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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Public Works DEPARTMENT

G.O. No. 2064 W
B.P. No.

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Dated 12. 7. 1882 197.

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PUBLIC WORKS STORE DEPARTMENT,

Madras, 2nd/a *March* 1882.

No. 3067/W

2064

From

THE GENERAL SUPERINTENDENT,
PUBLIC WORKS ~~STORES~~, &c.,
Workshops
Madras,

To

THE *Chief Engineer*
S. P. D.
Madras

SIR,

Enclosures. 5
Statements

I have the honor to submit the following report, which I trust may be of some use in considering the subject of the P. W. Workshops.

The broad principles upon which a Government Workshop should be conducted are, I consider the following:-

1st No Government officer should be compelled to get work done at the workshop, so that Government may fairly expect that all ordinary work will be executed in the open market, and the workshop only resorted to for special works.

2nd The workshop should have a moderate Capital carrying such a rate of Interest, that the yearly charge under the head of "Interest on Capital" shall be in fair Proportion to the outturn.

3rd

3rd Capital and Revenue accounts should be kept, with a view to preventing extraordinary expenditure being mixed up in the accounts, and thus concealing the real working of the Shops during any particular year or years.

4th The percentage charged for the execution of work should be just sufficient to meet all shop expenses, including "Interest on Capital" provided that "Capital" has not been unduly increased from exceptional circumstances, such as removal to more Expensive buildings, with the unavoidable cost of removing and fitting up shafting and Machinery.

5th In cases where "Capital" has thus been increased, and the Workshop is, in consequence, unable to pay the full amount of "Interest on Capital," Government should make up the amount deficient under the head of "Interest," provided they are satisfied, from the Revenue accounts, that the earnings of the Shop are in fair proportion to the Expenditure.

2. If it is admitted that a Government Workshop is necessary, the question of its value must not be judged entirely from the figures of "Profit and Loss," the real point is what work

work is being done by the Workshops that cannot be satisfactorily executed elsewhere. The answer to this question is given by the Officers of Government; they are not obliged to go to the Workshops for anything, they habitually complain of the high percentages charged which increase the cost of their works, but still they employ the workshops to a considerable extent, for they know that the work executed is of good quality and that if assistance is required in making plans and Estimates and getting up work they can obtain this from the workshops.

3. The value of the Workshops to Government during the last Famine, cannot be over estimated, for, if Government had not been in a position to procure Famine tools at reasonable rates from their own manufactory, there can be no doubt but that in a small market like Madras, the whole available supply of pickaxes, mamoties &c would have been bought up by one or two speculators, and fixed rates for manufacture would have been impossible. In connection with the Harbours Works, the Workshops has done good work; in fact I may say that but for the existence of the Workshops the Harbours works would have had to have their own Machine Shops, and there would have been great difficulty in getting the

the castings required for repairs to the Titan Cranes and other heavy machinery. When the Madras Pier was seriously broken in the years 1868 and 1870, the repairs were executed by the P. W. Workshops, under the superintendence of Mr. Grainger the General Superintendent of the Workshops. The value of the Workshop in cases like these, cannot be expressed in figures, but it is obvious that it is considerable. I have drawn up Statements shewing the class of work executed in the Shops, which I consider could not be satisfactorily executed elsewhere, and I need hardly observe that no Engineering work of any size could be undertaken if there was any doubt as to how these wants were to be supplied without delay.

4. With regard to the losses shewn by the workshop during 1879-80 and 1880-81 there are, it appears to me, two points to be considered

1st Has the Workshop on the whole, proved a loss to Government

2nd In consideration of the losses during the years noted above, would it be advisable to shut the Shops.

The Workshop was first established in its present form in 1867, and

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and on examining the accounts from that year up to 1881, it will be found that after paying all expenses including "Interest at 5 per cent on Capital," there remains a balance of 1,09,748 in favour of the Workshops. It may be objected that a large portion of this profit was made during the Famine year 1877-78, even, however, if this year be deducted, there still remains a balance in favor of the Shops. It may again be objected that the net profit made is so small as to be unworthy of notice, to this I would reply that every Rupee of net profit made by the Workshop is a disadvantage both to it and to Government. It is disadvantageous to the Workshop, because all net profit is given up to Government at the end of each year, or in other words it means that the Workshop has charged more than absolutely necessary for work executed the effect of which is to drive away work in the following year. It is disadvantageous to Government because every Rupee of net profit returned by the Workshops means a Rupee unnecessarily taken away from Irrigation and other works on which it was originally intended to be expended.

From the facts which I have

have stated, it follows that the workshop has on the whole, proved no loss to Government.

6 I now come to the question of the losses during the years 1879-80 and 1880-81, these losses have been caused

1st By the excessive amount of "Interest on Capital" since the removal from Chepauk

2nd By the heavy expenditure under "General charges" since the removal from Chepauk.

In 1876 the Workshop was removed from Chepauk to the present buildings, the iron work of which was originally intended for a Government Spirder Ammunition Factory.

The removal was effected hastily before the buildings were complete. During the removal the Famine commenced, and owing to the pressure of work for manufacturing tools, it was found impossible to execute the several works required to make the Workshops complete, these included Buildings, Roads, Water Supply &c and the setting up of part of the Machinery. The accompanying Statement A shews the loss to the workshop by the Interest on the excess value of the present buildings over those at Chepauk.

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7 When the pressure of Famine work had subsided, the works necessary to place the workshops in a proper state, were proceeded with, and from Statement B it will be seen what a serious loss this has been to the Workshop

8 Between the years 1876-79 the Workshop Stock was increased by injudicious purchases and by over manufacture for Stock. A reference to Statement C will shew clearly the heavy loss that this increase has been to the Shops. This increase to "Stock" cannot be attributed to the removal from Chepauk, for the Stock at Chepauk might have been + injudiciously increased in the same manner, but as on reference to the Statement it will be seen that there has been no increase to Stock since 1879, the point that I wish to bring forward is, that the Workshop is not likely again to suffer from + similar mismanagement, and that in considering the present working, it must be assumed, that when once relieved of its superfluous stock,

care

care will be taken to keep the stores within proper limits

9. The removal from Chepauk was ordered by Government with a view to utilizing the Chepauk buildings as offices, and as the Workshop has in no way benefited by the removal, but on the other hand suffered very considerably, it is only just that compensation should be made. This compensation should, I think, take this form.
The accounts for each year should be carefully examined and if it is shewn that the shop expenses are reasonable when compared with the outturn, and if Government are satisfied that the class of work turned out during the year is such, as could not have been satisfactorily obtained elsewhere, it should be considered that the work of the year has been satisfactory even though only a part of the "Interest on Capital" has been paid.

10. With regard to the heavy expenditure under "General Charges" it

it will be seen, on reference to Statement D, that there has been a steady reduction from 1879, up to date, pointing clearly to the fact that when the workshop took up the present buildings, there were many minor works to be carried out before the workshop could be considered complete. When a large Establishment has to take up entirely new ground, I believe there must always be heavy Expenditure on numerous small works and repairs, which it would be impossible to estimate for.

11. I have, now, I believe, fairly stated the facts of the case which are briefly these:-

1st The Workshop has suffered considerably by the action of Government and by mismanagement in the matter of Stock.

2nd Compensation is necessary and should take the form of a clear distinction being drawn between the "Capital and Revenue Accounts," when considering the working of the Shops.

3rd From the Evidence furnished by the Officers of various Government Departments, it would appear that there is a considerable quantity of work which they prefer to get executed at the Workshop.

I have the honor to be &c
H.C. Baddeley Lieut R.E.
Superintendent P.W. Workshops

Mr Robbs

Public Works ~~Store~~ Department.

From T. W. R. Stores

THE GENERAL SUPERINTENDENT,

P. W. STORES, &C.,

MADRAS,

To The Chief Engineer
& Sec.
Chepauk

No. 3067/b

Dated 2nd
Despd. 3rd March 1882.
Recd.

No. OF ENCLOSURES. 5

Subject

Submits his Report on the P.W. Mr Robbs and trusts that it will be of some use in considering its subject.

Ans. 1 wpy
to Finance 534
3d Branch 1882

Recd 24/7 R 3/8
Oct 29-5-7 Cir 13/7 R 13/7
only 16/5

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Statement of debits and Credits to Mechanical Department for the official year 1880-81.

Dr				Cr		
To Balance on 1st April 1880	19,325	4 3		By Sales	21009	1 6
" Cash	34,353	11 4		" Public Department	9581	7 4 0
" Materials	46,951	3 4		" Instrumental Department	1953	12 11
" Per Centages for general charges	24,814	11 6		" Manufacture	3465	4 2
" Foundry	21,809	9 1		" Raw Materials	100	10 3
" Public Department	1,700	13 0		" Foundry	3007	9 4
				" Pixie Mines	477	14 6
				" Profit and Loss	1347	1 9
				" Loss in Percentages 7529-11-5 / in Labour & Materials 833-4-0	8362	5 1
				" Balance	12414	5 1
	147955	4 6			147955	4 6

1) A fictitious amount made up of the real expenditure in labour and materials on works in hand on 1st April 1880 plus the anticipated amount of profit according to the Standard rates of percentage
2) Actual amount paid to workmen during the year.
3) Actual Cost of materials used during the year.
4) A fictitious amount Shewing the profits that would have been made on work executed during the year if the Standard rates of percentage had been adhered to and if all work had been done without Estimate.
5) The actual value of Castings received from the Foundry at the fixed rates of issue.

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6) Railway Charges, Pier tolls and Boat hire paid for the Carriage of Stock and articles made in the Workshops.

7) Actual amount of bills issued for Cash payment.

8) Actual amount of bills issued for adjustment

9) 12) 13). Actual cost of labour and materials on Work done for Instrument Department, Foundry and Lime Kilns.

10) 11). Charges paid by the Mechanical Department on account of Carriage of Stock and Value of tools made for Stock.

14) Valour and Materials expended in repairing Tools and Machinery

15) Loss in percentages Rupees 7629-- -6. The actual amount of percentage charged by the Mechanical Department during the year was Rs 15666-9-1 while the amount which it might have recovered by Charging higher prices was Rs 23094-9-6 the difference between these is the loss of Rs 7629- -5.
Loss on labour and Materials Rs 838-4-8. This loss occurred in 1878-79 on Stock articles which in manufacture cost more than the Standard prices for similar articles.

16) A fictitious amount made up of the real expenditure in labour and Materials on works in hand on 31st March 1881 plus the anticipated amount of profit according to Standard rates of percentage.

Statement of debits and Credits to Instrument Department for the Official Year 1880-81.

Dr			Cr		
To Balance on 1st April 1880.	5662	13 10	By Sales	1597	15 -
" Cash	14738	7 4	" Public Department	27618	10 -
" Raw Materials	5466	14 5	" Manufacture	377	2 6
" Per Centage for General Charges	8329	" "	" Profit and Loss	8	7 -
" Mechanical Department.	1953	12 11	" Loss on Per Centage, labour & Materials.	2600	12 6
			" Balance.	3948	1 6
	36,151	" 6		36,151	" 6

1-9) The explanations given for Mechanical Department apply to the Instrument Department.
(10) Loss in Per Centages Labour and Materials. The loss in percentages amounted to Rs 1569-3-3 that is to say the prices charged for works aggregated Rs 1569-3-3 less than if all work had been done without Estimate and if the Standard rates had been adhered to.
The loss in labour and Materials Rs 1031-9-3 is not a real loss; it represents the value of the work done on 7 Levelling Instruments left incomplete by Mr Dodgett in 1877 and which I propose finishing when there is sufficient Skilled labour available and when the necessary fittings have been obtained from England. The Instruments are of good pattern and the work is good but as they had been left so long unfinished I decided on not entering them on the list of works in hand on 31st March 1881.

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Statement of Debits and Credits to Foundry for the Official Year 1880-81.

Dr.				Cr.	
To Cash		5092 8 6	By Mechanical Department		21809 9 1
" Raw Material		11996 14 "			
" Percentages for Charges General being the actual profit during the year	4267-13-7				
Deduct actual loss	353-6-10	3914 6 9			
" Mechanical Dept. Deduct double entry during the year made by mistake and which will not alter the Foreign entries of the Shops.	3007-9-4	805 11 10			
	2201-13-6	21809 9 1			21809 9 1

(1) Workmens' wages during the year. Labour is paid for according to the weight of Castings approved.
(2) Value of Iron, Coke and all materials issued to the Foundry.
(3) During 10 months of the year, there was an actual profit of Rs 4267-13-7; during 2 months there was an actual loss of Rs 353-6-10; the actual net profit made by the Foundry during the year was Rs 3914-6-9.
(5) Actual price paid by the Mechanical Department for the Castings turned out by the Foundry.

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Statement of Debits and Credits to Lime Kilns for the Official Year 1880-81.

To	Balance	6523 14 6	By	Public Department	23540 14 8
"	Cash	16,167 1 7	"	Sales	1227 8 0
"	Public Department.	2010 10 0	"	Loss.	411 1 10
"	Mechanical Department.	477 14 5			
		25,179 8 6			25,179 8 6

1) Value of Shells Charcoal &c in Stock at the Commencement of the Year.
2) Cash paid for Shells Charcoal Establishment &c
3) Amount of Kist paid for rental of Shell Quarries in the Pulicat Lake.
4) Work done by the Mechanical Department for the Lime Kilns.
5) Approved Bills for Lime Sold and Value of Stocks handed over to the Superintendent of Works, Presidency.
6) Cash received for Lime Sold.

The Lime Kilns are no longer Connected with the Work Shops and as the manufacture of

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of Line has nothing in Common with an Engineering Workshop, it is evidently wrong that the profit or loss in their working should be mixed up with the accounts of the Workshops.

W.C. Baddeley.

L.R.C.

Madras
17th March 1882

Genl-Supt. P.W. Workshops.

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Enclosures to letter
No 3194 of 17. March 1882
from the Genl Supdt
P. W. Workshops to the
Chief Engineer & P. W. thro.
the Supdt Engr. S. Circle

Through the Superintending Engineer
5th Circle. Workshops

PUBLIC WORKS STORE DEPARTMENT,

Madras, 17th March 1882.

No. 3194 78

From

THE GENERAL SUPERINTENDENT,
PUBLIC WORKS STORES, & Workshops

To

THE Chief Engineer
P. W. D.
Madras

SIR,

Enclosures

With reference to your Memo No 331, C of 3d March 1882, I have the honor to submit the following report and in doing so, I shall refer to the remarks of the Examiner No 1169 of 20th February 1882.

