

No. RW/NH.III/COORD/5/84

dated the 28th March, 1984

To

The Secretaries of all States (Dealing with Roads)

Sub : Report of the Working Group on the Development of Management Information System in the Ministry of Shipping and Transport (Roads Wing)

I am directed to say that the Ministry of Shipping and Transport had constituted a Working Group to review the existing monitoring system in the Roads Wing and to devise a suitable Management Information System to enable monitoring effective in both financial and physical terms in respect of various activities concerning road and bridge construction. A copy of the Report which has since been finalised and accepted by the Ministry is enclosed for information and further necessary action.

2. It is requested that the recommendations made in the Report may kindly be implemented so far as the National Highways and other Centrally sponsored schemes are concerned. Necessary information and periodic reports in the reporting formats as per Annexure II of the Report may kindly be arranged to be sent to the organisations concerned by the due dates as prescribed on the formats itself. Reports in the prescribed formats may be sent starting with the quarter ending March, 1984.

3. Copies of the formats required for periodic reporting may kindly be got printed on double foolscap size at your end so that the information reported is clear, properly filled in the appropriate columns and is legible.

*Enclosure to letter No RW/NH.III/COORD/5/84 dt. 28.3.84*

#### EXTRACTS FROM REPORT OF THE WORKING GROUP ON THE DEVELOPMENT OF MANAGEMENT INFORMATION SYSTEM IN THE MINISTRY OF SHIPPING & TRANSPORT (ROADS WING)

### 3. THE PROPOSED M.I.S.

#### 3.1. Salient Features :

The proposed M.I.S. has the following salient and distinguishing features :-

- 3.1.1. It provides for reporting of informations relating to pre-construction activities, particularly with regard to land acquisition, which is one of the major constraints resulting in time and cost over-run. A suitable format for this purpose has been evolved which would inter alia indicate the present stage of acquisition of land etc. relevant to each work and actions taken at various levels to control delays and expedite acquisition.
- 3.1.2. In these days of rapid cost-escalation, delays in finalising tenders turn out to be very expensive. In order to control delay in finalising tenders, a suitable format has been evolved.
- 3.1.3. The formats for reporting Quarterly Progress Reports cover all the salient features of various activities in the field including reporting of progress (in physical and financial terms) against target during the quarter, actions taken for removing bottlenecks hampering progress etc.
- 3.1.4. To reduce the period of gestation from the date of sanction of project to the actual date of starting on the ground, a specific time limit has been prescribed in the format which will enable the Ministry to control the possible first stage of time over-runs.
- 3.1.5. In case of bottlenecks hampering progress, a suitable format has also been evolved for reporting :
  - i) Remedial actions taken at different field levels as well as State CE's level; and
  - ii) Actions to be taken at the Ministry's level.
- 3.1.6. To have effective budgetary and financial control, the reporting system so provides that the expenditure figures should be regularly reported by the State PWD and these should be reconciled simultaneously by the Controller of Accounts of this Ministry.
- 3.1.7. So far as departmental machinery and equipments are concerned, the system of reporting has been streamlined to avoid repetition of routine paper work at different levels. While the Regional Officers concerned would keep record of performance and maintenance of machinery within their areas, only the broad details are to be sent to the Ministry which are necessary for planning and Inter-State Transfers of the same as and when necessary.
- 3.1.8. Formats have been framed in order to avoid multiplicity and repetitive informations. Several new returns have been introduced in the new system for the areas inadequately covered in the past. These formats will help in monitoring and exercising control by the process of filtration and consolidation at different levels.
- 3.2. Prescribed Formats
- 3.2.1. Formats proposed for the information system are at Annexure-II, a brief description of which is given below :-

### REPORTING FORMATS

#### 3.2.2. Pre-Construction Stages

- i) MIS/1-Acquisition of land is a time consuming process and involves various agencies/authorities. Besides, acquisition is often held up due to litigation/court injunction. At present there is no separate format for reporting different stages of land acquisition. The format now designed covers details of all activities necessary for monitoring the process of land acquisition,

pinpointing delay, if any, for each activity, for further remedial action. A bar chart should also accompany the format indicating progress made in each quarter for assessment of the pace of progress to ensure completion of acquisition by the target date.

- ii) MIS/2-This is also a new format designed to monitor the activities at the pre-construction stage. In the present days of rapid cost escalation, the delay in finalising tenders would lead to cost over-run and revision of estimates. For initiating first call of tender, a time limit has been prescribed and the proposed return will indicate delay, if any, at different stages of finalising tenders and help in taking effective steps to minimise the same.

