8020

Govt. of 1895 Madras.

PUBLIC WORKS.

Dated 28/10

Recd. Encl.

G.O. 28/10 1895 No. 2669

Inspection Report

=

Office Note from the Examiner
Submitting as - Of the
Accounts Of the Begwara
Workshops, Coupd. to S.E.
Circle with remarks.

—

Proceedings issued 9/12-

20/12

INDEXED

2.12.95

18

PUBLIC WORKS DEPARTMENT.

No. 2669 dy 28 October 1895

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

Office Note from the Examiner P.W.Accounts.No.3671/B. d/4th.Octr.'95

Communicated to the Suptg.Engineer,II Circle,for the information and guid-ance of the Executive Engineer,Kist-na Northern Division,special atten-tion being drawn to the remarks in the Examiner's covering note.

2. The suggestions in para 10(c) of the inspection report and that in pa-ra 4 of the Examiner's note are ap-proved.

3. Explanation should be afforded on the matters referred to in paras 10(b) and 25 ofthe report,andthe Suptg. En-gineer will submit his opinion on the proposals in paras 15(b) and 32.

4. With reference to para 14 of the Examiner's note,attention is drawn to G.O.No.2811W. dated 8th.October 1892. The Suptg.Engineer will however re-port whether any practical advantage would result by the adoption of the Deputy Examiner's suggestions.

DESP. 12 NOV. 95

The Suptg.Engr.II Circle.
" " " I Circle for information.
" Examiner P.W.Accounts.

(40—4,000—14-3-95.)

P. W. CURRENT No. 8020

Recd: 19.10.95

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7.9.95 No 2201 C
15.1.95 - 94 S
19.12.94 - 4154 C
8.10.92 - 2811 S

paid by the day,they are apparently not entitled to pay during holidays.

7. Para 24. Timber should be brought to account as soon as received through the account,Stock Purchases.

8. Para 25. This irregularity requires investigation.

9. Paras 26,27,28,& 35. The points noticed call for careful attention.

10. Para 29. Early disposal of these surplus articles under Superintending Engineer's sanction is desirable.

11. Para 32. Form proposed in supersession of items 16,17 & 18 would appear to be too cumbersome to be workable. The Executive Engineer might be asked to report on this as well as the other suggestion relating to modifications made in local Forms & procedure.

12. Para 33. The proposed modifications should be attended to in printing the next supply of forms.

13. Para 34. The reason for writes-back should be systematically recorded and all necessary details given.

14. Para 36. On the point here discussed I would invite attention to paras 18 to 23 of my office note published with G.O.No.2811 W.dated 8th.October 1892.

C.

E. No. 27.
500—30-7-95.

KEEP-WITH CURRENT No.

dated 189 .

GOVT. OF MADRAS. } 1895. { P. W. DEPT.

EXAMINER, P. W. ACCOUNTS,

Madras, 4th October 1895.
Despd 18th October 1895

OFFICE NOTE No. 3671 & 13

To

W.

Inspection Report of the Bezwada Workshops.

Submitted to Government for orders, special attention being invited to the following remarks:-

2. Para 10(c). The Inspecting Officer's suggestion in regard to exempting P.W. employés from pre-payment for jobs is recommended for favourable consideration.

3. Para 10(d). This calls for Executive Engineer's explanation.

4. Paras 12 and 19 (a) & (c). Items 1,2, and 3 of annexure B and 7 of annexure C should be charged to Establishment, Temporary, with the sanction of Government, and items 1 and 2 of annexure C to Establishment, Contingencies.

5. Para 13. The transactions of the Workshops should in future be recorded under the sub-head "Workshop".

6. Para 15(b). If th[illegible] works [illegible]

8TH OCTOBER 1892, No. 2811 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

READ—the following papers:—

Office-note from the Examiner, Public Works Accounts, dated Madras, 31st August 1892, No. 146-A.

[*Workshop accounts, Nellore division.*]

These are based on Madras Code, paras. 1793 to 1816, but, however suitable these rules may be for shops of any magnitude, they are, in my opinion, much too complicated for a workshop of the character of that at Nellore.

2. The attempt to arrive at the actual cost of every job necessitates the use of a multiplicity of forms, and, when all these have been elaborated, the result is, after all, only an approximation of actual cost.

3. For instance, the wage of each man employed in the shop is distributed daily over the several jobs on which he is supposed—I use the word deliberately—to have been employed; but what are the data on which this distribution is made? The Superintendent of the shop reluctantly explained to me that at 5 P.M. every day his clerk (salary Rs. 20) went round and asked each man on what job or jobs his time had been spent during the day, and that *on the men's declarations* their wage was allocated to the various jobs.

4. This is assuredly *not* "actual cost" of labour on each job; but to arrive at it a most elaborate form (No. M. 25) is maintained, one for each day, with twenty columns for each day; and in order to group together the charges on each job as scattered over form No. 24, an intermediate record is kept in a "rough" unauthorized book.

5. As regards labour charges, then, it is indisputable that the amount charged to individual jobs is nothing more than an estimate, and an estimate based on most unreliable data, viz., *the word of the workmen engaged in the shop.*

6. To turn, next, to charges for material, and it is found that the data for the charge made to each job are equally unreliable, while the procedure for obtaining the material from stores is the most complicated I have ever seen.

7. To demonstrate this, I submit (as enclosure A) the daily report (form No. M. 27) of materials for one day as a fair sample. The total value of the stores used in the shops on the 31st May aggregated the insignificant sum of Rs. 4–0–11, but this represented 29 separate indents on the storekeeper within six hours, that is to say, at commencement of the day the Superintendent found he wanted 4 oz. of lamp oil, price 9 pies, for job No. 53, and the storekeeper had to comply with the demand; scarcely had this been done when the Superintendent discovered his need of 2 oz. of lamp oil for job No. 16, and the same process was repeated; the Superintendent's next demand was for 2 annas and 11 pies worth flat iron for job No. 26; the next for 1 anna and 9 pies worth of sheet iron for the same job, and, so on, throughout the day.

8. The next stage in the procedure is to collect all the charges on each job, and this is done in the abstract at foot of the form.

9. The operation that follows this is the grouping together of all issues of the same article on each day, and this is done on "rough papers which are thrown away" — a most objectionable practice (see paragraph 27 of inspection report on the Coimbatore office), but enclosure B shows the labour involved in this operation.

10. Immediately following this is a formal requisition on the storekeeper for the total quantity of each article drawn from stores during the day as shown in enclosure B and this will be found in enclosure C (form No. M. 26).

11. If it be remembered that enclosures A, B and C are a record at this initial stage *of only one day's transactions*, the bulk of these preliminary records and the labour involved in their preparation will be easily gauged.

12. But this is not all. I may say without hesitation that the debit to each job for these withdrawals from stores is *not* the cost of the stores actually used on the job; and I may add that the Workshop Superintendent admitted that either he, or, if he was otherwise engaged, his clerk (drawing a salary of Rs. 20) "made the requisition to the best of his judgment," and that if, "after indenting, any material remained over from a job, it was used on an other job" notwithstanding, be it remembered, that the cost had been charged to the job on account of which the supply had been drawn from stores; and I may add, without fear of contradiction, that it is impossible to estimate accurately the quantity of these petty stores that is used on a particular job.

13. Perhaps the weakest part in the system is the attempt to allocate to individual jobs each day the cost of feeding the engine that works the different machines. In the largest workshops such charges, and indeed all the other charges exhibited in enclosure A, are debited to *indirect* or "General" charges of the shops which at the end of the month are distributed proportionately to direct outlay on each job.

14. It is thus shown conclusively that both, as regards labour and materials, the charges made to each job are *not* actuals.

15. I pass now to the trouble involved in collecting the charges of each kind on each job. This is done in form No. M. 28 (enclosure D), of which there is one for each job, or, say, from 60 to 70 each month. It is posted from—

(i) Form No. M. 25 for labour;
(ii) " " 27 for petty stores;
(iii) " " 9 for timber and firewood;
(iv) " " for payments to the sawer; and from
(v) The Workshop Superintendent's imprest cash account for petty cash payments.

Could any procedure be more elaborate especially when the results at the best are mere approximations?

16. With all deference to the rules quoted in para. 1 of this note, I submit that in a Government workshop of even the greatest magnitude the need for accuracy in arriving at the actual cost of each job does not exist. In a commercial undertaking the case is different, as the element of competition comes in there and it is necessary for the manufacturer to know, as closely as he possibly can, the cost of each operation. The attempt in Government workshops to arrive at this by means of elaborate returns is a great waste of labour, especially when it is remembered that the allocation of charges is, as a rule, left to the intelligence of an irresponsible clerk (see paras. 3 and 11), and this leads me to suggest that all practical purposes would be met by distributing the total charges for labour and material on some recognised principle.

17. But before I formulate my proposal, it may be as well to analyze the operations of the Nellore workshop for the past two years in order to justify a change of procedure. This is tabulated as follows:—

	1890-91. Rs.	1891-92. Rs.
(i) Departmental work	18,362	15,457
(ii) Work for other departments	846	676
(iii) Work for private individuals	310	626
Total ...	19,518	16,759

Of (i), the bulk of the work is done for one project in the division, and even if this were not the case, it would not matter one iota if one work were charged a few rupees too much and another work a few rupees too little for work done in the shop. As a matter of fact this is the case at present, as shown in paras. 3 and 13.

18. Instead, therefore, of arriving at this approximation in the roundabout complicated and costly procedure now in force, I would earnestly recommend that —

(i) on receipt of an order for work *from any source*, the cost be carefully estimated both for labour and for materials, and that this estimated cost be taken as the cost of a job;

(ii) that the cost of labour and material used each month be debited to one general account, say, the workshop suspense account;

(iii) that this account be credited as each job is completed with the estimated cost as obtained by operation;

(iv) that the balance of this account, after providing for outlay on unfinished jobs, be proportionately debited or credited to the jobs done during the previous six months, provided the accounts of the works to which they appertained had not been finally closed.

19. The operation of making a careful estimate of the cost of each job would give no extra trouble, as every charge for labour and material is already estimated (*vide* paras. 5 and 14) though in a much less satisfactory manner than that proposed. The great difference between the two procedures is that in future the approximate cost of a job will, if these proposals meet with approval, be ascertained with the minimum of trouble and without the sham of its representing "actuals."

20. I may mention that until 31st December 1886 it was the practice for the Government Telegraph department to charge State Railways with interest on the actual cost of constructing their lines of telegraphs in addition to a maintenance rate bearing a proportion to the total maintenance charges of the Telegraph department for the year for which the bill was prepared; but under the orders of Government of India, Public Works Department, No. 53-T., dated 23rd February 1887, this was abandoned and "universal fixed rates" were introduced with effect from 1st January 1887 (G.O., No. 207 R. of 8th March 1887). This case is not altogether identical with the one under discussion, but I venture to suggest that universal rates based on the accumulated calculations of averages of previous years *when both material and labour were at a higher or lower value than at present* are less likely to approximate to present actual cost than a system of carefully estimating the cost of each work at rates that are current when the work is put in hand.

21. The weight of argument is, therefore, decidedly in favour of the proposal made in this note; and if State Railways are willing to make large and annually recurring payments to the Government Telegraph department on the data stated above, there is, I submit, all the greater reason for accepting the principle advocated in this note in reference to small sums which go out of one pocket and into another of the same proprietor.

22. If it should happen, which should not be the case with careful estimating, that a private job has been under-charged, the deficit will be more than covered by the additional 25 per cent. that is charged on the actual cost of such work, but the "private" work done is so small that this element may well be thrown out of consideration.

23. If it be decided to place some restriction on the application of the principle here advocated, I would suggest that it be applied to jobs either for the department, or for other departments, or for the public, costing less than Rs. 1,000 each, which is Rs. 1,500 less than the limit fixed in Madras Code, paras. 1785 to 1792, for manufacture accounts which are kept very much on the lines here proposed. It would indeed appear from paras. 1785 and 1793 of that code that the *intention* of Government was to apply the rules in paras. 1793 to 1816 only to workshop jobs costing *more* than Rs. 2,500.

24. I would further recommend that the same rule be extended to *all* sub-divisional workshops in the Presidency, as it is only by the abolition of every description of unnecessary work that divisional and sub-divisional offices will have time to devote to the essentials of accounting.

25. It is within the powers of the Government of Madras to frame its own rules on the subject, as the Government of India Code is silent with reference to it.

Office-note from the Examiner, Public Works Accounts, dated Madras, 1st September 1892, No. 147-A.

[Workshop Superintendent and Storekeeper, Nellore division.]

Closely connected with the proposals submitted in my office-note No. 146-A., dated 31st August 1892, for simplification in the procedure for sub-divisional workshop accounts is the desirability of re-adjusting the duties of the Superintendent of the Workshop and of the storekeeper in the Nellore division.

2. Both these men are treated as holding separate charges, but it is submitted that this arrangement is not conducive to the best results.

3. In addition to his functions as Workshop Superintendent, Parthasarathy Naidu (who draws a salary of Rs. 45 and a pension of Rs. 23) has charge of all the timber and firewood in the sub-division, and the storekeeper, A. Sreenivasa Row (salary Rs. 25), has charge of all other stores.

4. The result of this is that articles of daily and hourly consumption in the workshop are in the custody of the storekeeper, and that if the Workshop Superintendent requires an ounce of lamp oil, half a dozen screws, or even a box of matches, he has to indent on the storekeeper for it. As shown in para. 7 of my office-note quoted above, indents on the storekeeper for these petty supplies are numerous, amounting from 20 to 30 *a day*, and sometimes more.

5. And consequent on this work is duplicated in the accounting for these small stores; for instance, on purchase, they are brought on to the storekeeper's form No. M. 9 as receipts; on issue to the workshop they are written off his form No. M. 9 *and brought on the Workshop Superintendent's return of receipts*. These items then pass through the storekeeper's forms 10 and 11 and also through the divisional form as issues and *per contra* through the Workshop Superintendent's forms 10 and 12, and also the divisional form as issues.

6. All this is unnecessary. In large workshops the Superintendent holds an imprest equal to a consumption of about a month's requirements of petty stores, the object being to avoid constant requisitions on the storekeeper, while all other materials are in the custody of the storekeeper; but as shown in para. 3, the procedure here is reversed.

7. In my opinion any division of responsibility for the accounting and issue of stores in the Nellore sub-division is undesirable. The Workshop Superintendent is a man of considerable experience, is well reported on and draws a pension of Rs. 23 a month in addition to his salary; the storekeeper on the other hand is young and comparatively inexperienced—I say not a word to his disparagement, for he is very energetic and intelligent—and he draws a salary of only Rs. 25 a month. These facts would seem to point to the Workshop Superintendent as the more suitable man of the two for the charge for all the stores in addition to his present duties.

8. One advantage of such an arrangement would be that the excessive duplication of work noticed in para. 5 would be avoided, and on this ground alone I recommend that the change be sanctioned, but beyond this the time of the storekeeper and his assistant would be set free for other duties as shown in the following paragraphs.

9. At present the Workshop Superintendent and the storekeeper have an assistant each, but if the proposals submitted in my office-note No. 146-A, dated 31st August 1892, are approved by Government, there will be next to no work for the Workshop

clerk, T. Ramachendra Row (salary Rs. 20), whose time is at present entirely taken up in preparing the various returns that are necessary under the present system of accounting in the shop; and the most convenient arrangement would probably be for him to take over the detailed work in connection with storekeeping now done by the storekeeper.

