electrical engineering should be further deferred pending the completion of a scheme which must take several years to execute. The Government have therefore most carefully considered what arrangements can be made under existing conditions to provide the necessary accommodation, equipment and instruction and to what extent they are prepared to meet the necessary outlay.

As to accommodation I am to say that it has been found possible to provide room for the additional machinery necessary adjoining the existing electrical laboratory in the Engineering College. The current will be supplied by connection with the mains of the Madras Electrical Supply Corporation. As regards equipment a detailed estimate approximating Rs. 31,000 for additional machinery and apparatus has been prepared, the total initial expenditure involved including the cost of the connection being roughly Rs. 33,000. It will also be necessary to increase the

teaching staff of the college, and the appointment of a professor in the Indian Educational Service with good practical and laboratory experience and of a laboratory assistant will, in the opinion of this Government, be essential. In this connection I am to invite attention to paragraph 1 of the Hon'ble Mr. Davidson's letter referred to above.

3. The extra cost involved in these measures which His Excellency in Council thus proposes to take to ensure the immediate provision of instruction in higher electrical engineering is shown in detail hereunder:—

	RS.
<i>Non-recurring.</i>	
Apparatus and machinery	32,768
	Average cost.
	RS.
<i>Recurring.</i>	
One professor, Indian Educational Service, Rs. 500—50—1,000	
per mensem	805 $\frac{3}{4}$
Exchange compensation allowance	50 $\frac{3}{4}$
One Assistant, Rs. 200—40—400 per mensem	320
	1,175 $\frac{3}{4}$ per mensem
	or Rs. 14,111 per annum.
<i>Add—</i>	
Cost of menial establishment, supplies, services and contingencies	1,000
	15,111 per annum.

4. As regards the financial provision required, I am to say that, in view of the great importance they attach to these very necessary measures, this Government are prepared to meet the initial non-recurring expenditure and also to meet half the recurring expenditure from Provincial revenues. They confidently hope that the Government of India will see their way to contribute the remaining half of the recurring expenditure entailed by this contribution towards the advancement of technical instruction in India to which reference is made in the Honourable Mr. Sharp's letter No. 977 M., dated 7th July 1911. Should these proposals be approved, I am to request that sanction may be obtained for the addition to the Indian Educational Service of a professorship of higher electrical engineering and that the Secretary of State may also be moved to select and appoint a suitable person to the post. On his arrival in India a subsidiary appointment of laboratory assistant will be sanctioned outside the Provincial Educational Service on a salary of Rs. 200—40 (biennial)—400.

I have the honour to be,

Sir,

Your most obedient servant,

W. FRANCIS.

Ag. Secretary to Government.

EDUCATIONAL DEPARTMENT.

NOTES CONNECTED WITH G.O. Nos. 607, 608, EDUCATIONAL,
DATED 30TH JUNE 1913.

[SUBJECT.—*Provision of instruction in higher electrical engineering in the College of Engineering.*]

Letter from the Government of India, No. 646, dated 15th March 1912.

Instruction in higher electrical engineering can be provided in the College of Engineering only when it is removed to the new buildings at Guindy where it is proposed to provide the necessary laboratory accommodation. It may be premature now to frame any definite proposals regarding the maintenance of the laboratory and its establishment. In the meantime, however, the portion of the proposals relating to the initial charges of equipment (about two lakhs) would have been included in the general building scheme which is shortly to go up to India from Public Works Department; but they may be told then that a separate communication will be addressed to them on the subject of higher electrical engineering. For the present it may perhaps be sufficient if the letter from the Government of India be recorded, copy being sent to the Director of Public Instruction.

2. The draft below is for approval.

T. KANAKASUNDARAM PILLAI—31-3-12.

C. RAMANUJACHARI—2-4-12.

I am not certain that this adequately meets the case. There ought, I think, now to be a definite call to the Director of Public Instruction to arrange for the submission of proposals.

L. DAVIDSON—4-4-12.

To the Director of Public Instruction u.o. for remarks.

OFFICE OF THE DIRECTOR OF PUBLIC INSTRUCTION.

Mr. James reports that a start can be made at once, but it is clearly too early to make detailed proposals for what can be done five or six years hence when the new buildings are completed. These buildings include provision for this department.

A What may be done now involves bringing in a three-wire current and procuring certain machines and apparatus costing about Rs. 30,000. If this can be made available, this preliminary step may be taken.

Mr. James's letter, submitted just before proceeding to Europe, makes no reference to any addition to the staff; this matter might be taken up on his return or when we get an acting Principal. I fancy the new Professor and his Assistant, etc., could get to work as soon as the apparatus mentioned above is procured. I should advise going ahead.

A. G. BOURNE—6-5-12.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

It is for consideration whether the Director's suggestion at A on page 1 *ante* may be approved and he may be asked to submit definite proposals. Presumably the apparatus and appliances are to be installed at the present buildings of the College.

T. E. MOIR—19-5-12.

T. KANAKASUNDARAM PILLAI—16-5-12.

C. RAMANUJACHARI—17-5-12.

The Director of Public Instruction might well, I think, be asked to submit detailed proposals.

T. E. MOIR—19-5-12.

Yes, certainly. I believe the apparatus for teaching the elements of electricity, now in the College, are very unsatisfactory. I think the Director of Public Instruction's proposal is a good one. He will probably wait and consult Mr. James when he returns, or he might consult him in England and see what he recommends.

M. H[AMMICK]—21-5-12.

A draft is submitted for approval.

T.K.—23-5-12.

C. RAMANUJACHARI—24-5-12.

I have altered it: so as to include *staff* which is also covered by the Director of Public Instruction's letter.

Financial should see.