### 3.2.3. Monitoring at construction stage

- iii) MIS/3-The Group was informed that generally there is inordinate delay in according technical approval and financial sanction by the State Chief Engineers for works costing upto Rs. 10.00 lakhs for which he has been authorised, resulting in undue delays in completion of works. To control such delays and to monitor effectively the progress of such works, a new format has been designed to highlight reasons for delays in this respect, if any, and the remedial actions taken.
- iv) MIS/4 and MIS/5-These two formats are for reporting physical and financial progress for works and are to be submitted quarterly by the concerned State Executive Engineer directly to the Ministry with copies to the State Chief Engineer and Regional Officers of the Ministry. These formats have been designed with reference to all significant milestones against which monitoring and control at various levels are called for. The formats are required to be accompanied by bar charts/pictorial progress charts indicating a graphic representation of the progress achieved during the quarter as well as cumulative progress to the end of the quarter, vis-a-vis the set targets. The formats *inter alia* provide for reporting cumulative overall physical progress of the project. Since this information is of great relevance, it should be assessed carefully after taking into account the actual work done on ground, work remaining to be done and expenditure/liabilities incurred, etc. (see also para 4.3.2.)
- v) MIS/6-This format is for submitting a consolidated report by the State Chief Engineers to the Ministry indicating bottlenecks, if any, in executing various jobs in progress and remedial action taken at different decision making levels and by the State Chief Engineers. The information contained in this report is most vital as it helps in determining whether the project will be completed by due date and also enables the higher authorities to know at the earliest the nature of bottlenecks requiring action at their level.

### 3.2.4. Budgetary and Financial control

With prior consultation and based on realistic assessment of the capabilities of the State P.W.Ds. Ministry formulates budget proposals. On clearance of the same from the Planning Commission, Ministry makes Statewise allocations for National Highways original and maintenance works for the year. To have control over the financial parameters and proper reconciliation, the following three formats have been designed :

- vi) MIS/7-For speedy reconciliation of discrepancies in the expenditure figures reported by the State Chief Engineer and those compiled independently by the Controller of Accounts of this Ministry, this quarterly return has been designed. The information in the format is to be furnished to the Ministry proper and the Controller of Accounts by the State Chief Engineers for National Highways original and maintenance works.
- vii) MIS/8-For other categories of works sponsored and financed partly or wholly by the Centre, expenditure returns are to be submitted by the State Chief Engineers to the Ministry indicating expenditure against Central and State share.
- viii) MIS/9-On receipt of information from State Chief Engineers as per format, the Controller of Accounts will reconcile the expenditure figures with those booked in his office, and take necessary action for calling for vouchers etc. and making necessary reimbursement to the concerned States. He will send the consolidated information in the format to the Ministry.

### 3.2.5. Machinery and Equipments.

To avoid repetitive informations that were being collected and reported by the Regional Offices to the Ministry in the past, two new formats have now been designed.

- ix) MIS/10-This format indicates static informations which are required to be preserved at the headquarters for new machines purchased during the year.
- x) MIS/11-This provides informations regarding performances and utilisation of all machines during the year. Besides monitoring those performances and utilisation, the details will also enable the Ministry to take policy decisions with regard to inter-State transfers of machines when needed.

### 3.2.6. Data Storage Formats

- ix) MIS/DS/1 and MIS/DS/2-These will provide useful information in respect of all National Highways which could be utilised in assessing deficiencies in the Highway system for purposes of planning and for development. The data will need updating every five years.
- x) MIS/DS/3 and MIS/DS/4-These will provide useful data for documentation of important Road and Bridge projects which have been completed. The data would be useful in devising ways and means to avoid delays/bottlenecks in future projects. They will also help in assessing cost of future projects for planning purposes.
- xi) MIS/DS/5-This will provide data on traffic census which would be useful for taking decision on design of carriageways and also for planning development of National Highways.

### 3.3. Information Flow

The Reports/returns that are to be submitted by different levels as well as their periodicity has been discussed in para 3.2. above.

3.3.1. It can be seen that quarterly progress reports are the basic informations that are to be submitted by the Executive Engineers direct to the Ministry. These informations will flow upward directly in a single channel and thus it will eliminate delay at intermediate levels.

3.3.2. The returns required to be sent by the State Chief Engineers to the Ministry will

- i) Indicate the actions taken at different levels for reconciliation accelerating progress, removing bottlenecks etc. and
- ii) Specify actions to be taken at the Ministry's level.

3.3.3. In addition to the reviews being carried out on the various reports received, a critical workwise review should also continue to be held with the State Chief Engineers at least twice a year, once preferably after the close of the financial year and a second time during November-December, to make such reviews purposeful and effective. The Chief Engineers should make available latest informations regarding progress of work, requirement of funds, necessity, if any, for revision in target dates, revision of costs etc. during such reviews.

3.3.4. Besides reports/returns in the prescribed formats to be sent under the new integrated Management information system, the existing procedure of monthly demi-official letters from the State Chief Engineer to the Ministry would continue bringing out significant events or major problems which are not susceptible of reporting in formats. These demi-official letters should be confined to identifying problems of importance which need actions at the highest level.

3.3.5. Ministry's Regional Officers should also continue to intimate the Ministry in their monthly reports field problems, actions taken by them and State PWD to tide over the same, assessment of pace of progress, compliance of instructions conveyed through technical notes and various other related matters.

3.3.6. Road and Bridge Registers should continue to be maintained at the executive divisions and up-dated copies sent to the Regional Offices by 1st September every year incorporating various deficiencies observed in the NHs system after periodic survey which are very vital for planning purposes.