10. This would enable the storekeeper to give undivided assistance to the accountant. At present, with the incessant interruptions to his work as noticed in para. 7 of my office-note No. 146-A, dated 31st August 1892, the help that he renders in the preparation of the monthly accounts, which is a portion of his duty, is very fragmentary and therefore unsatisfactory.

11. The assistant to the storekeeper on Rs. 15 a month, who is only a temporary clerk, would not be required.

12. In the event of these proposals being sanctioned by Government, I will submit, for approval, considerably simplified forms for the accounting of stores in the Nellore sub-division.

From J. W. MARTIN, Esq., Superintending Engineer, II Circle, to the Chief Engineer, Public Works Department, dated Bezváda, 24th September 1892, No. 403 N.L.

With reference to your No. 4120 C., dated 9th instant, enclosing office-notes Nos. 146-A and 147-A., dated 31st August 1892 and 1st September 1892, respectively, from the Examiner, Public Works Accounts, relating to the system of keeping the accounts at Nellore workshops for certain items for my opinion, I have the honour to state that the papers relate to points as follow:—

(1) The present system of attempting to arrive at the actual cost of each job does not give correct results and is complicated.

(2) The method the Examiner proposes to adopt for arriving at the cost of each job in supersession of the present system.

(3) Re-adjusting the duties of the Superintendent and storekeeper.

2. I have not forwarded the notes to the Executive Engineer, Nellore division, for his opinion, but I went through them with the Superintendent and accountant of the Bezváda workshops. The accounts of Nellore workshops appear to be kept in almost exactly the same way as they are kept in Bezváda workshops. I think, therefore, it is not necessary to send the Examiner's notes to the Executive Engineer for his opinion.

3. In regard to actual cost of each job: the existing system of arriving at the cost of labour is as described by the Examiner in para. 3 of his note No. 146-A. The result so arrived at is not, of course, always actual cost strictly speaking, but I think it is practically actual cost, or, at all events, it is sufficiently correct for requirements. The Examiner, however, appears to consider that because the workmen tell the clerk how long daily they work on a job that, therefore, the information is not reliable.

I do not consider that information so collected is not fairly reliable, taking the practical view of the question. I take this view of the matter because, as in practice, it really makes no difference whatever to the workmen whether they are put down for two, three, &c., hours on a job; they are not likely to wilfully try to mislead about giving correct time. They do not, of course, make a practice of noting the hour when they go to a job and leave it, but, in my opinion, the time given by them is, on the average, practically accurate.

4. In para. 4 of note 146-A, the Examiner finds fault with form No. 25. This is the form in which the details of labour for each job are given. I enclose a copy of the form filled up at Bezváda workshops for the first of this month. I do not think the form is very complicated and troublesome to maintain, taking into account that the "amount chargeable to each work" as shown in the last column is made up daily, and that there must be some method maintained for arriving at the cost of each job. As to the "rough unauthorized book" to which the Examiner refers, it must, I think, be a book used by the accountant in which to note details when making up totals. The man must use either a slate, slips of paper, or a rough book for checking totals, but to my mind a book is the most convenient plan, for, in the event of a mistake in

the accounts being subsequently discovered, it can generally be traced out by reference to the book without again going through all the items of the accounts.

5. In paras. 6, 7, 8, 9, 10 and 11 of his note 146-A, the Examiner goes into considerable detail, pointing out the labour involved in issuing to and charging for the stores daily used on each job. Form No. 26 is the one to be used by the Superintendent for obtaining stores from the storekeeper for the jobs in progress. Several copies of the form are kept in a book. The Superintendent at Bezváda, when he wants stores, enters the description and quantity in the counterfoil and sends the book to the storekeeper who then issues the stores, entering them with the value on the duplicate sheet. At the end of each day this sheet is torn off and given to the storekeeper and in due course he sends it to the office to show the quantity and value of stores issued. I enclose a copy of the counterfoil of form No. 26 as filled up at Bezváda workshops for 1st September. The Superintendent there never uses any slip of paper or any form except form No. 26. It appears to me from the entries shown in enclosure C from the Examiner that the Superintendent at Nellore has not been using form No. 26 as intended, and, I think, much of the extra labour noticed by the Examiner is due to this cause. It is obvious that there must be some defined way for indenting for stores and for showing the daily issues. So far as I can see, form No. 26 provides for what is required and is suitable for workshops.

6. In para. 12 of note 146-A, the Examiner expresses his opinion that the present system under which the cost of stores is charged to a job is not suitable, as it sometimes happens that stores received for a particular work in excess of requirements are used on another job. I think, however, this need not be taken into account, for at present it is an even chance whether the daily result is a loss or gain to each job and therefore, I think, the final cost must be fairly accurate.

7. In view to bringing before you as clearly as possible the existing method for arriving at the cost of each job, I am forwarding a set of accounts prepared at Bezváda for 1st September for "work No. 713." Bezváda D., or form No. 25, shows that laborers were not employed on the first; Bezváda E, or form No. 26, exhibits the stores used on the work or job; Bezváda H, or form No. 27, gives an abstract of the value of stores used, and Bezváda K, or form No. 28, brings together the value of labour and materials employed and used on the work for 1st September.

8. In regard to the method the Examiner proposes to adopt for finding the cost of each job in supersession of the present system, the details are given in para. 18 of his note No. 146-A. It appears to me that the success of his method will depend on the accuracy of the estimate for each completed job and on the correctness of the estimate for the remaining work of each incomplete job at the time the general outlay is proportionately debited or credited to all the jobs under execution during the previous six months. It is always difficult to make a correct estimate in the first instance for workshop's jobs, and it is still more difficult to make a reliable estimate for the remaining work in the case of an incomplete job. In these circumstances I am of opinion that there would be considerable difficulty and confusion in arranging to proportionately debit or credit to jobs the expenditure exhibited in the general account. Under any circumstances there must be some defined way for the Superintendent to indent for stores and for showing the stores with price daily issued to him; there must also be some defined way of assigning work to the workmen daily and for recording the same, as, of course, it would not answer to allow the men to wander about the shops and take up any work they please. I think, therefore, that, even should the Examiner's proposal be accepted, forms Nos. 25, 26 and 28, or three forms nearly similar to them must be maintained. Form No. 27, which exhibits the cost of the stores used on each job, might be abolished, but this would not cause much saving as regards account work.

9. My opinion is that the Examiner's proposal does not possess any appreciable advantages over the existing system, and as it is not desirable to make a change except for good reasons, I recommend that the present system should be continued and the Examiner's proposal should be abandoned.

10. With regard to re-adjusting the duties of the Superintendent of Workshops and the storekeeper, the Examiner's proposal is given in his note 147-A. It is simply to put the Superintendent in direct charge of all the stores in addition to his present

duties and not keep a storekeeper at all. At present the storekeeper is directly responsible to the Executive Engineer, Nellore division, for everything that goes on in the workshops. He must see that the men come to work at the proper hour and do not leave before the end of the day; that they properly execute work and do not waste materials, &c. You will, I think, perceive that the Superintendent cannot attend to all these matters unless he is always free to move about the shops. On the other hand, if he is made storekeeper, he certainly will not be able to freely move about, as he must spend a good part of his time in the store-room issuing and receiving stores and arranging them to prevent confusion. Indents may often be numerous during the day for small articles, such as nails, screws, paints, charcoal, small pieces of iron, &c. To weigh or count such articles, give the price of each and make proper entries in the store account is tedious work and unquestionably it would oblige the Superintendent to spend a good part of each day in the store-room. Moreover, the Superintendent is, or ought to be, a practical workman, but men of this class seldom know much about accounts. I think this is reasonable and that it would hardly be fair to expect a Superintendent to keep accounts without assistance.

11. The Examiner, however, appears to consider that because under the present arrangement the Superintendent is in charge of timber and firewood there is no reason why he should not be placed in charge of all stores, but you will easily understand that there is great difference between being in charge of logs of timber that no animal, except an elephant, can freely move and being in charge of small stores.

12. In para. 6 of his note the Examiner observes that in large workshops the Superintendent holds an imprest equal to a consumption of "about a month's requirements of petty stores." He should have explained this matter further, for it is impossible to suppose that, for instance, the Superintendent of the Railway workshops, Madras, is in charge of stores, and I very much doubt if even any of his deputies keep small stores. Perhaps he refers to foremen; such men may be in charge of small stores, but as each foreman is in charge of only his own shop, it may be practicable for him to keep stores; this, however, is quite different from making the Superintendent, who is responsible for everything connected with the workshops, the general storekeeper.

13. For the reasons stated I am convinced it would never answer to make the Superintendent of the Nellore workshops storekeeper in addition to his present duties. I do not, therefore, approve of the Examiner's proposal in regard to re-adjusting the duties of the Superintendent and storekeeper.

Note by Chief Engineer, Public Works Department.

There is no doubt much force in some of the Examiner's criticisms and the whole of them may be studied with advantage by the Executive Engineer, but I am opposed to the introduction of changes in procedure and practice unless the practical advantage by such changes can be very clearly shown.

I am disposed to agree with the Superintending Engineer that the advantages of the proposed change will be very small and would therefore leave the present procedure undisturbed.

OOTACAMUND,
3rd October 1892.

(Signed) J. PENNYCUICK, Colonel, R.E.,
Chief Engineer, P.W.D.

ORDER—dated 8th October 1892, No. 2811 W., Public Works.

His Excellency the Governor in Council agrees with the Chief Engineer. No change in existing procedure will therefore be made.

(True Extract.)

(Signed) J. PENNYCUICK, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, II Circle.
" Examiner, Public Works Accounts.

Exd. S. J. Pereira.
Spare Copies

GENERAL.
ACCOUNT.

Govt. of {1892} Madras.

PUBLIC WORKS.

P.W. Enl 8020/95

Dated October, 8th.

Read. *Encl.*

G.O., 8th Oct. 1892, No. 2811 W.

OCTOBER.

Nellore Workshops

Ordered that no change be made in the existing procedure relative to the system of keeping the accounts of the —.

GENERAL.
ACCOUNT.

Govt. of {1892} Madras.

PUBLIC WORKS.

Dated October, 8th.

Recd. *Encl.*

G.O., 8th Oct. 1892, No. 2811 W.

OCTOBER.

Nellore Workshops

Ordered that no change be made in the existing procedure relative to the system of keeping the accounts of the —.

ANNEXURE E (*vide* paragraph 20 E).

STATEMENT showing the transfer of materials, &c., from one work to another in progress in the Government Workshops at Bezwada.

Transfers during June 1895.

Month and date.	Item number.	Credits. Particulars of each transaction. Materials, &c.	Quantity.	Rate.	Per	Amount.	Number of work.	Name of work.	Debits. Amount.	Number of work.	Name of work.	Establishment. Expenditure to date of completion.	Date of last warrant.	Date of completion.	Remarks.
				Rs.		Rs. A. P.			Rs. A. P.			Rs. A. P.			
22nd June 1895.	..	Value of steam power.	6½ days.	2	Day.	13 0 0	247/561	Improvements to channel head sluice, Yellavarru.	13 0 0	389	Stationary engine, 20 horse-power, at work.	25 9 8		25th Dec. 1894.	
	..	Do.	6¼ ,,	2	,,	10 8 0	247 A/564	Improvements to Arumbolu channel head sluice.	10 8 0	389	Do.	33 2 6			
	..	Do.	9¼ ,,	2	,,	18 8 0	250/573	Improvements to Komaravolu and Tallavagu channel sluice.	18 8 0	389	Do.	52 7 11			
	..	Do.	5¼ ,,	2	,,	10 8 0	249/568	Improvements to Pedaratle sluice in Allerutank.	10 8 0	389	Do.	55 11 0			
	..	Do.	12 ,,	2	,,	24 0 0	251/715	Fixing screw-gearing shutter to Perakulapadi channel sluice.	24 0 0	39	Do.	77 15 3		22nd Nov. 1894.	
	..	Do.	18 ,,	2	,,	36 0 0	251 A/712	Fixing screw-gearing shutter to Earrani channel sluices main canal.	36 0 0	389	Do.	146 2 3			
	..	Do.	1½ ,,	2	,,	3 0 0	248/667	Improvements to Pidaratle sluice in Allerutank.	3 0 0	251 B	Improvements to Pedapulli and Ramarazoo channel sluices.	19 15 0		25th Dec. 1894.	
	..	Do.	3¼ ,,	2	,,	6 8 0	248/667	Do. do.	6 8 0	251 C	Constructing head sluice to Alleru channel 47 miles 936 feet of Commamur canal.	..		....	

ANNEXURE F—(*vide* paragraph 22).

Saw-pit account for the stock-taking year, 25th August 1893 to 25th September 1894.

	Quantity.	Value.
	R. FT.	RS.
(i) Balance on 25th August 1893	11,901	4,702
(ii) Issues of rough timber to saw-pit account during the stock-taking year	31,108	57,799
(iii) Add sawing and other charges debited to saw-pit account	...	10,985
(iv) Total ...	43,009	73,486
(v) Outturn from saw-pit account being total of issues to jobs	18,746	55,589
(vi) Balance ...	24,263	17,897
(vii) Balance as per stock-taking of September 1894 (good wood)	7,429	13,531
(viii) Difference ...	16,834	4,366
Deduct.		
(ix) Rubbish in stock at stock-taking (excluding saw-dust which is not taken into account)	3,142	233
(x) Sold in auction during the year	7,100	538
(xi) Proceeds of saw-dust charged to works	...	89
(xii) Total ...	10,242	860
(xiii) Net loss ...	6,592*	3,506
(xiv) Percentage of loss to operation (iv)	15%	4·7%
(xv) Percentage of loss to outturn (v)	35%	6·3%

* It is not known how much of these represents saw-dust actually in stock.

ANNEXURE G (see paragraph 29).

List of surplus old machines in Bezwada Workshops.

Description of machines.	Number.	Number of years at work.	Number of years since last worked.	Original value.	Present approximate value.
					RS.
Stationary engine, 4 horse-power, with Carnish boiler	1 *	Over 25 years.	3 years.	Not known.	400
Lathe machine 13" centre and 14 feet bed ..	1	20 years.	1 year.	Do.	300
Planing machine	1	25 „	3 years.	Do.	200
Punching do.	1	25 „	3 „	Do.	200
Drilling do.	1	25 „	3 „	Do.	100

Note.—Workshop Superintendent states that the boiler is irrepairable and that the machines in all would cost more than double their present assumed value for repairing.

XURE H—(*vide* paragraph 32).

-Operation and Wastage Account.

Wastage on each log.						Balance at site.			
vastage.		Percentage of wastage to total			sal.	Wastages as per actual measurements.			Remarks.
	Other wood.	Teak.			rekeeper and reference y in his books.	Timber.	Saw dust.	Scant-lings.	
		On Quantity.	On Value.	On Quantity.	orkshop Superintendent nce to work order.				
	29	30	31	32	51	52	53	54	55

daily abstracts.

Office-note from the Examiner, Public Works Accounts, dated Madras, 4th October 1895, No. 3671/B.

Submitted to Government for orders, special attention being invited to the following remarks.

2. *Paragraph* 10 (*c*).—The Inspecting officer's suggestion in regard to exempting Public Works employés from pre-payment for jobs, is recommended for favourable consideration.

