Urgent

Public Works (1899) Department.

RAILWAY BRANCH.

G.O., No. 1200-1 Ry

DATED 24th Oct 1899

Includes G.O. No. 1392 Ry d/ 11-11-98

Proof 50/20/35

[Despatch Abstract.]

Gas works for Bangalore City Station of the Madras Railway

—

Recommending to the Govt of India for sanction an Estimate amounting to Rs 72,190 for Erecting ——

—

Forwarding for sanction an Estimate amounting to Rs 72,190 for Erecting ——

Indexed.

[P. W. Ry.
300—15-9-99.]

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

RAILWAY.

Government {1899} of Madras.

PUBLIC WORKS.

Recd. } 1899. *Enclosures*

Regd. *Spare copies*

G.O., No. 1200 Ry., 24th October 1899.

OCTOBER.

Gas Works for Bangalore City Station of the Madras Railway

Recommending to the Government of India for sanction an estimate amounting to Rs. 72,190 for erecting —.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Railway.

Read the following papers :—

From—The Agent and Manager, Madras Railway.
To—The Consulting Engineer for Railways, Madras.
Dated—Madras, 9th September 1898, No. 10174/859.

I have the honour to enclose an estimate in duplicate of the cost of the proposed joint gas installation at Bangalore City Station, amounting to Rs. 72,190, chargeable to Capital. I also enclose in duplicate a detailed estimate of the cost of the gas plant (Rs. 59,590) and a further detailed estimate (with plan No. 4393 A) of the cost of the shed and siding required (Rs. 12,600). My Board as well as the Board of the Southern Mahratta Railway have given their approval to the proposed expenditure. I enclose for your information extract paragraph 5 of my letter No. 2365 of the 2nd June last to the Board, and copy of their reply, paragraph 8 of letter No. 977 of 1st July 1898, bearing on the subject. I beg to request that you will kindly communicate to me the sanction of Government to the proposed work being carried out.

Information as to provision in the budget and date on which sanction will lapse is given on the estimate.

Enclosure No. 1.

Extract from a letter from—The Agent and Manager, Madras Railway.
To—The Secretary to the Board of Directors.
Dated—2nd June 1898, No. 2365.

* * * * *

5. *Joint gas installation at Bangalore City.*—Adverting to paragraph 17 of letter No. 967, I beg to submit, herewith, for the approval of the Board, an estimate of the cost, amounting to Rs. 72,190, of the joint gas installation at Bangalore City Station. The Agent of the Southern Mahratta Railway has, subject to confirmation by his Board, intimated his formal approval to the estimate.

* * * * *

Enclosure No. 2.

Extract from a letter from—The Secretary to the Board of Directors.
To—The Agent and Manager, Madras Railway.
Dated—1st July 1898, No. 977.

* * * * *

8. *Joint gas installation at Bangalore City.*—Replying to paragraph 5 of No. 2365, I am to convey the Board's approval of the estimate, amounting to Rs. 72,190, of the cost of the joint gas installation at Bangalore City Station.

* * * * *

Enclosure No. 3.

Detailed estimate of cost of Gas Installation at Bangalore City.

	RS.	RS.
(1) Plant for Carriage Lighting —		
Gas plant consisting of retorts, compressing engine, purifiers, gasometers, pumps, &c. ..	27,412	
2,500 running-feet of lead piping ..	1,563	
36 charging boxes ..	1,755	
Labour for erection of plant in gas house, laying of pipes, &c. ..	3,500	34,230
(2) Plant for Station Lighting —		
Three retort benches ..	4,500	
One gasometer, 20′ × 16′ with pipes and connections ..	5,700	
One set purifiers with water and connections ..	3,000	
Labour for erection of plant ..	2,500	15,700
(3) Lamp posts, lamps, pipes, &c., for Station Lighting —		
3,500 feet of C.I. 2½ main piping ..	2,085	
12,000 feet of W.I. gas piping 1″, ¾″ and ½″ ..	3,750	
1,000 Ts and unions ..	375	
100 lamp posts with lamps complete ..	1,500	
100 lamps ..	250	
200 burners and pipes ..	200	
100 pendants with burners ..	500	
Labour for erection of lamp posts, laying of pipes, &c. ..	1,000	9,660
(4) Gas house and Siding—		
Cash ..	5,947	
Stores ..	6,653	12,600
Total of the Estimate ..		72,190

Enclosure No. 4.

Estimate of the cost of a proposed building for the Gas Works at Bangalore City, plan No. 4093 A.

Description of work.		Quantity.	Rate.				Amount.		
				RS.	A.	P.	RS.	A.	P.
Excavation ..	c. ft.	3,680	Per 1,000	7	0	0	25	12	2
Earth filling ..	,,	5,600	,,	19	0	0	106	6	5
Masonry ..	,,	8,800	Per 100	25	0	0	2,200	0	0
Flat arch work ..	,,	252	,,	30	0	0	75	9	7
Plastering ..	sq. ft.	12,350	,,	3	0	0	370	8	0
Flooring with stone ..	,,	2,550	,,	25	0	0	637	8	0
Mangalore tiling ..	,,	3,800	,,	15	0	0	570	0	0
Batten doors ..	,,	72	Each.	1	6	9	102	6	0
Painting doors ..	,,	150	Per 100	2	0	0	3	0	0
Honeycomb work ..	,,	350	,,	5	8	0	19	4	0
Old rails ..	No.	12	Each.	10	0	0	120	0	0
Wrought iron works in trusses ..	tons.	11	,,	420	0	0	4,620	0	0
Fitting up iron works, &c. ..	..	..	..	..			175	0	0
Concrete foundation for gas holder, &c. ..	..	..	..	..			600	0	0
Wrought iron gutter ..	l. ft.	46	Each.	2	0	0	92	0	0
Carriage of materials ..	tons.	12	,,	4	9	4	55	0	0
Contingencies ..	..	..	..	..			488	9	10
Total ..		..	..	..			10,261	0	0
Siding.									
Ballasting ..	c. ft.	9,000	Per 1,000	19	0	0	171	0	0
Laying permanent-way ..	l. yd.	124	Each.	0	8	0	62	0	0
Cost of permanent (2nd hand rails) ..	,,	124	,,	9	12	0	1,209	0	0
Laying points and crossings ..	No.	1	,,	10	0	0	10	0	0
Cost of do. ..	..	1	,,	390	0	0	390	0	0
Cost of buffer stop ..	..	1	,,	92	0	0	92	0	0
Carriage of materials ..	Tons.	12	,,	4	9	4	55	0	0
Contingencies ..	..	..	..	..			99	0	0
Total ..		..	..	..			2,088	0	0
Tar and Oil tank.									
Earth work ..	c. ft.	1,350	Per 1,000	7	0	0	9	7	2
Concrete ..	,,	150	Per 100	15	0	0	22	8	0
Masonry ..	,,	590	,,	25	0	0	147	8	0
Pointing ..	sq. ft.	325	,,	1	8	0	4	14	0
Filling sand ..	..	..	..	..			24	0	0
Old rails ..	l. ft.	62	Each.	0	8	0	31	0	0
Contingencies ..	..	..	..	..			11	10	10
Total, *Tar and Oil tank* ..							251	0	0
Add Cost of building for gas works ..							10,261	0	0
Add Cost of siding ..							2,088	0	0
Grand Total ..							12,600	0	0

From—The Consulting Engineer for Railways, Madras.
To—The Agent and Manager, Madras Railway.
Dated—29th September 1898, No. 2674.

I have the honour to return the estimate received with your letter No. 10174/859, dated the 9th September 1898, and to request that it may be re-submitted after it has been altered in accordance with the Note by the Examiner, Guaranteed Railway Accounts, Madras quoted below:—

> "The cost of the existing lighting arrangements (lamp posts, lamps, &c.), less value of meterials recovered should be allocated to revenue (joint station expense)."

From—The Agent and Manager, Madras Railway.
To—The Consulting Engineer for Railways, Madras.
Dated—Madras, 21st October 1898, No. 10174/999.

I have the honour to re-submit, unaltered, the estimate in duplicate for gas making plant, lamps and fittings for joint gas works at Bangalore City, returned with your letter No. 2674 of the 29th ultimo.

With regard to the Government Examiner's note embodied in your above letter the Company's Locomotive Superintendent writes:—

> "I would point out that item No. 3 is not in replacement of any existing plant, but is in addition to the plant already at the station and which will be required on the installation of the joint gas works at Bangalore City, the cost of this item would therefore appear to be a correct charge to capital."