L. DAVIDSON—25-5-12.

FINANCIAL DEPARTMENT.

The draft may, it is submitted, be accepted.

A.S.—31-5-12.

A. HANUMANTA RAO—1-6-12.

C. REILLY—1-6-12.

I agree (but I would suggest to Educational that the reference should be an official memorandum, as it is not a final disposal).

A. G. CARDEW—2-6-12.

EDUCATIONAL DEPARTMENT.

No objection.

L. DAVIDSON—5-6-12.

[Official Memorandum No. 877-3, Educational, dated 5th June 1912.]

Letter from the Director of Public Instruction, R.C. No. 5109 of 1911, dated 17th June 1912.

The Director of Public Instruction's proposals for the provision of teaching in higher electrical engineering in the present premises of the College of Engineering involve a capital expenditure of Rs. 30,000 for apparatus and for the provision of electrical current to the College from the Madras Electric Supply Corporation main and a recurring expenditure of Rs. 1,177 for a Professor of Electrical Engineering and an Assistant. The amount proposed for machines and apparatus is, in the opinion

of the Principal, the largest amount that could profitably be spent in the present buildings. Submitted that this may be accepted and the Director of Public Instruction may be asked to obtain detailed estimates of the cost of the machines.

The proposals as regards teaching staff are the same as those formerly suggested by Mr. James and accepted by Government. Please see paragraph 1 of the letter to India, No. 859, dated 5th December 1911. The requirements as regards the menial staff (laboratory attenders) have not been reported upon.

2. The Government of India will have now to be addressed with a view—

(i) to obtaining sanction for the staff proposed; and
(ii) to procuring the half grant towards the scheme as already indicated in the letter, dated 5th December 1911.

In their current letter, they say they "await definite proposal on the subject." It is not clear from this whether in addressing them now they should be furnished with a complete estimate of the installation to be provided eventually in the College or whether an estimate of the first instalment now proposed will be sufficient. It is understood from Financial that, in connection with the application to India for sanction

K to the new College buildings, it is proposed to add to the draft letter a paragraph requesting India to make an assignment towards the total cost of the buildings. In doing so, reference will have to be made to the provision for higher electrical engineering and to the implied promise of a half grant from Imperial funds towards the cost. The Government of India may therefore prefer to have a complete estimate. Mr. James has already been requested to prepare the estimates in advance (demi-official in the Engineering College file). It is for consideration whether these should be now called for or whether detailed estimates for the first instalment of apparatus and machines in connection with the present buildings alone be obtained.

C. RAMANUJACHARI—4-7-12.

This course should be adopted, I think. It will be a long time before the new buildings are in a condition for equipment and in the meantime we want to remedy the deficiencies of the present College at Chepauk.

L. DAVIDSON—4-7-12.

To the Financial Department.

FINANCIAL DEPARTMENT.

The draft additional paragraph referred to at K above is put up in the linked file. No reference, however, has been made therein in regard to the initial outlay of 30 lakh contemplated by the Director of Public Instruction in this case on account of the equipment at the *existing* buildings. It is submitted that, if this out-

lay is to be immediately incurred in advance of the aggregate outlay of 2 lakhs to be provided in the *new* buildings, Educational may be requested to ask the Government of India to contribute to Provincial one-half of that outlay.

A.G.C.—11-7-12.

A. HANUMANTA RAO—9-7-12.

C. REILLY—10-7-12.

A. G. CARDEW—11-7-12.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

A draft memorandum to the Director of Public Instruction calling for detailed estimates for the machinery and apparatus, is submitted for approval with reference to the Secretary's note on pages 2 and 3 *supra*.

C. RAMANUJACHARI—13-7-12.

His Excellency the Governor should see before issue. I do not think this need be referred to in the draft in the linked file. When we ask for assistance towards the equipment of the present College buildings with new electrical fittings, we may point out that it will reduce the outlay on the same objects at the new College buildings.

L. DAVIDSON—15-7-12.

Very well. It will be five years or more before we get the new buildings and it seems advisable to take up the improvement of the teaching in electricity in the Engineering College before that.

M. H[AMMICK]—17-7-12.

[Memorandum No. 1708-2, Educational, dated 18th July 1912.]

Letter from the Director of Public Instruction, R.C. No. 5199, dated 17th December 1912.

The Director of Public Instruction submits a detailed estimate of the apparatus and machinery required for the immediate provision of instruction in higher electrical engineering in the College of Engineering. The estimate amounts to Rs. 32,768, which is Rs. 2,768 more than the rough estimate given in June last. Mr. James explains that this estimate is also approximate and is based on information obtained from the makers and that the India Office will probably obtain more favourable terms.

2. If the Government decide to make immediate provision for the teaching of higher electrical engineering, the estimate may be approved and the Director of Public Instruction told to forward at an early date an indent for the apparatus and machinery specified.

3. The teaching staff required is one European Professor and an Assistant. As the European Professor is to be a member of the Indian Educational Service, the sanction of the Secretary of State is required for the creation of the professorship. The pay of the Assistant is to be between Rs. 200 and Rs. 400 and this Government are competent to sanction this appointment.

4. It is for consideration whether the post of Assistant may be formally sanctioned and whether the Government of India may be addressed for sanction to the professorship. If this is decided, the cost of the undertaking may be given in the letter to be addressed to the Government of India and that Government may be asked to provide half of the cost.

T.K.—7-1-13.

The amount required for the plant has been proposed by the Director of Public Instruction and accepted by this department in connection with the utilization of any Imperial or Provincial surplus. The work has, it is understood, been included as one of the items under "unallotted." Before the indent is forwarded, the provision should be ensured.