3. *Paragraph* (10) (*d*).—This calls for Executive Engineer's explanation.

4. *Paragraphs* 12 *and* 19 (*a*) *and* (*c*).—Items 1, 2 and 3 of annexure B and 7 of annexure C should be charged to Establishment, temporary, with the sanction of Government; and items 1 and 2 of annexure C, to establishment, contingencies.

5. *Paragraph* 13.—The transactions of the workshops should in future be recorded under the sub-head "Workshop."

6. *Paragraph* 15 (*b*).—If the labourers are paid by the day, they are apparently not entitled to pay during holidays.

7. *Paragraph* 24.—Timber should be brought to account as soon as received through the account, Stock Purchases.

8. *Paragraph* 25.—This irregularity requires investigation.

9. *Paragraphs* 26, 27, 28 *and* 35.—The points noticed call for careful attention.

10. *Paragraph* 29.—Early disposal of these surplus articles under Superintending Engineer's sanction is desirable.

11. *Paragraph* 32.—Form proposed in supersession of items 16, 17 and 18 would appear to be too cumbersome to be workable. The Executive Engineer might be asked to report on this as well as the other suggestion relating to modifications made in local forms and procedure.

12. *Paragraph* 33.—The proposed modifications should be attended to in printing the next supply of forms.

13. *Paragraph* 34.—The reason for writes-back should be systematically recorded and all necessary details given.

14. *Paragraph* 36.—On the point here discussed I would invite attention to paragraphs 18 to 23 of my office-note published with G.O. No. 2811 W., dated 8th October 1892.

ORDER—No. 2669 W., dated 28th October 1895.

Communicated to the Superintending Engineer, II Circle, for the information and guidance of the Executive Engineer, Kistna Northern division, special attention being drawn to the remarks in the Examiner's covering note.

2. The suggestions in paragraph 10 (*c*) of the inspection report and that in paragraph 4 of the Examiner's note are approved.

3. Explanation should be afforded on the matters referred to in paragraphs 10 (*d*) and 25 of the report, and the Superintending Engineer will submit his opinion on the proposals in paragraphs 15 (*b*) and 32.

4. With reference to paragraph 14 of the Examiner's note, attention is drawn to G.O. No. 2811 W., dated 8th October 1892. The Superintending Engineer will, however, report whether any practical advantage would result by the adoption of the Deputy Examiner's suggestions.

(True Extract.)

Under Secy. to Govt., P.W.D.

To the Superintending Engineer, II Circle.
" " Examiner, Public Works Accounts, " I " for information.

Exd. Shaik Karim.
Spare Copies

GENERAL:
ACCOUNT.

Govt. of {1895} Madras.

PUBLIC WORKS.

Dated October, 28th.

Recd. *Encl.*

G.O. No. 2669 W., 28th Oct. 1895.

OCTOBER.

Inspection Report

Office-note from the Examiner submitting an — of the accounts of the Bezwada Workshops, communicated to Superintending Engineer, II Circle, with remarks.

EXAMINER
18 OCT 1895
W. ACCOUNTS

Report of an inspection by Mr. C. C. SWETENHAM, Deputy Examiner of Accounts, on the 5th to 9th August 1895 of the accounts of the Bezwada Workshops.

I.—Preliminary.

1. *Previous inspection.*—The accounts of these Sub-Divisional workshops were last inspected in January 1893 by Mr. G. H. LeMaistre, Examiner, 4th class (temporary). The divisional accountant had, however, inspected them on 14th February, 26th March and 16th April 1895, and reported to the Executive Engineer.

2. *Executive charge.*—The charge of the shops has been held by Sub-Conductor J. S. Joyce, Supervisor, 1st grade. The shops are now included in the Kistna Northern division, the transfer from the Kistna Eastern division having been recently effected.

3. *Accounts charge.*—The accounts are compiled by a staff of clerks, under the orders of the Workshop Superintendent.

4. *Scope of inspection.*—The present inspection took place at the special request of the Executive Engineer, Captain W. Ellis, R.E., and particular attention was directed to the following points :—

(*a*) The sawing and timber accounts.
(*b*) The general accounts system and procedure.

II.—Ordinary Sub-Divisional Procedure.

A.—Cash—Treasury.

5. *Supply of funds.*—(*a*) The Workshop Superintendent holds an imprest of Rs. 100 from the head-quarters Sub-Divisional officer, Kistna Northern division, to meet urgent small payments. The rest of the payments are made by the cashier attached to the head-quarters Sub-Divisional officer on his pay order.

(*b*) The probable expenditure in the shops is intimated by letter to the head-quarters Sub-Divisional office in a special letter (*vide* item No. 2 of annexure A). The printed form of application for credit used by ordinary sub-divisions would be preferable.

6. *Imprest account.*—The payment and recoupment of the imprest account are recorded in the head-quarters Sub-Divisional cash book. All other accounts and returns are submitted direct to the Divisional office. There seems no reason why the imprest should not be held direct from the Divisional office, instead of the present indirect account procedure being continued. It would not impair the executive control of the Sub-Divisional officer.

B.—General.

7. *Estimates.*—(*a*) Estimates are not, as a rule, prepared for departmental works, unless specially asked for by the indenting officers. These latter occasionally send in the plans and specifications for certain jobs.

(*b*) Estimates are, as a rule, prepared for private jobs or works for other departments. The provisions of Public Works Department Code, volume II, chapter III, paragraph 95, VI and VII and note are complied with.

8. *Patents.*—There were stated to have been no infringements of patents in the shops.

C.—Contract.

9. *Piece-workers.*—(*a*) A quantity of the work in the shops is said to be done by piece-work.

(*b*) The names of piece-workers are entered in the nominal muster rolls and time sheets. The object of this is said to be to check the reasonableness of the piece-work rate.

D.—Suspense.

10. *Deposits.*—(*a*) The following is a list of outstandings on account of deposits for private work orders and the expenditure incurred on the jobs and remaining at debit of Workshop Manufacture—Suspense.

Job number.	Name of person and description of job.	Date of completion.	Amount of deposit.	Estimate.	Expenditure to date of completion (including indirect charges).	Subsequent expenditure (including indirect charges).
				Rs. A. P.	Rs. A. P.	Rs. A. P.
782	Mr. A. G. Malet, Executive Engineer, "repairing chest of drawers."	27th June 1895.	Running account.	7 0 0	7 12 3	..
830	Mr. A. G. Malet, Executive Engineer, "making a small kitchen camp-table without legs."	13th "	Do.	3 5 6	3 0 0	..
775	Mr. A. H. Morin, "wooden tub"	28th "	Do.	16 2 0	16 8 2	..
632	Major W. L. Baddeley, R.E., "straightening the steps of dog-cart."	9th May 1895.	Do.	3 0 0	1 6 9	1 7 6
715	Manager, A.E.L. Mission, Guntur, "sharpening press office knife."	20th "	1 9 0	1 9 0	..	1 9 0

(*b*) With reference to the above, all of which are shown in the register of workshop orders as completed and for which despatch warrants, Form No. 6, have on the same date been issued, it is noted that the expenditure is still held in suspense. The object of keeping the accounts of the jobs themselves open is not apparent.

(*c*) It is suggested as regards the first four items that the Railway rules permitting work to be done for employés of the department without previous deposit (*vide* Public Works Department Code, volume III, chapter VII, paragraph 8, and volume IV, chapter III, paragraph 91), may be held to apply.

(*d*) As regards job No. 715, it is observed that no charges against it had appeared to date of completion and despatch, but were shown subsequently in July 1895, and as regards job No. 652, a further charges appeared after its completion and issue of the despatch warrant. No revised despatch warrant had however issued.

E.—Accounts of Workshops Office.

11. *System of accounts.*—The system of accounts in force since April 1895 is, with the slight modifications permitted by G.O., No. 94 W., of 15th January 1895, that prescribed by Public Works Department Code, volume II, chapter I, paragraphs 142–174. A list of working forms in use other than the authorised ones is given in annexure A. The utility of these forms is dealt with later on in paragraph 32.

F.—Establishment.

12. *Incidence of establishment charges.*—The irregularity pointed out in paragraph 27 of the previous report on Kistna Eastern division of charging the ordinary work establishment to establishment proper has been corrected. In annexures B and C will be found statements showing, respectively, men charged to specific jobs who are perhaps more properly chargeable to establishment or general charges.

III.—Workshop Manufacture.

A.—Suspense—General.

13. *Workshop manufacture—Suspense.*—The workshop manufacture account is in the Kistna Northern division treated for the purpose of the "stock" accounts similarly to ordinary manufacturing operations under the stock sub-head "manufacture of stock." Outturn consequently is again shown as a receipt and issue under the sub-head "Miscellaneous." This involves exaggeration of totals in the stock account current.

The last edition of the Public Works form book provides in form No. 29 for Workshop Manufacture—Suspense being shown as a separate and distinct sub-head of stock. This procedure, simplifying and lessening account work, should be adopted in future.

14. *Distribution of outturn.*—A statement of the value of work outturned by the shops for the three years ending 1894–95 is given in annexure D. It will be observed on comparison with the figures for the Public Works Workshops at Madras that the outturn there is less than in these Sub-Divisional shops. The outturn divided principally between Provincial and Imperial Irrigation Works shows a very large preponderance in favour of Provincial Works, due probably to the quantity under "Stock" which is primarily treated under that head. Eliminating this, the situation is reversed.

15. *Labour.*—(*a*) Most of the labour employed is daily labour or piece-work. There are a few hands paid monthly.

(*b*) It was noted that the daily labourers receive their pay for holidays. It is open to question whether mechanics and artisans are entitled to this. The custom of the trade in the open market is, as a rule, not to pay except for days actually worked.

(*c*) Time sheets as well as muster rolls are kept. This is unnecessary. They are used by shop foremen to enter the names of works against each man and are then compared and checked with the muster rolls. The information can be entered in the muster roll. If flexibility is an object, separate muster rolls can be kept for each shop, and at the end of each month the totals of all shops could be collected to give the pay order upon.

(*d*) The necessity for entering each and every piece-worker (*vide* paragraph 9) in these accounts is not apparent. By this time sufficient experience and data should have been obtained to base accurate piece-work rates upon, except, perhaps, in exceptional cases.

16. *Stores.*—(*a*) Stores are obtained from the Sub-Divisional stores, which are separate and distinct from the shops, though for convenience in the same yard.

The system of indent is a good one. It can be improved though by insisting upon all indents being sent to the stores by 3-30 P.M., in order to enable the stores accounts and ledgers to be posted the same day. The only defect in the procedure arose from the doubt whether any really responsible officer saw all articles supplied by stores upon receipt.

(*b*) No record, numerical, is kept of the working tools in each shop. The Workshop Superintendent, however, stated that he insisted upon seeing all the old tools before giving the order for supply of new ones. This is only a check upon actual consumption, and not upon the rate or manner of consumption.

17. All outturn is not passed through the stores accounts.

18. The storekeeper, however, acts as despatching agent. There were defects in the mode of checking articles despatched and the acknowledgment in consignee's receipt.

19. *General charges.*—(*a*) In annexure C will be found a list of men charged to "General charges." Establishment would be more properly debited with the salary of item No. 7.

(*b*) No estimate on this account has been framed for 1895–96 as in previous years, nor does it appear to be necessary.

(*c*) In annexure B is found a list of men employed on works of a "General" nature, but whose wages are charged off specifically to work orders. Item 1 of this list, however, is more properly debitable to establishment.

20. *Steam.*—(*a*) The unit rate for steam, other than for the saw mill, was Rs. 2. according to the machine book. The units are determined by the Workshop Superintendent himself, apparently on no fixed basis. The same remarks apply on this subject as were made in my report on the Presidency Workshops. The charges for steam of this class was covered by the arbitrary charges to jobs.

(*b*) As regards the "steam" charges for the saw mill, a unit rate of Rupees 1-4-10 per 100 square feet of cut area was levied. This was similarly fixed and did not cover the cost of operations.

(*c*) The following statement shows the result of the "steam" transactions :—

Steam class.	Total operations.	Total outturn.	Loss.	Percentage of loss to operation.	How adjusted.
		Rs.	Rs.		
Stationary engine, 20 horse-power, for general shops.	3,535	3,534	1	..	General charges.
Saw mill engine, 12 horse-power	1,260	1,217	43	3·5	Do.

(*d*) The work orders for the above two engines are classed under "Stock." The outturn (or credits) is shown in the stock accounts as outturn from Workshop manufacture to the sub-head Miscellaneous, and the expenditure as issues from that sub-head to workshop manufacture jobs. This involves exaggeration of totals and is incorrect. The outturn should be treated as transfers from one work order to another, and thus would not appear as outturn of the shops. Public Works Department Code, volume III, chapter VII, paragraphs 55 to 62, and volume IV, chapter III, paragraphs 140 to 143, show very clearly the method of account.

(*e*) In annexure E will be found a list of certain transfers of steam charges ordered to be written back to the shop steam engine in June 1895. On the work orders thus credited, there had been no outlay since November and December 1894, when they were written off as completed in the register of work orders. The machine time book of 1894–95 was called for in order to see whether the amounts so transferred were originally borne by the work orders credited, and to examine the validity of the write-back by reference to the character of the jobs. It was not produced, having unfortunately been mislaid. The revision of charges appears to have occurred subsequent to the receipt of letters No. 1824 M., dated 30th March 1895, and No. 1808 M., dated 28th March 1895, from the Executive Engineer, Kistna Western division, asking for details of expenditure on the jobs concerned to enable him to prepare a revised estimate.

21. *Foundry account.*—Iron and brass "castings" so seldom occur that it is readily found possible to charge off the labour of moulding, casting, and also of steam direct to the work orders finally concerned.

22. *Sawing account.*—(*a*) The remarks in paragraph 20 (*d*) apply equally to the saw-pit account.

(*b*) The accounts of sawing showed the following peculiarities :—

(*a*) The value of the logs sawn is included in the valuation both for operation and outturn.

(*b*) A yearly rate for cost of sawing is fixed annually for each class of timber without reference to size.

(*c*) Although the difference between outlay and outturn supposedly represents the value of—

(i) good timber at pit ;
(ii) rubbish and saw-dust at pit ;
(iii) wastage (*i.e.*, difference unaccounted for) ;

still no record was kept of (ii) and (iii) till very recently when book differences for these were shown without the quantities being actually verified.

(*d*) The accounts kept are Nos. 16—18 in the list given in annexure A. These forms are defective in so far that they fail to show—

(i) the progress from each rough log to each size of scantling ;
(ii) the wastage at site compared with book quantity ;
(iii) the continuous record of wastage and its disposal.

(*e*) Annexure F shows the general results of the saw-pit transaction between the last two periods of stock-taking, *i.e.*, from 25th August 1893 to 25th September 1894.

It will be observed from this that the loss on this account amounted in quantity and value to 35 per cent. and 6·3 per cent. approximately on the actual outturn. The discrepancy between the quantity and value percentages arise to a certain extent from the outturn prices being fixed to meet losses by wastage, &c. Thirty-five per cent., however, appears to be a considerable percentage for wastage.

IV.—Stock.

A.—Stores.

23. *Timber account.*—All timber from the time of purchase until it is consumed remains in the custody of the Workshop Superintendent, but the transactions are passed through the storekeeper's accounts.