1) para 3 & 4. The Workshop differs from a private concern in the following important points.—

1st It has a borrowed Capital out of all proportion to the average outturn, and consequently the charges on account of Interest on Capital if paid would swallow up the larger portion of the profits made. During 1880-81 the actual percentages proved in the Mechanical Department (Smiths Shop, Carpenters Shop, Fitters and Turners Shop) amounted to Rs 15,565 while the charge for Interest during the year was Rs 20,597.

The

The total percentages recovered by the Workshop during the year were Rs 38,758 and the total demands on account of Interest and Depreciation were Rs 25,054 leaving a balance of Rs 13,704 to pay for the cost of Establishment, Fuel Bills and repairs to Tools and Machinery. Now Rs 13,704 is not sufficient to meet the cost of Establishment alone, and when it is considered that Engines cannot work without fuel, and that Machines and Tools require more or less repair during the year, it is obvious that the Workshop is not now in a position to work on Commercial principles.

2nd The net profit made during successful years has never been applied to reduce the borrowed Capital. For example the large profit made during the Famine would in a commercial concern have been set against the cost of the removal from Lohespeank, instead of which the whole of this profit was surrendered to Government, while the Workshop has borne all the loss consequent on the removal.

3rd The accounts are kept on uncommercial principles, as they contain fictitious items and are generally misleading.

These facts are sufficient to show that the value of the Workshop must not be gauged entirely from the figures in the profit and loss Account.

2) paras 5, 9 10 of Mr Brown's Report with G. O. No 3081 M of 12th December 1881. 20/4/12

With regard to the losses during 1880-81 in the Mechanical Department Rs 8,962-5-1

Instrument Do " 2,600-12-6

Foundry " 2,555-4-4

Lime Kilns " 411-1-10

I append copies of the Accounts with an explanation of each item, and on perusal it will be seen that they are liable to misread.

In the amended General Charges Account framed by Mr Brown, he has entered Rs 24,814 as Percentages recovered in the Mechanical Department, and Rs 8,329 as Percentages recovered in the Instrument Department, but as both these are fictitious amounts, it is evident that the system of accounts (which is the same as that originally framed by the Accounts Branch, and which has been invariably used from 1868 up to date) is not now clearly understood, and consequently wrong conclusions have been drawn regarding the present working of the Shops.

Do

On referring to the Statements it will be seen that the total amount of percentage recovered by the Workshops during 1880-81 was Rs ~~28,150~~. 38,753

If all work had been executed without Estimate, and if standard rates of percentage had been adhered to, the profit which the Workshop was legitimately entitled to was Rs 38,818, so that viewing the operations as a whole no extra profit was made by the Workshops during 1880-81

The Examiner's opinion is, that, in addition to invariably securing the ordinary profit, the Workshop deliberately adds an additional profit, but this view is incorrect.

It is absolutely impossible to work a large manufacturing business so that a fixed amount of profit shall be made on every article.

As an invariable rule, Officers requiring work are anxious to have it executed at the lowest possible price, and as there is no real gain to Government in the profits made by the Workshops, I have always endeavoured to make Estimates as low as possible; but on the other hand officers are quite willing to pay the Standard 2864/13 rates for stock articles such as pickaxes &c, and as the cost of manufacture is reduced by the numbers made, a profit in excess of that estimated for is usually made, but it must not be overlooked that 5 per cent interest is paid on stock and consequently unless all stock was sold within the year of manufacture, the estimated percentage would not represent the amount of profit that ought to be recovered.

From what I have stated it will be seen that the Workshop does not deliberately extort the highest price possible; but rather there is every wish to do work at moderate prices.

It is also evident that so long as Estimates are given for work the profit made must be higher or lower than that Estimated for and in the case of stock articles, the reduction in the cost of manufacture enhances the profit, which is necessary to meet

meet the interest on the stock made in former years.

With regard to the Foundry Maistry it is evident that Mr Brown did not make sufficient enquiry into the subject. The mistake is this, the labor only is on contract or in other words the Foundry workmen are paid according to the weight of castings turned out, all materials being supplied by the Work-shop.

Now no work can be so easily examined as cast iron and with large quantities of materials to deal with it is obvious that in the interests of Government some supervision is required and the cheapest form of this is a maistry.

The present maistry is a first class workman who not only supervises but works continually with his own hands, his pay is 35 Rs a month.

I may mention that some months ago the rate for labor in the Foundry was reduced from Rs 35 to 30 Rs a ton.

The portable forges and bench vices were debited by mistake to Contingencies instead of to Machinery & Plant. It would have been more advantageous to the Workshops if the debit had been to Machinery & Plant as in this case the cost of the articles would not have been deducted from the profits of the year.

3. para 6 No percentage is added to the price of an article because it is sold from stock.

Nothing is now manufactured for stock, but if it was necessary to lay in a supply of stock articles, such as pickaxes, mamorties &c the procedure would be as follows.

The articles would be entered in the stock list at the Standard rates.

The debit to manufacture would be the cost of labor and materials plus the ordinary percentages calculated not on the cost of each pickaxe, but on the total expenditure in labor and materials for the order. The credit would be the total value of the tools at

at Standard rates. Whenever a large number of any article is made, the cost of manufacture is reduced, so that when the stock is sold at standard rates the profit made will be in excess of that estimated, but I maintain that not only is this a legitimate and ordinary profit, but it is impossible to execute work so that the actual profit made shall exactly agree with that estimated for and moreover the interest on stock articles manufactured in previous years has to be considered.

As a rule Estimates are given by the Workshop, except in the case of repairs and the principle is as follows.

A percentage is added to the cost of manufacture to cover Interest and General charges (of late years these charges have been so high and the Interest has been so excessive that the rate of percentage was quite insufficient) and if the Estimate is accepted, the total amount is paid on the completion and delivery of the Work; the workshop taking the chance of gain or loss by the transaction. In my opinion no other plan is possible unless it is ordered that all work shall be executed without estimate which would be excessively inconvenient for the Officers ordering the work.

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4 para 7 I would wish to point out that the 4 per cent is not paid by Government but is paid by the persons ordering the work over and above the estimated Workshop percentages. The comparison drawn by the Examiner is therefore inappropriate and as this allowance has always been considered as a portion of the pay of the Office, I trust that the orders on the subject may be reconsidered. I may also observe that allowances are drawn by Officers of the Marine Department and the Mints of Calcutta and Bombay on account of services rendered to private individuals and these allowances are paid by the individuals concerned, as are the percentages which were sanctioned in G.O. No 2963 of 10th November 1870 on its being represented that the Superintendent of the Rookee Workshop was allowed 4 per cent on all earnings from private work.

5 para 9 The exceptional outlay consequent on the removal of the Shops from Chepauk, is the main cause of the losses during late years and

and it rests with Government to decide whether they will compensate the Workshops for these losses by removing a portion of the heavy charges of Interest on Capital or whether in considering the present working of the Shops, they will look at the account of shop expenditure and Earnings apart from the Capital Account

6) paras 10 & 11 It is useless to suppose that the Workshops can ever pay the present enormous amount of Interest on Capital, Depreciation and Pension and Leave Allowances, but if at the end of this year it is seen that a fair amount of profit has been made on an + average outturn, and if Government are satisfied that the work turned out is of a class that could not have been obtained elsewhere, it is not + necessary to consider the Workshops a dead loss, because it is unable to meet charges for Interest which have been placed upon it by the action of Government in removing the Shops from Chepauk.

para 10. I quite admit that the Workshop has been a failure during the last three years from a commercial point of view. But I maintain that the losses have been caused

(1) By the charges consequent on the removal from Chepauk 2467/16

(2) By the dead weight of Interest on Stock which has been accumulated by mismanagement in former years.

Admitting that the average outturn of the Shops may be taken as 2 lakhs the question before Government is, what portion of the work represented by this 2 lakhs could be satisfactorily executed elsewhere? and what would be the loss to Government if the + various Engineering works (which are now mainly dependent on the Workshops for their Iron work) were left unfinished for want of these iron works?

For Example an Irrigation work with out gearing for its sluices can be of no use, and delay in this means loss of revenue.

The question must be looked at from a broad point of view and that is case

the

the P.W.D afford to be dependent on private enterprise for the class of work which is now turned out by their own Workshops? My opinion is that the closing of the Shops would result in heavy loss to Government and instead of private firms coming forward to take up the work it would be found necessary to open a Workshop in each District.

7) para 12 The General Charges during 1878-81 were abnormal owing to the outlay consequent on taking up the present buildings, for it must be remembered that a large Workshop cannot return to its normal state for some time after a radical change such as the removal from Chepauk. The general charges during the present year will amount to Rs 27000 and this may be taken as a fair average. The average at Chepauk was somewhat lower but the buildings were smaller and less scattered, and the whole of the Machinery and Plant has had more wear and tear.

The

8) para 14. The Workshop charges should be as low as possible or in other words the percentage added to the cost of work should be small.

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It cannot be politic for Government to insist on heavy percentages being charged to meet Interest on Capital, and expenditure caused from abnormal circumstances such as removal of premises.

Every rupee of profit made by the Workshop means money drawn away from Irrigation and other works on which it was allotted for Expenditure, clearly therefore it is the object of Government to keep the profits as low as possible. But unfortunately it has been the practice for many years to judge the working of these shops entirely from the question of profit and loss. If net profit is made the working has been considered satisfactory and vice versa, and consequently the Superintendents have always done their best to show as large a profit as possible.

This is distinctly wrong, and since I have been in charge I have always endeavoured

endeavoured to reduce prices rather than
attempt to shew a fictitious profit
by charging exorbitant rates.
Much has still to be done and what
I hope to see is a distinct line drawn
between the Capital and Revenue
Accounts.
Let the Workshop Capital remain
at its present book value, but do not
force high percentages to be charged
in order to meet the Interest on
Capital.
The principle is exactly the same as
that adopted for guaranteed Railways
the Capital and Revenue Accounts
are kept distinct and although the
Railway may not be able to meet
the whole of the guaranteed Interest
it is not obliged on that account to
raise its fares.
When the Accounts have been
audited, the following facts should
be laid clearly before Government.
1st outturn
2nd The Expenditure on Labor, Materials
and supervision
3rd The profit made and the rate of
percentage charged
4th The class of work executed
and
and these facts will be a guide in
deciding when the time has arrived
for partially or entirely closing the Shops
Interest on Capital must be treated as
a distinct question; it is of course very
desirable that every institution should
pay Interest on Capital but as Capital
is liable to be suddenly increased with-
out a corresponding increase in the out-
turn, it is clear that any system of
Accounts in which Capital and Revenue
are mixed up is wrong
9) para 15. The forms of Account must
if they are to be any guide as to the
value of the Workshops, be based on
those used by guaranteed Railways
in which the distinction between
Capital and Revenue is clearly marked
10) para 16. The experience of the past
two years is not reliable as a basis
upon which to enter on a general consider-
ation of the future of the Shops.
The Expenditure has been abnormal and
general charges, and the amount of
Interest required has been out of all
proportion to the outturn.
The working for the present year
will shew a reduction in the general
charges and although the whole of
the

the Interest on Capital will not be met, I consider that the percentages charged are quite high enough.

In submitting the accounts I shall endeavour to clearly separate the Capital and Revenue accounts so that the working of the Shops may not be judged solely from the question of profit and loss.

11) para 17. The object for which the Workshop exists is to execute work for the P.W.D. which cannot satisfactorily be obtained from the market. There can therefore be no advantage in increasing prices in order to pay Interest on a Capital which is out of all proportion to the requirements of the Shops.

12) para 18. The value of the outturn must be considered in connection with the value of the various works which require the assistance of the Workshop. The question is not whether it is worthwhile maintaining the Shops for so moderate an outturn? but, how could these wants be supplied without undue delay and in a satisfactory manner if the Workshop did not exist?

With my No 3067 of 2nd inst. I have submitted a list of works which are ordinarily carried on here and which I consider could not be satisfactorily obtained elsewhere in Madras and I appended the remark that no Engineering work of any size could be undertaken if there was any doubt as to how these wants could be supplied without delay. Taking the average for the last 3 years, about ½ of the total work turned out has been for the P.W.D. About ⅓ for other Government Departments About ⅙ for private persons.

The rates of issue for manufactured articles are higher than English rates; but these rates include a considerable amount of profit which is returned to Government.

The Workshop does not exist to turn out manufactures [illegible] which can be bought wholesale in England where they are made by Machinery but it is required to do those works which are not ordinarily obtainable in local and European markets including repairs of all

all descriptions.

All charges are based on Estimates except repair works and special jobs which cannot be estimated for. The Estimates are accepted and paid in full on the work being approved; no other procedure could possibly be adopted.

The Examiner is apparently under the impression that the Workshop manufactures for stock; nothing is now manufactured for stock, the expenditure under that head for 80-81 was incurred in completing unfinished articles.

I have now I trust not only explained the various questions raised by the Examiner, but also indicated the reform that is needed in the system of the Workshop Accounts.

It is obvious that the accounts have been misread during the last audit and on looking through the whole of the reports on the Workshop, from the year 1867, it will be found that on no occasion has this important question

question been asked viz 2064/82
what gross profit has the Workshop actually recovered during the year?

13) para 19 The proof required by the Examiner can only be obtained by closing the Shops; a measure which I predict would result in heavy loss to Government for the following reasons.

1st Delay and uncertainty in the supply of the work now done by the Workshop

2nd Increased prices for the same or inferior work

3rd Loss by the sale of the present buildings Machinery &c

4th Loss of the services of a number of skilled men of various trades who are now available for work in any part of the Presidency.

The discussion which has taken place will be of the greatest value if it results in the Workshop being placed on a proper footing as regards Capital and Revenue Accounts.

I have the honor to be
Sir
Your most Obedt Servant
Ascr Baddeley Joint Sec.
Genl Dept Pt Photo Workshops

Public Works Store Department.

From

THE GENERAL SUPERINTENDENT,
P. W. STORES, &
MADRAS,

To The Chief Engineer
P W D
Madras

No. 3194 W

Dated 17
Despd. 18 March 1882
Recd.

No. OF ENCLOSURES. 2.

W&K Circ 1955.

Subject

Report fully on the note of the Examiner of Accounts on the future of the P W Workshops

Recd 23/7 R 3/8
Ord 27-5 Cir 13/7 Rec

2064
91

Note by the Chief Engineer, Public Works Department.

The long pending question as to the further retention of the Public Works Workshops at Madras has now arrived at a stage admitting of a final decision.

2. My general opinions on the subject were expressed in considerable detail in my note of the 28th November 1881, and a careful *précis* of all the latest correspondence, showing the various questions at issue, with my own opinion recorded on those of the several officers who have been consulted, is herewith forwarded for information.

3. Setting aside all minor points at issue, it has become clear that the shops, though shown to have worked at considerable profit during the famine years, have since then retrograded altogether in this respect.