#### 3.4. Arrangement for processing and preparation of Out-put

3.4.1. For implementation of the proposed system, separate M.I.S. cell at the Ministry's Headquarters would be needed. The duties assigned to this cell will be;

- a) Collection, consolidation, analysis of informations received and preparation of critical notes of reviews and discussions.
- b) Follow up actions for decision making process.
- c) Preparation of summary records of salient features of major completed projects.
- d) Storage and retrieval of informations. (this part to be looked after by a separate documentation unit)

This cell would have to be manned by Officers and staff having requisite expertise and specialisation.

#### 3.5. Utilisation of Information

3.5.1. For effective utilisation of the processed information, is necessary to link the reporting system with the mechanism of review meetings to be held at various levels at regular intervals.

### REVIEW AT REGIONAL OFFICERS LEVEL

3.5.2. Review meetings at the Regional Officers level with the State Chief Engineers are of pivotal importance. These meetings should be held on quarterly basis where State Field Officers should also be present. Physical and financial progress of work, over all review of budgetary control, remedial actions for bottlenecks hampering progress, etc. are to be discussed in such meetings. Monthly report of the Regional Officer to the Ministry should contain a gist of the discussions in such review meetings in a systematic manner.

### WORK-WISE REVIEW MEETING WITH THE MINISTRY

3.5.3. Critical workwise review for on-going works as mentioned in para 3.3.3 are to be conducted twice a year with State P.W.D. and Senior Officers of the Ministry. Such meetings should review the action taken on the decision of the last review Meeting as well as on any decisions outstanding from the previous meeting. Besides reviewing progress of individual work and the remedial actions for preventing slippages, such reviews should initiate actions to accelerate the progress to achieve completion by target dates, sort out financial problems, if any, and take other high level decisions. Proper minutes of all such review meetings taken shall be drawn up. It would be the responsibility of the State Chief Engineers to ensure that necessary instructions are disseminated to the field officers for compliance of the decisions taken.

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## 4. IMPLEMENTATION

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### 4.2. Target Setting

It is essential that target dates should be set for all projects for completion of each of the major activities involved, both for pre-construction and construction phases.

4.2.1. The State Chief Engineer should furnish to the Ministry a programme indicating the time required for completion of each important activity of the job and the target for completion of the entire job while sending the estimate for the project. This will enable to assess shortfall, if any, even at the intermediate stage of progress of work and would also enable to take suitable measures to expedite the pace of progress of different activities. Broad indication of requirement of funds for the different years till completion of the job should also be given in the estimate itself so that budget provision and allocation could be planned accordingly.

4.2.2. For major projects costing Rs. 1.00 crore and above, CPM Charts setting pre-planned targets for different activities upto completion of the project must be prepared by the State PWD and furnished along with the project estimate.

4.2.3. After a job has been sanctioned, the target dates from start to completion should be fixed as per requirements of the prescribed formats. If a revision of such targets becomes inevitable, full reasons for the same should be given and also discussed and finalised during critical workwise review meetings.

### 4.3. Indication of Physical Progress

4.3.1. The existing practice is based on usual inspection for assessment of physical progress and needs to be replaced by a more reliable method for purposes of reporting.

4.3.2. Various alternative methods for measuring physical progress of works were examined. An essential feature of the method to be

adopted should be that it is simple enough to be understood at the lowest reporting level and does not involve lengthy or complicated calculations. There are practical difficulties in assigning relative weightages in terms of time and effort involved in different types of project activities such as earthwork, pavement work, concreting, well sinking, girder casting, launching etc. Taking all these aspects into consideration, the present practice of visual estimation should give way to a system under which physical progress at any stage of the work is reported on the basis of the financial value of the work actually completed. Thus, physical quantities of different items of work done should be converted into financial value on the basis of contract rates. The progress achieved on a particular item of work can then be expressed as a percentage of the latest anticipated cost of that item. Likewise, the overall percentage progress can be worked out. Targets for physical progress would also be worked out on the basis of financial value of activities planned to be completed by a particular date. This would be a relatively simple and reliable method of assessing the quantum of physical achievement and may be adopted for reporting purposes. Moreover, by taking into account the liabilities in respect of work done but not paid for, it will also provide a measure of correlation between physical and financial progress.

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## 7. CONCLUSIONS

The proposed MIS, if properly implemented is expected to :-

- a) Enable effective monitoring of progress of construction projects at all stages in physical and financial terms;
- b) Indicate slippages against time targets, identify bottlenecks and problem areas and help in taking timely corrective action.
- c) Facilitate controlling the time taken for execution of projects and indirectly, reduction of overall costs.
- d) Enable the department to monitor progress against Plan Outlays and to forecast timely shortfalls or cost over-runs.
- e) Improve existing mechanisms for budget formulation and control of expenditure.
- f) Establish a meaningful working relationship between the State PWD and the Ministry on whose behalf it undertakes the execution of work;
- g) Allow the Ministry an overall view of the performance and efficiency of the State P.W.D. in regard to its main activities.