24. As to purchases or receipts of logs, the procedure is diversified. Sometimes the storekeeper posts his form No. 9 from paid bills which may be sometime after the actual receipt into stores, and sometimes on written intimation by the Workshop Superintendent. The receipts are based upon payments and not on actual receipts.

(*a*) As to issues, two records are kept by the Workshop Superintendent.
(i) Issues of logs to saw-pit (No. 16 in the list in annexure A).
(ii) Issues of sawn timber and scantlings from saw-pit to jobs (No. 17 in the list in annexure A).

(*b*) At end of the month, the total of (i) is furnished to the storekeeper by means of the indent form W 5, and the saw-pit work order is quoted. The storekeeper thereupon enters the total figures in his forms 9 and 11 asissue to Workshop Manufacture—Suspense.

(*c*) With reference to (ii) all the issues are first abstracted by jobs for the month in a rough book * and a formal indent sent to the storekeeper in W 5 showing each Job number, quantity and value against it. The storekeeper on the authority of this makes a double entry, *i.e.*, as outturn from workshop suspense and as issue to workshop suspense, only by totals.

* No. 18 in the list in annexure A.

(*d*) The preparation of indent in this case, and especially the filling up of three foils of it, is a waste. Only total quantity and value may be intimated to storekeeper by means of a booking slip, the abstract being retained as a more permanent record from which W 2 may be posted.

25. (*a*) The following irregularity is the subject of a correspondence between the Executive Engineer and Workshop Superintendent. The correspondence was first initiated by Kistna Eastern division on the 27th April 1894 and handed over to Kistna Northern division in February 1895, owing to the Workshop Superintendent not having answered three reminders to Eastern division No. 3483, dated 11th October 1894, on the subject.

The subject is still under correspondence.

On the 27th February and 13th March 1894, two bills for a total of 90 Nallamadee logs at Rs. 6–8–0 each or Rs. 585 signed by one K. Subbarayudu were submitted by the Workshop Superintendent to the Executive Engineer for payment and were paid by a cheque or cheques in March 1894.

		Rs.
Sixty	... ...	390
Thirty	... ...	195
		585

Subsequently in divisional storekeeper's form No. 11 an issue of 24 Bundari logs appeared against no previous balance, and on questioning the divisional storekeeper and in further correspondence, it has since been found that instead of 90 Nallamadee logs as shown in the bills only—

		Rs.
37	Nallamadee logs for	286
and 24	Bundari logs for	299
61	Total ...	585

were purchased by the Workshop Superintendent and that K. Subbarayudu in whose favour the bills for 90 logs were drawn is a carpenter in the Workshop.

The Workshop Superintendent explained that local market and merchants would not accept cheques and that therefore the bills were drawn in the name of the carpenter; but by the time the cheque was cashed, the merchants sold away the original logs and therefore he had to purchase 37 logs of Nallamadee and 24 of Bundari, equivalent in contents to the 90 logs originally proposed to be purchased.

There is no record of the contents of either of the 90 logs or of the 37 and 24 actually stated to be purchased, and in the sawing account book the contents of all of these logs are not given.

The purchase was not entered in the log book as is usual.

In Workshop Superintendent's letter No. 180, dated 10th June 1895, to Executive Engineer, Kistna Northern division, he stated that he purchased—

	Rs.	A.	P.
Thirty-seven Nallamadee logs for	279	8	0
Twenty-four Bundari logs	299	0	0
Total ...	578	8	0

Or for Rs. 6-8-0—less.

This appears to be a mistake on the part of the Workshop Superintendent, as the amount against 37 Nallamadee logs should be Rs. 286.

(*b*) Taking the accounts of the storekeeper who simply records the figures for *issues* on information given by the Workshop Superintendent (for receipts he takes figures from bills paid), the following discrepancies were noticed:—

In form No. 9 for March 1894, a receipt of 90 Nallamadee logs appears as purchased from K. Subbarayudu for Rs. 585.

In form No. 10, an issue to Workshops direct to jobs (not through saw-pit account) of—

	Rs.	A.	P.
36 logs of Nallamadee	279	8	0
1 old log of old balance Nallamadee	18	0	0
24 Bundari logs	299	0	0
61			

In form No. 12 (both in the office copy and fair copy) the original entries were as follows:—

—	Opening balance.	Receipts.	Total.	Issue.	Balance.
Nallamadee logs	1	90	91	37	54
Bundari logs	..	..	..	24	— 24

but the entries have subsequently been corrected, according to the storekeeper's statement, by clerk D. Suryanarayana at the instance of the Divisional office, Kistna Eastern division, date not known. The record (form 12) now stands as follows:—

—		Opening balance.	Receipts.	Total.	Issue.	Balance.
(1) Nallamadee logs		1	..	1	1	..
(2) Bundari logs		..	24	24	24	..
(3) Nallamadee logs	Number..	..	66	..	..	..
	C. ft. ..	51-3-0	or 532	583-3	525	58-3-0

The opening balance of cub. ft. 51-3-0, it is thought, belongs to item 1. Form No. 9 or 10 has not been altered accordingly. In form No. 11, 525 cubic feet have been added against the entry of issue of 36 logs Nallamadee. In the storekeeper's copy of indent the cubical contents have subsequently been entered. In the office copy in the workshop office, no cubical contents are entered. Only number of logs are shown as issued.

The entry of 66 logs under receipts against item 3 appears to be only a "cooking" entry to make up with 24 Bundari, the 90 logs originally shown under receipts.

(*c*) It is not understood how the cubical contents of 525 cubic feet and 532 cubic feet were arrived at when there are no measurements on record of the receipt or issue of the logs.

26. *Measurements of timber.*—In the log books (items Nos. 14 and 15 of annexure A) which constitute the measurement books for timber, the measurements are not recorded in the hand-writing of the Workshop Superintendent, nor do they appear to have been check-measured by him.

27. *Returned stores.*—In May 1895 the stores returned from shops to storekeeper were not brought upon his accounts in Public Works Department form No. 9 on the date of return shown in form W 6, but on the last day of the month.

28. *Classification of stores.*—In the divisional stores under the care of the storekeeper, no arrangement is observed in stacking, storing or classifying stores accordingly, as they are—

(*a*) New.
(*b*) Second hand.
(*c*) Surplus.
(*d*) Unserviceable.

B.—Tools and Plant.

29. *Surplus machinery, &c.*—In annexure G is given a list of surplus machinery, the value of which is estimated at about Rs. 1,200 by the Workshop Superintendent. This should be disposed of.

V.—Revenue.

A.—Direct.

30. *Waste.*—As regards the disposal of waste products, the following remarks were made:—

(*a*) Waste paper—Quantity small, thrown away.
(*b*) Saw-dust—No account kept. The issues to engine are, however, recorded and the value adjusted by credit to saw-pit account. The balance unaccounted for.
(*c*) Iron turnings thrown out by machines—These are thrown away.
(*d*) Timber wastage in carpenter's shop—Used in boiler; no account kept.
(*e*) Iron wastage in smith's shop—Sold by auction; credited to Revenue.

31. *Miscellaneous receipts.*—The miscellaneous receipts frequently realized by the Workshop Superintendent are recorded in a local book form (item No. 1 in annexure A). A cash book may be kept in P.W.D. form No. 4 (*vide* Public Works Department Code, Volume II, chapter 1, paragraph 66), and all cash drawn from head-quarters sub-division treated as "transfers of cash" under Public Works Department Code, Volume II, chapter 1, paragraphs 5 and 141.

VI.—Accounts and Procedure.

A.—General.

32. *Remarks on local forms and procedure.*—In addition to the standard workshop forms, the forms noted in annexure A are, as remarked in paragraph 11, maintained in the Bezwada workshops. The following observations are made regarding these local forms and the procedure in connection with them:—

Item 3—*Time book of artificers.*—The Government of India form W 1 is a nominal muster roll and time sheet combined. In practice the time-keeper records the employment of each artificer on jobs in a separate book which is a continuous record for the month and these entries are transcribed into W 1 at end of the day neatly into the columns provided for the purpose. The time-book may be abolished and the entries made direct into the nominal muster roll.—see also paragraph 15 (*c*).

Item 4—*Time book of machine work.*—In this book the number of units to be charged to each job benefitted by each machine is recorded. Please see remarks under "steam charges" (paragraph 20).

Item 5—*Abstract of labour and materials (rough note-book).*—This is an intermediate record for abstracting labour and materials by jobs for the day and is a necessity in this workshop where the number of items belonging to a job to be collected and added together for daily entry into form W 2, are so many that it is impossible to add by sight. The collection is at present made in a rough note-book, which may be authorized.

Item 6—*Register of transfer of labour and materials from one work to another.*—This is equivalent to Government of India form No. 17. As the Workshop Superintendent has not to submit orders for write-back to the Executive Engineer or any other officer and as all initial and compiled accounts of workshops are kept in his own office, a permanent record in a register form is preferable to form No. 17, the use of which, if adopted, would involve waste of the foil. As to the correctness of certain transfers under "orders for write-back," remarks will be found in paragraph 20 (*e*).

Item 7—*Bill form*—Used in the cases of work done for other departments, &c., for obtaining countersignature. This is necessary.

Item 8—*Details of expenditure.*—Used occasionally for collecting particulars of all debits to job appearing in the abstracts and schedules to investigate into excessive charges or complaints from indenting officers. The collection is not made by sub-heads, *i.e.*, iron, labour, &c., but simply chronologically.

Item 9—*Estimate book.*—This is a manuscript record of copies of estimates prepared in the Workshops (in manuscript). Government of India form No. 120 may be used and filed between expanding file boards.

Item 10—*Indents for tools and machinery.*—Government of India form No. 18 should be used.

Item 11—*Advice for miscellaneous articles and tools sent out of Workshops.*—At present the trefoil of form No. 18 is used for this purpose to the wastage of the other two foils. Form W 6 should be used for this purpose and all such advices filed separately.

Item 12—*Advice of artificers sent out of workshop.*—This is a last pay certificate of the artificer and furnishes also other information to the officer to whom his services have been lent. It is necessary.

Item 13—*Miscellaneous receipts for articles received into the shops for repairs, &c.*—Receipts are granted on slips of paper and a copy of them recorded in this manuscript book. More systematic record appears necessary.

Items 14 *and* 15—*Log books.*—These are the measurement books of logs of timber received into stock. Special forms are used, as the ordinary measurement book is not suitable. See further remarks under measurements.

Item 16—*Measurement book of sawing.*—Special form used instead of ordinary measurement book which is not suitable. It records the cut area of sawing, the basis of payments to piece-workers and also for charging machine charges at Rs. 1-4-10 per 100 square feet.

Item 17.—*Sawn wood issue book.*—This is a register of issues of sawn timber to jobs from saw-pit and an initial record of issues of timber.

Item 18—*Abstract of sawn wood*—Collects the issues of the month by jobs.

In supersession of the above forms 16, 17 and 18 for sawing account a form is appended in annexure H, which will probably meet all requirements and, while permitting any elaboration, is capable of being modified to any extent the practical requirements of the Executive Engineer may admit of.

Item 19—*Abstract of sawyers' accounts*—Contains copies of sawyers' bills who are piece-workers and giving further information as to the details of the quantity billed for. May be dispensed with and the details entered on piece-workers' bills.

Item 20—*Steamer way-book*—Necessary, being the basis for calculating the earnings.

Item 21—*Steamer ledgers.*—Records month by month the total charges and earnings separately for each steamer. This can be obtained from W 7, and the ledger may be dispensed with.

Item 22.—Copy of nominal muster roll and is unnecessary.

Items 23 *to* 26 *and* 31.—The titles are self-explanatory and call for no remarks.

Items 27 *to* 30.—Administrative records kept in connection with admission and training of artificer apprentices with reference to Government Orders on the subject.

33. *Proposed modifications in existing forms.*—The following suggestions are made of certain modifications to be carried out in the next print of forms W 1 to 8 :—

(*a*) *W* 8. *Suspense account current.*—

On the Debtor side.

For "To establishment—for indirect charges" *should be* "To Provincial Revenue —for indirect charges."

On the Creditor side.

Add after "By deposits, &c.," "By Miscellaneous advances — for works done for private parties, &c., in excess of the deposits received from them."

(*b*) *W* 5. *Indent for stores.*—A column for workshop order number should be provided in the *foil* (second one), as the abstracting by jobs is done on the back of it.

(*c*) *W* 2.—A column should be provided for stores returned from work order to stock, for comparison of the total of that column with the figure in the account current against "by stock—for materials returned to divisional stores."

34. *Writes-back.*—There are a number of writes-back from one work order to another without details or reasons being recorded. These are stated to be carried out under the personal direction of the Workshop Superintendent. Some items have been given in the notes against "steam" in paragraph 20. It was very difficult in these cases to find out whether the writes-back were made during the progress of works or after their actual completion as distinguished from the closing of their accounts, since no system of record like that of the shop foreman's work orders of larger shops exists. The Workshop warrant forms W 6 do not show whether the articles despatched are in full or part compliance with orders and indents, and the date of the last (if more than one is issued) warrant is invariably taken as the "date of completion," although it is as a rule made out some time after the job has been marked off by the Workshop Superintendent in form W 7 as completed.

35. *Work orders.*—(*a*) There is no attempt to avoid multiplicity of work orders by instituting the system of "permanent work orders." This can be introduced with advantage, several classes of work appearing to admit of the procedure, such as—

(i) Repairs of machinery.
(ii) Repairs of ballacuts.
(iii) Repairs of iron punts.
(iv) Repairs of screw-gearing shutters.

(*b*) As regards steamers and boats it may be remarked that the requirements of the Capital and Revenue accounts submitted for them demand detailed accounts of the expenditure to be maintained for each individual boat. It is open to question now whether, since Capital and Revenue accounts in such cases have for one of their principal objects the attainment of statistics regarding cost of maintenance and the correct rate for earnings, sufficient data have not now been accumulated to enable check in future to be exercised rather upon the total than upon the detailed expenditure.

B.—Special.

36. (*a*) Before going into the question of how to reduce clerical and account work in the shops to the minimum consistent with effectiveness of supervision, the general distinction between a Sub-Divisional and a General Workshop may be pointed out. This is, that whereas a General Workshop, as a rule, turns out work for classes of funds and for departments other than that to which it itself pertains, a Sub-Divisional shop, usually, exists only for the supply of a certain project and its component works or of a class of works. It therefore follows that though, in the first case, it may be necessary to obtain accurate and prompt (monthly) accounts of expenditure

debitable to the works or project concerned, and to ensure its equally prompt recovery (means by the accounts being retained of refuting any attempt at repudiation the charges on the grounds of excess, &c.) in the other, it is sufficient for all practical purposes if the total expenditure is debited in the accounts of the year in which incurred, strict accuracy in the monthly debits being unnecessary.

There is also the further consideration that the allocation of charges to specific works rests rather with the officers ordering work to be done for those works than with the workshop which carries them out. Again details of cost are often necessary at the inception of an undertaking to enable data to be attained on which to frame present and future estimates and proposals for expenditure. Sufficient data having been accumulated for the ordinary class of transactions, it would generally be held unnecessary to continue a system of statistics no longer required for purposes of either effective control or for guidance. Special cases would then have to be dealt with in initial detail and that only till the cases no longer remained special, *i.e.*, till sufficient data had been obtained respecting them to fulfil the requirements for which they were recorded.