As regards the staff, the scale proposed is the same as that already suggested, and passed by Financial in connection with the framing of an estimate for the Government of India. The establishment has now to be definitely determined. The file may be sent to the Financial Department for a definite acceptance of this scale. Presumably the application for sanction of establishment should be conditional on Government of India assisting us financially.

C. RAMANUJACHARI—11-1-13.

That will be for Financial to determine. (See notes at page 5 of notes with G.O. No. 858, Educational, dated 5th December 1911.)

So far as the outlay on plant is concerned, I hope that this item may be allowed a strong claim on the "unallotted" grant. In order that it should not be lost sight of, the case may go to Financial in an urgent file board, though, except for the point of allotment, there is no urgency.

L. DAVIDSON—16-1-13.

To the Financial Department.

FINANCIAL DEPARTMENT.

In paragraph 1 of letter to the Government of India, No. 859, Educational, dated 5th December 1911, this Government have promised to provide from Provincial funds one-half of the recurring charges (total Rupees 20,000 per annum) and one-half of the non-recurring charges (total Rs. 2 lakhs) in connection with the provision of instruction in higher electrical engineering in the College of Engineering, Madras. The intention is that the other half should be borne from Imperial funds.

2. Since it will take about five years before the new Engineering College at Guindy is ready for occupation, it is proposed to improve immediately the provision for teaching electrical engineering in the existing buildings of the Engineering College at Chepauk. The extra cost to be immediately involved will be roughly as follows:—

A.—Non-recurring.		RS.
Apparatus and machinery	...	32,768
B.—Recurring.		Cost per annum.
		RS.
One Indian Educational Service officer (500—50—1,000)...		805½
Exchange compensation allowance	...	504
One Assistant (200—400)	...	322½
Total	...	1,178 per annum or
[exclusive of supplies, and services contingencies, etc.]		14,136 per annum.

3. The creation of the appointment of the Indian Educational Service officer requires the sanction of the Secretary of State. In regard to the Assistant on Rs. 200—400 (the rate of increment will have to be fixed by Educational), it is apparent that the post is not to be filled by a gazetted officer recruited in England. If so, the creation of the appointment may be sanctioned by the Local Government.

4. Funds.—Though the whole of the eventual recurring charge (viz., Rs. 20,000 per annum) and the whole of the eventual non-recurring charge (viz., Rs. 2 lakhs) are not to be incurred by this Government immediately, it is submitted that it does not appear really necessary to ask the Government of India to make an assignment from Imperial funds equal to the Imperial share of the above charges (viz., one-half) bit by bit—i.e., as the expenditure is incurred by this Government. It may perhaps be well to ask the Government of India to make immediately the full assignment once for all, leaving this Government to proceed with the improvements as circumstances permit.

It seems unlikely that the Government of India will view such a proposal with favour. We should, it is thought, confine our request to half the cost of the present proposals.

C. REILLY—22-1-13.

5. In the case relating to the construction of the new Engineering College buildings at Guindy (total estimated cost is 15 lakhs), it has been proposed to ask the Government of India to render assistance from Imperial surplus funds towards meeting the cost of those buildings.

6. In the provisional distribution of "unallotted" a sum of Rs. 30,000 has already been entered on account of apparatus and machinery required for the teaching of higher electrical engineering.

7. The case may, it is submitted, be returned to Educational with the foregoing remarks.

C.P.K.—20-1-13.

V.G.K.—21-1-13.

C. REILLY—22-1-13.

A. G. CARDEW—23-1-13.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

It is not clear from the Financial note above whether the Government of India are to be asked to provide one-half of the cost of these proposals or not. Orders are solicited on this point as also on the question of the pay to be fixed for the Assistant to the Professor of Electrical Engineering. It has been stated that the assistant should be paid a salary of about Rs. 200 to Rs. 400 *per mensem* (*vide* paragraph 2 of the Director of Public Instruction's letter on page 4 of current file) but if the appointment is to be now sanctioned, the pay of the post will have to be definitely fixed.

C. RAMANUJACHARI—29-1-13.

Yes; we must certainly ask for one half.

L. DAVIDSON—29-1-13.

Submitted that the pay may rise from Rs. 200 to Rs. 400 by biennial increments of Rs. 40 each in ten years. But the appointment itself may be sanctioned after the Government of India's reply is received.

C. RAMANUJACHARI—29-1-13.

T.K.—28-1-13.

Submitted that the Government of India may now be addressed. The only question is whether, pending the consideration of the proposals by the Government of India an indent for the machinery required for the installation at the present buildings may not be sent. Finance Committee have definitely approved of the allotment of Rupees 30,000 for this purpose.

C. RAMANUJACHARI—29-1-13.

A draft may be prepared at once and the case circulated to His Excellency the Governor therewith.

L. DAVIDSON—29-1-13.

* As the Government of India are not concerned with the establishment in the Engineering College, this need not go. We are asking India only for an additional appointment in the Indian Educational Service. The assistant lectureship is to be created by the local Government.

C. RAMANUJACHARI—20-2-13.

General for verification is also submitted for approval.

2. The draft letter to India may be sent to Financial for acceptance.

T.K.—14-2-13.

C. RAMANUJACHARI—20-2-13.

The proposition statement may go to the Accountant-General with the memorandum which I have passed.

The draft as revised and dictated should go to Financial.

[P.S.—I doubt if the request for a moiety of the recurring cost will prevail at this stage.]

L. DAVIDSON—26-2-13.

To the Financial Department *u.o.*

FINANCIAL DEPARTMENT

Please see paragraph 2 of Financial Department note on page 5 *ante*. The recurring cost on account of the Professor and his Assistant has been shown therein as Rs. 14,136 *per annum*. But in paragraph 3 of the draft letter to the Government of India the recurring cost is put down at Rs. 14,111 *per annum*. The difference is due to the Educational Department adopting a *biennial** increment in the case of the assistant.