4. In paragraph 3 of his letter printed with G.O., 12th December 1881, No. 3081 W., the Examiner gives the loss on working the shops during 1879-80 and 1880-81 as Rs. 40,000, and although improvement may to some extent be looked for under the reductions already carried out, and those which may still be feasible, by reducing the amounts charged against the Capital Account, there is only too much reason to conclude that a condition of indebtedness exists and must become chronic.

5. This unsatisfactory state of matters is chiefly due to the large and costly buildings and plant which have to be maintained in order to meet the ever-varying demands of manufacture and repair of articles of all classes for the Public Works and other Government Departments, as also for private individuals.

6. Practically speaking they are merely jobbing shops, and, in the effort to show a profit on commercial principles, are compelled to undertake heterogeneous manufactures, which from their constitution they are necessarily quite unable to carry out economically.

7. Driven thus to seek for work on all sides, including such as can be obtained from private parties, they necessarily stand in the way of the development of private enterprise in the same line.

8. Viewed from another stand-point also there is a very serious drawback to the continuance of the shops on their present footing. The total amount of outturn (annually about two lakhs in value) is so small as to make the entertainment of a thoroughly trained Mechanical Engineer at its head an impossibility, the cost of such an officer in original salary and subsequent increments being too heavy a burthen for the establishment. The result is that Superintendents have to be appointed from officers on the regular departmental establishment. None of these are necessarily experts in the particular line, and one and all must vacate on promotion from Assistant to Executive Engineer, as the shops are unable to bear the increased salary. This will ere long be the case with the present incumbent. No continuity of Superintendents is thus possible.

9. My own view, therefore, as expressed in the annexed précis of correspondence, is that the shops should be abolished—

First, as being in a condition of chronic deficit;
Second, as directly interfering with private enterprise;
Thirdly, as presenting insuperable difficulties in the way of providing for their proper and continuous supervision by a thoroughly trained Mechanical Engineer.

10. That very opposite views are entertained by other highly qualified officers will at once be observed from the précis of correspondence, and these views are doubtless shared by many others in the department whose opinions deserve every consideration.

11. That the shops were started to carry out work which at the time of their creation it was not possible to get readily done elsewhere is not only true, but the same contention is still to some extent valid, and further that the presence of a large Government Workshop capable of turning out a great variety of work, though at an unduly high price, is a convenience to this and other departments cannot be denied.

12. Further, that some inconvenience will follow such a drastic remedy from the present defects as their total abolition may also be accepted.

13. Notwithstanding these and other contentions which I have replied to in the précis, I am of opinion that the shops should not continue to be maintained on their present footing.

14. One of the three following courses are thus it seems open to Government :—

(1.) To maintain the shops on much the same footing as at present, though relieved as much as possible of certain items now standing against the Capital Account, so as to admit of their having a better chance in future of working to show a profit.

(2.) To get rid of all buildings and plant and retain only those portions which may be required for the execution of such repairs and trifling matters of manufacture as Executive Engineers cannot have locally executed.

(3.) To dispose of the whole concern and trust to the open market for all manufactures and repairs.

15. As regards the *first* alternative, it will be observed that the matter is discussed under point No. 7 in the annexed précis, and the mode of giving the needful relief to the Capital Account pointed out. Should this method of dealing with the question commend itself to Government, the appointment of a Committee for giving effect to the proposals would apparently be most satisfactory.

16. In reference to the *second* alternative which as the *via media* I venture myself to recommend, a year or more would probably be required before it could be given full effect to. The intentions of the Government with a complete statement of the buildings, machinery and plant to be eventually disposed of, should be widely published for six or nine months, and tenders invited from persons desirous of starting a private workshop in Madras to take its place as much as possible. During the interval thus insured the shops could gradually contract their operations so as to test the value of private enterprise, and allow our own officers and those of other departments to become gradually acquainted with the new state of matters.

17. Judiciously carried out, I am convinced that the measure would be attended with but small inconvenience, and would in any case afford an opportunity for deciding whether the reasons for abolishing the shops as a Government concern rested on a thoroughly sound basis.

18. When narrowed to the limits of a simple repair establishment, either on the present site or another, the shops would become merely a sub-division attached to the Presidency Division under charge of a good Foreman Mechanic; and even this might in time disappear if subsequent experience proved that resort might be had entirely to the open market for even the small class of work which would be left.

19. The *third* alternative would, I confess, it appears to me to be too drastic, though of course it could be led up to by allowing ample time for giving publicity to the intentions of Government and for giving full effect to the measure.

OOTACAMUND,
6th July 1882.

(Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, P.W.D.

Note by the Chief Engineer for Irrigation.

In my opinion the only question for my consideration is, can the work required by the Irrigation Branch, Public Works Department, be done, readily and effectually, without the aid of Public Works Workshops. If it can, the workshops should cease to exist.

2. The work required is, such as iron girder bridges, sluice and valve lifting gear, lock gates, involving iron and brass casting, repairs to pumps, steam-engines, dredges, &c. I understand that at present much of this work could not be turned out at Madras, except at the Gun Carriage Manufactory, where the charges are very heavy; but as regards iron girders, screw gearing for shutters, &c., such work could be obtained either from Calcutta or Bombay at rates not exceeding, in all probability,

the rates now charged at the Public Works Workshops, and I do not see that inconvenience would result from this work being obtained either from Calcutta or Bombay.

3. As regards repairs to steam-engines, &c., however, it is necessary that there should be as little delay as possible, and until this work can be done by private firms at Madras, I think it will be necessary to retain the workshops on a smaller scale.

4. To close the workshops at once would, I think, cause great inconvenience, but as I believe that it is mistaken policy for Government to interfere in any way with private trade, and that the closing of the workshops would create a demand locally which private enterprise would before long supply, I consider the second course proposed by the Chief Engineer is in every way suitable, if regarded as a step towards the total abolition of the workshops.

5. The up-country workshops at Dowlaishweram and Bezvada are very differently circumstanced; the works necessitate the employment of complicated machinery which may require repairs without delay, and if the Railway Workshops can be made available for training apprentices, there should be no difficulty in obtaining men to fill vacancies in the establishments.

10th July 1882.

(Signed) J. O. HASTED, Col., R.E.,
Acting Chief Engineer for Irrigation.

Note by the Consulting Engineer for Railways.

The question as to the retention or abolition of the Public Works Department Shops at Madras does not directly affect the Railway Branch, and I presume that my opinion on the points at issue is called for on general grounds, as affecting the operations of the department at large.

I entertain no doubt that the sole *raison d'être* of the shops is that they should provide for the execution of work which cannot be done elsewhere,—either as cheaply, as well, or as quickly. If the required work can be executed elsewhere, on satisfactory conditions as to these three points, the shops should cease to exist.

With respect to economical work. The papers circulated leave no room for doubt that, of late years, the shops have been worked at considerable loss; while there is no reason to suppose that the prices charged for the outturn have been lower than would have been charged by private firms.

With respect to efficient work. On this point I can see no ground for doubting that the requirements of the department could be met in the open market,—whether in Madras, Calcutta, Bombay, or England,—as satisfactorily as they have been met in the shops attached to the Public Works Department. Indeed, the list of manufactures given by the Superintendent of the Shops contains so many articles which may be termed *specialities*, as to satisfy me that, unless the local conditions are of an unusual nature, the work must of necessity be turned out better by firms that make such specialities their particular study. I need only refer to such articles in the list as "Steam Boilers," "Dredging Machinery," "Boring Apparatus," "Bells for Churches," "Machines for testing coin, stone-crushing, tile-moulding," &c., &c., &c.

With respect to expedition in the execution of work. This is the only point on which I am inclined to question the expediency of abolishing the shops; but this opinion has reference not so much to new manufactures as to repairs. There must be many cases in which the immediate repair of machinery, instruments, &c., is of urgent importance; and I do not think that it would be wise at present to trust to the open market in Madras for the execution of such work. In course of time, experience will probably show that the maintenance of a special establishment is unnecessary, even for work of this nature.

For these reasons, I concur with Colonel Sankey in giving preference to the second of the three courses named by him as being open to Government, but in the expectation that its adoption will in course of time lead probably to the third course, viz., the abolition of the shops and the disposal of the entire concern.

11th July 1882.

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Consulting Engineer for Railways.

No 1468.

Superintg Engrs Office
5th Circle
Madras 24th March 1882

2664/27

From

Capt A. L. Pendergast R.E.
Superintending Engineer
5th Circle

To

The Chief Engineer
P.W.D.

Sir

Enclosures. 7.
1 Note by Comrs. Exp. Railways No 2417 of 9 Feby 82.
1 Letter No 1006 with 1 Report dt 10th February 1882 of Supdg Engr 5th Cir.
1 Note by Examr P.W. No 1169 of 20 Febry 82. with
1 Comps Statt.
1 Report by Supdt P.W. Mad Shops No 3194 of 17 March 82 with
1 Statement
1 Registered separately

With reference to your Memo No 534 C dated the 3rd Instant, I have the honor to return the Examiner's Office Note No 1169 of the 20th Ultimo together with letter No 3194 of the 17th Instant, addressed to you by the General Superintendent of the P.W. Workshops.

Lieut Baddeley has entered pretty fully into several points brought forward by the Examiner, and gives explanation regarding the extra profits, and system of accounts, which Examiner upon briefly in my Report of the 10th Ultimo.

2 I will now make only a few remarks upon the Examiner's Note

Note; not upon his opinions; but upon some of his Statements.

Thus Examiners para. 5— I have looked up G. O. No. 242 of the 24th January 1867: and following that, G. O. No. 2326 of the 21st July 1868. which publishes the Annual Accounts of the Workshops for 1867-68. The Profit and Loss account was then drawn up in the Controller's Office; and signed by the Controller; and it is in the same form as that given by the Superintendent of the Workshops for the year 1880-81. On looking on thro' the Government Orders, I find that the same form was made out yearly by the Controller, until the end of the Official year 1874-75. The procedure which was instituted by the Controller & carried out by him for several years, has been followed by the General Superintendent, in the six succeeding years.

The Examiner closes his 5 para, with an acknowledgement that if the procedure be faulty, it had better be revised. With this I fully agree.

3 Examiners para 6— The explanation of the term "extra per cent" is not at variance with the Accounts. Articles are entered on Stock at the Standard Rates; they have been manufactured at a less rate: therefore there is a profit on issue; but no per centage is added to the price of per article because it is sold from Stock.

4 Examiners para 7— The Examiner is entirely wrong. The word "duty" was used by me in para 6; in the sense of "performance of work". The per centage that has been allowed on bills for private work, is not paid by the Government; it is a premium paid by individuals for work, that the Superintendent may be willing to do for them, and not for work that he is obliged to do.

This is the principle on which the Government granted the allowance.

The General Superintendent is on the graded list of the P. W. Department; but

but does not draw pay according to that list. He is specially paid for the Workshop appointment.

5 Examiners para 8 — The profits on Stock articles whether considered extra or ordinary will not continue in future: as the Workshop will not make articles to keep in Land pt Stock.

6 Examiners para 10 — I Law held that where there is one exceptionally good year, out of four; the other years to be especially bad — by the comparison. I have given figures showing that a large sum is charged to the Workshop as interest on Capital: that there has been heavy expenditure consequent on the change of premises; and that the Workshop need not be condemned upon the working of only 2 years.

7 Examiners para 11 — I perfectly understand the last part of para 8 of G. O. No 2081 W; viz that extra profit to the Shops will be outlay on work to which the articles are charged. But if Standard Rates are charged & not the works pay for the Standard Value, it is a matter of indifference to Government Departments, whether the Workshops Law produced the article at a profit or loss.

8 Examiners para 17 — The meaning of what I Law said is that the Workshop is not to take up work that can be done elsewhere, and it will not then compete with the local market.

I Law the honble
Sir
Your Most Obed[t] Servant
New Sunder Nath Pte
Superintending Engineer
5th Circle

From,

The Supta Engineer
5th Circle

To.

The Chief Engineer
P.W. Deptt
Madras.

Dated 24th March/82.
Recd "

Enclosures 7.

No. 1468.

P.W. Workshops at the Presidency.

Offers remarks on the Examiner's Note regarding Clerks

PRESIDENCY PUBLIC WORKS WORKSHOPS,
Madras, 2nd May 1882

No. 212 W.

From

THE GENERAL SUPERINTENDENT,
PUBLIC WORKS WORKSHOPS.

To

THE Examiner of
P.W. Accounts
Chepauk

Enclosures.

SIR,

In para 8 of your letter No 1140 W of 2nd September 1881 to the Secretary to Government P.W.D. you observed that "the principle under which an Officer of Government is granted an extra allowance for carrying out the ordinary duties of his position is undemonstrated". On enquiry from the Superintendent of the Porto Novo Workshop I find that he is allowed to draw a Commission of 3/4 per Cent upon all bills whether for Government or private work, provided the Workshop pays its expenses and the management is approved.

I do not propose now to draw a Comparison between the working of the Porto Novo Workshop and this one; but you will admit that I have clearly proved that the Govt

Government of India does recog-
nize the principle which you state
requires demonstration, and I
trust therefore that you will
refer the matter to Government,
with a recommendation that
the allowance may be restored
to me, or that I may be granted
the same privilege as the Super-
intendent of the Roorkee Workshop.

I have the honor to be
Sir
Your Most Obed't Servant

Wm Broadfoot, Lt R.E.
Genl Supt P. W. Workshop

Presidency P. W. Workshops.

From

THE GENERAL SUPERINTENDENT,
P. W. WORKSHOPS.
Madras.

To

No. ——— W.

Dated
Despd.
Recd.
188

No. OF ENCLOSURES.

Subject.

Endorsement No: 138 X
dated 8 May 1882.

Transferred to the Secretary to Government Public Works Department for such action as he may consider necessary.

D. L. Cundoul

Examiner P. A. accounts

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The long pending question as to the further retention of the Public Works Workshops at Madras has now arrived at a stage admitting of a final decision.

2. My general opinions on the subject were expressed in considerable detail in my note of the 28th November 1881, and a careful *précis* of all the latest correspondence, showing the various questions at issue, with my own opinion recorded on those of the several officers who have been consulted, is herewith forwarded for information.

3. Setting aside all minor points at issue, it has become clear that the shops, though shown to have worked at considerable profit during the famine years, have since then retrograded altogether in this respect.

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6. Practically speaking they are merely jobbing shops, and, in the effort to show a profit on commercial principles, are compelled to undertake heterogeneous manufactures, which from their constitution they are necessarily quite unable to carry out economically.

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(Signed) R. H. SANKEY, Colonel, R.E.,
Chief Engineer, P.W.D.