## ANNEXURE II

FORMAT : MIS/I

### QUARTERLY PROGRESS REPORT FOR LAND ACQUISITION FOR QUARTER ENDING .....19.....

Due date of submission : 20th of the month following  
the quarter under report

From : E.E. Division.

To : Ministry/R.O./C.E. PWD/S.E. PWD.

STATE :

Name of work		N.H. No.
Job No. :		Section :
Date of Sanction	Original	Length and Area involved :
	Revised	
Sanctioned amount	Original	No. of structures, if any :
	Revised	

Date of commencement of work;

1. a) Due date of issue of Preliminary Notification;  
(Should be latest by 3 months from date of sanction)
- b) Actual date of issue of Preliminary Notification :
2. Date of issue of award by L.A. Collector :
3. Cumulative length and area acquired upto the end of the quarter :
4. Cumulative no. of structures acquired upto the end of quarter :
5. Overall Progress in % of acquisition upto the quarter :
6. Likely date of completion of acquisition of Land and structures :
7. Bottlenecks in acquisition if any, give details :
8. Action taken to remove bottlenecks :
9. Cumulative Expenditure upto end of the current quarter :

Signature of E.E.  
.....Division.

NOTES : 1) Bar Chart to be attached (Format MIS/IA)

2) Overall Progress in % in column 5 to be worked out on the basis of area/structures actually acquired against total area/structures to be acquired.

3) Actual and/or anticipated delays over 6 months in taking possession of Land/structures counting from the date of Preliminary Notification should be explained in detail in column 7.

## ANNEXURE-II (Contd..)


FORMAT: MIS/1A

**POSITION OF LAND ACQUISITION  
BAR CHART TO ACCOMPANY QUARTERLY PROGRESS REPORT (FORMAT MIS/1)  
FOR QUARTER ENDING.....19**

STATE.....

NAME OF WORK.....

N.H. NO..... STRETCH.....

**LEGEND**NOTIFICATION ISSUED ..... AWARD MADE ..... POSSESSIN OBTAINED ..... 

**SIGNATURE OF EXECUTIVE ENGINEER  
DIVISION**

FORMAT : MIS/2

**QUARTERLY PROGRESS REPORT FOR TENDER POSITION  
(SEPARATELY FOR EACH PRINCIPAL COMPONENTS OF ROADS & BRIDGE WORKS)  
FOR QUARTER ENDING.....19**

Due date of submission : 20th of the month following  
the quarter under report

From : E.E.

To : Ministry/R.O./C.E. PWD/S.E. PWD

STATE :

Name of work		N.H. No.
Job No. :		Section :
Date of Sanction	Original Revised	Length
Sanctioned amount	Original Revised	

1. Item of work tendered :
2. Date of call of latest Tender & Date of opening of Tender.
3. Whether Tender for entire work or part work called for, give details;
4. Date of finalisation of Tenders :
5. Bottlenecks, if any, in finalising tender (including previous tender, if any) and action taken to remove the bottlenecks)
6. Date of issue of work order :
7. Date of commencement of work :
8. Contract date of completion :
9. Actual tendered cost and whether revised estimate is necessary :

Signature of E.E.  
.....Division.

- NOTES : 1) First call of tender should be within
- a) 3 months of date of sanction for Road Work
  - b) 6 months of date of sanction for Minor Bridge Work
  - c) 2 months of approval of NIT documents for Major Bridge Work
- 2) Informations about tenders called by higher officers to be collected by Executive Engineer and reported.

**QUARTERLY PROGRESS REPORT ON ISSUE OF TA AND FS FOR WORKS COSTING UPTO  
Rs. 10 LAKHS FOR WHICH A/A ISSUED BY MINISTRY  
(SEPARATELY FOR ROAD & BRIDGE WORK AND CONSOLIDATED FOR WHOLE STATE)  
FOR QUARTER ENDING.....19.....**

Due date of submission: 25th of the month following the quarter under report

From : Chief Engineer, To : Ministry

Sl. No.	Name of work	Job No.	Date of issue of A.A.	Date of issue of TA & FS by State Government	Reasons for delay, if any, in accord of TA and FS by State, in case TA & FS is not issued within 2 months of A/A.
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1	2	3	4	5	6
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- 1.
- 2.
- 3.
- 4.

CHIEF ENGINEER STATE :

FORMAT : MIS/4

**QUARTERLY PROGRESS REPORT FOR ROAD WORKS INCLUDING BRIDGE APPROACHES  
FOR QUARTER ENDING.....19.....**

Due date of submission : 20th of the month following the quarter under report

From : E.E.....Division

To : Ministry/RO/C.E. PWD/S.E. PWD

STATE :

Name of work

Job No.

N.H. No.