* *Vide* marginal note above.

Note.—The provision of Rs. 30,000 is shown in the Civil Budget Estimate for 1913-14 under 22-D. EDUCATION—GOVERNMENT COLLEGES—Professional—College of Engineering—“Supplies and services” (page 134 of Civil Budget Estimate).
† The appointment has to be sanctioned by the Secretary of State—*vide* paragraph 3 of Financial note on page 5 *ante*.

2. In regard to provision of funds for the equipment for the electrical laboratory, please see paragraph 6 of Financial note on page 5 *ante*. As regards *establishment* it is submitted that the new Professor for Electrical Engineering will probably enter upon his duties only in the course of the next † year. Necessary re-appropriation of funds may be sanctioned in that year in order to meet his charges as well as those of his Assistant.

3. In paragraph 3 of the draft letter, reference is made to the assistance from the Imperial funds towards this electrical equipment and the establishment thereto. In this connection attention is invited to the telegram from the Government of India, Department of Education, No. 444-C.D. Education, dated 11th March 1913, in which are given the details as follows for the Imperial non-recurring grant of 49 lakhs for 1912-13 and the recurring grant of 6.80 lakhs for 1913-14 referred to in the Government of India, Finance Department, letter No. 257-F., dated 3rd March 1913.

1912-13.	LAKHS.	1913-14.	LAKHS.
College and secondary schools and training institutions	6.00	Primary education	3.50
Elementary schools	17.00	Girls' " "	.87
Educational hygiene, etc.	6.00	Colleges and training institutions	.30
Manual training	1.50	Secondary education	1.35
Girls' schools, technical and special schools	6.00	Technical and special education	.09
European education	5.50	Manual training	.12
University	3.00	European education	.57
Hostels	4.00		
Non-recurring—total	49.00	Recurring—total	6.80

With reference to the grant of 6 lakhs for “College and secondary schools and training institutions” referred to above, the Government of India have stated that a portion of this sum may be used for Engineering College if desired and have also stated generally that they “do not desire to tie down Local Government too rigorously” to particular heads, provided there is general conformity to policy and will consider “favourably applications for transfer of sums from one education head to another” “subject to this provision.” In these circumstances, it is for consideration whether any mention should be made in the draft letter about the assistance from Imperial in the present case.

Note.—As regards the above grants please see paragraph 9, item (13), and paragraph 149 of Revised Financial Statement for 1913-14.

4. The file may be returned to Educational with the above remarks.

S. D. SUNDARAM PILLAI—15-3-13.

C. REILLY—17-3-13.

The phrase in paragraph 3 of the draft “but they would welcome an Imperial grant of the remaining moiety” conveys clearly the impression that the Imperial grant, though it would be welcome, is not essential. What was said in paragraph 1 of the letter No. 859, dated 5th December 1911, was that the scheme involved an expenditure of Rs. 20,000 *per annum* and that the Government of Madras “will be able to provide

one-half" of this as well as one-half of the initial outlay. This implies that we can find half if India finds the other half. If, however, the application is put as in the present draft, I think the chances are against our getting anything.

2. The initial non-recurring charges of the present proposals are only Rs. 32,768.

*Paragraph 2, page 4 of G.O. No. 194, Financial, dated 11th March 1913.

As we have just received a grant of 49 * lakhs from the Government of India for non-recurring charges, I hardly think we can ask for help towards these non-recurring charges. On the other hand, the help received from India for recurring education is altogether inadequate, viz., only 6-80, altogether, of which only 30 is to be allotted to collegiate education. Here I think we might well ask for an Imperial half grant.

3. I should be inclined (1) to make the estimate of recurring charges complete by including (and not excluding) menial establishments, supplies, services and contingencies; (2) to say that we are prepared to meet the initial non-recurring cost of apparatus and machinery (Rs. 32,768) out of the 49-lakh grant just received, but that the Government will include the cost of the construction of the electrical branch in the general estimates of the College of Engineering for which a half grant from Imperial is being separately submitted; (3) and to add that, as regards the recurring charges, this Government will, as stated in letter No. 859, dated 5th December 1911, be able to find half the expenditure if the Government of India can contribute an equal amount.

A. G. CARDEW—18-3-13.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

Submitted that the suggestion of Financial to make no application at present for grant towards the non-recurring charges may be accepted. Of the three points referred to by the Chief Secretary as regards—

(i) it is submitted that there is not before Government any accurate estimate of the cost involved by the "menial establishments, supplies, services and contingencies." Both in the communications of August† 1911 and of June last, only an estimate of the "chief additions" to the staff was given. But in calculating the total recurring cost, the Financial Department, in their note of 6th November 1911, assumed roughly that (a) laboratory attenders at a monthly cost of Rs. 150 or 1,800 *per annum* and (b) maintenance charges amounting to about Rs. 4,000 *per annum* at 2 *per cent.* of the capital cost of the plant, would be needed. Calculating with this standard for a plant of the value of Rs. 32,768 maintenance charges of

$$\begin{aligned} \frac{32768 \times 2}{100} &= 655 \\ 158 \times 12 &= 1896 \\ 2,00,000 \times 32.768 &= 295 \end{aligned}$$

Rs. 655 *per annum* and menial establishment at an annual cost of Rs. 295 may be included in the estimates. In other words an addition of Rs. 950 or Rs. 1,000 in round figures may be made to the recurring charges, raising the total annual cost to Rs. 15,111. The words "exclusive, etc." may then be omitted. If more accurate information is deemed necessary, a reference will have to be made to the Director of Public Instruction.