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In my opinion the only question for my consideration is, can the work required by the Irrigation Branch, Public Works Department, be done, readily and effectually, without the aid of Public Works Workshops. If it can, the workshops should cease to exist.

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(Signed) J. SHAW-STEWART, Colonel, R.E.,
Consulting Engineer for Railw

11th July 1882.

List of previous papers.

B. Dg 26304 - 18-11-80
Report of Committee appointed in Pro: dated
28 Sept/81 Dg 361 (Educl)
G.C. 2435 - 24-7-69 - (P.A.)
" 951 - 5-4-70 - " -
" 1592 - 4-7-70 - " -
" 2160 - 22-8-71 - " -
" 3002 - 28-11-71 - " -
" 3074 - 5-12-4 - " -
" 304 - 1-2-72 - " -
" 1237 - 14-5-72 - " -
" 1746 - 23-7-72 - " -
" 936 - 1-6-74 (Final)
" 818 - 23-3-75 - (P.A)
" 1028 A - 26-4-80
" 259 - 23-6-77
" 2264 A - 27-12 - " -
Memo 338 - 30-8-80.
Mid Dg 2385 A - 16-10-80.
Memo " 611 - 1-11-80 -
G.C - 2693 - 10-11-70 -
" - 2232 - 10-9-73
" - 6488 - 4-3-79
" " 2688 A - 24-10-79
" " 2127 A - 10-10-80.
" " 9158 - 4-4-81.
Mid " 11984 - 12-5 - "
G.C. 1547 A - 20-6-81.
" 242 - 24-1-67
" 3081 A - 12-12-81. (orig)

Summary of Correspondence relating
to the present States & working of the
P. W. Workshops.

Letter from the Supply Engineer 5th Circle } N. E. No. 1006 d/ 10th Feby/82.

Office Note from the Exam.
P. W. accts } " " — No. 1169 d/ 20th Feby/82.

Memo by Chief Engineer
P. W. D. } " " — No. 534 C d/ 13th March/82

Letter from the Genl Supt.
P. W. Stores & Workshops } " — No. 2194 W d/ 17th March/82

Letter from the Supply Supt 5th Circle } " " — No. 1468 d/ 20th March/82

Letter from the Genl Supt P. W.
Stores & Workshops } " " — No. 212 W d/ 2nd May/82

From Do — Do — " " — No. 3067 W. d/ 2nd March/82

Note.

Note.

The following are the principal points raised in the foregoing correspondence.

(1.) Whether the Railway work-shops might be made available for giving a practical training in mechanical engineering to Public works apprentices.

(2) Whether all P.W. work which cannot be executed in the open market might be undertaken by the Railway work-shops

(3) Whether or not the P.W. workshops should be looked upon as working on Commercial principles.

(4) The form in which the profit and loss accounts were submitted by the Superintendent.

(5) The legitimacy or otherwise of "Extra profit."

(6.) The percentage drawn by the Superintendent on bills for private work, (discontinued under G.O. No. 2081 W dt/ 12th December 1881-)

(7.) The heavy charges imposed on the Shops by the item "interest on Capital"

(8.) The annual outturn to be looked for from the shops.

(9) The suitableness of the present forms of accounts.

(10.) The average outturn being 2½ lakhs, is it worth while maintaining the shops for so moderate a demand?

(11.) What is the classification of the outturn; how much of it is Special work not to be obtained from local markets and

and required to be of superior workmanship, how much of it is for the P. W. Department, how much for other Government departments, and how much for private individuals?

(12) How do the rates of issue for manufactured articles compare with similar articles obtainable from European markets?

(13) Are the charges made to customers, whether Government departments or private individuals, based on estimates accepted in full by them and regardless of the actual cost incurred by the shops, or is all work charged at actual cost?

(14) How far it has been conclusively proved that the shops at the present time meet demands which cannot otherwise be met in the country

The

(1) Whether the Railway workshops might be made available for giving a practical training in Mechanical Engineering to P.W. apprentices.

(2) Whether all P.W. work which cannot be executed in the open market might be undertaken by the Railway workshops.

the views of the several officers on each point are given below—

35

(1)

The Consulting Engineer for Railways reports that as far as the Madras Railway is concerned there would probably be no difficulty in arranging this matter but the approval of the Board of Directors would be required. There is no reason to suppose that similar arrangements could not be made with the South Indian Railway Company although it is here thought desirable to utilize their shops at Negapatam for the purpose.

(2)

The Consulting Engineer for Railways—neither the Madras nor

the

the the South Indian Railway Companies are prepared to under-take the Execution of work for the Public Works Department-

Superintending Engineer 5th Circle- As the P. W. Workshops cannot at present be superseded by another institution, the Engineer Depart-ment will still remain dependent on the former for the Execution of work to be done at Madras.

(31)

Superintending Engineer 5th Circle- The workshops have avowed-ly not been Conducted on Commercial princi-ples to show a profit, and Government have discouraged the idea of their competing with the

(31) Whether or not the P.W. workshops should be looked upon as working on Commercial principles-

the local Market- They were instituted because the wants of the P. W. Department Could not be met in the Country and this object has been attained & according as those wants have been supplied- The Superintendent was un-fortunately absent on privilege leave when the Examiner made his inspection, so that the former had not the opportunity of offering Explanation both as to the accounts and the practical working of the Shops-

Examiner P. W. accounts-

Does not see where the workshops differ from an institu-tion working on Com-mercial principles except that they are not dealers and do not speculate for rise and falls in the Market-

Their

their institution to supply the Dept at fixed rates removes the dangerous element in ordinary Commerce, but the principle adopted has been that the shops are to be Considered as a private Concern working to show a profit and loss, but without the speculative element which would be engendered by Competition with the open Market.

Genl Supt P.W. Workshops.

Considers that the workshop differs from a private Concern in the following important points.

It has a borrowed Capital out of all proportion to the average out turn, and Consequently the charges on account of interest on Capital swallow the larger portion of

of the profits made, e.g. during 1880-81 the percentage recovered in the Mechanical dept amounted to Rs 15,565, while the charge for interest was Rs 20,897. The total percentages recovered during the same year amounted to Rs 38,753 while the total Charge for interest was Rs 28,049 leaving a balance of only Rs 13,704 to meet the cost of Establishment, fuel, oil, repairs to tools and Machinery &c, a Sum Quite insufficient for the purpose, Hence the Shops are not in a position to work on Commercial principles.

The profits made during successful years have not been applied to reduce the borrowed Capital. e.g. the large profit made during the famine would in a Commercial Concern have been set

set off against the Cost of renewal from the Repl.

The accounts are kept on uncommercial principles as they contain fictitious items and are generally misleading

(4.)

Supt Engineer 5th Circle

With reference to the Examiner's remarks in his annual review for 1880–81 (G.O No. 3081 of 12th Decr/81) as to the unintelligibleness in an accounts point of view of the figures put forward by the Supt, Col Prender gast remarks that the returns in the office of the Supt show to him clearly the loss. The form of account however was prescribed by the accounts Dept itself some years ago. The profit & loss statement could not

(4) The form in which the profit and loss accounts were submitted by the Superintendent

not therefore have been drawn up in any other shape than that with which the Examiner finds fault and which has always hitherto been accepted.

Examiner P.W. accts.

The forms for accounts procedure were issued in 1867-68 and in the System prescribed the operations to be shown under general Charges and profit and loss are clearly illustrated and should have been followed. That they have not been followed hitherto is no argument that they should not be followed now, or that they should not always have been followed. It is beyond doubt that the profit and loss statement submitted by the superintendent is not intelligible in

in an account view
and if the procedure
laid down 14 years
ago had been followed
as it should have
been, the accounts
rendered by the Supt
would have shown
the same result as
those prepared by
the Deputy Examiner
in the recent annual
review - In the errone-
-ous procedure follow
-ed wrong Conclusions
are published and
facts Concealed. But
apart from this, if
the procedure pres-
-cribed 14 years ago
be now found to be
faulty, there is the
greater necessity to
revise it -

Genl Supt P.W. Workshops

The amended state-
-ment prepared by
the Deputy Examiner
shows percentages record-
-ed under different
heads, but as these
percentages

percentages are fictitious
amounts, it is evident
that the System of
accounts (which is the
same as that originally
prescribed by the Accts
Department and which
has been invariably
used since 1868) is
not clearly understood,
and Consequently
wrong Conclusions
have been drawn
as to the present working
of the Shops.

The S. E. 5th Circle

in a second report
remarks that he
has looked up the
orders of 67-68 and
finds that the profit
and loss accounts
were then drawn up
in the Controller's/Examiner's
office and that they
are in the same form
as those submitted
by the Genl Supt
for 1880-81 - The
procedure instituted
by the Accts Dept

has been followed by the dept for years. He fully agrees with the Examiner that if the procedure be faulty it should be revised.

(5)

S. E. 5th Circle

The term "Extra profit" is an invention of the accounts dept and certainly conveys the idea of an increase in the rate of issue. In reality however there is no such increase, the "Extra profits" being the ordinary receipts from articles manufactured in the shops and transferred to stock - when issued from stock, the recovery is entered separately and is termed "Extra profit" does not Consider that the latter is an illegitimate

(5) The legitimacy or otherwise of "extra profits"

Credit. 10

Examiner P.W. Accounts

The term "Extra profit" was probably an invention of the accounts dept and was evidently intended to distinguish between ordinary profits (i.e the normal percentage charged in addition to actual Cost) and the profits resulting from Excessive estimates binding on Customers and regardless of actual Cost. This however is not the way in which the term is now used, nor is the Explanation given by the Supply Supt. Correct if the accounts are Correct. Maintains that "Extra profits" resulting from the system in force are an illegitimate credit in so far that they are recovered by illegitimate Charges upon Customers. They have further been

been pronounced neither
Correct nor politic by
the Stock Committee.

Genel Supt P.W Workshops.

It is not the case
that the workshop
deliberately addows
extra profit in addition
to securing the ordinary
profit — It is absolutely
impossible to work a
large manufacturing
Concern so that a
fixed amount of
profit shall be
made on every
Article — Estimates
for work as a rule
are made as low as
possible, but stock
articles on the other
hand are sold at
standard rates, and
when a large quantity
is ordered the reduction
in Cost of manufacture
enhances the profit —
No percentage is added
to an article because
it is sold from stock —
Nothing

Credit

Nothing is now manufactured for stock, but if were necessary to lay in a supply of stock articles such as pickaxes etc, they would be entered in the stock list at standard rates — Manufacture would be debited with Cost of labor and materials plus ordinary percentages and the credit would be the total cost of the articles at standard rates — when a large number of any article is made, the profit is in excess of that estimated, the cost of manufacture being reduced — hence it does that this is a legitimate and ordinary profit and that it is impossible to execute work so that the actual profit shall agree exactly with the estimated for —

Estimates

estimates are given for work and the Workshop takes its chance of ultimate gain or loss. No other plan is possible unless all work is executed without estimate, which would be excessively inconvenient to the officer ordering the work.

S. E. 5th Circle (2nd report)

does not consider that his explanation is at variance with the accounts. Articles are entered out stock at standard rates; they have been manufactured at less rates and there is therefore a profit on issue, but no percentage is added to the price of an article because it is sold from stock

N.B. In para 8 of G.O No. 3081 W dy/12 th December 1881 it

(6). The percentage drawn by the supt. on bills for private work (discontinued under G.O. dt. 3081 W dy/12th December/81)

was ordered that "Extra profits" should no longer appear in the accounts.

49

(6.)

S. E. 5th Circle

The percentage has been drawn with the sanction of Government since 1870 — The average amount during late years has been about Rs 630 per annum so that by its discontinuance the Supt has been deprived of a regular allowance which had always been drawn by him & predecessors & similar percentage is drawn by the Supt of the Roorkee Workshops with the sanction of the Government of India, and the Supt here has looked upon the allowance as in some degree a compensation for his regular pay being unaffected

unaffected by promo-
-tion, and as a re-
-compense for obtain-
-ing early payment
on bills for private
work

Examiner P.W. Accts

It is the ordinary duty
of the Supt to recover
without delay out-
-standings due to
Government. The
Superintending Engineer
admits that the allow-
ance is looked upon
as Compensation
for a duty and it is
much the same
as if a divisional
officer were allowed
a premium for adding
up miscellaneous ad-
-vances or Contractors
bills -

Genl. Supt. P.W. Workshops

The percentage is not
paid by Govt but
by the person ordering
the
work, over and above the ordinary workshop Centages - The Examiner's Comparison is therefore inappropriate. The allowance has always been Considered a portion of the pay of the office and he trusts Government will re-Consider their order discontinuing it - Allowances of this nature are drawn by officers of the Marine Dept and the Units at Calcutta and Bombay.

S.E. 5th Circle (2nd report)

Considers the Examiner entirely wrong - The word "duty" was used by him in the sense of "performance of work" - The allowance is not paid by Govt but by the person ordering the work.

Ins

In a letter No. 212 WDJ 2nd May 1882, the Gnl Dept replies to the Exam's remark that the principle under which the allowance is drawn is not demonstrated. He states that he has ascertained on enquiry that the Supt of the Roorkee Workshops draws a Commission of 3/4 per Cent on all bills whether for Government or private work, provided the workshop pays its Expenses and the management is approved. He trusts therefore that the allowance may be restored to him or that he may be allowed the same privilege as the Supt of the Roorkee workshop.

(7)

Supg Engineer 5th Circle

An Examination into figures will show that

(7) The heavy charges imposed on the shops by the item interest on Capital

that the balance sheet of the workshops is heavily burdened by this item. By the removal from the Park to Black Town the Capital account of the shops has been increased by Rs 57000 on buildings and Rs 47000 on machinery and Plant. and thus since 1877-78 the shops have been debited with interest at 5 per cent on nearly a lakh of Rupees, in addition to the standing Charges upon Capital previous to

AH

to that time. The
general Charges too
were greatly increased
during the first two
years of occupation
of the new buildings
but after settling down
these Charges have
greatly fallen. The
Capital and working
Expenses have however
been raised to the
detriment of the
profit and loss accounts
Considers that the shops
should not be
Condemned on the
results of a couple
of years working, but
that the figures
of a series of years
~~should~~ should
be considered, even
if no regard be
paid

Credit

be paid to Exceptional
Circumstances. Points
out that the Examiner
gives figures for 4 years
and shows a heavy
progressive loss, but
that if the figures
for these four years
be taken Collectively
the result is an average
annual profit of £
7827. Also that if
the figures for the past
15 years be taken, the
result would be an
average annual pro-
-fit of £ 7316.

Examiner P. W. Reeh.