(*b*) With these preliminary remarks it may be pointed out that the Bezwada Workshops have been in existence for many years, that their transactions have probably by this time become stereotyped, consisting as they do of furnishing supplies for Public Works Department buildings, Irrigation Works and the irrigation flotilla; that data as to the cost of these transactions and supplies must have accumulated and form, together with the experience of the Workshop Superintendent, a fairly reliable basis for framing estimates and checking expenditure upon; and that the operations concerned are practically all departmental and against two classes of works only.

(*c*) Upon these facts, it is open to doubt whether there is any use keeping for each work order that comes into the shops detailed accounts under labour and stores. It would be sufficient for all practical purposes, considering the class of works dealt with, were—

(i) Estimates to be framed for all orders from divisions;

(ii) divisions charged in the first instance for work done with the cost so estimated;

(iii) workshop accounts credited monthly with instalments or the full value, as the case may demand, of the estimated cost of completed jobs recovered under (ii);

(iv) the balance of workshop manufacture suspense at close of year (*i.e.*, difference between actual expenditure and the estimated cost of completed works, *plus* cost estimated to have been incurred upon incomplete orders) to be distributed among divisions in lump proportioned to the amount of work executed for them in the shops;

(v) divisions to pay and distribute this difference advised at the close of the year to works for which work has been done in the shops in proportion to the amount of work done for each work in the division.

(*d*) The workshops cannot suffer by this procedure. A check can be kept over the accuracy of the estimating and upon the charges balanced at the close of each year by requiring the annual balance to be reported to and sanctioned by the Superintending Engineer and, if necessary, the Local Government. The real control in such shops is efficient supervision to ensure skilled and economical workmanship. Detailed accounts of cost are of little use at present as they rarely seem to serve any useful purpose except to enable adjustments of charges to be made and these on other than account grounds,—a procedure which could equally well be maintained under the system proposed. Its adoption would leave free a number of men who are employed at present in compiling accounts futilely and permit them to be employed on the more important work of supervision. The only accounts necessary to be maintained would be those required to arrive at the total cost of labour and stores and their payment, a register of estimates and recoveries on completed jobs and the balances debited at close of year, another for the number and date, beginning and completion of work orders (supposing that even these latter could not be abolished, the estimate taking their place), and again the accounts necessary for record and check of wastage on such things as sawing and foundry operations.

MADRAS,
15th September 1895.

(Signed) C. C. SWETENHAM,
Inspecting Officer.

ANNEXURE A (see paragraphs 5, 31, and 32).

LIST of forms in use in Bezwada Workshops other than Code forms.

No.	Name of forms.
1.	Remittance book of miscellaneous receipts.
2.	Application for funds.
3.	Time book of artificers.
4.	Do. of machine work.
5.	Abstract of labour and of issue of stock by jobs for entry into form W 2 in one figure against each job for the day, intermediate to W 1 and 2 and W 5 and W 5. abstract.
6.	Transfers of labour and materials from one work to another.
7.	Bills on account of Government works and private works, &c.
8.	Details of expenditure on a job.
9.	Estimate book.
10.	Indents for tools and machinery.
11.	Advice of miscellaneous articles and tools sent out of workshops.
12.	Advice of artificers sent out of workshop.
13.	Miscellaneous receipts of articles received into shops for repairs, &c.
14.	Log book of square logs.
15.	Do. of round logs.
16.	Measurement book of sawyers. / Do. for machine sawing.
17.	Sawn wood issue book.
18.	Abstract of sawn wood.
19.	Do. of sawyers' account.
20.	Steamer way book.
21.	Do. ledger.
22.	Attendance register of apprentices.
23.	Register of leave granted to establishment.
24.	Do. of letters received.
25.	Do. of letters issued.
26.	List of unanswered references.
27.	Leave book of artificers.
28.	Admission book of artificers.
29.	Promotion book of ,,
30.	Fine book of artificers.
31.	List of articles sold in public auction at Bezwada workshops.

ANNEXURE B (see paragraph 19).

LIST of men charged to work orders employed on desk work.

No.	Names.	Rank.	Daily rate of pay.	Work order to which charged.	Actual duties performed.
			Rs. A. P.		
1	Ammesetty Reddemmah.	Filer ..	0 7 6	General tools	Assisting draftsman.
2	G. Ammanayya ..	Lascar ..	0 6 0	Saw-pit account ..	Writing up time-book of carpenters' shop; making indents of carpenters' shop.
3	S. Veeraswamy ..	Do. ..	0 5 0	General tools	Writing up time-book of filers' shop; making indents of filers' shop, &c.

ANNEXURE C (see paragraph 19).

LIST of men whose pay is charged to general charges.

No.	Names.	Rank.	Rate per day.	Duties performed.
			Rs. A. P.	
1	Marthy Venkatappayya ..	Lascar	0 4 3	Water Brahmin.
2	Pydala Basavajoo	Do.	0 4 0	Sweeping office and lighting lanterns.
3	Malem Pada Appadoo ..	Do.	0 4 0	Cleaning fitter's shop.
4	Judupedy Narigadoo ..	Cooly	0 3 9	Cleaning carpenter's and blacksmith's shops.
5	Harypanthulu Ramarow ..	Do.	0 3 9	
6	Syde Meer	Do.	0 2 6	
7	T. Guruswamy Mudaly ..	Gumasta ..	0 9 0	Assistant to the draftsman.

ANNEXURE D (see paragraph 14).

STATEMENT of work done by Bezwada Workshops.

—	Work done for Public Works Department.					Work done for other departments.	Work done for private parties.	Total.
	Buildings and Roads.		Irrigation.					
	Works.	Stock.	Provincial.	Kistna Delta system.	Total (cols. 2 to 5).			
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1892–93	17,411	36,503	10,437	44,966	1,09,317	818	1,427	1,11,562
1893–94	47,914	68,437	904	64,519	1,81,774	813	3,220	1,85,807
1894–95	34,290	61,724	1,014	54,715	1,51,743	336	1,873	1,53,952

ANNEXURE E (*vide* paragraph 20 E).

STATEMENT showing the transfer of materials, &c., from one work to another in progress in the Government Workshops at Bezwada.

Transfers during June 1895.

Month and date.	Item number.	Credits.							Debits.				Remarks.	
		Particulars of each transaction.						Number of work.	Name of work.	Amount.			Date of last warrant.	Date of completion.
		Materials, &c.	Quantity.	Rate.	Per	Amount.						Establishment.	Expenditure to date of completion.	
				Rs.		Rs. A. P.				Rs. A. P.			Rs. A. P.	
22nd June 1895.	..	Value of steam power.	6½ days.	2	Day.	13 0 0	247 561	389	Stationary engine 20 horse-power, at work.	13 0 0		Nil.	25 9 8	26th Dec. 1894.
	..	Do.	6½ days.	2	,,	10 8 0	247 A 564	389	Do.	10 8 0			33 2 6	
	..	Do.	9½ days	2	,,	18 8 0	250 575	389	Do.	18 8 0			62 7 11	
	..	Do.	6½ days.	2	,,	10 8 0	249 568	389	Do.	10 8 0			55 11 0	
	..	Do.	12 days.	2	,,	24 0 0	251 715	39	Do.	24 0 0			77 15 3	22nd Nov. 1894.
	..	Do.	18 days.	2	,,	36 0 0	251 A 712	389	Do.	36 0 0			146 2 3	
	..	Do.	1½ days.	2	,,	3 0 0	248 567	251 B	Improvements to Podalapalli sluice and Ramannaso channel sluices.	3 0 0			19 15 0	25th Dec. 1894.
	..	Do.	3½ days.	2	,,	6 8 0	248 567	251 C	Constructing head sluice to Allera channel 47 miles 336 feet of Commanur canal.	6 8 0			..	....

ANNEXURE F—(*vide* paragraph 22).

Saw-pit account for the stock-taking year, 25th August 1893 to 25th September 1894.

	Quantity.	Value.
	R. FT.	RS.
(i) Balance on 25th August 1893	11,901	4,702
(ii) Issues of rough timber to saw-pit account during the stock-taking year	31,108	57,799
(iii) Add sawing and other charges debited to saw-pit account	...	10,985
(iv) Total ...	43,009	73,486
(v) Outturn from saw-pit account being total of issues to jobs	18,746	55,589
(vi) Balance ...	24,263	17,897
(vii) Balance as per stock-taking of September 1894 (good wood)	7,429	13,531
(viii) Difference ...	16,834	4,366
Deduct.		
(ix) Rubbish in stock at stock-taking (excluding saw-dust which is not taken into account)	3,142	233
(x) Sold in auction during the year	7,100	538
(xi) Proceeds of saw-dust charged to works	...	89
(xii) Total ...	10,242	860
(xiii) Net loss ...	6,592*	3,506
(xiv) Percentage of loss to operation (iv)	15%	4·7%
(xv) Percentage of loss to outturn (v)	35%	6·3%

* It is not known how much of these represents saw-dust actually in stock.

ANNEXURE G (see paragraph 29).

List of surplus old machines in Bezwada Workshops.

Description of machines.	Number.	Number of years at work.	Number of years since last worked.	Original value.	Present approximate value.
					Rs.
Stationary engine, 4 horse-power, with Catnish boiler	1	Over 25 years.	3 years.	Not known.	400
Lathe machine 13" centre and 14 feet bed ..	1	20 years.	1 year.	Do.	300
Planing machine	1	25 „	3 years.	Do.	200
Punching do.	1	25 „	3 „	Do.	200
Drilling do.	1	25 „	3 „	Do.	100

Note.—Workshop Superintendent states that the boiler is irrepairable and that the machines in all would cost more than double their present assumed value for repairing.

P.W. Enl 8020/95

ANNEXURE D (see paragraph 14).

STATEMENT of work done by Bezwada Workshops.

—	Work done for Public Works Department.					Work done for other departments.	Work done for private parties.	Total.
	Buildings and Roads.		Irrigation.					
	Works.	Stock.	Provincial.	Kistna Delta system.	Total (cols. 2 to 5).			
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1892-93	17,411	36,503	10,437	44,966	1,09,317	818	1,427	1,11,562
1893-94	47,914	68,437	904	64,519	1,81,774	813	3,220	1,85,807
1894-95	34,290	61,724	1,014	54,715	1,51,743	336	1,873	1,53,952

P.W. Enl 8020/95

Item 21—*Steamer ledgers.*—Records month by month the total charges and earnings separately for each steamer. This can be obtained from W 7, and the ledger may be dispensed with.

Item 22.—Copy of nominal muster roll and is unnecessary.

Items 23 *to* 26 *and* 31.—The titles are self-explanatory and call for no remarks.

Items 27 *to* 30.—Administrative records kept in connection with admission and training of artificer apprentices with reference to Government Orders on the subject.

33. *Proposed modifications in existing forms.*—The following suggestions are made of certain modifications to be carried out in the next print of forms W 1 to 8 :—

(*a*) *W* 8. *Suspense account current.*—

On the Debtor side.

For "To establishment—for indirect charges" *should be* "To Provincial Revenue —for indirect charges."

On the Creditor side.

Add after "By deposits, &c.," "By Miscellaneous advances — for works done for private parties, &c., in excess of the deposits received from them."

(*b*) *W* 5. *Indent for stores.*—A column for workshop order number should be provided in the *foil* (second one), as the abstracting by jobs is done on the back of it.

(*c*) *W* 2.—A column should be provided for stores returned from work order to stock, for comparison of the total of that column with the figure in the account current against "by stock—for materials returned to divisional stores."

34. *Writes-back.*—There are a number of writes-back from one work order to another without details or reasons being recorded. These are stated to be carried out under the personal direction of the Workshop Superintendent. Some items have been given in the notes against "steam" in paragraph 20. It was very difficult in these cases to find out whether the writes-back were made during the progress of works or after their actual completion as distinguished from the closing of their accounts, since no system of record like that of the shop foreman's work orders of larger shops exists. The Workshop warrant forms W 6 do not show whether the articles despatched are in full or part compliance with orders and indents, and the date of the last (if more than one is issued) warrant is invariably taken as the "date of completion," although it is as a rule made out some time after the job has been marked off by the Workshop Superintendent in form W 7 as completed.

35. *Work orders.*—(*a*) There is no attempt to avoid multiplicity of work orders by instituting the system of "permanent work orders." This can be introduced with advantage, several classes of work appearing to admit of the procedure, such as—

(i) Repairs of machinery.
(ii) Repairs of ballacuts.
(iii) Repairs of iron punts.
(iv) Repairs of screw-gearing shutters.

(*b*) As regards steamers and boats it may be remarked that the requirements of the Capital and Revenue accounts submitted for them demand detailed accounts of the expenditure to be maintained for each individual boat. It is open to question now whether, since Capital and Revenue accounts in such cases have for one of their principal objects the attainment of statistics regarding cost of maintenance and the correct rate for earnings, sufficient data have not now been accumulated to enable check in future to be exercised rather upon the total than upon the detailed expenditure.

B.—Special.

36. (*a*) Before going into the question of how to reduce clerical and account work in the shops to the minimum consistent with effectiveness of supervision, the general distinction between a Sub-Divisional and a General Workshop may be pointed out. This is, that whereas a General Workshop, as a rule, turns out work for classes of funds and for departments other than that to which it itself pertains, a Sub-Divisional shop, usually, exists only for the supply of a certain project and its component works or of a class of works. It therefore follows that though, in the first case, it may be necessary to obtain accurate and prompt (monthly) accounts of expenditure debitable to the works or project concerned, and to ensure its equally prompt recovery

(means by the accounts being retained of refuting any attempt at repudiation the charges on the grounds of excess, &c.) in the other, it is sufficient for all practical purposes if the total expenditure is debited in the accounts of the year in which incurred, strict accuracy in the monthly debits being unnecessary.

There is also the further consideration that the allocation of charges to specific works rests rather with the officers ordering work to be done for those works than with the workshop which carries them out. Again details of cost are often necessary at the inception of an undertaking to enable data to be attained on which to frame present and future estimates and proposals for expenditure. Sufficient data having been accumulated for the ordinary class of transactions, it would generally be held unnecessary to continue a system of statistics no longer required for purposes of either effective control or for guidance. Special cases would then have to be dealt with in initial detail and that only till the cases no longer remained special, *i.e.*, till sufficient data had been obtained respecting them to fulfil the requirements for which they were recorded.

(*b*) With these preliminary remarks it may be pointed out that the Bezwada Workshops have been in existence for many years, that their transactions have probably by this time become stereotyped, consisting as they do of furnishing supplies for Public Works Department buildings, Irrigation Works and the irrigation flotilla; that data as to the cost of these transactions and supplies must have accumulated and form, together with the experience of the Workshop Superintendent, a fairly reliable basis for framing estimates and checking expenditure upon; and that the operations concerned are practically all departmental and against two classes of works only.

(*c*) Upon these facts, it is open to doubt whether there is any use keeping for each work order that comes into the shops detailed accounts under labour and stores. It would be sufficient for all practical purposes, considering the class of works dealt with, were—

(i) Estimates to be framed for all orders from divisions;

(ii) divisions charged in the first instance for work done with the cost so estimated;

(iii) workshop accounts credited monthly with instalments or the full value, as the case may demand, of the estimated cost of completed jobs recovered under (ii);

(iv) the balance of workshop manufacture suspense at close of year (*i.e.*, difference between actual expenditure and the estimated cost of completed works, *plus* cost estimated to have been incurred upon incomplete orders) to be distributed among divisions in lump proportioned to the amount of work executed for them in the shops;

(v) divisions to pay and distribute this difference advised at the close of the year to works for which work has been done in the shops in proportion to the amount of work done for each work in the division.