(ii) As regards points (2) and (3) raised by the Chief Secretary, please see pencil alterations indicated in the draft subject to approval. The draft in that case may have to be sent to Public Works Department for verification of statements made in the addition and acceptance of the draft. The proposition statement verified by the Accountant-General has been added to the draft.

C. RAMANUJACHARI—25-3-13.

H.E. the Governor—

Hon'ble Sir Harold Stuart—

Since the draft was dictated the position has completely changed, and I do not think Educational can decently ask for any special assistance towards this partial scheme. Half the recurring cost (Rs. 7,500 or thereabouts) can, it is submitted, be met from the recurring Rs. 30,000 sanctioned by India for collegiate education and training institutions. The non-recurring Rs. 32,768 is already provided for in our own budget, except for Rs. 2,768.

I should be disposed now to omit paragraph 3 altogether.

L. DAVIDSON—22-3-13.

P[RENTLAND]—25-3-13.

I regret that I am unable to agree with Mr. Davidson's view of what is after all a financial rather than an educational matter. We need not ask for any contribution towards the non-recurring expenditure, but the Chief Secretary has shown that there is a strong case for maintaining our position as regards half the recurring cost.

Page 4 of G.O. 202, Financial, dated 12th March 1913. Only 30 is provided for special and technical education and it is from that item rather than from the 30 for colleges and training institutions that we should take the money required for these two appointments. We have not been very liberally treated in the matter of this recurring grant for education, for Bengal gets 13 20 and Bombay, with a much smaller population than Madras, 5-93. I would retain paragraph 3 as modified by the Chief Secretary.

H. A. S[TEWART]—26-3-13.

Re-circulated to His Excellency the Governor.

L. DAVIDSON—26-3-13.

I agree with above.

P[RENTLAND]—27-3-13.

It is for consideration whether the draft with the pencil alterations may be sent to Public Works Department for acceptance with reference to the letter to the Government of India on the new buildings for the College. This draft contains references to that letter and it may be well if it is ascertained definitely from that department that there is no inconsistency between the two.

C. RAMANUJACHARI—16-4-13.

T. E. MOIR—16-4-13.

To the Public Works Department.

PUBLIC WORKS DEPARTMENT.

A copy of letter No. 527 W., dated 5th March 1913, to the Government of India, is put up. There appears to be no inconsistency between this letter and the draft now under consideration. The file may be returned to Educational with this information.

K.R.—22-4-13.

R.K.—23-4-13.

W. G. MOLESWORTH—23-4-13.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

Submitted that the drafts may now issue with the alterations indicated in paragraphs 2 and 3 of the draft letter.

C. RAMANUJACHARI—1-5-13.

Please let Financial see before issue.

L. DAVIDSON—1-5-13.

To the Financial Department.

FINANCIAL DEPARTMENT.

Please see notes on pages 7-8 and 9 *ante*. The revised drafts, which follow the Honourable Member's and His Excellency the Governor's orders, may, it is submitted, be accepted.

P. GOVINDA MENON—6-5-13.

C. REILLY—7-5-13.

As a matter of form the sentence in the third paragraph "but they will include

Corrected accordingly. . . . in the estimates for which

L. DAVIDSON—12-5-13. application has been made" seems to require some modification of its tenses.

2. A more important point arises out of the passage marked Z on page 3 of the draft. If His Excellency in Council "is particularly anxious to make better provision for instruction in this important branch, etc.", it seems obvious that this Government must and will find the money if India refuses to help and that the word "if" in the concluding sentence of paragraph 3 of the draft is merely put in *pro forma*. I suggest that, if it is desired really to press the Government of India to give half the recurring cost of this scheme, the draft wants re-casting so as to make it clear that that is the determining factor in whether the scheme will be carried out or not.

A. G. CARDEW—8-5-13.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

Personally I think we must provide for higher electrical engineering in any case, whether India finds half the cost or not, but it is for Government to decide. The draft must therefore go to—

His Excellency the Governor.
Hon'ble Sir Harold Stuart.

L. DAVIDSON—12-5-13.

We shall probably have to find the money if the Government of India will not contribute, but one of our objects in writing to them is to induce them to contribute. The draft is a very tepid appeal for help and I agree with the Chief Secretary that it should be re-cast, the line taken being that this better instruction in electrical science is a crying need and that we are so anxious to meet it that we will find half the cost.

This idea has been included in paragraph 13 of letter to India No. 527 W., dated 5th March 1913.

For the other half, we appeal to the Government of India who have done so much for the new Technological Institute at Cawnpore, etc.

H. A. S[UART]—16-5-13.

Yes.

W. FRANCIS—23-5-13.

Harold Stuart says that it should be re-cast. Subject to approval, however, alteration

in paragraph 3 of the draft is shown in pencil. Reference to Cawnpore Technological Institute has already been made in paragraph 13 of the letter to India towards the main scheme.

B. GOPALACHARI—21-5-13.

C. RAMANUJACHARI—22-5-13.

I agree.

P[ENTLAND]—27-5-13.

I have revised the draft. I have not stated in it that this Government have already sanctioned the initial expenditure. If, as seems to be anticipated, India may not be very ready to contribute if they are aware that we have already committed ourselves to the initial expenditure, they may at once consider it manifest that we intend going on irrespective of whether we get a grant or not and act accordingly. Will Financial please scrutinize the draft to see if it meets the objections raised in Financial to the original draft and, if it does, circulate to His Excellency and the Hon'ble Sir Harold Stuart.

T. E. MOIR—30-5-13.

To the Financial Department.

FINANCIAL DEPARTMENT.