Considers it needless
to Comment on the
Superintending Engineers
Remarks Concerning
Exceptional outlay
Consequent on the
removal of the shops
&c - as he has al-
-ready fully dis-
-cussed the points
in his annual re-
-view

45

&c

He further remarks that, according to the Supdg Engineer's Argument as to the manner in which results should be Calculated, an undertaking must lose the whole of its previous earnings before it Can be Considered ineffective, or that not until the Surplus of all prosperous years has been wiped out by the deficit of a decline period, Can a concern be looked upon as a Losing one - During 1880 - 81 there was a loss on the workshops in administrative results of Rs 13,930 while the financial results gave a loss of Rs 22,168 after taking as extra profits a sum of Rupees 13,309.

Genl Supt. P.W. workshops

The exceptional outlay consequent on the removal from Chepak is the main Cause of the losses during late years, and it rests with Government to decide whether they will Compensate the shops for these losses by remitting a portion of the heavy charges for interest on Capital or whether they will take the account of Expenditure and earnings apart from the Capital account - The shops Can never pay the enormous charges on account of interest, depreciation and pension and leave allowances, but if at the end of this year it is seen that a fair amount of profit has been made on an average out turn, and if it is evident that the work turned out is of a class that Could not

not have been obtained elsewhere, it is not necessary to consider the shops a dead loss because it cannot meet the charges for interest which have accrued by the action of Government in removing the shops from Jeypore.

He admits that the workshops have been a failure the last two years from a Commercial point of view, but maintains that the losses are owing to the charges consequent on the removal and on the dead weight of interest on stock which has accumulated by previous management in former years.

(8) The annual outturn to be looked for from the shops

S. E 5th Circle (2nd report)

still holds that where there is one exceptionally good year out of four the other years do not bear by comparison. He has already shown that a heavy charge is made as interest on Capital, that heavy Expenditure has been incurred Consequent on change of premises and that the workshops need not be Condemned on the working of only two years.

N.B. In para 10 of G.O. etc 3081 W dt 12th Dec. the Government reduced the charge on account of interest on Capital from 5 to 4 per cent. when of the officers alluded to the fact.

(8)

S. E 5th Circle.

A great variety of work

is turned out in the shops from iron girders to engraving and diecutting. In the present year, demands have been received from the Ordnance, Commissariat, Revenue Survey, Postal, Forest, Marine and Salt Department, from 17 Collectors and other Government officers. From the P.W. Department there were recently plans and estimates for works, aggregating nearly 2 Lakhs of Rupees. The workshops thus supply a want that has not been met elsewhere. P.W. officers if they can get their work done themselves, do not go to the P.W. workshops, but when they cannot get the work done at all or at a fair price, they must go to the workshops. Plans, estimates and designs.

designs are also furnished to the dept free of charge and heavy work has been done for the Harbour.

Examiner P.W. Accounts

If must be taken as a matter of course that all Government Depts do and perhaps must give employment to the shops. They naturally await themselves of the skilled labor supervision and plant thus placed at their disposal, but this does not prove that they cannot get work done themselves at a fair price. The shops were originally instituted because the wants of the P.W. Dept could not be met in the Country and the requirements of other depts should therefore be an Extra demand, tending to increase our Estimates. The prices figure

to show that the outturn has been tolerably even from about 1874-75 when the average rose from 1¼ to over 2 lakhs - If the out-side requisitions have prevailed only to take the ordinary P.W. Dept work must pro tanto have been with drawn - In either case the average outturn to be looked for in future may be put down at from 2 to 2¼ lakhs.

Genl Supt P.W. Workshops

Admitting that the average outturn of the shops may be taken at 2 lakhs, the questions are, what portion of the work represented by this sum can be satisfactorily executed elsewhere and what would be the loss to Government if the various engineering works which are now mainly dependent on the workshops for their iron work

work, were left unfinished for want of it? the question must be looked upon from a broad point of view i.e. Can the P.W. Department afford to be dependent on private enterprize for the class of work turned out by workshops? In his opinion, the closing of the workshops would result in heavy loss to Government, and so far from private enterprize coming forward to take up the work, it would be found necessary to open a workshop in each District.

(9) The suitableness of the present form of accounts.

19

S.E. 5th Circle The form of account must be looked upon as unsatisfactory. Recommends that the Dept and the Exam? should jointly consider what forms are inappropriate in order that they may be amended and that ambiguous terms such as

Extra

Extra profits may disappear.

Examiner P.W. Accts

States that steps have already been taken to the above end.

Genl. Supt. P.W. Workshops

The forms of account sent, if they are to be any guide as to the value of the workshops, be based on the rates used by Guaranteed Railways in which the distinction between Capital and Revenue is clearly marked

The remaining questions from 10 to 14 inc are put by the Examiner, para 18 of his Note of the 20th July 1882, and the replies of the Genl Supt are given below seriatim - to

to - The Examiner observes that the considerations therein contained must be discussed before a final decision is

is possible. He does not know how far it has been conclusively proved that the shops at the present time meet demands which cannot otherwise be met in the Country. He remarks that the facilities in Communication with European markets have so enormously increased since 1866-67 that probably the demands of the present period can easily be satisfied from European & local markets and the existence of the shops for normal requirements is not essential. For abnormal times he thinks the use of modern means of rapid Communication would amply suffice for abnormal demands being executed from Europe.

The Examiners questions are given in the margin and the Genl Supt replies below

below.

General Supt

(10) The value of the outturn must be Considered in Connection with the value of the various works which require the Assistance of the Workshops - The Question is not whether it is worthwhile to maintain the shops for so moderate a demand but how Could there wants be otherwise supplied without undue delay and in a satisfactory manner? Considers that no engineering work of any size could be undertaken if there were any doubt as to how these wants Could be supplied without delay.

(11) The Supdt's list of works which are ordinarily Carried on in the shops and which he Considers Cannot be satisfactorily obtained Elsewhere in Madras, is attached - Taking the average for

Examiner

(10) The average outturn being 2¼ lakhs, is it worth while maintaining the shops for so moderate a demand?

(11) What is the classification of the outturn, how much of it is special work not to be obtained from local markets and requiring to be of superior workmanship, how much of it is for the P.W. Dept. how much for other Govt Depts & how much for private individuals?

Examiner.

for the past 3 years he states that about ½ of the total work is for the P.W. Dept about ⅓ for other Government Depts and about 1/6 for private individuals.

(12) How do the rates of issue for manufactured articles Compare with Similar articles obtainable for European Market?

(12) The rates are higher than English prices, but they include a Considerable amount of profit which is returned to Government.

13. Are the charges made to Customers, whether Govt Depts or private individuals, based on estimates accepted in full by them regardless of the actual Cost incurred by the workshops, or is all work Charged at actual Cost?

(13) All charges are based on estimates, except repair works and special jobs which Cannot be estimated for - the estimates are accepted and paid in full on the work being approved. No other procedure Could possibly be adopted -

(14) How far it has been conclusively proved that the workshops at the present time meet demands which Cannot otherwise be met in the Country.

(14) The proof required Can only be obtained by closing the shops & measure which the Supt

Supt predicts would result in be any loss to Govern-
-ment for the following reasons.

(a) Delay and uncertainty in supply of work

(b). Increased prices for the same or inferior work

(c) Loss by sale of the buildings Machinery &c.

(d) Loss of the services of a number of skilled men of various trades who are now available for work in any part of the Presidency.

The Superintendent Con-
-cludes with the remark that the discussion which has taken place will be of the greatest value if it results in the workshops being placed on a proper footing as regards Capi-
-tal and Revenue accts.

In a separate letter submitted by the Genl Supt at p. 30 of 67 w d/2nd March 1882, he offers the following suggestions. 5d

He considers that the broad principles upon which a Government workshop should be conducted are the follow-
-ing

(1) No Government office should be Compelled to get work done at the workshops - all ordinary work will thus be exe-
-cuted in the open Market and the work-
-shop be resorted to only for special work

(2) The workshop should have a moderate Capital, carrying such a rate for interest that the latter shall be in fair proportion to the out turn.

(3) Capital and Revenue accounts should be kept with a view to preventing extraordinary expenditure being hurried up

up in the accounts, and thus ~~Concelling~~ concealing the real working of the shop during any particular years.

(4) The percentage charged for the Execution of work should be just sufficient to meet all shop expenses including interest on Capital provided that "Capital" has not been unduly increased from exceptional Circumstances such as removal to more expensive buildings with Cost of removing and resetting up shafting and Machinery.

5) If Capital has thus been unduly increased and the workshop is unable to pay the full amount of interest the Government should make up the deficit provided they are satisfied from the Revenue Account that the earnings are in fair proportion to the Expenditure

The

The Dept then goes on to enlarge on several of the questions already discussed above. He adverts to the inestimable value of the Workshops to Government during the late famine, to the good work done by it for the Harbour Works, but for which the Harbour would have had to maintain its own machine shop, and to the repairs executed to the Pier in 1868 and in 1870. With reference to the losses shown in the accounts of the past two years, he points out that taking the accounts from the Commencement in 1867, it is found that after paying all Charges including interest there remains a balance of Rs 165/46 in favor of the Workshops. He

He remarks at the same time that every Rupee of net profit made by the shops means money taken away from Irrigation and other works on which it was intended to be spent.

He alludes to how the shops have suffered by the large increase of stock by unjudicious purchases in former years & observes that there has been no such increase since 1879 and that the shops are not likely to suffer from similar mismanagement in future.

With regard to the heavy expenditure under "General Charges" the Audit shows that it has been caused by expenses attendant on the removal from Chepak but that since 1879 there has been a steady reduction under this head. 5/4

He summarises all the facts of the case as follows:—

(1) The workshops have suffered Considerably by the action of Govt (in the matter of the removals and by mismanagement in the matter of stock.

(2) Compensation is necessary and should take the form of a clear distinction being drawn between the Capital and Revenue Accounts when Considering the present working of the shops.

(3) From the evidence furnished by the Officers of various Govt departments it would appear that there is a Considerable quantity

quantity of work which
they prefer to get executed
at the workshops.

Ci

S.W. Works

Summary

of

Correspondence

EXAMINED
MAY 82

R. No 143 21/2/6 [illegible] 56

C. No 647/A dd/ 20/5/82

I send herewith Précis of the P.W. works. Also correspondence and file but should be glad if you would look in the margin briefly any minutes on back & decipher and if possible an index of the documents I will endeavour to send to you final answer in regard to the very vexed question —

The file is very voluminous and you will probably be enabled to dispense with a few papers but should you require it I will have the whole forwarded.

If the balance of opinion be in favor of dispensing with the Works, it will be a source

ooby 16/5

[Ext. Wks. Form No. 111.]

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GOVT. OF MADRAS. } 1882-83 { P. W. DEPT.

EXAMINER, P. W. ACCOUNTS.

Madras, 23rd May 1882.

Rec'd 25/5/82

OFFICE NOTE No. 152.

Enc: 1

To

PP.

I have not thought it desirable to note seriatim upon all the remarks made in the accompanying summary. Should it be determined to give the shops a further trial it will be sufficient for the purpose to consider what concessions might be granted to enable them to work to better advantage. The superstructure Capital consists chiefly of Block and Plant and Machinery and it must be our first endeavour to relieve the shops of these as much as possible. It may be possible to effect a reduction of capital under the head 'Block' by a revaluation of the buildings in the first place and by treating as 'Block' only the premises actually used by the shops in their performance of work. Government will have to provide for the loss, i.e. for book value less realizable value as proposed above by a grant under Provincial Civil Buildings

KEEP WITH Genl. No.

dated 18

Copy Ltr. No. 1/5 dated 25/5/82

Ltr. No. 1/5 dated 25/5/82

Ltr. No. 1/5 dated 25/5/82

be needless to consider any other question than the means of doing so with the least possible loss to Government & inconvenience to the Department — The processes might be rendered gradual by withdrawing from all manufactures which cannot be carried on at other shops in Madras, Bombay or Calcutta, and eventually declining them upon for repairs & renewals only.

If on the other hand it be deemed advisable to give the shops further trial it may be as well to consider to what extent concessions should be made to Compensate for the disadvantages so much complained of as the cost of removing them elsewhere, excessive working due to mismanagement in times past &c., and also how they can be effected without throwing the burthen of the loss thus to be written off on the years future under Provincial

For any advice on these points I shall feel much obliged

23/5/82

but this will be met on the other hand by a credit to Provincial Revenue on account of the decrease of Capital.

In like manner with Plant and Machinery of which I understand the Shops have more than they are able to make use of. The surplus Machinery may be sold or taken over by the P. W. Stores at a revaluation. If sold, the loss by sale would form a charge against Lords and Plant, but this charge would be made only once for all.

It is possible however that the Machinery cannot be sold outright at once without a serious sacrifice, and it may be desirable to bring it on the stock of the P. W. Stores thereon at least as a temporary measure and for this purpose Government would have to provide a grant under Provincial Lords and Plant which however will be met as before by a credit to Provincial Revenue on account of decrease of Capital. Opportunity could be taken to dispose of this surplus Machinery subsequently as more favorable terms offered.

W. L.

L.

P.T.

58

Note by the Chief Engineer

The long pending question as to the further retention of the Public Work Shops at Madras has now arrived at a stage admitting of a final decision.

2. My general opinions on the subject were expressed in considerable detail in my note of the 28th November 1881 and a careful précis of all the latest correspondence shewing the various questions at issue with my own opinion recorded on those of the several officers who have been consulted is herewith forwarded for information.

3. Setting aside all minor points at issue it has become clear that the Shops though shewn to have worked at considerable

profit during the famine years have since
been retrograded altogether in this respect.

4. In para 3 of his letter printed with
G.O. 12th December 1881 No. 3081 W the Examiner
gives the loss on working the shops during
1879-80 and 1880-81 as Rupees 40,000, and
although improvement may to some extent
be looked for under the reductions already
carried out, and those which may still be
feasible, by reducing the amounts charged
against the Capital account, there is only
too much reason to conclude that a condition
of indebtedness exists and must become
chronic.

5. This unsatisfactory state of matters is
chiefly due to the large and costly buildings
and plant which have to be maintained in
order to meet the ever varying demands

of manufacture and repair of articles of all
sizes for the Public Works and other
Government Departments as also for
private individuals.

6. Practically speaking they are merely
jobbing shops, and in the effort to show
a profit on commercial principles are
compelled to undertake heterogeneous
manufactures which from their constitution
they are necessarily quite unable to carry
out economically.

7. Driven thus to seek for work on all
sides, including such as can be obtained
from private parties, they necessarily stand
in the way of the development of private
enterprise in the same line.