(*d*) The workshops cannot suffer by this procedure. A check can be kept over the accuracy of the estimating and upon the charges balanced at the close of each year by requiring the annual balance to be reported to and sanctioned by the Superintending Engineer and, if necessary, the Local Government. The real control in such shops is efficient supervision to ensure skilled and economical workmanship. Detailed accounts of cost are of little use at present as they rarely seem to serve any useful purpose except to enable adjustments of charges to be made and these on other than account grounds,—a procedure which could equally well be maintained under the system proposed. Its adoption would leave free a number of men who are employed at present in compiling accounts futilely and permit them to be employed on the more important work of supervision. The only accounts necessary to be maintained would be those required to arrive at the total cost of labour and stores and their payment, a register of estimates and recoveries on completed jobs and the balances debited at close of year, another for the number and date, beginning and completion of work orders (supposing that even these latter could not be abolished, the estimate taking their place), and again the accounts necessary for record and check of wastage on such things as sawing and foundry operations.

MADRAS,
15th September 1895.

(Signed) C. C. SWETENHAM,
Inspecting Officer.

ANNEXURE A (see paragraphs 5, 31, and 32).

LIST of forms in use in Bezwada Workshops other than Code forms.

No.	Name of forms.
1.	Remittance book of miscellaneous receipts.
2.	Application for funds.
3.	Time book of artificers.
4.	Do. of machine work.
5.	Abstract of labour and of issue of stock by jobs for entry into form W 2 in one figure against each job for the day, intermediate to W 1 and 2 and W 5 and W 5. abstract.
6.	Transfers of labour and materials from one work to another.
7.	Bills on account of Government works and private works, &c.
8	Details of expenditure on a job.
9.	Estimate book.
10.	Indents for tools and machinery.
11.	Advice of miscellaneous articles and tools sent out of workshops.
12.	Advice of artificers sent out of workshop.
13.	Miscellaneous receipts of articles received into shops for repairs, &c.
14.	Log book of square logs.
15.	Do. of round logs.
16.	Measurement book of sawyers. / Do. for machine sawing.
17.	Sawn wood issue book.
18.	Abstract of sawn wood.
19.	Do. of sawyers' account.
20.	Steamer way book.
21.	Do. ledger.
22.	Attendance register of appreutices.
23.	Register of leave granted to establishment.
24.	Do. of letters received.
25.	Do. of letters issued.
26.	List of unanswered references.
27.	Leave book of artificers.
28.	Admission book of artificers.
29.	Promotion book of ,,
30.	Fine book of artificers.
31.	List of articles sold in public auction at Bezwada workshops.

ANNEXURE B (see paragraph 19).

LIST of men charged to work orders employed on desk work.

No.	Names.	Rank.	Daily rate of pay.	Work order to which charged.	Actual duties performed.
			RS. A. P.		
1	Ammesetty Reddemmah.	Filer ..	0 7 6	General tools	Assisting draftsman.
2	G. Ammanayya ..	Lascar ..	0 6 0	Saw-pit account ..	Writing up time-book of carpenters' shop; making indents of carpenters' shop.
3	S. Veeraswamy ..	Do. ..	0 5 0	General tools	Writing up time-book of filers' shop; making indents of filers' shop, &c.

ANNEXURE C (see paragraph 19).

LIST of men whose pay is charged to general charges.

No.	Names.	Rank.	Rate per day.	Duties performed.
			RS. A. P.	
1	Marthy Venkatappayya ..	Lascar	0 4 3	Water Brahmin.
2	Pydala Basavajee	Do.	0 4 0	Sweeping office and lighting lanterns.
3	Malem Pada Appadoo ..	Do.	0 4 0	Cleaning fitter's shop.
4	Jadapelly Narigadoo ..	Cooly	0 3 9	Cleaning carpenter's and blacksmith's shops.
5	Harypanthulu Ramarow ..	Do.	0 3 9	
6	Syde Meer	Do.	0 2 6	Assistant to the draftsman.
7	T. Guruswamy Mudaly ..	Gumasta ..	0 9 0	

ANNEXURE D (see paragraph 14).

STATEMENT of work done by Bezwada Workshops.

—	Work done for Public Works Department.					Work done for other departments.	Work done for private parties.	Total.
	Buildings and Roads.		Irrigation.					
	Works.	Stock.	Provincial.	Kistna Delta system.	Total (cols. 2 to 5).			
1	2	3	4	5	6	7	8	9
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
1892–93	17,411	36,503	10,437	44,966	1,09,317	818	1,427	1,11,562
1893–94	47,914	68,437	904	64,519	1,81,774	813	3,220	1,85,807
1894–95	34,290	61,724	1,014	54,715	1,51,743	336	1,873	1,53,952

Item 4—*Time book of machine work.*—In this book the number of units to be charged to each job benefitted by each machine is recorded. Please see remarks under "steam charges" (paragraph 20).

Item 5—*Abstract of labour and materials (rough note-book).*—This is an intermediate record for abstracting labour and materials by jobs for the day and is a necessity in this workshop where the number of items belonging to a job to be collected and added together for daily entry into form W 2, are so many that it is impossible to add by sight. The collection is at present made in a rough note-book, which may be authorized.

Item 6—*Register of transfer of labour and materials from one work to another.*—This is equivalent to Government of India form No. 17. As the Workshop Superintendent has not to submit orders for write-back to the Executive Engineer or any other officer and as all initial and compiled accounts of workshops are kept in his own office, a permanent record in a register form is preferable to form No. 17, the use of which, if adopted, would involve waste of the foil. As to the correctness of certain transfers under "orders for write-back," remarks will be found in paragraph 20 (*e*).

Item 7—*Bill form*—Used in the cases of work done for other departments, &c., for obtaining countersignature. This is necessary.

Item 8—*Details of expenditure.*—Used occasionally for collecting particulars of all debits to job appearing in the abstracts and schedules to investigate into excessive charges or complaints from indenting officers. The collection is not made by sub-heads, *i.e.*, iron, labour, &c., but simply chronologically.

Item 9—*Estimate book.*—This is a manuscript record of copies of estimates prepared in the Workshops (in manuscript). Government of India form No. 120 may be used and filed between expanding file boards.

Item 10—*Indents for tools and machinery.*—Government of India form No. 18 should be used.

Item 11—*Advice for miscellaneous articles and tools sent out of Workshops.*—At present the trefoil of form No. 18 is used for this purpose to the wastage of the other two foils. Form W 6 should be used for this purpose and all such advices filed separately.

Item 12—*Advice of artificers sent out of workshop.*—This is a last pay certificate of the artificer and furnishes also other information to the officer to whom his services have been lent. It is necessary.

Item 13—*Miscellaneous receipts for articles received into the shops for repairs, &c.*—Receipts are granted on slips of paper and a copy of them recorded in this manuscript book. More systematic record appears necessary.

Items 14 *and* 15—*Log books.*—These are the measurement books of logs of timber received into stock. Special forms are used, as the ordinary measurement book is not suitable. See further remarks under measurements.

Item 16—*Measurement book of sawing.*—Special form used instead of ordinary measurement book which is not suitable. It records the cut area of sawing, the basis of payments to piece-workers and also for charging machine charges at Rs. 1-4-10 per 100 square feet.

Item 17.—*Sawn wood issue book.*—This is a register of issues of sawn timber to jobs from saw-pit and an initial record of issues of timber.

Item 18—*Abstract of sawn wood*—Collects the issues of the month by jobs.

In supersession of the above forms 16, 17 and 18 for sawing account a form is appended in annexure H, which will probably meet all requirements and, while permitting any elaboration, is capable of being modified to any extent the practical requirements of the Executive Engineer may admit of.

Item 19—*Abstract of sawyers' accounts*—Contains copies of sawyers' bills who are piece-workers and giving further information as to the details of the quantity billed for. May be dispensed with and the details entered on piece-workers' bills.

Item 20—*Steamer way-book*—Necessary, being the basis for calculating the earnings.

ANNEXURE D (see paragraph 14).

STATEMENT of work done by Bezwada Workshops.

—	Work done for Public Works Department.					Work done for other departments.	Work done for private parties.	Total.
	Buildings and Roads.		Irrigation.					
	Works.	Stock.	Provincial.	Kistna Delta system.	Total (cols. 2 to 5).			
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1892-93	17,411	36,503	10,437	44,966	1,09,317	818	1,427	1,11,562
1893-94	47,914	68,437	904	64,519	1,81,774	813	3,220	1,85,807
1894-95	34,290	61,724	1,014	54,715	1,51,743	336	1,873	1,53,952

(*e*) Annexure F shows the general results of the saw-pit transaction between the last two periods of stock-taking, *i.e.*, from 25th August 1893 to 25th September 1894.

It will be observed from this that the loss on this account amounted in quantity and value to 35 per cent. and 6·3 per cent. approximately on the actual outturn. The discrepancy between the quantity and value percentages arise to a certain extent from the outturn prices being fixed to meet losses by wastage, &c. Thirty-five per cent., however, appears to be a considerable percentage for wastage.

IV.—STOCK.

A.—Stores.

23. *Timber account.*—All timber from the time of purchase until it is consumed remains in the custody of the Workshop Superintendent, but the transactions are passed through the storekeeper's accounts.

24. As to purchases or receipts of logs, the procedure is diversified. Sometimes the storekeeper posts his form No. 9 from paid bills which may be sometime after the actual receipt into stores, and sometimes on written intimation by the Workshop Superintendent. The receipts are based upon payments and not on actual receipts.

(*a*) As to issues, two records are kept by the Workshop Superintendent.

(i) Issues of logs to saw-pit (No. 16 in the list in annexure A).

(ii) Issues of sawn timber and scantlings from saw-pit to jobs (No. 17 in the list in annexure A).

(*b*) At end of the month, the total of (i) is furnished to the storekeeper by means of the indent form W 5, and the saw-pit work order is quoted. The storekeeper thereupon enters the total figures in his forms 9 and 11 asissue to Workshop Manufacture—Suspense.

(*c*) With reference to (ii) all the issues are first abstracted by jobs for the month in a rough book * and a formal indent sent to the storekeeper in W 5 showing each job number, quantity and value against it. The storekeeper on the authority of this makes a double entry, *i.e.*, as outturn from workshop suspense and as issue to workshop suspense, only by totals.

* No. 18 in the list in annexure A.

(*d*) The preparation of indent in this case, and especially the filling up of three foils of it, is a waste. Only total quantity and value may be intimated to storekeeper by means of a booking slip, the abstract being retained as a more permanent record from which W 2 may be posted.

25. (*a*) The following irregularity is the subject of a correspondence between the Executive Engineer and Workshop Superintendent. The correspondence was first initiated by Kistna Eastern division on the 27th April 1894 and handed over to Kistna Northern division in February 1895, owing to the Workshop Superintendent not having answered three reminders to Eastern division No. 3483, dated 11th October 1894, on the subject.

The subject is still under correspondence.

On the 27th February and 13th March 1894, two bills for a total of 90 Nallamadee logs at Rs. 6–8–0 each or Rs. 585 signed by one K. Subbarayudu were submitted by the Workshop Superintendent to the Executive Engineer for payment and were paid by a cheque or cheques in March 1894.

	Rs.
Sixty	390
Thirty	195
	585

Subsequently in divisional storekeeper's form No. 11 an issue of 24 Bundari logs appeared against no previous balance, and on questioning the divisional storekeeper and in further correspondence, it has since been found that instead of 90 Nallamadee logs as shown in the bills only—

		Rs.
37	Nallamadee logs for	286
and 24	Bundari logs for	299
61	Total ...	585

were purchased by the Workshop Superintendent and that K. Subbarayudu in whose favour the bills for 90 logs were drawn is a carpenter in the Workshop.

The Workshop Superintendent explained that local market and merchants would not accept cheques and that therefore the bills were drawn in the name of the carpenter; but by the time the cheque was cashed, the merchants sold away the original logs and therefore he had to purchase 37 logs of Nallamadee and 24 of Bundari, equivalent in contents to the 90 logs originally proposed to be purchased.

There is no record of the contents of either of the 90 logs or of the 37 and 24 actually stated to be purchased, and in the sawing account book the contents of all of these logs are not given.

The purchase was not entered in the log book as is usual.

In Workshop Superintendent's letter No. 180, dated 10th June 1895, to Executive Engineer, Kistna Northern division, he stated that he purchased—

	RS.	A.	P.
Thirty-seven Nallamadee logs for	279	8	0
Twenty-four Bundari logs	299	0	0
Total ...	578	8	0

Or for Rs. 6-8-0—less.

This appears to be a mistake on the part of the Workshop Superintendent, as the amount against 37 Nallamadee logs should be Rs. 286.

(*b*) Taking the accounts of the storekeeper who simply records the figures for *issues* on information given by the Workshop Superintendent (for receipts he takes figures from bills paid), the following discrepancies were noticed:—

In form No. 9 for March 1894, a receipt of 90 Nallamadee logs appears as purchased from K. Subbarayudu for Rs. 585.

In form No. 10, an issue to Workshops direct to jobs (not through saw-pit account) of—

	RS.	A.	P.
36 logs of Nallamadee	279	8	0
1 old log of old balance Nallamadee	18	0	0
24 Bundari logs	299	0	0
61			

In form No. 12 (both in the office copy and fair copy) the original entries were as follows:—

——	Opening balance.	Receipts.	Total.	Issue.	Balance.
Nallamadee logs	1	90	91	37	54
Bundari logs	..	..	..	24	— 24

but the entries have subsequently been corrected, according to the storekeeper's statement, by clerk D. Suryanarayana at the instance of the Divisional office, Kistna Eastern division, date not known. The record (form 12) now stands as follows:—

——	Opening balance.	Receipts.	Total.	Issue.	Balance.
(1) Nallamadee logs	1	..	1	1	..
(2) Bundari logs	..	24	24	24	..
(3) Nallamadee logs { Number..	..	66	..	..	..
(3) Nallamadee logs { C. ft. ..	51-3-0	or 532	583-3	525	58-3-0

The opening balance of cub. ft. 51-3-0, it is thought, belongs to item 1. Form No. 9 or 10 has not been altered accordingly. In form No. 11, 525 cubic feet have been added against the entry of issue of 36 logs Nallamadee. In the storekeeper's copy of indent the cubical contents have subsequently been entered. In the office copy in the workshop office, no cubical contents are entered. Only number of logs are shown as issued.

The entry of 66 logs under receipts against item 3 appears to be only a "cooking" entry to make up with 24 Bundari, the 90 logs originally shown under receipts.

(*c*) It is not understood how the cubical contents of 525 cubic feet and 532 cubic feet were arrived at when there are no measurements on record of the receipt or issue of the logs.

26. *Measurements of timber.*—In the log books (items Nos. 14 and 15 of annexure A) which constitute the measurement books for timber, the measurements are not recorded in the hand-writing of the Workshop Superintendent, nor do they appear to have been check-measured by him.