Please see Chief Secretary's and Honourable Member's notes on page 10 *ante*. The Educational Department have now revised the drafts with reference to those notes. They have omitted in the present letter the reference to the help rendered by the Government of India towards the

Last sentence of Honourable Member's note and Educational office-note, page 10 *ante*. Cawnpore Technological Institute, since the point has already been referred to in paragraph 13 of letter to the Government of India, No. 527 W., dated 5th March 1913. The revised drafts may, it is submitted, be accepted in Financial.

P. GOVINDA MENON—6-6-13.

C. REILLY—7-6-13.

A. G. CARDEW—9-6-13.

To the Educational Department.

EDUCATIONAL DEPARTMENT.

His Excellency the Governor—

The Hon'ble Sir Harold Stuart—

The draft is for approval.

T. E. MOIR—11-6-13.

P[ENTLAND]—12-6-13.

I accept the draft with one small omission.

H. A. S[UART]—13-6-13.

Issue.

T. E. MOIR—16-6-13.

[G.O. Nos. 607, 608, Educational, dated 30th June 1913.]

No. 607, EDUCATIONAL, 30th JUNE 1913.

VIII

Letter—from J. F. GRAHAM, Esq., M.A., I.C.S., Officiating Accountant-General, Madras.

To—the Secretary to Government, Educational Department.

Dated—the 11th March 1913.

No.—G.A. 29-5/22130.

I have the honour to return herewith the proposition statement received with Government Memorandum No. 600-1, Educational, dated 26th February 1913, and to state that the entries in the column "Present scale" shown in the statement have been compared with the registers of this office and are correct.

2. The special personal allowance of Rs. 100 *per mensem* granted after 15 years' service to officers of the Indian Educational Service who are not already in receipt of one of the other four personal allowances should be shown as a note, with proposals for retaining or discontinuing it as the case may be.

3. The sanction of the Secretary of State is necessary under article 75 (1) of the Civil Service Regulations to the creation of an additional appointment in the Indian Educational Service on a salary of Rs. 500—50—1,000.

Order—No. 607, Educational, dated 30th June 1913.

The Government approve generally of the proposals submitted by the Director of Public Instruction for the provision of facilities for the teaching of higher electrical engineering at the College of Engineering. Application will be made for sanction to the addition of a professorship in that subject to the Indian Educational Service, and on receipt of such sanction a subsidiary appointment, namely, that of laboratory assistant, will be created on a salary of Rs. 200 rising by biennial increments of Rs. 40 each to Rs. 400. The latter post will be outside the Provincial Educational Service.

2. The Government accept the estimate amounting to Rs. 32,768 for electrical machinery and apparatus submitted with the Director's letter of the 17th December 1912 and authorize him to indent on the Director-General of Stores for the necessary supply.

3. The following letter will be addressed to the Government of India.

(True Extract.)

W. FRANCIS,

Ag. Secretary to Government.

To the Director of Public Instruction.
Financial Department.

G.O. No. , June 1913.

College of Engineering, Madras.

Submitting a further report to the Government of India on the subject of the provision of facilities for the teaching of higher electrical engineering in the —, Madras.

Approving generally the proposals submitted by the Director of Public Instruction for the provision of facilities for the teaching of higher electrical engineering at the — and addressing the Govt. of India on the subject

No. 1,608 25

THE HON'BLE MR. W. FRANCIS, I.C.S.,
Acting Secretary to the Government of Madras,
Educational Department,

Dated Ootacamund, the 3rd June 1913.

Sir, In continuation of the correspondence ending with your letter No. 646, Education, dated the 15th March 1912, I am directed to submit the accompanying further report on the subject of the provision of facilities for the teaching of higher electrical engineering in the College of Engineering, Madras.

2. In view of the limited accommodation available in the college buildings and the impossibility in their present location of extending them in the manner necessary for the proper development of the institution, the Governor in Council has resolved to construct and equip a new set of buildings on a different site. The land required has been taken up and detailed plans and estimates have been prepared and submitted to the Government of India for sanction as the amount in issue slightly exceeds the financial powers of the Local Government. Those proposals include special provision for the subject of electrical engineering as desired in your letter No. 977, dated 7th July 1911; a sum of approximately two lakhs has been entered for the construction of an electrical laboratory thoroughly equipped on modern lines, and as stated in paragraph 1 of the Hon'ble Mr. Davidson's letter No. 859, dated 5th December 1911, this Government will be prepared to meet one-half the initial outlay which this laboratory will involve. It is however, in the opinion of His Excellency in Council most undesirable that provision, long overdue, to meet the pressing demand for up-to-date instruction in electrical engineering should be further deferred pending the completion of a scheme which must take several years to execute. The Government have therefore most carefully considered what arrangements can be made under existing conditions to provide the necessary accommodation, equipment and instruction and to what extent they are prepared to meet the necessary outlay.

As to accommodation I am to say that it has been found possible to provide room for the additional machinery necessary adjoining the existing electrical laboratory in the Engineering College. The current will be supplied by connection with the mains of the Madras Electrical Supply Corporation. As regards equipment a detailed estimate approximating Rs. 31,000 for additional machinery and apparatus has been prepared, the total initial expenditure involved including the cost of the connection being roughly Rs. 33,000. It will also be necessary to increase the teaching staff of the college, and the appointment of a professor in the Indian Educational Service with good practical and laboratory experience and of a laboratory assistant will, in the opinion of this Government, be essential. In this connection I am to invite attention to paragraph 1 of the Hon'ble Mr. Davidson's letter referred to above.