In these circumstances, I shall be obliged if you will kindly communicate to me the sanction of Government for the amount of the estimate being charged wholly to Capital.

Enclosure No 1.

Allocation of estimate.	Cash to be expended in India.	Value of materials.	Total value of work to be done.	Chargeable to Capital.	Chargeable to Revenue.	Remarks.			
Line open for Traffic.	RS.	RS.	RS.	RS.	RS.	The sanction will lapse on 31st December 1899.			
IV. Ballast and permanent-way—							Cash.	Stores.	
2. Permanent way	313	1,775	2,088	2,088	..	Engineering.	5,613	6,987	Charged against provision in Schedule B, 1898-99.
V. Stations and Buildings—									
2. Workshops, store buildings, &c.	5,300	5,212	10,512	10,512	..				
VII. Plant—									
3. Carriage and wagon	3,500	30,730	34,230	34,230	..				
4. Station and office furniture ..	3,500	21,860	25,360	25,360	..	Locomotive.	7,000	38,000	Provided in Schedule B, 1898-99.
Total ..	12,613	59,577	72,190	72,190	..		12,613	44,987	

Enclosure No. 2.

Estimate for Gas-making plant, lamps and fittings for joint Gas Works at Bangalore City.

Item.	Description of work.	Rate.	Cash to be expended in India.	Value of stores.	Total value of work to be done.	Chargeable to Capital.	Chargeable to Revenue.	Remarks.
		Provision for Rs. 45,000 of this expenditure has been made in the budget estimate for 1898-99, Schedule B. The difference will be provided in the budget for 1899-1900.						Estimate to lapse, 31st December 1899.
		RS.	RS.	RS.	RS.	RS.	RS.	
1	Carriage lighting plant.	..	3,500	30,730	34,230	72,190	..	Cost to be distributed between the Southern Mahratta and Madras Railways.
2	Station lighting plant.	..	2,500	13,200	15,700			
3	Posts, lamps, &c., for Station lighting.	..	1,000	8,660	9,660			
4	Gas house	..	5,300	5,212	10,512			
5	Siding	..	313	1,775	2,088			
	Total ..	..	12,613	59,577	72,190	72,190	..	

Telephonic Message from—The Consulting Engineer for Railways, Madras.
To—The Agent and Manager, Madras Railway.
Dated—27th October 1898.

Am I to understand that on installation of gas at Bangalore you propose still to keep present oil lights in addition to gas lights, as your letter of 21st October seems to imply.

From—The Agent and Manager, Madras Railway.
To—The Consulting Engineer for Railways, Madras.
Dated—Madras, 31st October 1898, No. 10174/1025.

In reply to your telephone message of the 27th instant, I have the honour to inform you that it is proposed to utilize all existing lamp-posts and lamps at Bangalore City in the new installation, gas pipes and burners being fitted to them in place of the kerosine-oil burners now used. In the estimate which has been framed, the cost of all burners and piping required for the existing lamp-posts and lamps has been included, it being understood that the existing lamp-posts and lamps having been once charged off, their value would not appear in the estimate which was for additional plant only and exclusive of anything at present in use.

From—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
To—The Secretary to the Government of India, Public Works Department.
Dated—Madras, 11th November 1898, No. 1392 Ry.

Amount of estimate—Rs. 72,190.
Chargeable to—Madras Railway.
Allocation to Capital—Rs. 72,190.
" to Revenue— *Nil.*
Funds available or not—Available.
Estimate recommended or not—Recommended.
Allocation " —Recommended.
Board's approval obtained or not.—Board's approval obtained.

I am directed to forward, for the orders of the Government of India, a copy of a letter No. 10174/859, dated 9th September 1898, from the Agent and Manager, Madras Railway Company, with which he submits an estimate as per margin for the proposed joint gas installation at the Bangalore City station.

2. The Agent, Madras Railway, states that it is proposed to utilize all existing lamp-posts and lamps at Bangalore City in the new installation, gas pipes and burners being fitted to them in place of the kerosine-oil burners now used. The cost of the gas burners and piping required for the existing lamp-posts and lamps has been included in the present estimate, but not that of the lamp-posts and lamps which has already been charged off. The only articles which will be discarded are the oil burners, and though strictly an adjustment of their value should be made between Capital and Revenue, this has not been pressed as the amount involved is small.

3. The Board of Directors of the Southern Mahratta Railway have also approved of the work.

From—The Secretary to the Government of India, Public Works Department.
To—The Joint Secretary to the Government of Madras, P.W. Dept., Ry. Branch.
Dated—Simla, 19th January 1899, No. 87 R.C.

I am directed to acknowledge the receipt of your letter No. 1392 Ry., dated the 11th November 1898, with which you forward, for the orders of the Government of India, a copy of a letter from the Agent and Manager, Madras Railway Company, submitting an estimate, amounting to Rs. 72,190, chargeable to Capital, of the cost of a joint gas installation at the Bangalore City station.

2. In reply, I am directed to state that, owing to the reduced programme of Capital expenditure, it is necessary that work involving no direct return should not be undertaken. From a reference to the present timings of trains into and out of the Bangalore City station, the platforms and buildings would appear to require to be fully lighted for the use of the public for about 3½ hours only in the evening and 1½ hours in the morning during the winter months and not at all during the summer.

3. I am accordingly to state that, before according sanction to the proposal to spend Rs. 72,190 on the lighting of the Bangalore City station for a few hours daily during the winter months, the Government of India desire to be informed what economy will result from the proposed installation, the comfort and advantages of which are not questioned.

Endt. by the Consg. Engr. for Railways, Madras, dated 30th January 1899, No. 325.

Copy forwarded to the Agent and Manager, Madras Railway, for report, with reference to correspondence ending with his letter No. 10174/1025, 31st Oct. 1898.

From—The Agent and Manager, Madras Railway.
To—The Consulting Engineer for Railways, Madras.
Dated—Madras, 7th July 1899, No. 10174/822.

With reference to your endorsement No. 325, dated the 30th January last, on a copy of a communication from the Government of India in regard to the proposed gas installation at Bangalore City, I have the honour to enclose extracts from the letters from the Locomotive Superintendent, dated the 15th March and 30th June 1899, respectively, together with the statements referred to, explaining what economy will result from the proposed installation over the present system of lighting the station by kerosine-oil. Apart from the distinct advantage to be gained from the improved lighting of so large and busy a station as Bangalore City, there will be a saving in expenditure, and I trust that, in the light of the explanation now afforded, the Government will be pleased to accord sanction to the scheme.

ENCLOSURE No. 1.

EXTRACT from a letter from—The Locomotive Superintendent, Madras Railway.
To—The Agent and Manager, Madras Railway.
Dated—15th March 1899, No. B. 2420/274.

I wrote to the Traffic Manager of this line and to the Locomotive Superintendent, Southern Mahratta Railway, informing them of the objection that had been raised by the Government of India and asking them to let me know what figures I might take as representing—

(1) The cost of haulage of the gas trucks between Madras and Bangalore for charging as at present our own carriages, and also over the Southern Mahratta Railway for charging Southern Mahratta Railway carriages.
(2) The cost of lighting the station with oil as at present both Madras Railway Company and Southern Mahratta Railway proportions.
(3) Whether the Southern Mahratta Railway considered the establishment of a gas works at Bangalore City a *sine qua non*, or, if not, if gas lighting could be introduced on the Southern Mahratta Railway without it.

2. I have pleasure in sending you a copy of a letter I have received from the Traffic Manager.

3. So far as the expenditure upon this line is concerned, the figures may probably be taken approximately as shown in the annexed statement to be—

Cost per month of lighting the station by oil and hauling gas trucks, as at present, between Madras and Bangalore	Rs. 384
Cost per month of gas for lighting station if gas works were established.	,, 369
Showing a saving per month of	,, 15

4. I have not included in this any interest on the plant, but I think the price quoted per 1,000 cubic feet should be sufficient to include all cost of ordinary maintenance and repairs of plant. Further, of course, the saving that would result to the Southern Mahratta Railway upon haulage of gas trucks and of lighting non-Madras Railway Company and joint buildings is also not included, nor is any account taken of the fact that the gas lighting installation will provide 246 lamps against a total present number of about 150 kerosine lamps.

5. The cost of gas used in Madras Railway Company carriages running into and out of Bangalore is not included, as this may be taken to be the same whether the gas is made in Madras and trucked to Bangalore, or made in Bangalore.

ENCLOSURE No. 2.

COMPARATIVE STATEMENT.

Oil lighting as at present (Madras Railway Company proportion only).