Section :

Length :

Date of Sanction

Original  
Revised

Date of commencement of work :

Target Date of Completion :

Sanctioned Amount

Original  
Revised

Sl. No.	Item of work	Cumulative physical progress upto end of previous year in %.	Progress in % during the Quarters of Current year				Yearly targets for subsequent years 198.. to 198
			June	September	December	March	
			T	A T	A T	A T	A

1. Earthwork
2. Laying of Sub-base
3. Laying base course
4. Laying of B.M.
5. Laying of wearing course
6. Culverts
7. Other Structures (Drain, Retaining Wall)
8. Labour strength—Skilled :

Unskilled :

9. Length completed in all respects (Kms.)
10. Overall Physical Progress %.
11. Bottlenecks if any :

(If actual progress falls short of targets by 15% or more, then itemwise reasons should be explained for the slippage against targets and revised target date of completion furnished, if revision of target becomes inevitable).

## ANNEXURE II(Contd...)

12. Remedial action taken for removal of bottlenecks :
13. Progressive Expenditure incurred upto the end of last financial year :
14. Progressive Expenditure incurred upto the end of Quarter under review :
15. Allotment during the current year :
16. Reasons for likely excess/savings against allotment if any :
17. Compliance of Technical Note : Quote Reference No. and date if not, give reasons for non-compliance :

**QUALITY CONTROL :** Certified that requisite quality control tests for ensuring the execution of work to proper standards and specifications have been carried out during the period under report and that records of Test results thereof are maintained.

Signature of E.E.  
.....Division

- NOTES : 1) Progress in respect of items 1 to 6 and 8 to be shown in the Bar Chart enclosed (Format : MIS/4A).
2. In item No. 9 overall physical progress is to be assessed on the basis of actual work done on ground, work remaining to be done and expenditure/liabilities incurred
3. T=Target  
A=Achievements

FORMAT : MIS/5

**QUARTERLY PROGRESS REPORT FOR BRIDGE WORKS  
FOR QUARTER ENDING.....19.....**

Due date of submission : 20th of the month following the quarter under review

From : E.E.

To : Ministry/RO/C.E. PWD/S.E. PWD

Name of work :

N.H. No.

Job No. a) Bridge Works :

b) Approaches :

c) Protective Works :

Location K.M. (M.....)

Spans..... (Total length.....M).

Date of sanction      Original  
                                 Revised

Sanctioned Amount      Original

Revised

Date of commencement of work :

Target date of completion :

Name of contractor.

Sl. No.	Items	Cumulative physical progress upto end of previous year in %	Progress in % during the Quarter of current year								Yearly targets for subsequent years 198.....to 198
			June		September		December		March		
			T	A	T	A	T	A	T	A	
1	2	3	4	5	6	7	8	9	10	11	12

**1. FOUNDATIONS :**

- a) Excavation
- b) Foundation concrete
- c) Curb
- d) Steining
- e) Sinking
- f) Plugging
- g) Well Caps

**2. SUB-STRUCTURE**

- a) Piers
- b) Abutments
- c) Wings
- d) Bearings

**3. SUPER-STRUCTURE**

- a) Girders Casting
- b) Girders Launching
- c) Deck Slab/Foot Paths :
- d) Wearing Coat
- e) Handrails

## 4. PROTECTIVE WORKS :

- a) Collection of boulders
- b) Earthwork
- c) Laying of boulders.

## 5. OVERALL PHYSICAL PROGRESS FOR THE WHOLE JOB % AGE

6. Materials :	Quantities required	Quantities collected upto the end of quarter
a) Cement		
b) M.S.		
c) H.T.S.		
d) Tor steel		

7. Labour strength : Skilled :  
Unskilled :

## 8. CUMULATIVE EXPENDITURE UPTO

- 1. End of Last March Rs.....
- 2. End of Present Quarter Rs.....

## 9. Allotment During Current year Rs.....

## 10. COMPLIANCE OF TECHNICAL NOTE :

If compliance done quote reference and date; if not, give reasons for non-compliance.

## 11. BOTTLENECKS, IF ANY (If actual progress falls short of targets by 15% or more, then itemwise reasons should be explained for the slippages against targets and revised completion targets furnished, if revision of targets becomes inevitable).

## 12. REMEDIAL ACTION TAKEN FOR REMOVAL OF BOTTLENECKS :

QUALITY CONTROL :- Certified that the requisite quality control tests for ensuring the execution of work to proper standards and specification have been carried out during the period under Report and that Records of tests Results thereof are maintained.

Signature of E.E.  
.....Division.

- NOTES : 1. Pictorial Progress Chart to be attached for works costing Rs. 25 lakhs and above in MIS/5A.  
2. Progress on approaches to be reported in MIS/4.  
3. In column No. 5 overall physical progress is to be assessed on the basis of actual work done on ground, work remaining to be done and expenditure/liabilities incurred.  
4. T-Target : A-Achievement.

FORMAT : MIS/6

**BOTTLENECK REPORTS**  
(In respect of Land acquisition, Road & Bridge Works)  
FOR QUARTER ENDING.....19

Due date of submission : 20th of the month following the quarter under report.

STATE :

From : Chief Engineer  
To : Ministry

Sl. No.	Name of work	Job No.	Target date of completion	Shortfall in achievement of targets in %	Item of work having bottleneck	Bottle-necks & reasons	Action taken by Field Officers for accelerating progress	Action taken by State C.E.	Action, if any, suggested to be taken up by the Ministry
1	2	3	4	5	6	7	8	9	10

CHIEF ENGINEER (N.H.)  
STATE :

NOTE : Specify whether change of target date of completion is necessary in view of bottlenecks and action taken thereon as indicated in Col. (9).