8. Viewed from another standpoint also
there is a very serious drawback to the
continuance of the shops on their present

footing. The total amount of out-turn (annually about 2 Lakhs in value) is so small as to make the entertainment of a thoroughly trained Mechanical Engineer at its head an unprofitable, the cost of such an officer in original salary and subsequent increments being too heavy a burthen for the Establishment. The result is that Superintendents have to be appointed from officers on the regular departmental Establishment. None of these are necessarily experts in the particular line, and one and all must operate on promotion from Assistant to Executive Engineer, as the shops are unable to bear the increased salary. This latter will ere long be the case with the present incumbent. No continuity of

Superintendents is thus possible

9 My own view therefore as expressed in the annexed precis of correspondence is that the shops should be abolished first as being in a condition of chronic defect,

second as directly interfering with private enterprise,

thirdly as presenting insuperable difficulties in the way of providing for their proper and continuous supervision by a thoroughly trained Mechanical Engineer.

10. That very opposite views are entertained by other highly qualified officers will at once be observed from the precis of correspondence and these views are doubtless shared by many others in the Department whose opinions deserve every consideration

11. That the shops were started to carry out work which at the time of their creation it was not possible to get readily done elsewhere is not only true, but the same contention is still to some extent valid and further that the presence of a large Government workshop capable of turning out a great variety of work, though at an unduly high price, is a convenience to this and other departments cannot be denied.

12. Further that some inconvenience will follow such a drastic remedy from the present defects as their total abolition may also be accepted.

13. Notwithstanding these and other contentions which I have replied to in the previous I

am of opinion that the shops should not continue to be maintained on their present footing. 61

14. One of the following three courses are thus it seems open to Government.

(1) to maintain the shops on much the same footing as at present, though relieved as much as possible of certain items now standing against the Capital Account, so as to admit of their having a better chance in future of working to show a profit.

(2) to get rid of all buildings and plant and retain only those portions which may be required for the execution of such repairs and trifling matters of manufacture as Executive Engineers cannot have locally executed.

(3) to dispose of the whole concern and

trust to the open market for all manufactures and repairs.

15. As regards the first alternative it will be observed that the matter is discussed under points Nos 9 in the annexed precis, and the mode of giving the needful relief to the Capital Account pointed out. Should this method of dealing with the question commend itself to Government, the appointment of a Committee for giving effect to the proposals would apparently be most satisfactory.

16. In reference to the second alternative which as the "via media" I venture myself to recommend, a year or more would probably be required before it could be given full effect to. The intentions of the Government with regard to the

P.S.

statement of the buildings, machinery and plant to be eventually disposed of, should be widely published for six or nine months, and tenders invited from persons desirous of starting a private workshop in Madras to take its place as much as possible. During the interval thus insured the shops could gradually contract their operations so as to test the value of private enterprise, and allow our own officers and those of other departments to become gradually acquainted with the new state of matters.

17. Judiciously carried out I am convinced that the measure would be attended with but small inconvenience and would in any case afford an opportunity for

deciding whether the reasons for abolishing the slops as a Government concern rested on a thoroughly sound basis.

18. When narrowed to the limits of a simple repair Establishment, either on the present pte or another, the slops would become merely a Sub-division attached to the Presidency Division under charge of a good Foreman Mechanic; and even this might in time disappear if subsequent experience proved that resort might be had entirely to the open market for even the small class of work which would be left.

19 The third alternative would I confess it appears to me to be too

86 67

drastic, though of course it could be led up to by allowing ample time for giving publicity to the intentions of Government and for giving full effect to the measure.

A. W. Lawley Colonel R.E.
Chief Engineer, P.W.D.

Calcutta
6th July 1882

Gen. Ds.

Note by Col. J. O'Hara R.E. 1867 64

In my opinion, the only question for my consideration is, Can the work required by the Irrigation Branch, P.W.D be done, readily and effectually, without the aid of Pr. Workshops. If it can the Workshops should cease to exist.

2. The work required is such as
Iron girder bridges
Sluice & valve lifting gear
Lock gates,
involving iron & brass casting
Repairs to pumps, steam Engines,
dredges &c.
I understand that at present much of this work could not be turned out at Madras, except at the Gun carriage manufactory where the charges are very heavy, but as regards iron girders, screw gearing for shutters &c such work could be obtained either from Calcutta or

Bombay at rates not exceeding, in all probability, the rates now charged at the Br. Workshops, and I do not see that inconvenience would result from this work being obtained either from Calcutta or Bombay.

3. As regards repairs to steam engines &c, however, it is necessary that there should be as little delay as possible, and until this work can be done by private firms at Madras, I think it will be necessary to retain the Workshops on a smaller scale.

4. To close the workshops at once would I think cause great inconvenience, but as I believe that it is mistaken policy for Govt to interfere in any way with private trade and that the closing of the workshops would create a demand locally which private enterprise would before long supply, I consider the second course proposed by the Chief Engineer is, in every way, suitable, if agreed as a step towards the total abolition of the workshops.

5. The up-country Workshops at Dowlaishwaram and Bezwarah are very differently circumstanced - the work necessitate the employment of complicated machinery which may require repairs without delay, and if the Railway workshops can be made available for training apprentices, there should be no difficulty in obtaining men to fill vacancies in the Establishments.

Dr.
10/7/82 E.S.

Note.

The question as to the retention or abolition of the Public Works Dept. Shops at Madras does not directly affect the Railway Branch; — and I presume that my opinion on the points at issue is called for on general grounds, as affecting the Operations of the Dept. at large.

I entertain no doubt that the sole raison d'être of the Shops is that they should provide for the execution of work which cannot be done elsewhere, — either as cheaply, as well, or as quickly. If the required work can be executed elsewhere, on satisfactory conditions as to these three points, the Shops should cease to exist.

With respect to economical work. The papers circulated leave no room for doubt that, of late years, the Shops have been worked at considerable loss; while there is no reason to suppose that the prices charged for

the outturn have been lower than would have been charged by private firms.

With respect to efficient work. On this point, I can see no ground for doubting that the requirements of the Dept: could be met in the Open market, — whether in Madras, Calcutta, Bombay, or England, — as satisfactorily as they have been met in the Shops attached to the P.W. Dept. Indeed, the list of manufactures given by the Supt. of the Shops contains so many articles which may be termed Specialities, as to satisfy me that, unless the local conditions are of an unusual nature, the work must of necessity be turned out better by firms that make such Specialities their particular study. I need only refer to such articles in the list as "Steam Boilers", — "Dredging Machinery", — "Boring Apparatus", — "Bells for Churches", — "Machines for testing coin, Stone-crushing tile-moulding", — &c. &c.

With respect to expedition in the execution of work. This is the only point on which I am inclined to question the expediency of abolishing the Shops; but this opinion has reference not so much to new manufactures, as to repairs. There must be many cases in which the immediate repair of machinery, instruments, &c, is of urgent importance; and I do not think that it would be wise at present to trust to the Open market in Madras for the execution of such work. In course of time, experience will probably show that the maintenance of a special establishment is unnecessary, even for work of this nature

For these reasons, I

concur with Colonel Lindsay in giving preference to the second of the three courses named by him as being open to Govt. — but in the expectation that its adoption will in course of time lead probably to the third course, namely, the abolition of the Troops and the disposal of the entire concern.

I have &c
11-7-82.

Hon H. E. Sullivan
&c &c &c

68

For orders

As desired by the Hon'ble I have read, printed and numbered cumulatively my own notes, and those of Colonels Evans - Stewart and Wastell, on the subject of retaining or of abolishing the O. W. Establishments at Bombay

24/7/82

Council - 30/7/82

We are told that they were established because at the time of their creation it was not possible to get the desired work which they were out specially executed by private manufacturers.
This was a very good reason but we have a very strong prejudice that in the allied arts & manufactures of mechanical industry in India already in being is rejected & can be procured in the general market and that local market cannot supply what it cannot supply can be obtained without difficulty from Europe. It is remarked that the retention of the workshops in these circumstances is an interference with trade and a bar to the development of private enterprise.
In regard to the latter point should the retention of such workshops by Government as the State may consider necessary for the public purpose in question besides being the best & most economical way of getting its work done is consistent with efficiency and if it could be shown that the work in question could be done cheaper

departmentally there
under contract shd
keep on the workshops
But notwithstanding this
date it is shown that they
are working at a loss, that
the smallness of their out
turn makes the expenditure
a very expensive item and that
as regards special manu-
factures Col. Sankey points
that economy of production
is impossible

Col: Hutchinson shares
Stewart agrees with the
Chief Engineer that the
work can be efficiently
performed and the require
ments of the Department
met by private firms,
and that there is no
reason to suppose that
the cost will be more than
it is at present. In these
circumstances I would
approve the proposal
which finds a place at
Pl. 2. Para 14 of the Chief
Engineers letter of the 6th
inst: which is concurred
in by the Chief Engineer
for Irrigation & the Consulting
Engineer for Railways

26.7.82.

That proposal is entirely
in accordance with sound
principles & of the necessity
existing in the circumstances
of the Soudan is right to treat this matter
exceptionally it would not
have been excluded by the
able & experienced Specialists
who have considered it.

I concur with my Hon
Colleagues & with Mr Probyn

so important a change as
this should be sanctioned
in Council

Aug 4/82

Public Workshops –

Ha H & Sullivan

71

For orders

In question of continuing to maintain in their existing posting the Corps Workshops of this Dept. at Madras being one of such moment to both this and other Dept. that Govmnt would necessarily wish for the best advice before deciding on any radical change in their constitution I have as wish to observed obtained the definite opinions of the Chief Engineer for Railways and Mistri as to the adoption of the course which after much comparison and a thorough investigation of details I think has led to two-thirds in my note of the 6th instant

In para 16 of that note I have proposed that the character of the shops should be changed, the

Ari 13/7 Rly

buildings and working the plant- were ended he should wish dispose of, and the whole Estabs. reduced to a very great extent

The Chief Engineer whom I have consulted both previous this circumstance in the reduction being carried out to the extent and in the manner proposed

Should the H. Bd. be disposed to agree to the proposal I may perhaps suggest that before concluding the papers to H.E. the Governor my own Col Shaw-Stewart and Col Westall's notes should be put in type

The papers requiring to be dealt with including the pieces of correspondence (already printed) will then be in the most convenient form for being finally dealt with by Government

Att

12.7.82

Certainly - write despr. giving expression to opinion which is drawn from us

72.

E.R. Note submitted
E.J. Do. Do.

This question of the further retention or otherwise of the P.W. Workshops has now been threshed out to the best of my ability but its bearings on the other branches of the Dept. direct & indirect are too momentous to admit of its being decided entirely on any individual judgment

Before therefore arriving at the case for the decision of Government I think it most advisable that, avoiding minor points, we should record our opinions on the general question at issue in the Public Journal notes

6/7/82 Att

C. a. W.

Ten copies of the notes by W, E.I. & R on the subject of the P.W. Workshops are herewith forwarded as ordered.

No type has been kept standing.

Seventy five copies of the pieces were struck off & supplied to us, & the type was then broken up. We have an ample supply for all orders on the subject are likely to be communicated.

C.A.

20/7/82

File going in Circ.

copy 21/7

74

&c. We previously have already been furnished with 70 odd of these & are with me - Regards Thomas and Tom for their observations & ready for service -

C. [illegible]

A

Loss to the Workshops upto the year 1880-81 by the interest found on the excess value of the present Buildings over those at Chefpank

Years.	Present Buildings	Chefpank Buildings	Excess	Depreciation	Interest on Excess Value.	Loss.	Remarks
1877-78.	120,481 " "	69,463 " 8.	51017 " "	1020 " "	" " "	1020 " "	
1878-79	" " "	" " "	49997 " "	999 " "	2499 " "	3,498 " "	
1879-80	" " "	" " "	48,998 " "	979 " "	2449 " "	3,428 " "	
1880-81	" " "	" " "	48,019 " "	960 " "	2400 " "	3,360 " "	

Total Rupees 11,306 " "

Madras —
1st March 1882.

Wm Bradshaw 1/3/82
Dy Supt of N Workshops.

B

Loss to the Workshops by the interest paid on the value of "Capital" Works necessary in the present buildings, but which would not have been necessary had the Workshops remained at Chaparamb.

Years.	During the year.	Balance.	Depreciation	Interest	Loss.	Remarks
1877-78	29,185 " "	29,185 " "	" " "	" " "	" " "	It will be observed that no "Capital" works were carried out during 1880-81 and it is not likely that there will ever again be much expenditure under this head
1878-79	12,267 " "	41,452 " "	684 " "	1430 " "	2014 " "	
1879-80	3445 " "	44,897 " "	831 " "	2036 " "	2867 " "	
1880-81	" " "	44,897 " "	898 " "	7199 " "	3,097 " "	

Total Rupees 7978 " "

Madras
1st March 1882

Chief Engineer & Ex Officio Secretary to Govt
Com'ns & Ex Officio Secretary to Govt
Public Works Dept

C

Loss to the Workshops by the interest paid on the increase to Stock during the years 1876-77. 1877-78. and 1878-79

Years during the Year.	Balance	Interest	Loss.	Remarks
1876-77	56,070 " "	56,070 " "	" " " "	It will be
1877-78	40,059 " "	96,129 " "	2,803 " "	2,803 " " observed that
1878-79	15,010 " "	111,139 " "	4,806 " "	4,806 " " Since 1879 there
1879-80	Nil	111,139 " "	5,556 " "	5,556 " " has been no
1880-81	Nil	111,139 " "	5,556 " "	5,556 " " Increase to Stock
		Total Rupees.	18,721 " "	

Madras —
1st March 1882

Asst Engineering
MBE
79

81

D

Loss to the Workshops by the excessive expenditure during 1877-78, 1878-79 and 1879-80 on General charges consisting chiefly of repairs to Machinery, tools and plant.

Years.	Average of previous five years Expenditure at Chatham.	Actual Expenditure in the present Building	Loss.	Remarks.
1877-78.	850 " "	2,577 " "	1727 " "	It will be observed that
1878-79	850 " "	12,101 " "	11,251 " "	there has been a
1879-80.	850 " "	5,953 " "	5,103 " "	steady decrease under
1880-81		1355 " "	" " "	this head since 1878.
		Total Losses.	18,081 " "	

Madras —
1st March 1882.

W. W. Braddell
Lieut. R.E.

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Precis of opinions on the subject of retaining or otherwise the Public Works Workshops at Madras. (in antique)

Opinions expressed by

Chief points brought forward in the correspondence.	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(In ordinary type)	(Précis)	(Précis)	(Précis)	(Précis)	(In ordinary type)

(1). Whether the Railway Workshops might be made available for giving a practical training in Mechanical Engineering to Public Works Apprentices.

(1). Reports that as far as the Madras Railway is concerned there would probably be no difficulty in arranging this matter, but the approval of the Board of Directors would be required. There is no reason to suppose that similar arrangements could not be made with the South Indian Railway Company also if it were thought desirable to utilise their Shops at Negapatam for the purpose.