Cost per month of lighting by oil the Madras Railway Company portion of the station as at present	Rs. 110
Cost per month of haulage of gas trucks between Bangalore City and Madras, 219 miles, 5 trucks per month, each way at 2 annas per mile	,, 274
Total ...	,, 384

Gas lighting if gas works as proposed are constructed (Madras Ry. Co.'s proportion only).

Number of lamps for station and joint buildings, excluding Southern Mahratta Railway goods-shed	Rs. 246
Assuming the time during which lamps would be required as given in the Government of India memorandum, viz., 5 hours per day as correct, this would make the number of lamp hours per month, 246 × 30 × 5	,, 36,900
Assuming again a consumption per lamp of 1 cubic foot per hour and that gas would cost, say Rs. 10 for 1,000 feet, total cost per month would be	,, 369

ENCLOSURE No. 3.

EXTRACT from letter from—The Locomotive Superintendent, Madras Railway.
To—The Agent and Manager, Madras Railway.
Dated—30th June 1899, No. B. 2420/683.

The Locomotive Superintendent, Southern Mahratta Railway, now writes me that he considers it a *sine quâ non* that gas works whether joint or Southern Mahratta Railway only, should be established at Bangalore City since the Southern Mahratta Railway have not at present plant enough to manufacture all gas required for their carriages.

2. If extra plant were put down at Hubli, the cost of trainage to Bangalore would be about Rs. 3 per 1,000 cubic feet irrespective, of course, of the cost of the extra trucks required or of the interest upon their capital value. This would enormously increase the expenses of carriage lighting since the gas as manufactured should not cost more than from Rs. 10 to Rs. 12 per 1,000 feet including all charges, and the cost of haulage would therefore amount to, say 25 per cent. of the value of the gas.

3. The Locomotive Superintendent, Southern Mahratta Railway, tells me that the goods-sheds of that Company have not as yet been lighted at all by night, but I learn further from a telegram received to-day from the Traffic Manager, Southern Mahratta Railway, that if the new installation is put in, he wishes to arrange for this to be done, and that the 45 extra lamps originally asked for and entered in the original list sent you with my letter of the 8th February 1898 shall be provided.

4. Omitting, however, these lamps, the general scheme provides for a total of 246 lamps in and about the station compound and buildings as against 127, the number now provided, so that the lighting of the station will be doubled so far as number of lamps is concerned, and apart altogether from the far greater amount of light given by a gas flame as compared with a kerosine lamp.

5. I enclose a comparative statement showing the present and estimated cost of lighting, from which it will be seen that, assuming the cost of the gas at the higher price even of Rs. 12 per 1,000 feet, there would still be a monthly saving of Rs. 225.

6. Assuming the 45 Southern Mahratta Railway goods-shed lamps are also all used each night for 5 hours, they would burn about 6,000 cubic feet of gas per month and this at the same rate, *i.e.*, Rs. 12 per 1,000 feet would cost, say Rs. 72 per month.

7. Since, however, this is all extra lighting which has hitherto not been provided, its cost does not affect the comparison between the old and new systems and the monthly saving may therefore be said to be as stated Rs. 225.

Enclosure No. 4.

Statement of approximate saving per month effected by joint Madras Railway and Southern Mahratta Railway gas installation it is proposed to establish at Bangalore City station.

Cost of lighting the station as at present with oil and with 127 lamps.	Rs. 110	
Cost of haulage of gas trucks from Madras for supply of gas to Madras Railway carriages	„ 274	
Cost of haulage of gas trucks from Hubli for supply of gas to Southern Mahratta Railway carriages	„ 273	
Cost of lighting the station with gas by 246 lamps and assuming5 hours burning per day as given in the Government of India memorandum and estimating the cost of the gas at Rs. 12 per 1,000 feet would be, say		Rs. 432
Saving per month		„ 225
	Rs. 657	Rs. 657

From—The Consulting Engineer for Railways, Madras.
To—The Agent and Manager, Madras Railway.
Dated—Madras, 21st July 1899, No. 2241.

The information enclosed with your letter, No. 10174/822, dated the 7th July 1899, is too diffuse, if not contradictory, for me to forward it to the Government of India with any chance of success. I shall therefore be obliged if, with the Locomotive and Traffic officers' estimates before you, you will furnish me with one clear comparative statement, in a shape fit to go forward to the Government of India, and supporting your claim to get the gas as being not only efficient, which is not denied, but also economical. Interest on capital outlay ought, naturally, to find a place in such a statement; and it ought not to omit consideration of the cost of carriage of coal and oil to Bangalore, whether in price at site or in price of gas so produced.

From—The Agent and Manager, Madras Railway.
To—The Consulting Engineer for Railways, Madras.
Dated—Madras, 18th August 1899, No. 10174/1021.

With reference to your letter, No. 2241, dated 21st July 1899, I have now the honour to forward, herewith, a comparative statement such as is called for in your letter showing the relative cost per mensem of lighting the station with oil and hauling gas to Bangalore from Madras and Hubli as at present, and of lighting the station and carriages of both railways with gas.

The cost of the carriage of oil and fuel from Madras to Bangalore City is included in the estimated cost of the gas, viz., Rs. 12 per thousand cubic feet.

From the statement it will be seen that, for the small additional sum of Rs. 44 per mensem, we shall be able to light about double the number of lamps at the station and also provide gas for lighting the carriages of both railways.

The Hubli plant, I am informed, is not large enough to meet the demands of the Southern Mahratta Railway for lighting their carriages, and it will be necessary for additional plant to be provided there if the installation now asked for at Bangalore is not sanctioned.

Enclosure.

Comparative statement of cost of lighting Bangalore City station with oil and gas, respectively.

Oil.	Cost per month. RS.	*Gas.*	RS.	Cost per month. RS.
Present cost of lighting the City station and hauling gas to Bangalore from Madras and Hubli for Madras Railway and Southern Mahratta Railway carriages.		For lighting the City station and Madras Railway and Southern Mahratta Railway carriages		
127 lamps for station	110	246 lamps for station, to burn 5 hours daily		432
Hauling Madras Railway Company gas trucks between Madras and Bangalore.	274	Capital cost of whole installation.	72,190	
		Deduct cost of 4 gas trucks no longer required	14,600	
Hauling Southern Mahratta Railway gas trucks between Hubli and Bangalore	273	Net capital cost of plant ...	57,590	
Interest at 7½ per cent per annum on Rs. 14,600, capital cost of two Madras Railway and two Southern Mahratta Railway gas trucks	91	Interest at 7½ per cent per annum on	57,590	360
Total cost per month ...	748			792

Order—No. 1200 Ry., 24th October 1899.

The Government of India will be addressed.

[Here enter No. 1201 Ry., dated 24th October 1899.]

(True Extract.)

Francis J. E. Spring,
Secretary,

Exd. Md. Pahilvan.

RAILWAY.

Government {1899} of Madras.
PUBLIC WORKS.

Recd.	1899.	*Enclosures*
Regd.		*Spare copies*

Letter, No. 1201 Ry., 24th October 1899.

OCTOBER.

Gas Works for Bangalore City Station of the Madras Railway

Forwarding for sanction an estimate amounting to Rs. 72,190 for erecting —.

PUBLIC WORKS DEPARTMENT.

Railway.

Letter—from

Francis J. E. Spring, Esq., c.i.e.,
Secretary to the Government of Madras,
Public Works Department,
Railway Branch,

To

The SECRETARY to the GOVERNMENT of INDIA,
Public Works Department.

Sir,

With reference to correspondence ending with your letter No. 87-R.C., dated the 19th January 1899, enquiring what economy would be likely to result from the proposed installation of a gas plant at Bangalore City station at a cost of Rs. 72,190, I am directed to invite a perusal of this Government's Proceedings No. 1200 Ry., dated the 24th October 1899, from which it will be seen that even after allowing a fair interest on the proposed expenditure, the additional monthly outlay will be a small one relatively to the greatly improved comfort and convenience which must accrue to the public from the proposed substitution of gas for oil at so important a passenger station as Bangalore City. In the papers read with the Proceedings it is also brought to notice that the present plant for the Southern Mahratta Railway at Hubli is insufficient for that company's carriage lighting, and that expenditure in enlarging the Hubli gas works will be saved if sanction be accorded to the proposed works at Bangalore City.

2. Under the circumstances I am directed to express this Government's adhesion to the recommendation contained in my letter No. 1392 Ry., dated the 11th November 1898, that the estimate should be sanctioned.

I have the honour to be,
Sir,
Your most obedient servant,
Francis J. E. Spring,
Secretary.

Fort St. George,
24th October 1899.

Exd. T. K. Narayana Aiyangar.