## ANNEXURE-II (Contd...)

ENCL. TO LETTERS No/ N.H. III/ COORD 15/84 DT. 28.3.84

1. FORMAT - MIS / 5A

**PICTORIAL PROGRESS CHART**  
TO ACCOMPANY QUARTERLY PROGRESS REPORT (BRIDGES)  
FOR WORKS COSTING Rs.25-00 LAKHS AND ABOVE.

BRIDGE IN KM. .... (IN ..... ) OF N.H. No. ....

STATE ..... JOB No. ....  
FOR QUARTER ENDING .....

**FOUNDATION:**  
PERMISSIBLE VALUES: TILT  
SHIFT  
TRANSVERSE  
LONGITUDINAL  
REDUCTANT

ACTUAL TILTS: TRANSVERSE  
LONGITUDINAL  
REDUCTANT

ACTUAL SHIFTS: TRANSVERSE  
LONGITUDINAL  
REDUCTANT

**SUPERSTRUCTURE:** BEAM No. 1  
LAUNCHING/CASTING  
BEAM No. 2  
BEAM No. 3  
CASTING  
PIERS  
FOOT PATHS  
WEARING COAT

TYPICAL ELEVATION  
(ACTUAL G.A.D. ADOPTED IN CONSTRUCTION TO BE USED)

**INSTRUCTIONS:**

1. WORK COMPLETED UPTO END OF PREVIOUS QUARTER TO BE SHOWN IN    COLOUR.
2. WORK COMPLETED DURING THE PRESENT QUARTER TO BE SHOWN IN    COLOUR.
3. THE CHART NEED NOT BE TO SCALE, BUT SHOULD REPRESENTATIVE OF TOTAL WORK TO BE DONE AND THE WORK ACTUALLY EXECUTED, INDICATING ALL SALIENT LEVELS OF DIFFERENT COMPONENTS.
4. FOR LONG BRIDGES HAVING A NUMBER OF SPANS, MORE THAN ONE SHEET MAY BE USED BUT THE SIZE OF THE SHEETS SHALL BE THE SAME AND THE SHEETS SERIALY NUMBERED (SUCH AS 1 OF 3, 2 OF 3 ETC.).

ENCLOSURE TO REPORT No. ....  
DATE: .....

SIGNATURE OF EXECUTIVE ENGINEER  
NAME & ADDRESS: .....

FORMAT : MIS/7

## CONSOLIDATED EXPENDITURE REPORT

(In respect of N.H. Works)

FOR QUARTER ENDING ..... 19.....

STATE :

Due date of submission : 15th of the month following the quarter under report

From : Chief Engineer.

To : Ministry/Controller of Accounts.

Head of Account	Nature of Expenditure	Budget allotment sanctioned for the year	Expenditure during the quarter	Expenditure upto the end of quarter	Indicate month in which relevant voucher in respect of expenditure in column sent to A.G.	Remarks
1	2	3	4	5	6	7
1) N.H. (O)—a) Works	b) T.P.					
2) M.R.	a) N.H.					
	b) Machinery					

CHIEF ENGINEER

STATE :

**PROGRESSIVE EXPENDITURE REPORT FOR SCHEMES  
OTHER THAN NATIONAL HIGHWAYS  
FOR THE QUARTER ENDING.....19**

STATE :

Due date for submission : 15th of the month following the quarter under report

From : Chief Engineer

To : Ministry

Name of schemes	Amount sanctioned for the year	Expenditure during the Quarter		Progressive Expenditure upto the end of Quarter		Remarks
		Against amount out of sanctioned by Government of India	State resources	Against sanctioned by Government of India	Out of State resources	
1	2	3	4	5	6	7
E & I S.B.A. Strategic Road CRF R. D. Tools & Plants Loans for machinery & Equipment						

CHIEF ENGINEER

STATE :

FORMAT : MIS/9

**PROGRESSIVE EXPENDITURE REPORT  
FOR QUARTER ENDING.....19**

STATE :

Due date of submission : 30th of the month following the quarter under report

From : Controller of Account

To : Ministry

Head of Account	Nature of Expenditure	Budget allotment for the year	Expenditure during the quarter	Expenditure upto end of the quarter	Progressive expenditure figure upto end of quarter as intimated by the State C.E.	Difference between col. 5 & 6	Reasons for variation	Action taken to reimburse 'the amount where voucher already received or call for voucher from A.G. where already sent by State C.E. to AG.	Remarks
1	2	3	4	5	6	7	8	9	10
1) NH (O)—a) Works b) T & P									
2) M & R—a) N.H. b) Machinery									

Controller of Accounts

**ANNEXURE-II (Contd...)**  
**FORMAT : MIS/10**

**PLANT DATA SHEET**  
 (Separately for each machine)  
 Report for the year ending.....19

Due date of submission : 20th April of each year  
 From : Chief Engineer  
 To : Ministry.