(1). Arrangements can apparently be made by both the Madras Railway and South Indian Railway Companies to admit of workshop training being given to students in the Civil Engineering College, and looking to the more systematic character of the work done at their shops such training would be preferable to that given at the P. W. Workshops.

(2). Whether all Public Works work which cannot be executed in the open market might be undertaken by the Railway Workshops.

(2). Neither the Madras nor the South Indian Railway Companies are prepared to undertake the execution of work for the Public Works Dept.

(2). Though neither of the Railway Workshops will undertake to guarantee the execution of work for the P. W. Dept. at their respective shops it would probably often be convenient for them to do so.

Work could also no doubt under the sanction of Govt. be executed by the Govt. Carriage Manufactory, Mepo. Masey & Co. and

(2). As the Public W... shops cannot at ... be superseded by ... institution, the ... Dept. will still ... dependent on the ... for the execution ... to be done at ...

Precis of opinions on the subject pertaining or otherwise the Public Works Workshops at Madras (in antique)

Chief points brought forward in the correspondence.	Opinions expressed by				
	General Superintendent P. W. Workshops	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(2) continued.					

encouragement could more over doubtless undertake more than they now do, and there can be no question that the workshops of Bombay and particularly Calcutta can be trusted to turn out all classes of iron work whether in the way of manufacture or repair.

Messrs Fraser & Miller at the Carnatic Iron Works Bombay seem prepared to execute work to any extent, and as will be seen from the annexed Notification (A) Messrs Oldham and Jackson of Calcutta are fully prepared to give estimates, execute designs &c. There are several other firms in the same position to say nothing of the greatly increased facilities which now exist for dealing directly with firms in England.

Probably therefore although some little inconvenience would for a time be experienced in getting matters into train

Precis of opinions on the subject pertaining or otherwise the Public Works Workshops at Madras. (in antique)

Chief points brought forward in the correspondence.	Opinions expressed by				
	General Superintendent P. W. Workshops	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(2) Continued.					no reasonable doubt can be entertained that were the present P. W. Workshop closed for all but the immediate requirements of the Presidency &c. and small matters of repair it would be quite feasible to get the work done elsewhere.
(3) Whether or not the P. W. Workshops should be looked upon as working on Commercial principles.	(3). Considers that the Workshop differs from a private concern in the following important points:- It has a borrowed capital out of all proportion to the average outturn, and consequently the charges on account of interest on Capital swallow the larger portion of the profits made, e.g. during 1880-81 the percentages recovered in the Mechanical Dept. amounted to Rs 15,565 while the charge for interest was Rs 20,897. The total percentages recovered during the same year amounted to Rs 38,753 while the total charge for interest was Rs 25,049, leaving a balance of only Rs 13,704 to meet the cost of Establishment, fuel, oil, repairs to tools and Machinery &c., a sum quite insufficient for the purpose ergo, the shops are not	(3) The workshops have avowedly not been conducted on Commercial principles to show a profit, and Govt. have discouraged the idea of their competing with the local market. They were instituted because the wants of the P. W. Dept. could not be met in the country, and this object has been attained according as those wants have been supplied. The Dept. was unfortunately absent on privilege leave when the Examiner made his inspection, so that he was had not the opportunity of offering explanation both as to the accounts and the practical working of the shops	(3) Does not see where the Workshops differ from an institution working on commercial principles except that they are not dealers and do not speculate for prices and falls in the market. Their institution to supply the Depts. at fixed rates removes the dangerous element in ordinary Commerce, but the principle adopted has been that the shops are to be considered as a private concern working to show a profit and loss, but without the speculative element which would be engendered by competition with the open market.		(3) There can be no question that however artificial the method of accounting may be in order to show a profit and loss it is essential to base these on Commercial principles as far as circumstances admit, and that to ignore or discard these must deprive the Govt. of the sole means at their command of from time to time comparing results and of forming a judgment as to the advantages or otherwise of continuing the institution. It is of course quite open to Govt. by making such arrangements as may decrease the unproductive capital sunk in buildings plant or machinery on which interest is charged to relieve sensibly the present pressure and thus show a larger profit in working, but this

Precis of opinions on the subject of retaining or otherwise the Public Works Workshops at Madras. (in antique)

Chief points brought forward in the Correspondence.	Opinions expressed by				
	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(3) Continued.	is a position to work on commercial principles. The profits made during successful years have not been applied to reduce the borrowed capital - e.g. the large profit made during the famine would in a Commercial Concern have been set off against the cost of removal from Chepauk. The accounts are kept on uncommercial principles as they contain fictitious items and are generally misleading.				
(4) The forms in which the profit and loss accounts were submitted by the Superintendent -	(4) The amended statement prepared by the Examiner shows percentages recorded under different heads, but as these percentages are fictitious amounts, it is evident that the system of accounts (which is the same as that originally prescribed by the Accounts Dept. and which has been invariably used since 1860) is not clearly understood, and consequently wrong conclusions have been drawn as to the present working of the shops.	(4) With reference to the Examiner's remarks in his annual review for 1868-69 (GO. No. 3081 W. of 12th Dec. 1869) as to the unintelligibility in an accounts point of view of the figures put forward by the Supt. Col. Pendergast remarks that the returns to the office of the Supt. give to him clearly the loss. The form of accounts however was prescribed by the Accounts Dept. itself some years ago. The profit and loss statement could not therefore have been drawn up in any other shape than that with which the Examiner finds fault and which has always hitherto been accepted. In a second report he remarks that he has looked up the orders of 67-68 and	(4) The forms for accounts procedure were issued in 1867-68, and in the system prescribed the operations to be shown under general charges and profit and loss are clearly illustrated and should have been followed. That they have not been followed hitherto is no argument that they should not be followed now, or that they should not always have been followed. It is beyond doubt that the profit and loss statement submitted by the Supt. is not intelligible in an accounts view, and if the procedure laid down 14 years ago had been followed as it	(4) There is much divergence of opinion on the subject of the profit and loss accounts, the Examiner contending that the forms prescribed 14 years ago have not been followed, while both the Supt. of the Shops and the Supt. Engineer state with equal clearness that they are the same as those originally drawn up by the Examiner. It is unnecessary to decide which is correct as all admit that the old forms have led to wrong conclusions being drawn, and that from an account point of view, modification, as suggested by the Examiner, is necessary.		

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in no wise interferes with or militates against the shops being considered as worked on Commercial principles.

Precis of opinions on the subject of retaining or otherwise the Public Works Workshops at Madras. (in antique)

Chief points brought forward in the correspondence.	Opinions expressed by					
	General Superintendent P. W. Workshops	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(4) Continued.		finds that the profit & loss accounts were drawn up in the Controller (Examiner's) office and that they are in the same form as those submitted by the General Supt.ts for 1880-81. The procedure instituted by the Accounts Dept.t has been followed by the Supt.ts for years. He fully agrees with the Examiner that if the procedure be faulty it should be revised.	should have been, the accounts rendered by the Supt.ts would have shown the same result as those prepared by the Deputy Examiner in the recent annual review. In the erroneous procedure followed, wrong conclusions are published and facts concealed. But apart from this, if the procedure prescribed 14 years ago be now found to be faulty, there is the greater necessity to revise it.		
(5) The legitimacy or otherwise of "extra profits".	(5) It is not the case that the workshop deliberately adds an extra profit in addition to securing the ordinary profit. It is absolutely impossible to work a large manufacturing concern so that a fixed amount of profit shall be made on every article. Estimates for work as a rule are made as low as possible, but stock articles on the other hand are sold at standard rates, and when a large quantity is ordered the reductions in cost of manufacture enhances the profit. No percentage is added to an article because it is sold from stock. Nothing is now	(5) The term "extra profit" is an invention of the Accounts Dept.t and certainly conveys the idea of an increase in the rate of issue. In reality however there is no such increase, the "extra profits" being the ordinary receipts from articles manufactured in the Shops and transferred to stock. When issued from stock, the recovery is effected separately and is termed "extra profit". He does not consider that the latter is an illegitimate credit. In his second report he does not consider that his explanation is at variance with the accounts. Articles are entered on stock at standard rates; they have	(5) The term "extra profit" was probably an invention of the Accounts Dept.t and was evidently intended to distinguish between ordinary profits (i.e. the usual percentage charged in addition to actual cost) and the profits resulting from excessive estimates or binding on customers and regardless of actual cost. This however is not the way in which the term is now used; nor is the explanation given by the Supg.g Engr.r correct if the accounts are correct. He maintains that "extra profits" resulting from the system in force are an illegitimate credit in so far that	(5) I have no hesitation in saying that as originally decided by the Stores Committee the so called "extra profits" were illegitimate but it is now unnecessary to follow the controversy as nothing (according to the statement of the Supt.t of the Workshops) being at present manufactured for stock no entry under this head can again appear. Note. In para: 8 of Go. 2088 of 12th Dec.r 1881 it was ordered that "extra profits" should no longer appear in the accounts.	

Precis of opinions on the subject of retaining or otherwise the Public Works Workshops at Madras (in antique)

Chief points brought forward in the correspondence.	Opinions expressed by					
	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(5) continued.	manufactured for stock, but if it were necessary to lay in a supply of stock articles such as pick-axes &c., they would be entered in the stock list at standard rates. Manufacture would be debited with cost of labor and materials plus ordinary percentages, and the credit would be the total cost of the articles at standard rates. When a large number of any article is made, the profit is in excess of that estimated, the cost of manufacture being reduced. He maintains that this is a legitimate and ordinary profit and that it is impossible to execute work so that the actual profit shall agree exactly with that estimated for. Estimates are given for work and the workshop takes its chance of ultimate gain or loss. No other plan is possible unless all work is executed without estimate, which would be excessively inconvenient to the officer ordering the work.	been manufactured at the rates and there is thus a profit on issue, but no percentage is added to the price of an article because it is sold from Stock.	they are recovered by illegitimate charges upon customers. They have further been pronounced neither correct nor politic by the Stock Committee.			

Precis of opinions on the subject of retaining or otherwise the Public Works Workshops at Madras. (in antique)

Opinions expressed by

Chief points brought forward in the Correspondence.	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(a). The percentage drawn by the Supt.e on bills for private work (discontinued under GO. No. 3081 W of 12th Decr. 1881)	(a) The percentage is not paid by Govt. but by the person ordering the work, over and above the ordinary workshop centages. The Examiner's comparison is therefore inappropriate. The allowance has always been considered a portion of the pay of the office and he trusts Govt. will reconsider their order discontinuing it. Allowances of the same nature are drawn by officers of the Marine Dept.t and the Mints at Calcutta and Bombay.	(b) The percentage has been drawn with the sanction of Govt. since 1870. The average amount during late years has been about Rs 630 per annum so that by its discontinuance the Supt.e has been deprived of a regular allowance which had always been drawn by himself and his predecessors. A similar percentage is drawn by the Supt.ts of the Roorkee Workshops with the sanction of the Govt. of India, and the Superintendent here has looked upon the allowance as in some degree a compensation for his regular pay being unaffected by promotion, and as a recompense for obtaining early payment on bills for private work.	(b) It is the ordinary duty of the Supt.e to recover without delay outstandings due to Govt. The Supg. Engineer admits that the allowance is looked upon as compensation for a duty, and it is much the same as if a divisional officer were allowed a premium for settling up Miscellaneous advances or Contractors' bills.		(b) The principle on which the Supt.e of the Workshops has hitherto drawn a percentage on bills for work executed for private individuals though previously sanctioned by the Local Govt.s is, it is thought, entirely opposed to the rules of the Govt. of India and should therefore cease. The only exception has been specially sanctioned by the Govt. of India.

In a letter No. 212 of 2nd May 1882, the Govt. Supt.e replies to the Examiner's remark that the principle under which the allowance is drawn is not demonstrated. He states that he has ascertained on enquiry that the Supt.e of the Roorkee Workshops draws a commission of 3/4 per cent on all bills whether for Govt. or private work, provided the workshop pays its expenses and the management is approved. He trusts therefore that the allowance may be restored to him or that he may be allowed the same privilege as the Supt.e of the Roorkee Workshops.

In his second report he considers the Examiner entirely wrong. The word "duty" was used by him in the sense of performance of work". The allowance is not paid by Govt., but by the person ordering the work.

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Precis of opinions on the subject pertaining or otherwise the Public Works Workshops at Madras. (in antigue)

Chief points brought forward in the correspondence.	Opinions expressed by				
	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(1) The heavy charges imposed on the shops by the item interest on Capital.	(1) The exceptional outlay consequent on the removal from Chepak is the main cause of the losses during late years, and it rests with Govt. to decide whether they will compensate the shops for these losses by removing a portion of the heavy charges for interest on Capital, or whether they will take the account of expenditure and earnings apart from the capital account. The shops can never pay the enormous charges on account of interest, depreciation and pension and leave allowances, but if at the end of this year it is seen that a fair amount of profit has been made on an average outturn, and if it is evident that the work turned out is of a class that could not have been obtained elsewhere, it is not necessary to consider the shops a dead loss because it cannot meet the charges for interest which have accrued by the action of Govt. in removing the shops from Chepak. He admits that the workshops have been a failure the last two years from a commercial point of view, but maintains that the losses are owing to the charges consequent on the removal and on the dead weight of interest on stock which has accumulated by mismanagement in former years.	(1) The exceptional outlay consequent on the removal from Chepak to Black Town has been increased by Rs 51,000 under building and Rs 47,000 under machinery and plant and thus since 1877-78 the shops have been debited with interest at 5 per cent on nearly a Lakh of Rupees, in addition to the standing charges upon Capital previous to that time. The General charges too were greatly increased during the first two years of occupation of the new buildings, but after settling down these charges have greatly fallen. The capital and working expenses have however been passed to the detriment of the profit and loss account. Considers that the shops should not be condemned on the results of a couple of years working, but that the figures of a period of years should be considered, even if no repairs	An examination into the balance sheet of the Workshops is heavily burdened by this item. By the removal from Chepak to Black Town the Capital account of the shops has been increased by Rs 51,000 under building and Rs 47,000 under machinery and plant and thus since 1877-78 the shops have been debited with interest at 5 per cent on nearly a Lakh of Rupees, in addition to the standing charges upon Capital previous to that time. The General charges too were greatly increased during the first two years of occupation of the new buildings, but after settling down these charges have greatly fallen. The capital and working expenses have however been passed to the detriment of the profit and loss account. Considers that the shops should not be condemned on the results of a couple of years working, but that the figures of a period of years should be considered, even if no repairs	(1) Considers it needless to comment on the Supt. Engineer's remarks concerning exceptional outlay consequent on the removal of the shops &c. as he has already fully discussed the point in his annual review. He further remarks that, according to the Supt. Engineer's argument as to the manner in which results should be calculated, an undertaking must lose the whole of its previous earnings before it can be considered ineffective, or that not until the surplus of all prosperous years has been wiped out by the deficit of adverse periods, can a concern be looked upon as a losing one. During 1880-81 there was a loss on the workshops in administrative results of Rs 13,930 while the financial result gave a loss of Rs 22,160 after taking as extra profits a sum of Rs 13,309.	(1) It is not unreasonably contended that owing to the removal of the workshops from Chepak to Black Town and the acquirement of useless plant the concern is burthened by undue heavy interest charges on Capital. The Supt. Engineer states that the total unproductive capital is about Rs 98,000 which thus at 4 % adds an interest charge of Rs 3920 of which the shops ought to be relieved. Should it be decided to retain the shops it is thought that a careful revaluation of the buildings and machinery should be made to determine which are necessary in the performance of work, and to afford such relief as may under all the circumstances be feasible. Such depreciation as may appear reasonable in the value of the buildings though necessarily having to be met by a grant under Provincial Civil Buildings will practically be recouped entirely by a credit to Provincial Revenue on account of decrease of capital. For such machinery as may appear to be reasonable prospects of use in the Dept., though not required for the shops a simple transfer at book value to the Public Works Stores may be made, but for such as there is no reasonable prospect of use it will be desirable to arrange for their