Rec'd &
dispd with
35 ser

3. The extra cost involved in these measures which His Excellency in Council thus proposes to take to ensure the immediate provision of instruction in higher electrical engineering is shown in detail hereunder:—

	Rs.
Apparatus and machinery	32,768
Non-recurring.	Average cost.
	Rs.
Recurring.	
One professor, Indian Educational Service, Rs. 500—50—1,000	
per mensem	805½
Exchange compensation allowance	50½
One Assistant, Rs. 200—4½—400 per mensem	320
	1,175½ per mensem
	or Rs. 14,111 per annum.
Add—	
Cost of menial establishment, supplies, services and contingencies	1,000
	15,111 per annum.

4. As regards the financial provision required, I am to say that, in view of the great importance they attach to these very necessary measures, this Government are prepared to meet the initial non-recurring expenditure and also to meet half the recurring expenditure from Provincial revenues. They confidently hope that the Government of India will see their way to contribute the remaining half of the recurring expenditure entailed by this contribution towards the advancement of technical instruction in India to which reference is made in the Honourable Mr. Sharp's letter No. 977 M., dated 7th July 1911. Should these proposals be approved, I am to request that sanction may be obtained for the addition to the Indian Educational Service of a professorship of higher electrical engineering and that the Secretary of State may also be moved to select and appoint a suitable person to the post. On his arrival in India a subsidiary appointment of laboratory assistant will be sanctioned outside the Provincial Educational Service on a salary of Rs. 200—40 (biennial)—400.

I have the honour to be,

Sir,

Your most obedient servant,

W. FRANCIS.

Ag. Secretary to Government.

G.O., No.858/9 Ed1., dated 5th December 1911.

G.No.877, from the Govt. of India, No.646, dated 15-3-12.

1953-5CF C.No.1708, from the D.P.I., No.5199/11 dated 17-6-12.

Refs 7-13 CF. G.No.3443, from the D.P.I., , dated 17-12-12.

ORDER :
P.S.

The Government approve generally of the proposals submitted by the Director of Public Instruction ^{for} of the provision of facilities for the teaching of higher electrical engineering at the College of Engineering. Application will be made for sanction to the addition of a professorship in that subject to the Indian Educational Service and on receipt of such sanction a subsidiary appointment, namely, that of a laboratory assistant, will be created on a salary of Rs.200 rising by biennial increments of Rs.40 each to Rs.400. The latter post will be outside the Provincial Educational Service.

2. The Government accept the estimate amounting to Rs.32,768 for electrical machinery and apparatus submitted with the Director's letter of the 17th December 1918 and authorize him to indent on the Director-General of Stores for the necessary supply.

3. The following letter will be addressed to the Government of India.

To the D.P.I.
,, the Financial Deptt.

19 17 2 200
LETTER.

To

The Secretary to the Govt. of India,
Department of Education.

Sir,

In continuation of the correspondence ending with your letter No. 646 Education, dated the 15th March 1912 I am directed to submit the accompanying further report on the subject of the provision of facilities for the teaching of higher electrical engineering in the College of Engineering, Madras.

2. In view of the limited accommodation available in the college buildings and the impossibility in their present location of extending them in the manner necessary for the proper development of the institution the Governor in Council has resolved to construct and equip a new set of buildings on a different site. The land ^{requires} has been taken up and detailed plans and estimates have been prepared and submitted to the Government of India for sanction as the amount in issue -- slightly exceeds the financial powers of the Local Government. Those proposals include special provision for the subject of electrical engineering as desired in your letter No. 977 dated 7th July 1911; a sum of approximately two lakhs has been entered for the construction of an electrical laboratory -- thoroughly

page 14

P.

12.6.13.

13.6.13

527.4
5.2.13 - 0

(128645 5274 - 0)
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page 2 of 8582
5.12.11 (V)

27/13

thoroughly equipped on modern lines and as stated in paragraph 1 of the Hon'ble Mr. Davidson's letter No.859 dated 5th December 1911 this Government will be prepared to meet one-half the initial outlay which this laboratory will involve. It is however in the opinion of His Excellency in Council most undesirable that provision, long overdue, to meet the pressing demand for up to date instruction in electrical engineering should be further deferred -- pending the completion of a scheme which must take several years to execute. The Government have therefore most carefully considered what arrangements can be made under existing conditions to provide the necessary accommodation, equipment and -- instruction and to what extent they are prepared to meet the necessary outlay.

As to accommodation I am to say that it has been found possible to provide room for the additional machinery necessary adjoining the existing electrical laboratory in the Engineering College. The current will be supplied by connection with the mains of the Madras Electrical Supply -- Corporation. As regards equipment a -- detailed estimate ^{approximately} ~~approximately~~ Rs.31,000 for additional machinery and apparatus has been prepared, the total initial expenditure involved including the cost of the connection being roughly Rs.55,000. It will also be necessary to increase the teaching staff of the College and the ap-

pointment

Page 2-3 2
note.

For the A page 2 2 note
+ para: 1 (b) page 3 CF

page 13 CF

microscope

Letter 859 481 V
5.12.11

Page 13, CF

Page 12 of notes.
Page 19-20 of notes.
Page 21 of notes.

365.

Page 27 of notes.

appointment of a professor in the Indian Educational Service, with good practical and laboratory experience, and of a -- laboratory assistant, will, in the opinion of the Government, be essential. In this connection I am to ^{invite} call attention to -- paragraph 1 of the Hon'ble Mr. Davidson's letter referred to above.

3. The extra cost involved in these measures which His Excellency in Council thus proposes to take to ensure the immediate provision of instruction in higher electrical engineering is shown in detail hereunder:-

Non-recurring.

	Rs.
Apparatus and machinery.	32,768

Recurring.

	Average cost.	Rs.
One professor, Indian Educational Service		
Rs. 500-50-1,000 p.m.	805	5 9
Exchange compensation allowance	50	8
One assistant.		
Rs. 300-40/2-400 p.m.	320	

1,175 67 per annum
===== 72

or Rs. 14,111 per annum.