- |  |   |  |
|--|---|--|
| 1. Name of Equipment                                     | 8. Year of Receipt  | 13. Name of Manufacturer of main plant |
| 2. Code No.  | 9. A/T No. & Date   | 14. Name of Manufacturer of Engine     |
| 3. Machine S. No. & Chassis No.                          | 10. A/T Cost  | 15. Prime Mover Make—                  |
| 4. Weight  |   | 1. Make 2. etc.,                       |
| 5. Overall Dimensions—<br>Length,<br>breadth &<br>height | 11. Cost at site  | 16. HP/KW                              |
| 6. Make & Model  | 12. Rate of hire charge<br>(a) Ownership component<br>(b) Operational component | 17. Engine S. No.                      |
| 7. Capacity  |   |  |

Chief Engineer  
 .....State

Note : First report to contain informations in respect of all machines and subsequent reports to be given only for new machines purchased during the year.

**FORMAT : MIS/11.**

**PLANT UTILISATION SHEET**  
 (Separately for each machine)  
 Report for the year ending.....19.....

STATE :

Due date of submission : 20th April of each year  
 From : Chief Engineer  
 To : Ministry

Code No. of machine	Chassis No. of machine	Location Div.	K.M. hours of N.H. during Sec- tion year	Working hours	Cumula- tive Working hours	Brief reasons for low utili- sation * *	Repair Estimate Sanct- ioned Refe- rence	Am- ount	Whether all re- pairs as per san- ction carried out	Brief details of major Repairs carried out	Cumulative Hire charges realised Owner- ship Compo- nent	Opera- tional Compo- nent	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Chief Engineer  
 State :

- NOTES : 1. \*\* Reasons to be given where utilisation is less than 60%.  
 2. In case of machines transferred from one State to another, indicate the Name of State from/to which transferred and the month of transfer.

Format : MIS/DS/1

From : Chief Engineer

To : Ministry/R.O.

Due Date of Submission : First Report by 12/84

Second Report by 12/87 and  
subsequent reports by end of  
December of fifth year i.e., 12/92  
etc.,

**SURVEY PARTICULARS**  
(Road Works)

1. State
2. N.H. No.
3. Section
4. Length
5. Nature of terrain Plain Hilly or Rolling country
6. Road land width
7. Formation-indicate whether in cutting or Filling, width and Height/Depth
8. Sub-Grade investigation date, type of soil (clay; silt, sand, loam, sandy loam, sandy clay, silty clay etc.,)
9. Pavement width and type
10. Existing Road structure (Thickness) and materials
  - a) Sub-base
  - b) Base course W.B.M. in 2 layers
  - c) Wearing course B.M. & A.C.
  - d) Surfacing; 2 coats surface dressing, 20 mm pre-mix carpet etc.
11. Riding Quality (Good, Fair, Poor, Very Poor)
12. Hard Shoulders if any (width, thickness and materials)
13. Drainage Features
  - a) Depth of water table
  - b) Sub-soil water level below formation, (bottom of sub-base/base course)
  - c) Height of formation above adjoining high flood level
  - d) Whether adequate arrangements for drainage exist
  - e) Any special remarks water logging and flooding
14. Location of sharp horizontal curves.
15. Location of reaches with steep gradients.
16. Location of reaches with restricted sight distance
17. Location of road intersection where improvements are needed.
18. Location of Railway Level crossing indicating number of closures and average duration.
19. Towns where bypasses are necessary on account of heavy congestion
20. Culverts :
  - a) Location Km.
  - b) Type
  - c) Span length
  - d) Total length in metres
  - e) Width of roadway in metres

f) Present condition

21. Dips-location, interruptions to traffic.

22. Any other information.

NOTE : Details to be furnished for every km

Chief Engineer

State :

Format : MIS/DS/2

Due Date of Submission : First Report by 12/84

Second Report by 12/87 and  
subsequent reports by end of  
December fifth year i.e., 12/92, etc.,

From : Chief Engineer

To : Ministry/R.O.

#### SURVEY PARTICULARS (BRIDGE WORKS)

1. State
2. N.H. No.
3. Location (Kilometre)
4. Name of River crossing
5. No. and size of existing Spans in metre
6. Total length in metre
7. Type of existing structure
  - a) Foundation
    - i) Open
    - ii) Well
    - iii) Nature of bed strata
  - b) Sub-structure
    - i) Piers/Abutments
  - c) Super-structure
    - i) Arches
    - ii) Slab
    - iii) R.C.C.
    - iv) Prestressed concrete
8. Width of roadway
9. Present condition of structure
  - a) Foundation
  - b) Sub-structure
  - c) Super-structure
10. Load carrying capacity
11. Type of bridge
  - a) Major
  - b) Minor
  - c) Submersible
12. Category
13. Guide bund or other protection works-give details
14. Remarks

Chief Engineer

State :

**ANNEXURE-II (Contd..)**

Format : MIS/DS/3  
From : Chief Engineer  
To : Ministry

Due Date of Submission : Within 6 months from the date of completion of the Project.