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	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(7) continued.		be paid to exceptional circumstances. Points out that the Examiner gives figures for 4 years and shows a heavy progressive loss, but that if the figures for the four years be taken collectively the result is an average annual profit of Rs 7827. Also that if the figures for the past 5 years be taken, the result would be an average annual profit of Rs 7316. In his second report he still holds that where there is one exceptionally good year not of four the other years look bad by comparison. He has always shown that a heavy charge is made as interest on capital; that heavy expenditure has been incurred consequent on change of premises and that the workshops need not be condemned on the working of only two years.			sale exercising all needful precaution to prevent as far as possible undue loss to Govt. Some may with advantage be brought temporarily on to the stock of the P. W. Stores. For this a grant under Tools and Plant would be needed which however would be met by a corresponding credit as above to Provincial Revenues. The loss on such machinery or tools as it may be decided to sell outright will have to be met by a Provincial grant. The whole operation as above noted will require the exercise of much judgment and might be made to extend over some time, but if the shops are to be retained it should be entered on promptly without delay.
8. The annual out-turn to be looked for from the Shops.	(8) Admitting that the average out-turn of the shops may be taken at 2 lakhs, the questions are, what portion of the work represented by this sum can be satisfactorily executed elsewhere and what would be the loss	(8) A great variety of work is turned out in the shops from iron girders to engraving and diecutting. In the present year demands have been received from the Ordnance, Commissariat, Revenue Survey, Postal, Forest, Marine, and	(8) It must be taken as a matter of course that all Govt. Depts do and perhaps must give employment to the shops. They naturally avail themselves of the skilled labor, supervision		Note. In para: 10 of GO 3081 W a/12: 4 Decr: 1891, the Govt reduced the charge on account of interest on Capital from 5 to 4 per cent. None of the officers allude to this fact. (8) Beginning from an average of 1 1/4 lakhs the out-turn of late years has been pretty steady at 2 lakhs which may be assumed as the normal working. All Depts use the shops where they find it convenient to do so, and a great variety of work

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	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(8) continued.	to Govt. if the various engineering works which are now mainly dependant on the workshops for their iron work, were left unfinished for want of it? the question must be looked upon from a broad point of view; ie. can the P.W. Dept. afford to be dependent on private enterprise for the class of work turned out by the workshops? In his opinion, the closing of the workshops would result in heavy loss to Govt., and so far from private enterprise coming forward to take up the work, it would be found necessary to open a workshop in each District.	Salt Departments, from P. collectors and other Govt. offices from the P.W. Dept. there were recently plans and estimates for works, aggregating nearly 2 lakhs of Rupees. The workshops thus supply a want that has not been met elsewhere. P.W. offices if they can get their work done themselves, do not go to the P.W. Workshops, but when they cannot get the work done at all or at a fair price, they must go to the workshops. Plans, estimates and designs are also furnished to the Dept. free of charge, and heavy work has been done for the Harbour.	and plant thus placed at their disposal, but this does not prove that they cannot get work done themselves at a fair price. The shops were originally instituted because the wants of the P.W. Dept. could not be met in the country and the requirements of other Depts. should therefore be an extra demand, tending to increase out-turn. He gives figures to show that the out-turn has been tolerably even from about 1874-75 when the average rose from 1¼ to over 2 lakhs. If the outside requisitions have prevailed only lately, the ordinary P.W. Dept. work must pro tanto have been withdrawn. In either the average out-turn to be looked for in future may be put down at from 2 to 2¼ lakhs.			

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is turned out ranging from boilers and new girders to engraving and die-sinking. It is almost unnecessary to say that the principles which lead to economy of production in any establishment devoted to special manufactures cannot be followed in a "jobbing" shop which this is.

Boilers girders and all such special manufactures must of necessity be obtainable from regular manufacturers for cheaper than they can possibly be turned out by our workshops, and it is only a question as to whether the time saved by giving the order to the latter compensates for the difference of price. From my own experience I have no hesitation in saying that such are now the facilities for procuring all articles of special manufacture from England or from the various Establishments elsewhere that time and money are both no object in persisted in endeavouring to meet such demands through our workshop.

It was only lately that in the matter of a new boiler for the Engine for the General Hospital ~~Govt~~ much time and ~~to~~ 1,000 were sacrificed

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(9) The suitableness of the present forms of accounts.	(9) The forms of account must, if they are to be any guide as to the value of the workshops, be based on those used by Guaranteed Railways in which the distinction between Capital & Revenue is clearly marked.	(9) The forms of account must be looked upon as unsatisfactory. Recommends that the Superintendent and the Examiner should jointly consider what forms are appropriate in order that they may be amended, and that ambiguous terms such as "extra profits" may disappear.	(9) States that steps have already been taken to the above end.		(9) Steps have already it seems been taken to introduce the State Railway rules and forms, - no further action in this respect is now necessary.
(10) The average outturn being 2¼ lakhs, is it worthwhile maintaining the shops for so moderate a demand?	(10) The value of the outturn must be considered in connection with the value of the various works which require the assistance of the workshops. The question is not whether it is worthwhile to maintain the shops for so moderate a demand, but how could these wants be otherwise supplied without undue delay and in a satisfactory manner? He considers that no engineering work of any size could be undertaken if there were any doubt as to how these wants could be supplied without delay.		Questions 10 to 14 are put by the Examiner in para: 18 of his note of the 20th Feby 1882. He observes that the considerations therein contained must be discussed before a final decision is possible. He does not know how far it has been conclusively proved that the shops at the present time meet demands which cannot otherwise be met in the country. He remarks that the facilities in communication with European markets have so enormously increased since 1866 by that probably the demands of the present		(10) From the evidence before me I do not consider it worthwhile to continue the Workshops on their present footing - see remarks above on Queries Nos 7 & 8.

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	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(11.) What is the classification of the outturn, and how much of it is special work not to be obtained from local markets and required to be of superior workmanship; how much of it is for the P.W. Deptt., how much for other Govt. Deptts. and how much for private individuals?	(11) The Supt.s list of works which are ordinarily carried on in the shops and which he considers cannot be satisfactorily obtained elsewhere in Madras, is attached (B) Taking the average for the past 3 years he states that about ½ of the total work is for the P.W. Deptt., about ⅓ for other Govt. Departments and about ⅙ for private individuals.				
(12) How do the rates of issue for manufactured articles compare with similar articles obtainable from European markets?	(12) The rates are higher than English prices, but they include a considerable amount of profit which is returned to Government.				
(13). Are the charges made to Customers, whether Govt. Deptt. or private individuals, based on estimates accepted in full by them regardless of the actual cost incurred by the workshops, or is all work charged at actual cost?	(13) All charges are based on estimates, except repair works and special jobs which cannot be estimated for. The estimates are accepted and paid in full on the work being approved. No other procedure could possibly be adopted.				

period can easily be satisfied from European or local markets, and the existence of the shops for normal requirements is not essential. For abnormal times he thinks the use of modern means of rapid communication would amply suffice for abnormal demands being executed from Europe.

(11) Nothing has been shown as to the nature of the special demands on the shops proving that such could not be met equally well if not better elsewhere.

(12) While admitting that the rates are higher than the English prices the Supt. considers that a large share of the profit is returned to Govt., forgetting apparently that the Depts. concerned have to bear the charge for this profit.

(13) No remark necessary as the procedure now followed is the only feasible one.

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	General Superintendent P. W. Workshops.	Superintending Engineer of the Circle.	Examiner of P. W. Accounts	Consulting Engineer for Railways	Chief Engineer.
(14) How far it has been conclusively proved that the workshops at the present time meet demands which cannot otherwise be met in the Country.	(14) The proof required can only be obtained by closing the shops. a measure which the Supt^te predicts would result in heavy loss to Gov^t for the following reasons:- (a) Delay and uncertainty in supply of work. (b) Increased prices for the same or inferior work. (c) Loss by sale of the buildings, machinery &c. (d) Loss of the services of a number of skilled men of various trades who are now available for work in any part of the Presidency. The Superintendent concludes with the remark that the discussion which has taken place will be of the greatest value if it results in the workshops being placed on a proper footing as regards capital and Revenue Accounts.				(14) Of the four contentions urged by the Supt^te of the shops, the only one which I consider valid is the probable loss of the services of certain artificers who are now available for work in other parts of the Presidency; but even this loss will it is thought in time be recouped.

In a separate letter submitted by the Gen^l Supt^te No. 306 of 4th of

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27	2° March 1882, he offers the following suggestions. He considers that the broad principles upon which a Govt. workshop should be conducted are the following. (1) No Govt. officer should be compelled to get work done at the workshops. All ordinary work will thus be executed in the open market and the workshop be resorted to only for special work. (2) The workshops should have moderate capital, only such a rate for interest that the latter shall be in fair proportion to the out-turn. (3) Capital & Revenue accounts should be kept with a view to preventing extraordinary expenditure being mixed up in the accounts, and thus concealing the real working of the shop during any particular years. (4) The percentage charged for the execution of work should be just sufficient to meet all				
98 28 60		(1) Unobjectionable if it be decided to maintain the shops. (2) — Ditto — (3) — Ditto — so far as under stood. (4) The percentages charged should in addition to those specified by the Superintendent			

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	Shop expenses including interest on Capital provided that "Capital" has not been unduly increased from exceptional circumstances such as removal to more expensive buildings with cost of removing and resetting up shafting and machinery.				cover all administrative charges, depreciation on Block and Plant, Sanitary and interest charges.
	(5) If Capital has thus been unduly increased and the workshop is unable to pay the full amount of interest, the Govt. should make up the deficit, provided they are satisfied from the Revenue account that the earnings are in fair proportion to the expenditure.				(5) As a fact the Govt. does this now.
	The Superintendent then goes on to enlarge on several of the questions already discussed above. He adverts to the inestimable value of the workshops to Govt. during the late famine; to the good work done by it for the Harbour Walls,				As regards the final contentions of the Supt. regarding the great value of the work done during the famine, reference to the Bandrop per in 1868 and 1870 it may without in any way detracting from these and other services be hoped

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	but for which the Harbour would have had to maintain its own machine shop, and to the repairs executed to the Pier in 1868 and in 1870. With reference to the losses shown in the accounts of the last two years, he points out that taking the accounts from the commencement in 1867, it is found that after paying all charges including interest there remains a balance of Rs 109746 in favor of the workshops. He remarks at the same time that every Rupee of net profit made by the shops means money taken away from Irrig.n and other works on which it was intended to be spent. He alludes to how the shops have suffered by the large increase of stock by injudicious purchases in former years; and observes that there has been no such increase since 879 and				that through the increased facilities already existing as before pointed out, and the impetus which would be given to private undertakings of the desired character, the requirements even during exceptional times would be amply met. It appears to be forgotten that it has been owing in very great measure to the ephemeral expansion given to the machinery of the shops, and the great over manufacture of useless articles for stock during the late famine that the Capital account was raised to an extent which has unduly weighted the whole concern, and probably more than anything else has drawn attention to its unremunerative character. The cause in fact which produced the fallacious success now quoted as the strongest reason for continuing the shops are those which in very great measure have

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contributed to the losses of the past two years.

As regards the concluding remarks of the Supt.ᵉⁿᵗ, see observations above on query No. (7)

C. R. Lawton
Col. Ke
5/6/82

that the shops are not likely to suffer from similar mismanagement in future.

With regard to the heavy expenditure under "General Charges" the Supt. shows that it has been caused by expenses attendant on the removal from Chepauk, but that since 879 there has been a steady reduction under this head.

He summarises all the facts of the case as follows:-

(1) The workshops have suffered considerably by the action of Govt. (in the matter of the removal) by mismanagement in the matter of stock.

(2) Compensation is necessary and should take the form of a clear distinction being drawn between the capital and Revenue accounts when considering the present working of the shops.

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of various Govt Departments it would appear that there is a considerable quantity of work which they prefer to get executed at the workshops.

Precis of opinions on the subject of retaining or otherwise the Public Works Workshops at Madras.

No 2064 W 104

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 12th August 1882

Read the following:—

Precis of opinions on retention or otherwise of the P.W. Workshops at Madras.

Note by Chief Engineer P.W.Dept. } M.G. dt 6th July 1882

Do. by Chief Engineer for Irrigation } — 10th July 1882.

Do. by Consg Engr for Rys: — 11th July 1882.

The Right Honorable the Governor in Council, Concurring in the opinions expressed by the Chief Engineer P.W. Department and by the Chief Engineers of the Irrigation and Railway Branches, — resolves to restrict the operations of the Public Works Workshops to

at Madras in the
manner proposed by
Colonel Sankey in clause
2 para 14 of his note
of 18th July 82 above
recorded -

2. The Chief Engineer
P.W. Department will
report at an early date
the measures he would
propose for carrying
this decision into effect.

Att

578/82

Secy
GOI

Superintending Engineer
Consulting Architect & Surveyor
Genl. Supdt. P.W. Workshops
Chief Engr. P.W.D.
Chief Engr. for Irrigation
Consg. Engr. for Railways
Examiner P.W. Accounts
Financial Department
Revenue Department
Railway Department

R.S.
Eds.

26. 12. 03.

9-6-13

Govt. of (1882) [illegible]

PUBLIC WORKS

12/14

Dated

Rec'd

P. O. 12th Aug'st 1882. No. 26/61

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W. Workshops
at Ennis.

Reporting the
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Asst. Engineer Bishop
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9/161