27. *Returned stores.*—In May 1895 the stores returned from shops to storekeeper were not brought upon his accounts in Public Works Department form No. 9 on the date of return shown in form W 6, but on the last day of the month.

28. *Classification of stores.*—In the divisional stores under the care of the storekeeper, no arrangement is observed in stacking, storing or classifying stores accordingly, as they are—

(*a*) New.
(*b*) Second hand.
(*c*) Surplus.
(*d*) Unserviceable.

B.—Tools and Plant.

29. *Surplus machinery, &c.*—In annexure G is given a list of surplus machinery, the value of which is estimated at about Rs. 1,200 by the Workshop Superintendent. This should be disposed of.

V.—REVENUE.

A.—Direct.

30. *Waste.*—As regards the disposal of waste products, the following remarks were made:—

(*a*) Waste paper—Quantity small, thrown away.
(*b*) Saw-dust—No account kept. The issues to engine are, however, recorded and the value adjusted by credit to saw-pit account. The balance unaccounted for.
(*c*) Iron turnings thrown out by machines—These are thrown away.
(*d*) Timber wastage in carpenter's shop—Used in boiler; no account kept.
(*e*) Iron wastage in smith's shop—Sold by auction; credited to Revenue.

31. *Miscellaneous receipts.*—The miscellaneous receipts frequently realized by the Workshop Superintendent are recorded in a local book form (item No. 1 in annexure A). A cash book may be kept in P.W.D. form No. 4 (*vide* Public Works Department Code, Volume II, chapter 1, paragraph 66), and all cash drawn from head-quarters sub-division treated as "transfers of cash" under Public Works Department Code, Volume II, chapter 1, paragraphs 5 and 141.

VI.—ACCOUNTS AND PROCEDURE.

A.—General.

32. *Remarks on local forms and procedure.*—In addition to the standard workshop forms, the forms noted in annexure A are, as remarked in paragraph 11, maintained in the Bezwada workshops. The following observations are made regarding these local forms and the procedure in connection with them:—

Item 3—*Time book of artificers.*—The Government of India form W 1 is a nominal muster roll and time sheet combined. In practice the time-keeper records the employment of each artificer on jobs in a separate book which is a continuous record for the month and these entries are transcribed into W 1 at end of the day neatly into the columns provided for the purpose. The time-book may be abolished and the entries made direct into the nominal muster roll.—see also paragraph 15 (*c*).

Item 4—*Time book of machine work.*—In this book the number of units to be charged to each job benefitted by each machine is recorded. Please see remarks under "steam charges" (paragraph 20).

Item 5—*Abstract of labour and materials (rough note-book).*—This is an intermediate record for abstracting labour and materials by jobs for the day and is a necessity in this workshop where the number of items belonging to a job to be collected and added together for daily entry into form W 2, are so many that it is impossible to add by sight. The collection is at present made in a rough note-book, which may be authorized.

Item 6—*Register of transfer of labour and materials from one work to another.*—This is equivalent to Government of India form No. 17. As the Workshop Superintendent has not to submit orders for write-back to the Executive Engineer or any other officer and as all initial and compiled accounts of workshops are kept in his own office, a permanent record in a register form is preferable to form No. 17, the use of which, if adopted, would involve waste of the foil. As to the correctness of certain transfers under "orders for write-back," remarks will be found in paragraph 20 (*e*).

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Item 17.—*Sawn wood issue book.*—This is a register of issues of sawn timber to jobs from saw-pit and an initial record of issues of timber.

Item 18—*Abstract of sawn wood*—Collects the issues of the month by jobs.

In supersession of the above forms 16, 17 and 18 for sawing account a form is appended in annexure H, which will probably meet all requirements and, while permitting any elaboration, is capable of being modified to any extent the practical requirements of the Executive Engineer may admit of.

Item 19—*Abstract of sawyers' accounts*—Contains copies of sawyers' bills who are piece-workers and giving further information as to the details of the quantity billed for. May be dispensed with and the details entered on piece-workers' bills.

Item 20—*Steamer way-book*—Necessary, being the basis for calculating the earnings.

subject as were made in my report on the Presidency Workshops. The charges for steam of this class was covered by the arbitrary charges to jobs.

(*b*) As regards the "steam" charges for the saw mill, a unit rate of Rupees 1-4-10 per 100 square feet of cut area was levied. This was similarly fixed and did not cover the cost of operations.

(*c*) The following statement shows the result of the "steam" transactions :—

Steam class.	Total operations.	Total outturn.	Loss.	Percentage of loss to operation.	How adjusted.
		Rs.	Rs.		
Stationary engine, 20 horse-power, for general shops.	3,535	3,534	1	..	General charges.
Saw mill engine, 12 horse-power	1,260	1,217	43	3·5	Do.

(*d*) The work orders for the above two engines are classed under "Stock." The outturn (or credits) is shown in the stock accounts as outturn from Workshop manufacture to the sub-head Miscellaneous, and the expenditure as issues from that sub-head to workshop manufacture jobs. This involves exaggeration of totals and is incorrect. The outturn should be treated as transfers from one work order to another, and thus would not appear as outturn of the shops. Public Works Department Code, volume III, chapter VII, paragraphs 55 to 62, and volume IV, chapter III, paragraphs 140 to 143, show very clearly the method of account.

(*e*) In annexure E will be found a list of certain transfers of steam charges ordered to be written back to the shop steam engine in June 1895. On the work orders thus credited, there had been no outlay since November and December 1894, when they were written off as completed in the register of work orders. The machine time book of 1894-95 was called for in order to see whether the amounts so transferred were originally borne by the work orders credited, and to examine the validity of the write-back by reference to the character of the jobs. It was not produced, having unfortunately been mislaid. The revision of charges appears to have occurred subsequent to the receipt of letters No. 1824 M., dated 30th March 1895, and No. 1808 M., dated 28th March 1895, from the Executive Engineer, Kistna Western division, asking for details of expenditure on the jobs concerned to enable him to prepare a revised estimate.

21. *Foundry account.*—Iron and brass "castings" so seldom occur that it is readily found possible to charge off the labour of moulding, casting, and also of steam direct to the work orders finally concerned.

22. *Sawing account.*—(*a*) The remarks in paragraph 20 (*d*) apply equally to the saw-pit account.

(*b*) The accounts of sawing showed the following peculiarities :—

(*a*) The value of the logs sawn is included in the valuation both for operation and outturn.

(*b*) A yearly rate for cost of sawing is fixed annually for each class of timber without reference to size.

(*c*) Although the difference between outlay and outturn supposedly represents the value of—

(i) good timber at pit ;
(ii) rubbish and saw-dust at pit ;
(iii) wastage (*i.e.*, difference unaccounted for) ;

still no record was kept of (ii) and (iii) till very recently when book differences for these were shown without the quantities being actually verified.

(*d*) The accounts kept are Nos. 16—18 in the list given in annexure A. These forms are defective in so far that they fail to show—

(i) the progress from each rough log to each size of scantling ;
(ii) the wastage at site compared with book quantity ;
(iii) the continuous record of wastage and its disposal.

Item 4—*Time book of machine work.*—In this book the number of units to be charged to each job benefitted by each machine is recorded. Please see remarks under "steam charges" (paragraph 20).

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Item 20—*Steamer way-book*—Necessary, being the basis for calculating the earnings.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

General.
Account.

READ—the following papers :—

Report of an inspection by Mr. C. C. SWETENHAM, Deputy Examiner of Accounts, on the 5th to 9th August 1895, of the accounts of the Bezwada Workshops.

I.—PRELIMINARY.

1. *Previous inspection.*—The accounts of these Sub-Divisional workshops were last inspected in January 1893 by Mr. G. H. LeMaistre, Examiner, 4th class (temporary). The divisional accountant had, however, inspected them on 14th February, 26th March and 16th April 1895, and reported to the Executive Engineer.

2. *Executive charge.*—The charge of the shops has been held by Sub-Conductor J. S. Joyce, Supervisor, 1st grade. The shops are now included in the Kistna Northern division, the transfer from the Kistna Eastern division having been recently effected.

3. *Accounts charge.*—The accounts are compiled by a staff of clerks, under the orders of the Workshop Superintendent.

4. *Scope of inspection.*—The present inspection took place at the special request of the Executive Engineer, Captain W. Ellis, R.E., and particular attention was directed to the following points :—

(*a*) The sawing and timber accounts.
(*b*) The general accounts system and procedure.

II.—ORDINARY SUB-DIVISIONAL PROCEDURE.

A.—Cash—Treasury.

5. *Supply of funds.*—(*a*) The Workshop Superintendent holds an imprest of Rs. 100 from the head-quarters Sub-Divisional officer, Kistna Northern division, to meet urgent small payments. The rest of the payments are made by the cashier attached to the head-quarters Sub-Divisional officer on his pay order.

(*b*) The probable expenditure in the shops is intimated by letter to the head-quarters Sub-Divisional office in a special letter (*vide* item No. 2 of annexure A). The printed form of application for credit used by ordinary sub-divisions would be preferable.

6. *Imprest account.*—The payment and recoupment of the imprest account are recorded in the head-quarters Sub-Divisional cash book. All other accounts and returns are submitted direct to the Divisional office. There seems no reason why the imprest should not be held direct from the Divisional office, instead of the present indirect account procedure being continued. It would not impair the executive control of the Sub-Divisional officer.

B.—General.

7. *Estimates.*—(*a*) Estimates are not, as a rule, prepared for departmental works, unless specially asked for by the indenting officers. These latter occasionally send in the plans and specifications for certain jobs.

(*b*) Estimates are, as a rule, prepared for private jobs or works for other departments. The provisions of Public Works Department Code, volume II, chapter III, paragraph 95, VI and VII and note are complied with.

8. *Patents.*—There were stated to have been no infringements of patents in the shops.

C.—Contract.

9. *Piece-workers.*—(*a*) A quantity of the work in the shops is said to be done by piece-work.

(*b*) The names of piece-workers are entered in the nominal muster rolls and time sheets. The object of this is said to be to check the reasonableness of the piece-work rate.

D.—Suspense.

10. *Deposits.*—(*a*) The following is a list of outstandings on account of deposits for private work orders and the expenditure incurred on the jobs and remaining at debit of Workshop Manufacture—Suspense.

Job number.	Name of person and description of job.	Date of completion.	Amount of deposit.	Estimate.	Expenditure to date of completion (including indirect charges).	Subsequent expenditure (including indirect charges).
				Rs. A. P.	Rs. A. P.	Rs. A. P.
782	Mr. A. G. Malet, Executive Engineer, "repairing chest of drawers."	27th June 1895.	Running account.	7 0 0	7 12 3	..
830	Mr. A. G. Malet, Executive Engineer, "making a small kitchen camp-table without legs."	13th „	Do.	3 5 6	3 0 0	..
775	Mr. A. H. Morin, "wooden tub" ..	28th „	Do.	16 2 0	16 8 2	..
632	Major W. L. Baddeley, R.E., "straightening the steps of dog-cart."	9th May 1895.	Do.	3 0 0	1 6 9	1 7 6
715	Manager, A.E.L. Mission, Guntur, "sharpening press office knife."	20th „	1 9 0	1 9 0	..	1 9 0

(*b*) With reference to the above, all of which are shown in the register of workshop orders as completed and for which despatch warrants, Form No. 6, have on the same date been issued, it is noted that the expenditure is still held in suspense. The object of keeping the accounts of the jobs themselves open is not apparent.

(*c*) It is suggested as regards the first four items that the Railway rules permitting work to be done for employés of the department without previous deposit (*vide* Public Works Department Code, volume III, chapter VII, paragraph 8, and volume IV, chapter III, paragraph 91), may be held to apply.

(*d*) As regards job No. 715, it is observed that no charges against it had appeared to date of completion and despatch, but were shown subsequently in July 1895, and as regards job No. 652, a further charges appeared after its completion and issue of the despatch warrant. No revised despatch warrant had however issued.

E.—Accounts of Workshops Office.

11. *System of accounts.*—The system of accounts in force since April 1895 is, with the slight modifications permitted by G.O., No. 94 W., of 15th January 1895, that prescribed by Public Works Department Code, volume II, chapter I, paragraphs 142–174. A list of working forms in use other than the authorised ones is given in annexure A. The utility of these forms is dealt with later on in paragraph 32.

F.—Establishment.

12. *Incidence of establishment charges.*—The irregularity pointed out in paragraph 27 of the previous report on Kistna Eastern division of charging the ordinary work establishment to establishment proper has been corrected. In annexures B and C will be found statements showing, respectively, men charged to specific jobs who are perhaps more properly chargeable to establishment or general charges.

III.—WORKSHOP MANUFACTURE.

A.—Suspense—General.

13. *Workshop manufacture—Suspense.*—The workshop manufacture account is in the Kistna Northern division treated for the purpose of the "stock" accounts similarly to ordinary manufacturing operations under the stock sub-head "manufacture of stock." Outturn consequently is again shown as a receipt and issue under the sub-head "Miscellaneous." This involves exaggeration of totals in the stock account current.

The last edition of the Public Works form book provides in form No. 29 for Workshop Manufacture—Suspense being shown as a separate and distinct sub-head of stock. This procedure, simplifying and lessening account work, should be adopted in future.

14. *Distribution of outturn.*—A statement of the value of work outturned by the shops for the three years ending 1894–95 is given in annexure D. It will be observed on comparison with the figures for the Public Works Workshops at Madras that the outturn there is less than in these Sub-Divisional shops. The outturn divided principally between Provincial and Imperial Irrigation Works shows a very large preponderance in favour of Provincial Works, due probably to the quantity under "Stock" which is primarily treated under that head. Eliminating this, the situation is reversed.

15. *Labour.*—(*a*) Most of the labour employed is daily labour or piece-work. There are a few hands paid monthly.

(*b*) It was noted that the daily labourers receive their pay for holidays. It is open to question whether mechanics and artisans are entitled to this. The custom of the trade in the open market is, as a rule, not to pay except for days actually worked.

(*c*) Time sheets as well as muster rolls are kept. This is unnecessary. They are used by shop foremen to enter the names of works against each man and are then compared and checked with the muster rolls. The information can be entered in the muster roll. If flexibility is an object, separate muster rolls can be kept for each shop, and at the end of each month the totals of all shops could be collected to give the pay order upon.

(*d*) The necessity for entering each and every piece-worker (*vide* paragraph 9) in these accounts is not apparent. By this time sufficient experience and data should have been obtained to base accurate piece-work rates upon, except, perhaps, in exceptional cases.

16. *Stores.*—(*a*) Stores are obtained from the Sub-Divisional stores, which are separate and distinct from the shops, though for convenience in the same yard.

The system of indent is a good one. It can be improved though by insisting upon all indents being sent to the stores by 3-30 P.M., in order to enable the stores accounts and ledgers to be posted the same day. The only defect in the procedure arose from the doubt whether any really responsible officer saw all articles supplied by stores upon receipt.

(*b*) No record, numerical, is kept of the working tools in each shop. The Workshop Superintendent, however, stated that he insisted upon seeing all the old tools before giving the order for supply of new ones. This is only a check upon actual consumption, and not upon the rate or manner of consumption.

17. All outturn is not passed through the stores accounts.

18. The storekeeper, however, acts as despatching agent. There were defects in the mode of checking articles despatched and the acknowledgment in consignee's receipt.