Add

Cost of menial establishment, supplies, services and contingencies.	1,000
	15,111 per annum
	=====

4. As regards the financial provision required, I am to say that in view of the great importance they attach to these very necessary measures this Government are prepared to meet the initial

non-

① Para: 2 page 4 of
a/c 194-5/8 11.3.13 - C

H.M.'s note page 23 quib

& page 7 of note.

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let

(marginal note
on page 16 of note)

22/5/23 P 20

non-recurring expenditure [from the Imperial
grant of 40 lakhs lately sanctioned] and --
also to meet half the recurring expenditure
from Provincial revenues. They confidently
hope that the Government of India will see
their way to contribute the remaining half
of the recurring expenditure entailed by
this contribution towards the advancement
of technical instruction in India to which
reference is made in the Hon'ble Mr. Sharp's
letter No. 977 M. dated 7th July 1911. --
Should these proposals be approved I am to
request that sanction may be obtained for
the addition to the Indian Educational Service
of a professorship of higher electrical --
engineering and that the Secretary of State
may also be moved to select and appoint a
suitable person to the post. On his --
arrival in India a subsidiary appointment
of laboratory assistant will be sanctioned
outside the Provincial Educational Service
on a salary of Rs. 200-40 (biennial) - 400.

I have etc.

Let
30.5.13

ORDINARY.

PREFERENCE.

URGENT (a).

LOCAL AND MUNICIPAL DEPARTMENT.

Current No. 772, dated 15-3-21 191

G.O., No. 2443, dated 13-2-21 191

(b)

Number of MS. pages sent { Correspondence including order or orders (b) 22

Notes 32

Docket... College of Engineering, Bangalore

(c)

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..... Dept.				
Total ...				
Spare copies.				
The C.M.C.....				
The Collector of.....				
The P.D.B.....				
The Accountant-General.....				
The Director of Public Instruction.....	5	5		
The Surgeon-General.....				
The Sanitary Commissioner.....				
Do. Engineer.....				
Do. Board.....				
The President, Corporation of Madras.....				
The.....				
The.....				
The.....				
The.....				
Total ...				

INSTRUCTIONS FOR THE SECRETARIAT.

(a) If a paper is marked to be printed urgently, the Superintendent of the section concerned should sign the Press slip. The Superintendent should exercise a careful discretion in the matter.

(b) Each letter, memorandum, or order, or set of orders, in the file of correspondence should be headed in succession with the Roman numeral I, II, III, etc., the number being written in red ink or blue chalk above the item. The particular papers to be printed in the special issue-copies should be indicated by the Roman numeral (I, II, etc.) by which that item has been headed in the correspondence file. All matter, including marginal remarks or references, to be printed should be written in ink and matter which should not be printed should be encircled. Initials of signatures that are not quite legible should be re-written distinctly.

(b) For rules regarding printing of notes, see the rules in G.O., No. 1220, Public, dated 30th November 1900.

(c) The number of copies and the details of distribution should be filled in by the Superintendent or Referencer concerned.

(d) In the absence of special instructions to the Press to keep matter standing for a specified period, ordinary papers of 8 pages and under will be kept standing for one week, and larger papers for two weeks only. The type of notes and of all confidential papers is distributed immediately after striking.

(e) This slip, properly and completely filled in, should accompany every paper sent to Press; it will be returned by the Press when proofs are furnished; it should be sent to the Press when a call is made for revised proofs or when a corrected proof is sent for striking. When finally returned by Press it should be filed with the original order or letter.

INSTRUCTIONS FOR THE PRESS.

(a) If, in the opinion of the Superintendent of the Press, a paper has been marked urgent unnecessarily, he should send the Press slip to the Registrar with a remark to that effect.

(b) Unless a note to the contrary is made against the matter, pencil entries should not be printed. The Superintendent of the Press may bring to the notice of the Registrar any instance of incomplete or careless editing.

(c) Signature copies of letters to the Secretary of State or to the Government of India should be printed on hand-made paper.

(d) This slip should be returned by the Press to the Secretariat when proofs are furnished; it will be sent back to the Press when proofs are returned corrected and should be finally returned to the Secretariat when struck-off copies are supplied.

(e) The names of the Secretary and Member^s should be printed in full when they occur on the right hand side, but only the first time when they appear on the left side, the initials alone being printed later.

* Copies distributed on..... (Press Clerk.)

† Copies distributed on..... (Despatcher.)

‡ To be initialled and dated.

B

Please send proof in triplicate. The papers have been carefully edited.

Proof returned corrected. Please strike off and send number of copies as indicated.

Type may be released after usual interval.
at once.

C

As the matter is clear manuscript and has been carefully edited, (b) proof need not be sent. Please print and supply number of copies as indicated.

Type may be released after usual interval.

MB
16613 Clerk.

Clerk.

Clerk.

Dy. Supdt.

Dy. Supdt.

Dy. Supdt.

(b) Three copies of proof of all notes should be sent for approval, except when instructions are given to the contrary.

SPECIAL INSTRUCTIONS.

*Prin Please print from the
so letter will be forwarded in
proof. Proof letter to be sent
in advance 16613*

TO BE FILLED IN BY THE PRESS.

Diary.		Initials of Press official.	
Received in Press on.....			
First proof furnished on.....			
Call for revised proof received on.....			
Revised proof furnished on.....			
Corrected proof received for striking on.....			
Final copies supplied on.....			
Account of copies.	Complete copies.	Notes.	Issue copies.
Supplied to Secretariat for Record.....			
" " " Issue.....			
For Volumes.....			
For E.T.....			
Total ...			