(No. I.) 5000-15-3-88.

No. ~~10174~~ 859

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 9th September 1898.

CONSULTING ENGINEER FOR RAILWAYS
RECEIVED
10 SEP. 1898
MADRAS.

C. No. 4245
Recd. 10.9.98

From

The Agent and Manager,
Madras Railway Company,

To

The Consulting Engineer for Railways.
Madras.

Sir,

I have the honor to enclose an estimate in duplicate of the cost of the proposed joint gas installation at Bangalore City Station amounting to Rs 72.190/- chargeable to Capital. I also enclose in duplicate a detailed estimate of the cost of the gas plant (Rs 59.590/-) and a further detailed estimate (with plan No. 4393A) of the cost of the Shed and siding required (Rs 12.600). My Board as well as the Board of the Southern Mahratta Railway have given their approval to the proposed expenditure. I enclose for your information extract para 5 of my letter No. 2365 of the 2nd June last to the Board and copy of their reply.

para.

Offg: Loco: Superintendent.

ENG 2 4245/98
859 9.9.98
Aw

Print 6 [illegible]

Madras Railway

Bangalore Branch Line

Estimate of the cost of proposed Building for Gas works at Bangalore city

Plan No. 4,093 A

Description of work		Quantity	Rate		Amount		
Excavation	Cft	3,680	Per 1000	7/-/-	25	12	2
Earth filling	"	5,600	"	19/-/-	106	6	5
Masonry	"	8800	Per 100	25/-/-	2,200	.	.
Flat arch work	"	252	"	30/-/-	75	9	7
Plastering	Sqft	12,350	"	3/-/-	370	8	.
Flooring with stone	"	2,550	"	25/-/-	637	8	.
Mangalore tiling	"	3,800	"	15/-/-	570	.	.
Batten doors	"	72	Each	1/6/9	102	6	.
Painting do	"	150	Per 100	2/-/-	3	.	.
Honey combwork	"	350	"	5/8/-	19	4	.
Old rails	No.	12	Each	10/-/-	120	.	.
Wrought iron works in trusses	Tons	11	"	420/-/-	4,620	.	.
Fitting up iron works &c					175	.	.
Concrete foundation for gas holder &c					600	.	.
Wrought iron gutter	Lft	46	Each	2/-/-	92	.	.
Carriage of materials	Tons	12	"	4/9/4	55	.	.
Contingencies					488	9	10
				Rs	10,261	.	.
Siding							
Ballasting	Cft	9,000	Per 1000	19/-/-	171	.	.
Laying permanent way	Lyd	124	Each	0/8/-	62	.	.
Cost of do (2nd hand rails)	"	124	"	9/12/-	1,209	.	.
Laying points & crossings	No.	1	"	10/-/-	10	.	.
Cost of do do	"	1	"	390/-/-	390	.	.
Cost of Buffet Stop	"	1	"	92/-/-	92	.	.
Carriage of materials	Tons	12	"	4/9/4	55	.	.
Contingencies					99	.	.
				Rs	2,088	.	.
Tar and Oil Tank							
Earthwork	Cft	1,350	Per 1,000	7/-/-	9	7	2
Carried over					9	7	2

para 8 of letter No. 977 of 1st July 1898 bearing on the subject. I beg to request that you will kindly communicate to me the sanction of Government to the proposed work being carried out.-

Information as to provision in the Budget and date on which sanction will lapse is given on the estimate.-

28

I have the honor to be,
Sir,
Your most obdt. Servt.,

Agent and Manager.

C/C

Enclo: 6

2. Extracts of letters.
3. Estimates &
1. Plan in duplicate
6

Offg: Loco: Superintendent.

C. J.

MADRAS RAILWAY.

From The Agent and Manager,
M. R. Co.,

To The Consulting Engineer
for Railways.

Dated 188

Recd.

No.

---

3 S/

Extract from a letter to the
Secretary No. 2365 dated 2nd June 1898.

× × × × ×

Joint gas installation at Bangalore City.

5. Adverting to para. 17 of letter No. 967. I beg to submit herewith for the approval of the Board, an estimate of the Cost, amounting to Rs 72,190. of the joint gas installation at Bangalore City Station. The Agent of the Southern Mahratta Railway has, subject to confirmation by his Board, intimated his formal approval to the estimate.

× × × ×

(True Extract)

Ennis S Wyss
Agent and Manager.

6 ERo C No. 4245/98
859 9.9.98
Ans

---

4 Ep

Print

Extract from a letter from the
Secretary No. 977 dated 1st July 1898.

Joint Gas installation at Bangalore City.

8. × × "Replying to para. 5 of No. 2365, × I am to convey the Board's approval of the estimate amounting to Rs 72.190/- of the cost of the joint gas installation at Bangalore City station.-

× × × × ×

(True Extract)

Agent and Manager

Sc

5 ERO eNo- 4245/98
859 9.9.98
Am

Print
Print 5 Sp

Detailed Estimate of cost of Gas Installation at Bangalore City.

	Rs.	Rs.
1 - Plant for Carriage Lighting:-		
Gas plant consisting of Retorts, Compressing Engine, Purifiers, Gasometers, Pumps, &c: &c:	27412	
2500 Running feet of Lead Piping	1563	
36 charging boxes	1755	
Labour for erection of Plant in Gas House, laying of pipes, &c:	3500	34230
2 - Plant for Station Lighting:-		
3 Retort benches	4500	
1 Gasometer, 20′-0″ x 16′-0″ with pipes and connections	5700	
1 set purifiers with water and connections	3000	
Labour for erection of plant	2500	15700
3 - Lamp Posts, lamps pipes &ca: for Station Lighting:-		
3500 feet of C.I. 2½ main piping	2085	
12000 feet of W.I. gas piping 1", ¾" & ½"	3750	
1000 Ts and unions	375	
100 Lamp posts with lamps complete	1500	
100 Lamps	250	
200 Burners and pipes	200	
100 Pendants with burners	500	
Labour for erection of Lamp posts, laying of pipes, &ca:	1000	9660
4 - Gas house and Siding:-		
Cash	5947	
Stores	6653	12600
Total of Estimate		72190

C. J.

Offg: Loco: Superintendent.

					Rs	a	p
Brought forward					9	7	2
Concrete	cft	150	Per 100	15/-/-	22	8	-
Masonry	"	590	"	25/-/-	147	8	-
Pointing	Sqft	325	"	1/8/-	4	14	-
Filling Sand					24	-	-
Old rails	Lft	62	Each	0/8/0	31	-	-
Contingencies					11	10	10
				Rs	251	-	-
Cost of Building for gas works					10,261	-	-
" Siding					2,088	-	-
				Rs	12,600	-	-

4245/98
859 9-9-98

Chief Engineer's Office
September 1898

for Chief Engineer

Form No. 33.

300—30-6-98.

OFFICE OF THE CONSULTING ENGINEER FOR RAILWAYS,
Madras, 13th September 1898.

EXAMINER, RAILWAY ACCOUNTS, MADRAS.
Regr. No. 473
14 SEP 1898
Enclosures........

No 2562

OFFICE NOTE.

14/9/98

Letter from the Agent, Manager Madras Railway, No $\frac{10174}{859}$, dated 9th September 1898, forwarded to the Examiner of Railway Accounts for favour of check as to allocation and budget provision.

CNW
for E. R.

EXAMINER'S REPLY.

The cost of the existing lighting arrangements (Lamp-posts, Lamps &c) less value of materials recovered should be allocated to Revenue (Joint Station Expenses).

The estimate is otherwise correct as to allocation and requires the sanction of the Govt. of India.

Funds are available from the grant for unsanctioned works, Schedule B of the Budget for 1898-99

C. R. 20/9/98

20/9/98
copy of C.R.'s note to A with a request that he will correct the estimate accordingly.
26.9.98

No. 2674

7 P

Print

29th Septr 1898 Reply No. 10174/999 d/ 21.10.98

To
The Agent & Manager
Madras Ry

Sir
I have the honour to return the estimate received with yr letter No. 10174/859 dated the 9th Septr 1898, and to request that it may be resubmitted after ~~it~~ it has been altered in accordance with the note by C.R. quoted below:–

"The cost × × ×"
× × × (Genl. Stg. expenses)

26.9.98

(No. I.)

5000-15-3-88.

No. 10174/999

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

MADRAS, 21st October 1898.

CONSULTING ENGINEER FOR RAILWAYS
22 OCT 1898
MADRAS

4958
22.10.98

From

Print

The Agent and Manager,
Madras Railway Company,

8 P

To

The Consulting Engineer for Railways.
Madras.