19. *General charges.*—(*a*) In annexure C will be found a list of men charged to "General charges." Establishment would be more properly debited with the salary of item No. 7.

(*b*) No estimate on this account has been framed for 1895–96 as in previous years, nor does it appear to be necessary.

(*c*) In annexure B is found a list of men employed on works of a "General" nature, but whose wages are charged off specifically to work orders. Item 1 of this list, however, is more properly debitable to establishment.

20. *Steam.*—(*a*) The unit rate for steam, other than for the saw mill, was Rs. 2 according to the machine book. The units are determined by the Workshop Superintendent himself, apparently on no fixed basis. The same remarks apply on this

subject as were made in my report on the Presidency Workshops. The charges for steam of this class was covered by the arbitrary charges to jobs.

(*b*) As regards the "steam" charges for the saw mill, a unit rate of Rupees 1-4-10 per 100 square feet of cut area was levied. This was similarly fixed and did not cover the cost of operations.

(*c*) The following statement shows the result of the "steam" transactions:—

Steam class.	Total operations.	Total outturn.	Loss.	Percentage of loss to operation.	How adjusted.
		Rs.	Rs.		
Stationary engine, 20 horse-power, for general shops.	3,535	3,534	1	..	General charges.
Saw mill engine, 12 horse-power	1,260	1,217	43	3·5	Do.

(*d*) The work orders for the above two engines are classed under "Stock." The outturn (or credits) is shown in the stock accounts as outturn from Workshop manufacture to the sub-head Miscellaneous, and the expenditure as issues from that sub-head to workshop manufacture jobs. This involves exaggeration of totals and is incorrect. The outturn should be treated as transfers from one work order to another, and thus would not appear as outturn of the shops. Public Works Department Code, volume III, chapter VII, paragraphs 55 to 62, and volume IV, chapter III, paragraphs 140 to 143, show very clearly the method of account.

(*e*) In annexure E will be found a list of certain transfers of steam charges ordered to be written back to the shop steam engine in June 1895. On the work orders thus credited, there had been no outlay since November and December 1894, when they were written off as completed in the register of work orders. The machine time book of 1894–95 was called for in order to see whether the amounts so transferred were originally borne by the work orders credited, and to examine the validity of the write-back by reference to the character of the jobs. It was not produced, having unfortunately been mislaid. The revision of charges appears to have occurred subsequent to the receipt of letters No. 1824 M., dated 30th March 1895, and No. 1808 M., dated 28th March 1895, from the Executive Engineer, Kistna Western division, asking for details of expenditure on the jobs concerned to enable him to prepare a revised estimate.

21. *Foundry account.*—Iron and brass "castings" so seldom occur that it is readily found possible to charge off the labour of moulding, casting, and also of steam direct to the work orders finally concerned.

22. *Sawing account.*—(*a*) The remarks in paragraph 20 (*d*) apply equally to the saw-pit account.

(*b*) The accounts of sawing showed the following peculiarities:—

(*a*) The value of the logs sawn is included in the valuation both for operation and outturn.

(*b*) A yearly rate for cost of sawing is fixed annually for each class of timber without reference to size.

(*c*) Although the difference between outlay and outturn supposedly represents the value of—

(i) good timber at pit;
(ii) rubbish and saw-dust at pit;
(iii) wastage (*i.e.*, difference unaccounted for);

still no record was kept of (ii) and (iii) till very recently when book differences for these were shown without the quantities being actually verified.

(*d*) The accounts kept are Nos. 16—18 in the list given in annexure A. These forms are defective in so far that they fail to show—

(i) the progress from each rough log to each size of scantling;
(ii) the wastage at site compared with book quantity;
(iii) the continuous record of wastage and its disposal.

P. W. CURRENT No. 8147

From
Lieutt Col: C. C. Rawson R.E.
Supg: Engineer 5th Circle

Recd: 22.10.95

To
The Chief Engineer
P. W. Deptt.

No. 2670 W. dy 28 October 1895

No. 392 W.

Under article 1137 Cs. Regulations Mr. D Marshall asst Engr is authorised to visit the Periyar Works on duty

Date 22nd
Deptd 22nd } October 1895
Recd

2 The proposal in the Supts Engrs endorsement is approved.

Mr. Marshall wishing to see Periyar works before his transfer to any other Division

Forwarding Copy of letter from Executive Engineer put for favourable consideration

DESPATCH

for S. E. Travers Lt
Offg Secy to Govt
P. W. D.

Under P. W. C.

No. 2477 dy 18th October 1895

From D. Marshall Esquire
Executive Engineer, Chingleput Dn.

To. The Supg. Engineer, V Circle,

Sir,

I have the honour to inform you that I am anxious to see the Periyar works before joining any next appointment, I should therefore be obliged if you would be so good as to obtain the necessary permission. In the event of permission being granted I propose going to the Periyar immediately after I am relieved of the Chingleput Division and joining my new appointment from there

I have &c
Signed - D. Marshall
Executive Engineer

No. 392 W.

Copy forwarded to the Chief Engineer P.W.D. for favourable Consideration, if Mr. Marshall be required to take charge of the Works till Mr. Forbes is relieved Mr. he should go to the Periyar after relief by Mr. Forbes

22nd October 1895

C.E. Comms
" 22/10/95
Lt Colonel R.E.
Supg Engineer V Circle

21-X-95

20.4.95 No. 884 W
27-3-95 - 833 W

No. 2677 W dy 28 October 1895

B.C.

INDEXED

No. 2960

PUBLIC WORKS DEPARTMENT.

No. 2671 W dy 28th October 1895

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

From the Supdg. Engineer, IV Circle, No. 371 W dy 30th September 1895

The estimate, amounting to Rs 70 for providing, with furniture, the rest-house at Benhope in the Coimbatore Division, is sanctioned as supplemental to the estimate of Rs 110 sanctioned in G.O. No. 894 W dated 20th April 1895.

2. This sanction has been registered as Provincial No. 67 of 1895-96 and classified as 'Tools and Plant'

To The S.E. IV Circle with 2 enclos

" Exar P.W. Accts

(40—4,000—14-3-95.)

21-X

Cums 15/10/95

P. W. CURRENT No. 7445

No. 838 W dy 27-3-95
" 894 W dy 20-4-95

From The Supdg Engineer, IV Circle

Recd: 2/10-95

Encl: 2

Dated 30th September 1895
Despd 1st October 1895

No. 371 W.

Enclos 2

Benhope Rest House in the Nilgiri District.

Forwards for sanction the estimate of Rs 70 for providing with furniture the

0/d 4-34

No. 371/W

Supg. Engrs Office, 4th Circle
Coimbatore 30th September 1895

From,

J. Hannan Esq.
Supg. Engr. 4th Circle

To,

The Chief Engineer
P. W. D. Madras.

Sir,

Encloo: 2
1 Estimate
1 Report.

I have the honor to forward for Sanction of Government an Estimate amounting to Rs 70 for providing with furniture the Benhope Rest House in Nilgiri District of Coimbatore Division.

2. I request this Estimate may be treated as supplemental to one that was sanctioned in G.O. No 894 W dy 20th April 1895.

I have the honor to be,
Sir,
Your Most Obt Servt

Supg. Engr, 4th circle.

21-X

Govt. of {1895} Madras.

P. W. CORRESPONDENCE 8107

Recd. 23.10.95

To

The Public Works Dept

No 2672 W dy 28th October 1895

Communicated to the Supdg. Engineer I circle

Proceedings, dated 18th Oct. 1895.
R No. 168.

Subject.

Sanctioning the temporary Resumptions for the Examination Rules L. S. Venkatavaratha Rao & K. Ramanjayalu

cy
S.E. I circle
Gl. T. Cmbr
Cr. P.W. Accts.
Coimbatore

[G 63]
500—20-3-95.

Educational Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following ~~paper~~:—

Endorsement of the Public Works Department, dated 9th October 1895, No. 2924 C on letter from the Superintending Engineer 3rd Class dated 25th September 1895, No. 640 G.

Order, dated 18th October 1895, R. No. 168.

The following temporary exemptions from the Examination rules are sanctioned.

(1) S. Venkatanarasimhulu from 2nd September 1895 to 31st December 1895.

(2) K. Thanumjayulu from 30th August 1895 to 31st December 1895.

(True extract)

David Saunders
Offg Under Secretary
for Chief Secretary

To

The Public Works Department.

P. W. CURRENT No. 8122

Govt. of 189 } Madras.

Educational Department.

Recd: 22.10.95

No. 2673 Wg 28 October 1895

To THE Public Works Dept.

Communicated to the Suptg Engr. III Circle with reference to his letter No. 2075 dated 28th September 1895

Sd

Proceedings, dated 15 October 1895
R No. 166

9.10.95 No. 2922 C
24.8.95 " 2090 C
31.7.95 " 2405 C

DESPATCHED
22 OCT 95

Sanctioning the exemption from the Examination Rules of S. Viswanatha Mudaliy from the 12 September 1895, to the 16 April 1896

Copy
S.E. III Circle
S.E. III Circle
Draftsman
Draftsman

[E 4]
500—23-1-95.

Educational Department.

CHIEF SECRETARIAT. MADRAS.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following paper:—

From the *Public Works Department*, dated *9th October* 1895
No. 2922C.

ORDER dated the *15 October* 1895 (R) No. *166.*

The exemption from the Examination Rules of *S. Visvanadha Mudali*
Ag. Clerk Bellary Division from the *12th September* 1895
to the *16th April* 1896 is sanctioned.

2. *This cancels G.O. No. 668 Educational dy. 7th August 95.*

(True Extract.)

Lionel Bourdon
15/24
Ag. Under Secretary
for *Chief Secretary.*

To
The *Public Works Department.*

P. W. CURRENT. No. 8152

Govt. of Madras
1895.

W.C. 95 No. 2113 D
19-5-85 1005 D

Recd: 23.10.95

No. 2677 W dy 28th October 1895

To
Communicated
to the Consulting Architect

The Public Works Dept.

G.O. 708. dt 10-10-1895

Subject

Authorizing the Accountant Genl to admit the charges of eight annas claimed by the Madras Municipality for serving the Supdt. Lying in Hospital with a notice of Demand owing to his not having paid the assessment on the water supplied to the Lying in Hospital within 7 days of the service of the first notice.

C.A. to Govt.

Rs. 1/8/0

[G/53]
3,000—15-8-95.

Financial Department.

CHIEF SECRETARIAT MADRAS.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following papers—

From the Accountant General, Madras, d/ 10th September 1895, No. 2448, enquiring whether the 8 annas servants fee paid by the Superintendent, Lying-in-Hospital to the Madras Municipality in connection with accounts for water supplied to the institution can be admitted as a State charge.

Endorsement of the Public Works Department d/ 1st October 1895, No. 1113 Dow, letter from the Consulting Architect to the Government of Madras d/ 25th September 1895, No. 2474.

Order.— 10th October 1895, No. 786.

The Accountant General will be authorized to admit the charge of eight annas such bills should in future be treated as urgent in all offices concerned.

(True Extract)
Francis
Ag. Under Secretary to Chief Secretary

To The Public Works Department
" Accountant General.
" Surgeon General.

F. 73.

S. E. I.
G 500—3197-94

P. W. CURRENT No. 8028

Recd. 19.10.95

FROM A. H. Garrett Esq
SUPERINTENDING ENGINEER
FIRST CIRCLE.

TO THE CHIEF ENGINEER
PUBLIC WORKS DEPARTMENT.

DATED 14
DESPATCHED 15 October 1895.
RECEIVED

No. 1587 G.D.

ENCLOSURES.—

SUBJECT.

Mr. W. J. Howley, Asst. Engineer in charge of the Godavari Central Division — Inquires whether — can exercise the powers conferred on Executive Engineers in charge of Divisions under para 96 (a to r) Chap. III, Vol. I of P.W. Code.

No. 2678 dated 28 October 1895

Mr. Howley Asst. Engineer, is authorised to exercise the powers of an Executive Engineer under para 96 chapter III Vol. I P.W. C... in charge ... Central di...

B/ist/pd

B/ist/E

to S.E. I circle.
Ear. P.W. Accts.

No. 1587 G.D.

FROM

A. H. Garrett Esq

SUPERINTENDING ENGINEER

FIRST CIRCLE.

Enclosures. TO

THE CHIEF ENGINEER

PUBLIC WORKS DEPARTMENT.

DOWLAISHWERAM, 14th October 1895.

SIR,

I have the honor to request that I may be informed whether Assistant Engineer Mr. J. Howley posted to the charge of Godavari Central Division can exercise the powers conferred upon Executive Engineers in charge of Divisions under paragh (a to z) Chapter III volume I of P.W. Code.

I have the honor to be,
Sir
your most Obedient Servt

A. H. Garrett
Supt. Engr. 1st Circle

Engr. 14/10

F. 73. DEPARTMENT.

Paper taken out of the Records from the charge of the Referencer.

Press / Miscellaneous / Routine No. 2080, dated 28-10- 193 1895

Date taken out.	For what purpose. Department.	C. No.	Year.	Initials of clerk taking the paper or of attender.	Date returned.	Initials of attender.
	Letter in the Consular Circle of Indian State & British India					

C.F. 73.

Date taken out.	For what purpose.			Initials of clerk taking the paper or of attender.	Date returned.	Initials of attender.
	Department.	C. No.	Year.			

P. W. CURRENT No. 7990

From Lieuts Col: C.C Radcliffe R.E.
THE SUPERINTENDING ENGINEER,
V CIRCLE,

29/10/95 No 2652

Recd: 18.10.95

To
THE Chief Engineer
P. W. Deptt.

No. 2681 Wg 28 October 1895

Dated 15th/16th October 1895.
Recd.

Sanctioned
Sanctioned

ENCLOSURES.

No. 384. W.

Long Barracks at Tripassur.—

Requesting sanction may be accorded for the sale of materials clearing the site of portions of some old buildings in Tripassur near Cuddalore.—

SE V Circle
Ex. V Circle
Ex. P.W.D. 29/10/95

Copy of letter No. 1114 of 2nd October 1895 from the
Sub Divisional Officer, Trivellore, to the Executive
Engineer, Chingleput Division.

I have the honour to report for your informa
that a portion of the building in Tripasur formerly kno
as Long Barracks is now in a ruined state, and to rec
-mend that it be sold by public auction.

2. Only three small pieces (A. B. C. see margin
sketch) of the Long Barracks are now standing, t
remainder of the building was demolished several ye
ago. Of the three pieces that remain, only A and C
are in safe condition for the present, and they are
-pied by pensioners. The middle piece B is in a very
tumble down state, the roof has fallen in here and the
and of course it cannot be tenanted. It has become
general latrine, and its tiles and roof timbers are grad
being stolen away. It may be sold on condition
the purchaser will demolish it within a reasona
time, as was done, I believe, with other parts of th
Long Barracks.

3. The wealthy ryots of Tripasur or Trivellore w
gl

THE LONG BARRACKS

C
B
A

P.W.D. DEPARTMENT.

C.F. 73.

Paper taken out of the Records from the charge of the Reference.

Press / Miscellaneous / Routine No. 2684, dated 28-10-1895

Date taken out.	For what purpose.			Initials of clerk taking the paper or of attender.	Date returned.	Initials of attender.
	Department.	C. No.	Year.			
	Placed in the Common Bundle of Certain State Papers				21-7-37	