**HISTORY SHEET FOR MAJOR COMPLETED PROJECTS  
(ROAD WORKS)**

(Costing Rs 1 Crore and above)

1. State
2. N.H. No.
3. Name of work
4. Job No.
5. Date of Sanction
6. Length involved in Km.
7. Estimated cost
8. Nature of Terrain
9. Intensity of Rainfall
10. Traffic intensity
11. Structural Details
  - 1) Sub-Grade
    - a) Type of soil
    - b) CBR of soil
  - 2) Sub Base
    - a) Type
    - b) CBR
    - c) Thickness
  - 3) Base-Course
    - a) Type
    - b) Thickness
  - 4) Wearing Course
    - a) Type
    - b) Thickness
  - 5) Total Thickness of Pavement
12. Unit cost of Per Km.
  - a) Earth work
  - b) Base course
  - c) Bituminous course
  - d) Wearing course
13. Resources involved
  - 1) Man Power :
    - a) Technical
    - b) Skilled
    - c) Unskilled
  - 2) Machineries :
    - a) Earth moving units
    - b) Hot-mix Plants, mobile/installed
    - c) Paver units
    - d) Tipper Trucks
    - e) Other machineries
14. Cost of Actual Completion of the Project
15. Overall Unit Cost per Km. Length of Completed Projects.
16. Date of start
17. Date of completion
18. Bottlenecks/delays during execution and remedial measures taken.
19. Increase in cost due to
  - 1) Escalation

- 2) Changes in specification or scope of works

20. Remarks

Chief Engineer  
State :

Format : MIS/DS/4  
From : Chief Engineer  
To : Ministry

Due Date of submission : Within 6 months from the date of completion of the Project

### HISTORY SHEET FOR MAJOR COMPLETED BRIDGES (Costing Rs. One crore and above)

1. State
2. N.H. No.
3. Name of work
4. Job No.
5. Location
6. Nature of Terrain & Nature of River viz.,  
wide spread, channelled, gorge, etc.,  
Perennial or dry during fair weather,  
nature of foundation strata
7. Whether skew or straight crossing
8. Length/Span arrangements
9. Details of foundation
10. Details of Sub-structure
11. Details of Super-structure
12. Quantities
  - 1) Excavation/Grabbing
  - 2) Mild steel
  - 3) Cement
  - 4) HYSD
  - 5) High Tensile Steel
13. Type of Bearings
14. Type of Wearing Coat
15. Type of Expansion Joints
16. Bottlenecks/delays during execution and remedial steps taken in respect of the following items :
  - a) Foundation
    - i) Open Excavation
    - ii) Well-sinking
  - b) Sub-structure
  - c) Super-structure
    - i) While staging & Centering/Shuttering
    - ii) While concreting
    - iii) While pre-stressing
    - iv) While launching
17. Details of guide bunds, if any  
Post construction studies
  - a) River behaviour (Hydraulics)
    - i) Scour
    - ii) Meandering
    - iii) Outflanking
    - iv) Attack on guide bunds
  - b) Settlements
  - c) Sagging of super-structure
  - d) Structural failure or cracks
  - e) Tilting of bearings

18. Any other mentionable problem
19. Completion cost/cost per metre/  
cost per sq. metre of elevation area
20. **Manpower**
  - a) Technical
  - b) Skilled Labour
  - c) Unskilled Labour
21. **Machineries used**
  - a) Grabs
  - b) Cranes
  - c) Mixers
22. Date of start
23. Date of completion
24. Increase in cost due to
  - i) Escalation
  - ii) Changes in specification or Scope of works
25. Remarks

Chief Engineer

State :

Format : MIS/DS/5

Due Date of submission : Within 2 months from the date of  
Completion of census in January &  
July of every year.

From : Executive Engineer

To : Ministry/R.O./C.E.

PWD/S.E. PWD.

## TRAFFIC CENSUS DATA

1. State
2. N.H. No
3. Section
4. Location of Check Post
  - a) Nearest Town
  - b) Miles/Km.
5. Duration of Census
6. Month of Census
7. Traffic Intensity (No. of vehicles per day  
average of 7 days count)
  - a) Cars/Jeeps/Taxis
  - b) Buses
  - c) Trucks
  - d) Articulated and truck-trailer combination
  - e) Motor cycles and two wheelers
  - f) Other vehicles to include  
Agriculture Tractors etc.,
  - g) Slow moving vehicles
    - i) Cycles
    - ii) Animal drawn and others
8. Traffic Intensity (Equivalent PCUS)
  - a) Cars/Jeeps/Taxis
  - b) Buses
  - c) Trucks
  - d) Articulated and truck-trailer combination
  - e) Motor cycles and two wheelers

- f) Other vehicles to include  
Agriculture Tractors etc.,
- g) Slow moving vehicles
  - i) Cycles
  - ii) Animal drawn and others
- 9. Total Traffic PCUS (Excluding slow moving)
- 10. Total Traffic PCUS (Including slow moving)
- 11. Remarks

Signature of Executive Engineer  
.....Division.