SIR,

I have the honour to re-submit un altered, the estimate in duplicate for gas making plant lamps and fittings for joint gas works at Bangalore City returned with your letter No. 2674 of the 29th ultimo.

Hag 5

With regard to the Government Examiner's note embodied in your above letter the Company's Locomotive Superintendent writes:-

"I would point out that item No. 3 is
" not in replacement of any existing
" plant, but is in addition to the
" plant already at the station and
" which will be required on the instal-
" lation of the joint Gas works at
" Bangalore city, the cost of this item

would

"would therefore appear to be a correct "charge to capital."

In these circumstances, I shall be obliged if you will kindly communicate to me the sanction of Government for the amount of the Estimate being charged wholly to capital.

I have the honour to be,
Sir,
Your most obedient Servant.

9P

CSC

Agent & Manager.

Form No. 3.

u

300—30-6-98.

OFFICE OF THE CONSULTING ENGINEER FOR RAILWAYS,

Madras, ~~22~~ 25th October 1898.

EXAMINER RAILWAY ACCOUNTS, MADRAS.
Regr. No. 534
25 OCT 1898
Enclosures

No 2931.

OFFICE NOTE.

Letter from the Agent & Manager Madras Railway, No $\frac{10174}{999}$, dated 21 October 1898, forwarded to the Examiner of Railway Accounts. for favor of check as to allocation and budget provision.

for E. R.

EXAMINER'S REPLY.

The oil lamps, chimneys, shades &c now employed must, it is presumed, necessarily be thrown out of use on the installation of gas lighting and it is the original cost of these which should be debited to Rev: by credit to Capital.

offg: C. R.
26.10. 98.

27/10/98

~~C.R. But the Loco Supt. definitely says that the existing lamps &c will not be thrown out of use. If they are thrown out of use I suppose an adjustment can be made.~~

C. R. Please see Agent's No. 1025.

Is all now in order? or have you any objection to raise?

1/11/98

P. T. O.

E. R. 3/11

If the oil-burners are the only articles which will be discarded on the substitution of gas for the present system of lighting, the allocation of the estimate may be accepted.

Strictly an adjustment of the value of the old burners should be made between Capital and Revenue, but as the amount involved is likely to be small, ~~and~~ this need not be pressed.

Offg. C. R.

Estimate Eng may be sanctioned

3/11/98

(A. & M. 1.)

No 10174
1025

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 31st October 1898

CONSULTING ENGINEER FOR RAILWAYS
RECEIVED
1 NOV. 1898
MADRAS.

5094
1-11-98

From
The Agent and Manager.
Madras Railway

To [illegible]
138
The Consulting Engineer for Railways.
Madras

SIR,

In reply to your telephone message of the 27th instant, I have the honor to inform you that it is proposed to utilize all existing lamp posts and lamps at Bangalore City in the new installation, gas pipes and burners being fitted to them in place of the kerosine oil burners now used. In the estimate which has been framed, the cost of all burners and piping required for the existing lamp posts and lamps has been included, it being understood that the existing lamp posts and lamps having been once charged off, their value would not appear in the estimate which was for additional plant only and exclusive of anything at present in use.

I have the honor to be,
Sir,
Your Most Obedt Servant,

Agent & Manager.

Form No. 12.

No. 1392 Ry.

Government of Madras,

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

To

The Secretary to the Government of India,

Public Works Department,

Print

148

Dated 11th Nov. 189

Sir,

I am directed to forward, for the orders of the Government of India, a copy of a letter, No. 10174/859 dated 9th September 1898 from the Agent & Manager Madras Railway Company, with which he submits an estimate as per margin for the following works:—

Amount of Estimate Rs. 72190
Chargeable to Madras Railway.
Allocation to Capital Rs. 72190
" to Revenue Rs. "
Funds available or not available
Estimate recommended or not Recommended
Allocation " " Recommended
Board's approval obtained or not Boards approval obtained.

Proposed joint gas installation at the Bangalore City station.

2. The Agent M. Ry states that it is proposed to utilize all existing ~~lamp~~ lamp posts and lamps a Bangalore City in the new installation, gas pipes and burners being fitted to them in place of the kerose oil burners now used. The cost of the gas burner and piping required for the existing lamp posts and lamps has been included in the present estima but not that of the lamp posts and lamps which has already been charged off. The only articles which will be discarded ~~all~~ are the oil burne and though strictly an adjustment of their value should be made between Capital and Revenue ~~Joint Secretary~~, the

have

be pressed as the amount involved is small.

The Board of Directors of the S. M. Ry have also approved of ~~the~~ the being undertaken as Joint work.

DR
5.11.98.

To C.R. before issue.

for C.Ry
5/11/98

Encl: 6 (2 Estimates & plan)

Despatched on 11/11/98

5.11.98

Public Works (1899) Department.

Railway
CURRENT No. 135

From The Govt. of India

No. 87 RC.

Dated 19th January 1899
Received
Registered 26.1.99
Enclosures
Spare copies

Order Endt. No. $\frac{325}{30.1.99}$ Print 16P

Copy forwarded to the Agent and Manager, Madras Railway, for report, with reference to correspondence ending with his letter No. $\frac{10174}{1025}$ d/ 31st October 1898.

Remr. No. $\frac{325}{1}$ d/ 9.3.99 Issd 11/3/99
— do — $\frac{325}{2}$ d/ 3.5.99 Issd 6/5/99
~~— do —~~ B. $\frac{325}{3}$ d/ 26.6.99 27/6/99

Despatched on 30/1/99

21.6.99.

SUBJECT.

Gas installation at the Bangalore City station.

—

Orders re: an estimate submitted by the Agent & Manager M. Ry of the cost of a Joint —.

BACK PAPERS.

No.	Date.

FURTHER PAPERS.

No.	Date.

PLEASE REPLY
TO SIMLA.
~~CALCUTTA.~~

All communications should be addressed to the Secretary.

JOINT SECRETARY TO GOVT. OF MADRAS RYS.
26 JAN. 1899

Print
158

No. 87 R.C.

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
RAILWAY CONSTRUCTION.

To

The Joint Secretary to the Government of Madras,
Public Works Department, Railway Branch.

Simla, the 19th January 1899.

Sir,

Flag L I am directed to acknowledge the receipt of your letter No.1392 Railway, dated the 11th November 1898, with which you forward for the orders of the Government of India, a copy of a letter from the Agent and Manager, Madras Railway Company, submitting an estimate amounting to Rs.72,190/- chargeable to Capital, of the cost of a joint gas installation at the Bangalore City Station.

2. In reply I am directed to state that owing to the reduced programme of Capital expenditure, it is necessary that work involving no direct return should not be undertaken. From a reference to the present timings of trains into and out of the Bangalore City Station, the platforms and buildings would appear to require to be fully lighted for the use of the public for about 3½ hours only in the evening and 1½ hours in the morning during the winter months and not at all during the summer.

3. I am accordingly to state that before according sanction to the proposal to spend Rs.72,190/- on the lighting of the Bangalore City Station for a few hours daily during the winter months, the Government of India desire to be

informed

informed what economy will result from the proposed installation, ~~in~~ the comfort and advantages of which are not questioned.

I have the honour to be,
Sir,
Your most obedient servant.

C.O.Ch.
Offg. Under Secretary.

Documents accompanying.
Nil.
ARET.

A.C.B.

(A. & M. 1.)

No. 10174
526

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 8' May 1899.

CONSULTING ENGINEER FOR RAILWAYS
RECEIVED
9 MAY. 1899
MADRAS.

2406
9-5-99

From
The Agent and Manager.
M. R. Co.

To
The Consulting Engineer for Railways.
Madras.

Sir,

S

With reference to your Memorandum No. 325 dated the 30th January last and subsequent reminder, I have the honor to inform you that the report on Gas Installation at the Bangalore City Station will be submitted on hearing from the Southern Mahratta Railway whose reply is awaited.

I have the honor to be,
Sir,
Your Most Obedient Servant.

for Agent and Manager.

Awaiter
10.5.99
for E.R.

Enclosure.

(No. II.)
No. 10174
770

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 28th June 1899.

CONSULTING ENGINEER FOR RAILWAYS
RECEIVED
29 JUN 1899
MADRAS

3333
29.6.99

From

The, Agent and Manager.
M. R. Co.

To

The, Consulting Engineer for Railways.
Madras.

SIR,

With reference to your letter No. $\frac{325}{S}$ dated the 27th instant, I have the honor to inform you that the Report called for in your letter No. 325 dated the 30th January 1899 cannot yet be furnished, as the Company's Locomotive Superintendent is awaiting further information from the Southern Mahratta Railway.

I have the honor to be,
Sir,
Your most obedient Servant.

for Agent and Manager.

Await
[illegible]

Enclo
Nil.

W.L.

MADRAS RAILWAY.

From
The Agent and Manager,

To
The Consulting Engineer
for Railways.

Dated 188
Recd.
No.

(No. I.) 5000-15-3-88.

No. 10174
822

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

MADRAS, 7th July 1899.

CONSULTING ENGINEER FOR RAILWAYS
RECEIVED
8 - JUL. 1899
MADRAS

R. No. 3445
Recd. 8/7/99

From

The Agent and Manager,
Madras Railway Company,

To

Pomt
178

The Consulting Engineer for Railways.
Madras.

SIR,

With reference to your endorsement No. 325 dated the 30th January last on a Copy of a Communication from the Government of India in regard to the proposed gas installation at Bangalore City, I have the honor to enclose extracts from two letters from the Locomotive Superintendent dated the 15th March and 30th June 1899, respectively, together with the statements referred to, explaining what economy will result from the proposed installation over the present system of lighting the Station by Kerosine oil. Apart from the distinct advantage to be gained from the improved lighting of so large and busy a station as Bangalore City.

City there will be a saving in expenditure and I trust that in the light of the explanation now afforded, the Government will be pleased to accord sanction to the scheme.-

I have the honor to be,

Sir,

Your most obedt. Servt.,

Agent & Manager.

Encl: 4

MADRAS RAILWAY.
From The Agent and Manager, M. R. Co.,
To The Consulting Engineer for Railways
Dated 188
Recd.
No.

Print 19

Extract from letter from the Locomotive Superintendent No. B $\frac{2420}{274}$ dated 15th March 1899.

I wrote to the Traffic Manager of this line and to the Loco: Superintendent S.M. Railway, informing them of the objections that had been raised by the Government of India and asking them to let me know what figures I might take as representing:-

(1) The cost of haulage of the gas trucks between Madras and Bangalore for charging as at present our own Carriages, and also over the S.M. Railway for charging S.M. Railway Carriages.

(2) The cost of lighting the Station with oil as at present both M.R. Company and S.M. Railway proportions.

(3) Whether the S.M. Railway considered the establishment of a Gas Works at Bangalore City a sine qua non, or, if not, if gas lighting could be introduced on the S.M. Ry: without it.

2. I have pleasure in sending you a copy of a letter I have received from the Traffic Manager.

o. 102
for In

2056

3. So far as the expenditure upon this line is concerned, the figures may probably be taken approximately as shewn in the annexed statement to be

Cost per month of lighting the Station by oil and hauling gas trucks, as at present, between Madras and Bangalore.	Rs. 384-0-0
Cost per month of gas for lighting Station if Gas Works were established.	" 369-0-0
Shewing a saving per month of............	Rs. 15-0-0

4. I have not included in this any interest on the plant, but I think the price quoted per 1000 cft: should be sufficient to include all cost of ordinary maintenance and repairs of plant. Further of course the saving that would result to the S.M.Railway upon haulage of gas trucks and of lighting non M.R.Company and joint buildings is also not included nor is any account taken of the fact that the gas lighting installation will provide 246 lamps against a total present number of about 150 kerosine lamps.

5. The cost of gas used in M.R.C.Carriages running into and out of Bangalore is not included as this may be taken to be the same whether the gas is made in Madras and trucked to Bangalore, or made in Bangalore.

21 34

Print

Proposed gas lighting of Bangalore City Station.

Comparative Statement.

Oil lighting as at present (M.R.C. proportion only)

Cost per month of lighting by oil the M.R.C. portion of the Station as at present.	Rs. 110 - 0 - 0
Cost per month of haulage of gas trucks between Bangalore City and Madras, 219 miles 5 trucks per month each way at 2 annas per mile.	" 274 - 0 - 0 ✓
	Rs. 384 - 0 - 0

Gas lighting if Gas Works as proposed are constructed (M.R.C. proportion only.)

Number of lamps for Station and joint buildings excluding S.M.R.Goods Shed.	246
Assuming the time during which lamps would be required as given in the Government of India memorandum, viz 5 hours per day as correct, this would make the No: of lamp.hours per month 246 x 30 x 5.	36900.
Assuming again a consumption per lamp of 1 cft: per hour and that gas would cost say Rs.10/-/- for 1000 ft, total cost per month would be.	Rs.369 - 0 - 0

Perambur Works
15th:March 1899.

Locomotive Superintendent.

C. J.

[illegible]

Print

Extract from letter from the Locomotive Superintendent, M.S.R. 2420/683 dated 30th June 1899.

The Loco:Superintendent Southern Mahratta Railway now writes me that he considers it a sine quo non that a Gas Works whether joint or Southern Mahratta Railway only should be established at Bangalore City since the S.M.Railway have not ~~as~~ at present plant enough to manufacture all gas required for their Carriages.

2. If extra plant were put down at Hubli the cost of trainage to Bangalore would be about Rs.3/-/- per thousand cubic feet irrespective, of course, of the cost of the extra trucks required or of the interest upon their Capital Value. This would enormously increase the expenses of carriage lighting since the gas as manufactured should not cost more than from Rs.10 to Rs.15 per thousand feet including all charges, and the cost of haulage would therefore amount to say 25 % of the value of the gas.

3. The Loco:Superintendent Southern Mahratta Railway tells me that the Goods Sheds of that Company have not as yet been lighted at all by night, but I learn further from a telegram received to-day from the Traffic Manager S. M. Railway that if the new installation is put in he wishes to arrange for this to be done, and that the 45 extra lamps originally asked for and entered in the original list sent you with my letter of the 5th:February 1899 shall be provided.

4. Omitting however these lamps the general scheme provides for a total of 246 lamps in and about the Station Compound

and

and buildings as against 127 the number now provided, so that the lighting of the Station will be doubled so far as number of lamps ~~are~~ is concerned, and apart altogether from the far greater amount of light given by a gas flame as compared with a kerosine lamp.

5. I enclose a comparative statement shewing the present and estimated cost of lighting, from which it will be seen that, assuming the cost of the gas at the higher price even of Rs.12 per thousand feet, there would still be a monthly saving of Rs.225.

6. Assuming the 45 S. M. Railway Goods Shed lamps are also all used each night for 5 hours they would burn about 6000 cubic feet of gas per month and this at the same rate i.e.Rs.12 per thousand feet would cost say Rs.72 per month.

7. Since however this is all extra lighting which has hitherto not been provided its cost does not affect the comparison between the old and new systems and the monthly saving may therefore be said to be as stated Rs.225/-.

Print

24 Sp

Statement of approximate saving per month effected by joint Madras Railway and Southern Mahratta Railway Gas installation it is proposed to establish at Bangalore City Station.

Cost of lighting the Station as at present with oil and with 127 lamps	Rs.110-0-0	
Cost of haulage of Gas trucks from Madras for supply of gas to M. R. Carriages.	" 274-0-0	
Cost of haulage of gas trucks from Hubli for supply of gas to S.M.R. Carriages.	" 273-0-0	
Cost of lighting the Station with gas by 240 lamps and assuming 5 hours burning per day as given in the Govt:of India memorandum and estimating the cost of the gas at Rs.12 per 1000 feet would be say		Rs.432-0-0
Saving per month........................		" 225-0-0
	Rs.657-0-0	Rs.657-0-0

6

Perambur Works
30th June 1899

Locomotive Superintendent.

J.

1 3445 9
10174/822 7/7/99
Agent S. M. Ry

Form No. 33.

Regn. No. 407
11 JUL. 1899
Enclosures...
RAILWAY ACCOUNTS, MADRAS.

OFFICE OF THE CONSULTING ENGINEER FOR RAILWAYS,
Madras, 10th July 1899.

No. 2129

OFFICE NOTE.

Letter from the Agent, Southern Mahratta Railway, No. 10174/822, dated 7th July 1899, forwarded to the Examiner of Railway Accounts. for remarks.

Vd 10/7/99
for E. R.

14/7/99

EXAMINER'S REPLY.

The information now furnished by the Loco: Supdt should be forwarded to the Govt of India with reference to their letter No. 87 S R. E. dated 19.1.99.

~~I am unable to follow~~ The saving claimed by the Loco: Supdt ~~which he~~ is shown in one letter as Rs 15 and in another as Rs 22: per month; in the former he has taken only the M. Ry. cost of haulage, and assumed price of gas at Rs 10 per 1000; in the latter he has included S. M. Ry. cost of haulage, and assumed price of gas at Rs 12 per 1000.

The saving in haulage of gas for M. and S. M. Ry carriage will, I think, be counterbalanced by the cost of haulage of coal and oil for gas-making at Bangalore, and I do not know how far the assumption that the station will be lighted for

Seen

for 5 hours is correct, it appears that some of the lights e.g. those in the telegraph offices will burn all night.

FGW 11/7/99

C.R.

Engr

Form No. 14.

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

C. No. 3445 NOTE FOR ER

With our letter No 1392 d/ 11.11.98 (Flag L) we forwarded for India's orders an estimate amounting to Rs 72190 chargeable to Capital of the cost of a joint Gas installation at the Bangal City Station..

In their letter No 87 R.C. d/ 19.1.99 (Flag M) India points out that, owing to the reduced programme of Capital expenditure, work involving no direct return should not be undertaken especially as the lighting of the station will be for a few hours only & ~~they~~ enquire what economy will result from the proposal..

The question was referred to the Agent in our No 325 d/ 30.1.99 (Flag S) & with his reply No $\frac{10174}{832}$ d/ 7.7.99 (Flag N) he forwards copies of letter from his Loco: Supdt: giving the information required by India. A saving of Rs 225 is shown in the latter letter by the Loco. Supdt. The Examiner

seen

points out that the saving in haulage of gas for Madras & S. M. Ry carriages will be counterbalanced by the cost of haulage of coal and oil for gas-making at Bangalore. He seems to think that the assumption that the station will be lighted for 5 hours is incorrect because some of the lights e.g. those in the telegraph offices are burnt all night.

W.L.
14/7/89

D. to take this with him on inspection, and after local enquiry and discussion to make a recommendation.

FRS
15/7/89

Form No. 1/A.

No. 2241

Print
25P

Madras, 21st July 1889.

From

THE CONSULTING ENGINEER FOR RAILWAYS,
MADRAS,

Reminders.

To

THE AGENT AND MANAGER, M. RY.

Reply No. 1021
dated 18/8/89

SIR,

The information enclosed with your letter No. 10174/822 dated the 7th July is too diffuse, if not contradictory, for me to forward it to the Govt. of India with any chance of success. I shall therefore be obliged if with the Loco & Traffic Officers estimates before you, you will furnish me with one clear comparative statement in a shape fit to go forward to the Govt. of India, and supporting your claim to get the gas as being not only efficient, which is not denied, but also economical. Interest on capital outlay ought, naturally, to find a place in such a statement, and it ought not to omit consideration of the cost of carriage of coal and oil to Bangalore, whether in price at site or in price of gas as produced.

I have &c
FRS
20/7

Despatched on 21/7/89

Seen

(No. I.)

No. 10174

1021

CONSULTING ENGINEER FOR RAILWAYS
RECEIVED
22 AUG. 1899
MADRAS.

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

Madras, 18th August 1899.

From

The Agent and Manager. M.R.

Inspector

J.B.

To Print

26 P

4357
22-8-99

The Consulting Engineer for Railways.
Madras.

Sir,

R

With reference to your letter No. 2241 dated 21st July 1899 I have now the honour to forward herewith a Comparative Statement such as is called for in your letter showing the relative cost per mensem of lighting the Station with oil and hauling gas to Bangalore from Madras and Hubli as at present, and of lighting the Station and Carriages of both Railways with gas.

The cost of the carriage of oil and fuel from Madras to Bangalore City is included in the estimated cost of the gas, viz Rs 12 per thousand cubic feet.

From the Statement it will be

seen

seen that for the small additional sum of Rs 44/- per mensem we shall be able to light about double the number of lamps, at the Station and also provide gas for lighting the carriages of both Railways.

The Hubli plant, I am informed, is not large enough to meet the demands of the Southern Mahratta Railway for lighting their carriages, and it will be necessary for additional plant to be provided there if the installation now asked for at Bangalore is not sanctioned.

I have the honour to be,
Sir,
Your most obedt. Servt.

Louis S.
Agent & Manager.

MADRAS RAILWAY.

From
The Agent and Manager.

To
The Consulting Engineer
for Railways.

Dated 188

Recd.

No.

No.B.1076/792.

Madras Railway,
Locomotive Superintendent's Office
Perambur Works.22nd July 1899.

The Agent and Manager.

My dear Sir,

There is no reason whatever why gas made on the Pintsch's process must of necessity be compressed and, as you know, we are proposing to use uncompressed Pintsch's gas for lighting the Central Station and also for lighting the Bangalore Station. The Pintsch's process and the Mansfield's process are to all intents and purposes alike, the only difference between them being in the shape and arrangement of the retorts. Mansfield's gas is used rough as made, and for ordinary station lighting this is stated to be good enough. For carriage lighting however this is not so, and the gas must, before being used or compressed be cleaned. The compressing of course is only carried out for portability and does not form any part whatever of the gas making process proper.

2. It would be perfectly possible to light, as suggested, any of the smaller stations either by Mansfields or Pintsch's process, and to do this is really only a question of money. Whether it would be cheaper to have reservoirs at the several stations and charge them from travelling store holders, or to establish small gas works at each station and use uncompressed gas, I do not know but either would be quite possible.

3. In 1895, as you probably will remember, I communicated with Mr. Mansfield with regard to a plant for lighting Jalarpet station, it having been suggested by the Traffic Manager that since the carriage lighting would not necessitate a Pintsch gas works at Jalarpet, it would be a convenient station for Mr.Mansfield to try his process. I append a copy of the estimate as got out by me, which estimate was submitted to Mr. Mansfield and returned by him as correct. These figures were furnished to the Traffic Manager, but as both the Capital cost and also the cost of the lighting per month was so high the matter fell through.

MADRAS RAILWAY.

From The Agent and Manager, M. R. Co.,

To The Consulting Engineer for Railways.

Dated 188

Recd.

No.

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4. In 1898, Messrs Mansfield again addressed me on the subject and after a personal visit to Jalarpet drew up a fresh estimate of the monthly cost of lighting, copy of which I have pleasure in sending you. I pointed out to Mr.Mansfield that he had not furnished me with an estimate of the cost of the installation and in order to enable him to get this out he asked for a tracing of the station:- This was sent to him but no estimate has ever reached me. I presume therefore it must be assumed that to light Jalarpet station it would be necessary to incur an expenditure of Rs.11190/ as given in the original estimate and this since the cost of lighting per month would be still greater than the present cost of oil the Traffic Manager tells me he is not prepared to recommend. I am afraid Messrs Mansfield are rather given to generalising in their letters concerning gas lighting;as, at any rate from the interviews I have had with some two or three members of the firm, I have so far never been able to get any thing very definite.

5. The enclosures to your note are returned.

Yours faithfully,
(Sd) C. E. Phipps.
Loco: Superintendent.

(True Copy)

MADRAS RAILWAY.

From The Agent and Manager,
M. R. Co.,
To The Consulting Engineer
for Railways.
No.
Dated 188
Recd.

1 TO E. R's. C. 3887 4 99
Do 25.7.99
Agent & Manager M. R.

Cost of Gas per month

	Rs. A.
270 gallons of Kerosine oil at 0/5/6 per gallon. . . .	92.13.
75 tons of coal at Rs 14.12.0 per ton	49.12.
Labour	
1 fireman at say	16.0.0
1 Asstt	7.0.0
These two men would make gas and clean all lamps also be responsible for petty repairs, replacement of burners etc.	
Conveyance of coal and oil from Madras to Jalarpet at Revenue rates.	11.14.3
Renewal of Retorts	0.0.7
Maintenance and renewal of plant complete at say a life of 50 years.	18.10.5
Interest at 5 % on total cost.	46.10.3
	Rs. 242.13.0
Cost per lamp per hour.	1.79

(True copy)
D. B.

E. 2 TO E.R's 3887 of 99
No. 25-7.99
Agt & Manager. M. Ry

Memorandum and approximate estimate of Cost of lighting Jalarpet Station by Mansfield gas.

Present number of lamps	83
Proposed number for which arrangements should be made	100
Medium size burners Nos. 000 give light equal to one Duplex Kerosine burner and consume per hour of gas	1 cft.
Assuming that 50 lamps are burning full time or 12 hours per night and 50 burning half time total No. of lamps hours per month would be	27,000
Our quantity of gas required per month would be	27,000.
Plant at Dum Dum small arms manufactory consists of (c) size producers and will make per day 1400 to 1600 cft of gas or say average of, per day	1500

Note:- Messrs Orr's plants consists of 1(c) + 2(b) class producers and is about the same capacity

So that to make gas enough for Jalarpet this plant would have to work per month	18 days
1 Gallon of ~~Kerosine~~ oil will make enough gas for 25 lamps for 4 hours or a total of	100 cft
So that total quantity of oil required per month would be $\frac{27000}{100}$	270 Gls
Amount of coal used per 100 cft of gas made	28 lbs
Or for the one months consumption	7560 "

(True copy)

W. W.

Approximate estimate of Cost of gas plant for gas lighting installation at Jalarpet.

	Rs. as. p
Gas plant including retorts and gas holders with balance weights Chains etc. in duplicate	6,400. 0. 0
Shed and Masonry tanks for gas holders approximate estimate only	572. 0. 0
5,000 feet of 2½" Cast iron piping	1,335. 0. 0
3,700 " 1-¾-½ & ¼ wrought iron gas piping with 200 unions and T pieces etc. at average of 4 annas a foot for piping and 6 annas for bends and Ts	1,000. 0. 0
100 sets of taps and burners at Rs 1/-	100. 0. 0
50 (Say) Sets of Pendants at Rs 5/- each	250. 0. 0
Labour for erection of plant laying pipes and fitting up lamps	1,000. 0. 0
Contingencies @ 5%	533. 0. 0
Total	11,190. 0. 0

(True Copy)

Encs. No. 3 to E. R's. C. No. 3887 of 1899
Letter No. D/ 25-7-99
" " Agt. Manager M. Ry.

(A. & M. VII.)

Enclosures

No.

Consulting Engineer for Railways
Received
26 JUL 1899
Madras.

3,000—5.99.

Madras Railway Company,

AGENT & MANAGER'S OFFICE,

RAYAPURAM TERMINUS,

Madras, 25th July, 1899.

C. No. 3887
Recd. 28-7-99

My Dear Spring;

Your D. O. of the 5th of July.

I have been in communication with Phipps on the subject of Mansfields Gas, knowing Mr. Mansfield had been invited to supply an estimate for lighting one if not more Stations.

Phipps has now written me somewhat fully and for your perusal I send you a copy of his last letter and copies of the enclosures.

The Central Station and the Bangalore Stations are the most important Stations for us to take in hand first; after they are attended to I think we ought to try and light Jolarpet and Podanur.

Yours Sincerely,

Louis J. Moss

File in ER's case
Put up for orders when
AM writes, as we have I think
officially asked him to do: about
lighting Bangalore City station
FKS
26/7/99

[illegible]

28 Sf

Print

Comparative Statement shewing cost of lighting Bangalore City Station with Oil and Gas respectively.

OIL.

Present cost of lighting the City Station and hauling Gas to Banga-lore from Madras & Hubli for M.R. and S.M.R.Carriages.	Cost per month. Rs.
127 lamps for Station. ----------	110.
Hauling M.R.C.gas trucks between Madras and Bangalore ----------	274
Hauling S.M.R.gas trucks between Hubli and Bangalore ----------	273
Interest at 7 1/2 per cent per - annum on Rs.14600 Cap.cost of 2 M.R.& 2 S.M.R. Gas trucks---	91
Total cost per month Rupees.	748

GAS.

For lighting the City Station and M.R. and S.M.R.Carriages.		Cost per month Rs.
246 lamps for Station -------		* 432
Cap: cost of whole installa-tion ----------------	Rs. 72,190	
Deduct cost of 4 gas trucks no longer re-quired -----------	" 14,600	
Net Cap:cost of plant.	Rs. 57,590	
Int: @ $7\frac{1}{2}$ % per annum on	" 57,590	360
		Rs.792

* calculated on the assumption that the lamps will burn 5 hours per day.

Louis S Moss
Agent & Manager

File No. 1 No. 4359 of 1899
Letter No. 10174/1021 of 18.8.99
From Agent & Manager M. Ry

Form No. 2.

E

PUBLIC WORKS DEPARTMENT,
RAILWAY BRANCH.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

✓ Letter from the Agent and Manager, Madras Railway No. 10174/859 dated 9th September 1898 – with Enclos.

✓ Letter to the Agent and Manager, Madras Railway No. 2674 of 29th September 1898.

✓ Letter from the Agent and Manager, Madras Ry No. 10174/999 of 21st October 1898.

✓ Telephone to the Agent & Manager Madras Ry dated 29th October 1898.

✓ Letter from the Agent & Manager Madras Ry No. 10174/1025 dated 31st October 1898.

✓ Letter to the Government of India No. 1392 Ry of 11th November 1898.

✓ Letter from the Government of India No. 87 R C of 19th January 1899
Encl: by the Cons: Engr for Rys. No 325 of 30.1.99

✓ Letter from the Agent & Manager Madras Ry No. 10174/822 of 7th July 1899 with Enclosures

Letter to — do —

✓ No 2241 of 21st July 1899

Print in full

Letter from the Agent & Manager S.M.Ry.
No. 10174/1021 of 18th August 1899 –

Print in full

298

__Order__

The Government of India will be addressed.

(Sd) Francis J. E. Spring –
Secretary

Form No. 10. A.

No. 1201 Ry

Government of Madras,

PUBLIC WORKS DEPARTMENT,

RAILWAY BRANCH.

To

The Secretary to the Government of India,
Public Works Department,

24th Oct 1899

Sir,

With reference to correspondence ending with your letter No. 87-R.C. dated the 19th Jan 99, enquiring what economy would be likely to result from the proposed installation of a gas plant at Bangalore City Station at a cost of Rs. 72,190, I am directed to submit a copy of this Govt' Proceedings No. 1200 Ry dated the 24th Oct 1899, from which it will be seen that even after allowing a fair interest on the proposed expenditure the additional monthly outlay will be a small one ~~in comparison~~ relatively to the greatly improved comfort and convenience which must accrue to the public from the proposed substitution of gas for oil at so important a passenger station as Bangalore City. In the papers recd with the Proceedings it is also brought to notice that the present plant for the S.M.Ry. at Hubli is insufficient for that Company's carriage lighting, and that expenditure in enlarging the Hubli gas works will be saved if sanction be accorded to the proposed works at Bangalore City.

2. – Under these circumstances I am directed to express this Govt' adhesion to ~~the~~ the recommendation contained in my letter No. 1392-Ry. dated the 11th Nov. 98, that the Estimate should be sanctioned.

I have &c

Sd/-

Despatched on 24/10/99

No. 3723

(No. III.)

5,000—15-3-88.

No. 10174/1465

MADRAS RAILWAY.

AGENT AND MANAGER'S OFFICE,

MADRAS, 30th November 1899.

CONSULTING ENGINEER FOR RAILWAYS
RECEIVED
1 - DEC. 1899
C. NO. 6253.
MADRAS.

From

The Agent and Manager,
M. R. Co.,

To

The Consulting Engineer for Railways,
Madras.

SIR,

With reference to the correspondence ending with my letter No. $\overset{J}{10174}$/1021 dated the 18th August 1899 on the subject of proposed joint gas installation at Bangalore City station, I have the honour to enquire when the sanction of Government to the estimate is likely to be given. The Agent, Southern Mahratta Railway, is pressing for this information.

I have the honour to be,
Sir,
Your most obedt. Servant,

Agent & Manager.

Enclo/nil.

Form No. 1/C

No. 3723

Madras, 6 December 1899

From
THE CONSULTING ENGINEER FOR RAILWAYS,
MADRAS,

Reminders.

To

The Agent and Manager M. Ry.

Reply No.

dated

SIR,

With reference to your letter no 10174/1465 dated 30th Nov. 99, I have the honor to inform you that the sanction of the Govt of India to the estimate for the proposed joint gas installation at Bangalore city station is awaited, and will be communicated to you when received.

Despatched on 6/12/99

2/12 99

G.B.

2.12.99

To E. R.

I have nothing to add to what A. M says except to point out the very high rate of interest ($7\frac{1}{2}$%) he takes on the capital cost. If you approve, otherwise, of the proposal, we can put a much more favourable construction on the ~~Estimate~~ Statement by entering the interest at 4 or 5 %. We can add something on this head in our letter to India FKS

JLd
21.9.99

Print reqn. ready for a G.O. ordering to be sent to India for sanction. Let me have clean proof for orders of Govt.

FKS 21/9/99

R
Submitted
[illegible]
10/2

Telephone to A M.

Print 12 P

Am I to understand that on installation of gas at Bangalore you propose still to keep present oil lights in addition to gas light, as your letter of 21st Oct seems to imply.

FLS

27/10/98

Despatched. 2-15 P.M.

Ghu.

27/10/98.